Shining light in a black box

Rethinking graduate medical education to meet North Carolina's health care workforce needs

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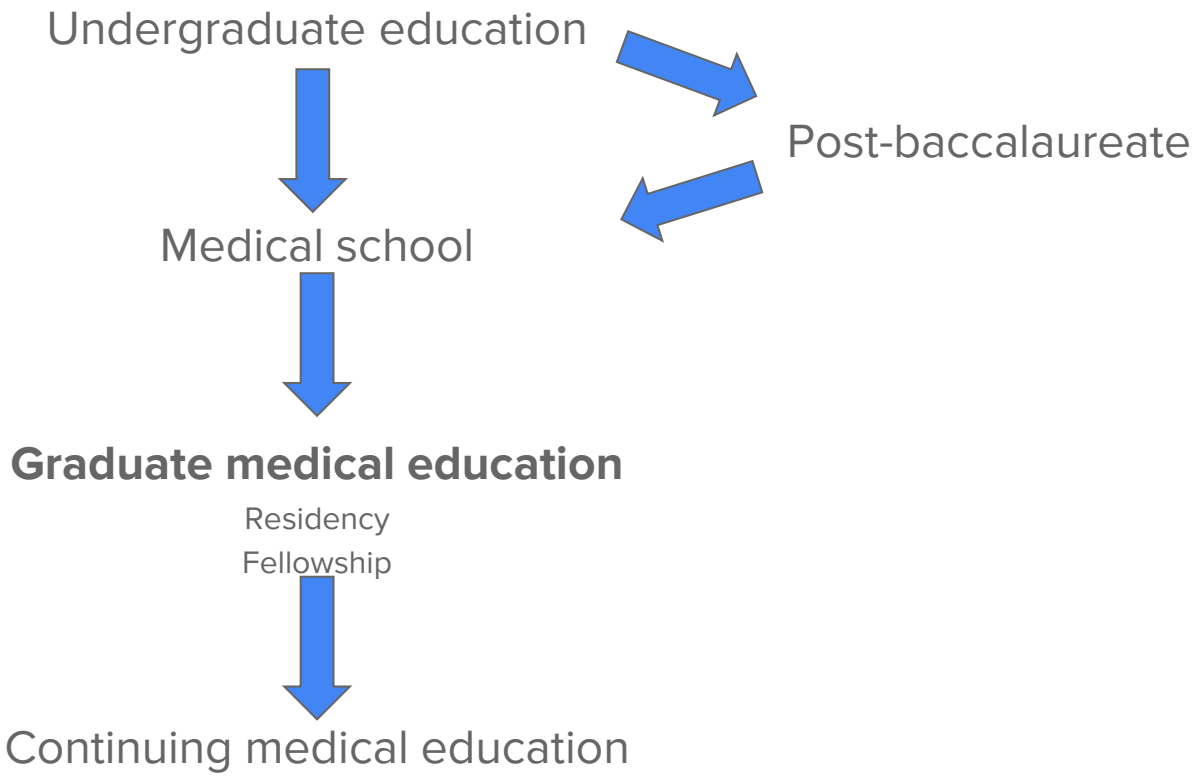
Goals of this talk

- Elucidate GME, including its historical antecedents
- Review health care workforce outcomes GME is in a position to influence
- Address one of GME's key drivers: its financing
- Review the most salient criticisms of GME and GME financing
- Provide NC-specific data
- Outline a tentative plan for using AHEC funds to incentivize GME social accountability

What is graduate medical education (GME)?



Why is GME important?

...because it plays a decisive role in determining the

- size
- quality
- specialty mix, and
- geographic distribution

of our physician workforce.

It ought be held **socially accountable** because it is publically funded and because it trains the physicians upon which we all rely.

Putting things in perspective

GME is one of multiple forces that shape the physician workforce, which include:

- Other parts of the training “pipeline”
- Reimbursement
- Health care organization

Important to recognize that the health care workforce is not limited to physicians

- Advanced practice providers (PA, NP, DNP)
- Allied fields (nursing, dentistry, mental health, physical therapy, etc.)

GME is a (relatively) modern phenomenon

Early medical education

Historically, medical education was apprentice-based learning

> *I swear....to consider dear to me, as my parents, him who taught me this art; to live in common with him and, if necessary, to share my goods with him; To look upon his children as my own brothers, to teach them this art; and that by my teaching, I will impart a knowledge of this art to my own sons, and to my teacher's sons, and to disciples bound by an indenture and oath according to the medical laws, and no others.*
>
> - Excerpt from *The Hippocratic Oath*

Source: The Hippocratic Oath: Text, Translation, and Interpretation, by Ludwig Edelstein. Baltimore: Johns Hopkins Press, 1943.

Flexner-era medical education reforms

Turn-of-the-century Progressive reforms sparked a revolution in American medical education that set the stage for the rise of GME.

- 1904: The American Medical Association creates the Council on Medical Education (CME).
- 1908: The CME asks the Carnegie Foundation to survey American medical education. Abraham Flexner's paradigm-shifting report published in 1910.

anecdote → scientific method

for-profit proprietary schools → academic medical centers

inconsistent/poor education → consistently good education

and perhaps also...

private relationships → public responsibilities

GME at the turn of the 20th century

The postgraduate school as developed in the United States is an effort to mend a machine that was pre-destined to break down. It was originally an undergraduate repair shop.

- Abraham Flexner, *Medical Education in the United States and Canada*, 1910

- Most physicians are generalists
- Many complete no GME, much of it is heterogeneous
- The “internship” begins to take form
- Europe remains the destination for specialty training

At the same time, the various specialties then begin to form, and with them the need for specialized training…

Sources: Ludmerer 1999, Flexner 1910

GME after World War II

In an abrupt shift, most medical graduates now choose to pursue specialty training

What happened?

- The scientific method works!
  - Knowledge increases; specialization becomes necessary
- We found ways to pay for it
  - Overall wealth increases
  - GI Bill
  - **Medicare**

GME today

Nationally, it's big business

- 117,000 graduate medical learners, more than the combined enrolment of all US medical schools
- 10,000+ different programs
- 140+ specialties and subspecialties

North Carolina is no exception

Table 1: Number of Residents-In-Training by Sponsor Location, 2013

Residency Program	County	Residents	Percent
Duke School of Medicine – Duke University Medical Center	Durham	889	28.5%
University of North Carolina School of Medicine – UNC Hospitals	Orange	729	23.4%
Wake Forest School of Medicine – Baptist Medical Center	Forsyth	665	21.3%
Brody School of Medicine, East Carolina University – Vidant Medical Center	Pitt	356	11.4%
Carolinas Medical Center	Mecklenburg	254	8.2%
South East AHEC – New Hanover Regional Medical Center	New Hanover	71	2.3%
Mountain AHEC – Mission Hospital	Buncombe	57	1.9%
Greensboro AHEC – Moses Cone Hospital	Guilford	48	1.5%
Cabarrus Family Medicne Residency Carolinas Medical Center-Northeast	Cabarrus	26	0.8%
Southern Regional AHEC – Cape Fear Valley Medical Center	Cumberland	21	0.7%
State Totals		**3,116**	**100%**

Data souce: ACGME Data Resource Book, Academic Year 2013-14

Sources: Brotherton and Etzel 2014, NC Health Professions 2013 Data Book

GME and the health care workforce

GME influences…

Physician supply

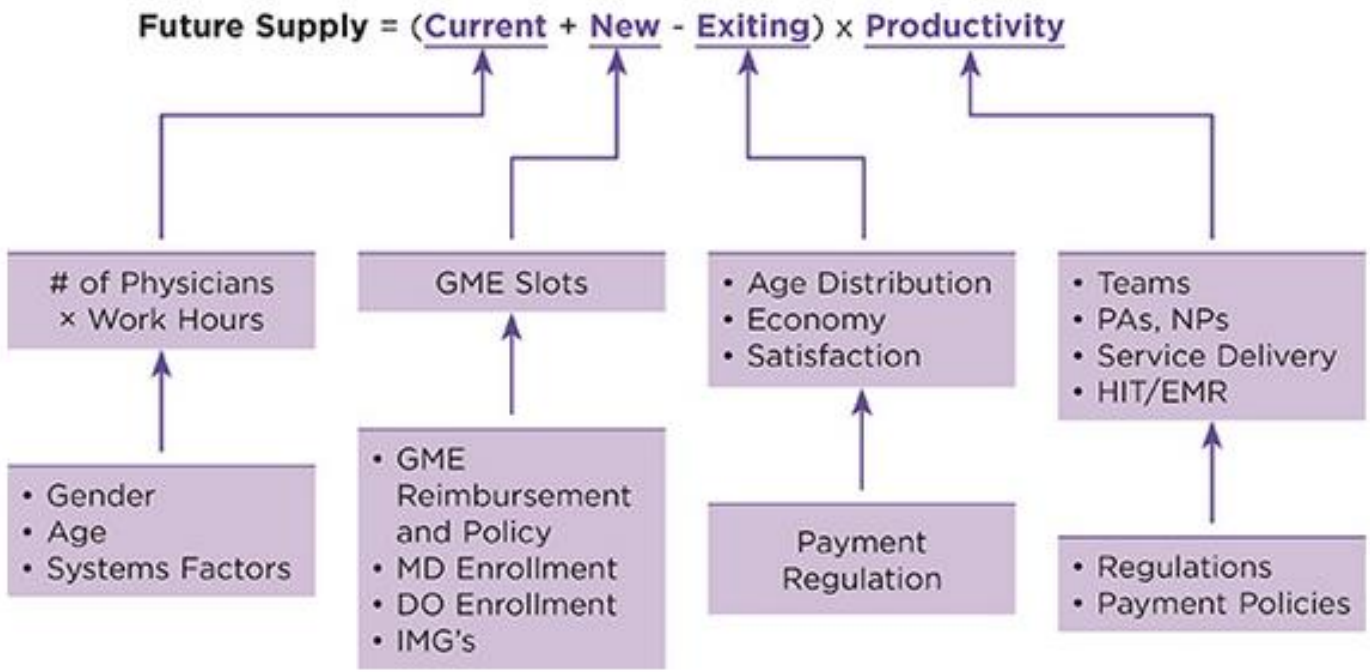
Physician specialty mix

Physician distribution

Physician retention

Physician diversity

Physician supply: complicated & controversial



Source: Eden et al. 2014

The physician supply is growing

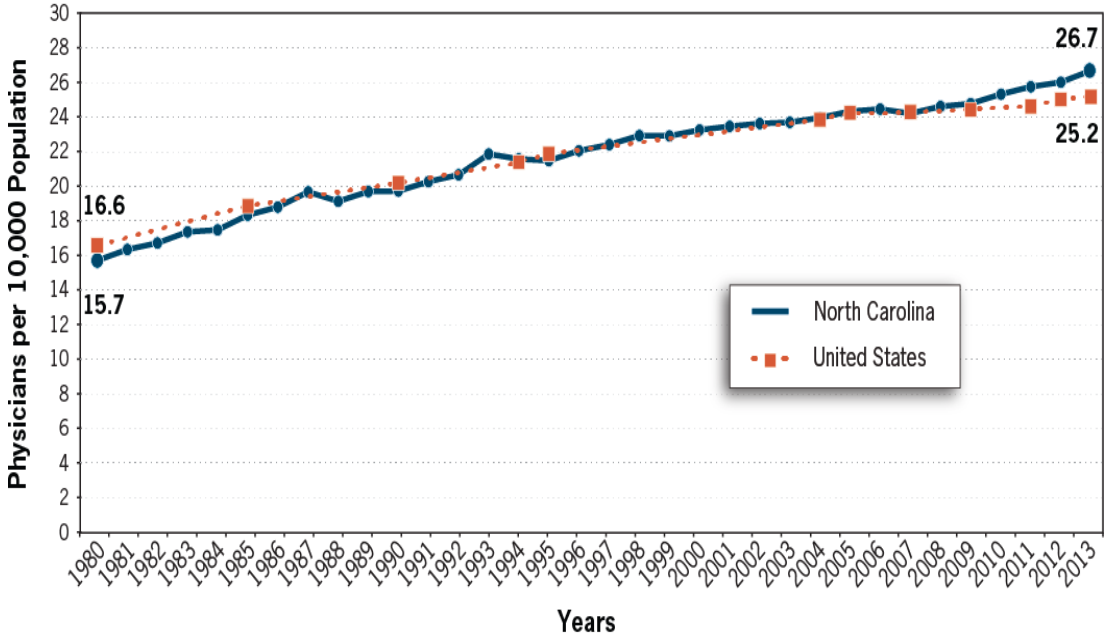
Medical schools are expanding

- Enrollment up 28% from 2003 to 2012

GME has mostly kept pace

- In the same time period, GME grew 16%
- In 2014, there was a surplus of 7000 first-year GME positions

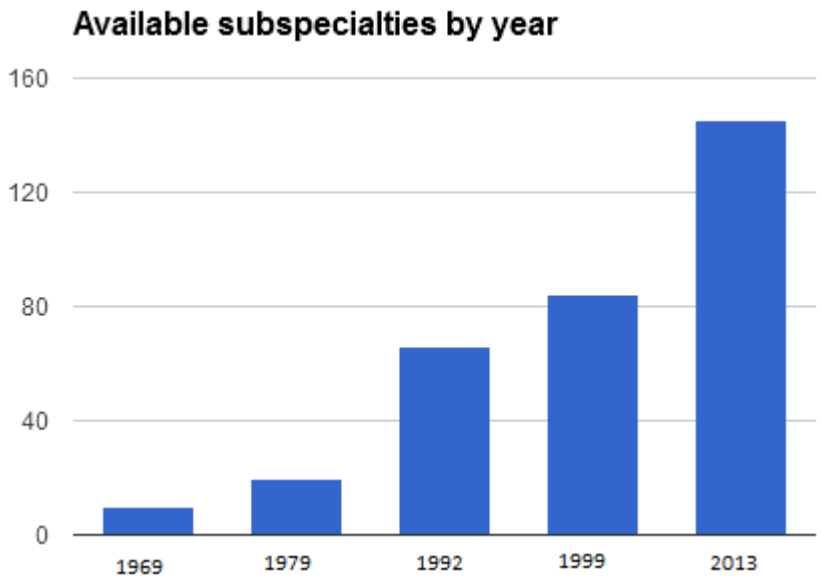
NC's physican supply exceeds US average



Sources: AAMC *2013 state physician workforce data book*, Fraher and Spero 2015

Specialty mix

Specialization increases



Primary care declines

50% of physicians classified as primary care practitioners in the 1960s, down to about 33% today

Fields that once produced high numbers of generalists (internal medicine, surgery) now do not

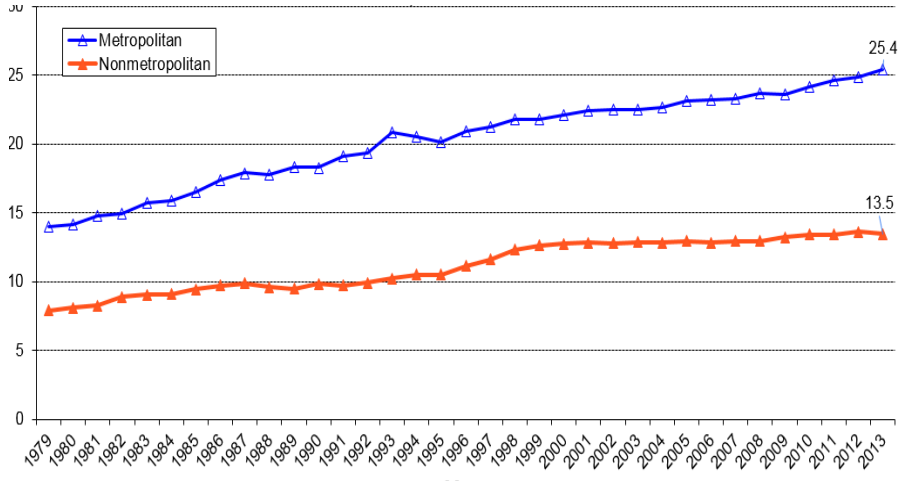
Sources: ABMS 2013, Eden et al. 2014

Distribution

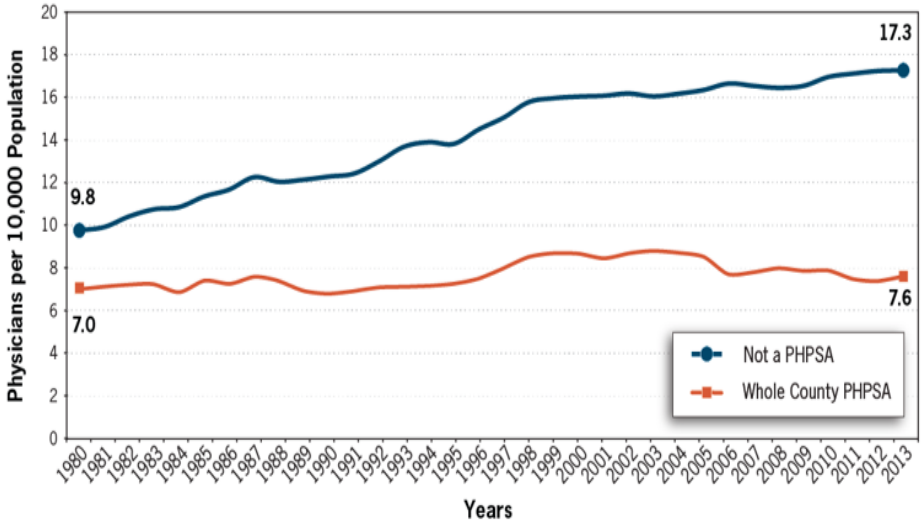
Rural/metro inequality is significant and longstanding

Progress is stymied in neediest areas

NC physician density by setting



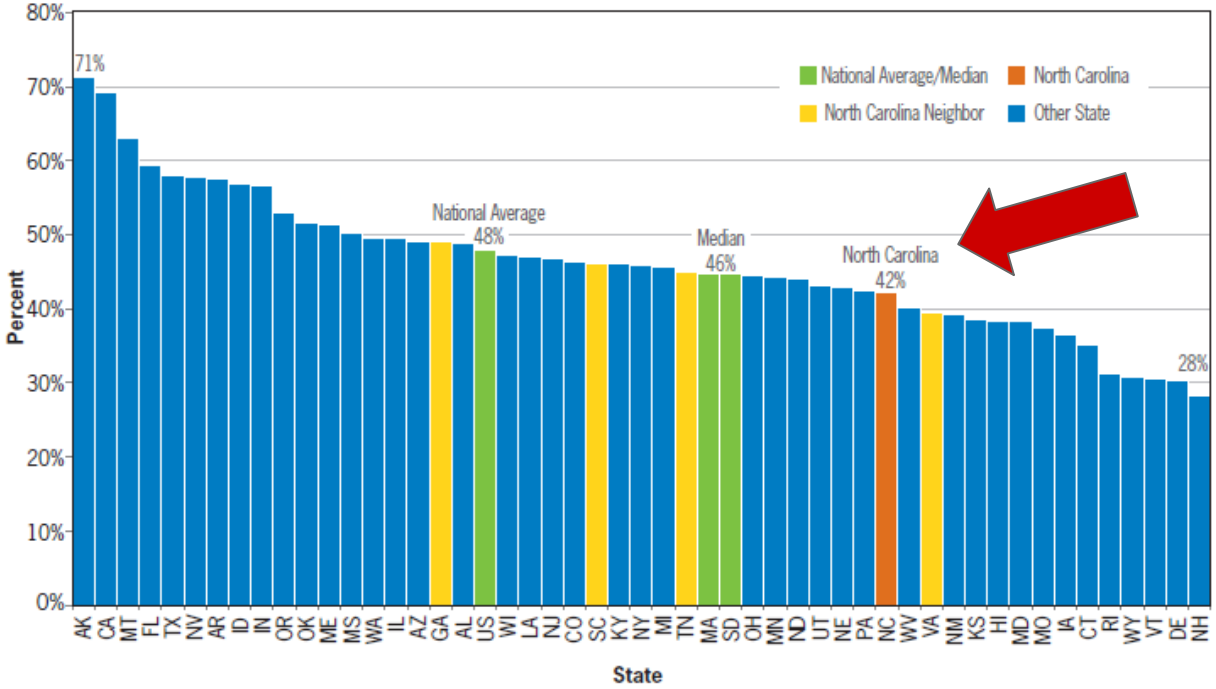
NC physician density by HPSA



Sources: Sheps 2007, Fraher and Spero 2015

Retention

Percent physicians retained in state after residency, 2010

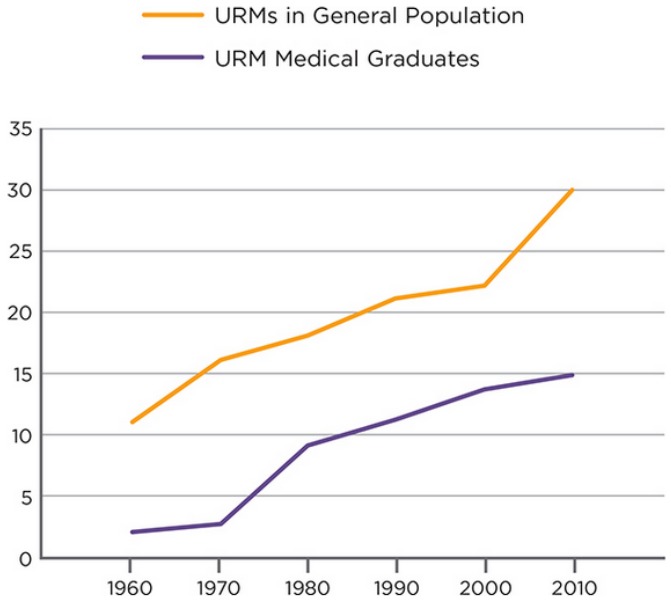


Source: Fraher et al. 2013

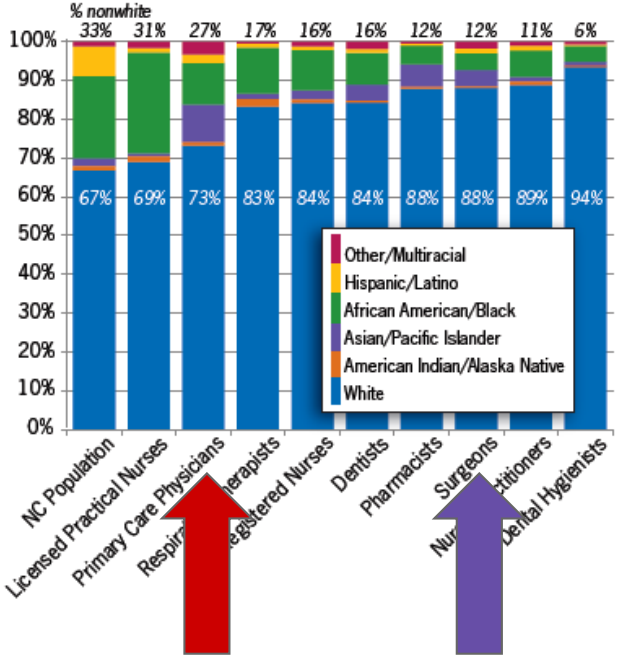
Note that 69% of those who complete both medical school and residency in NC choose to remain in the state (true nationally, too)

Diversity

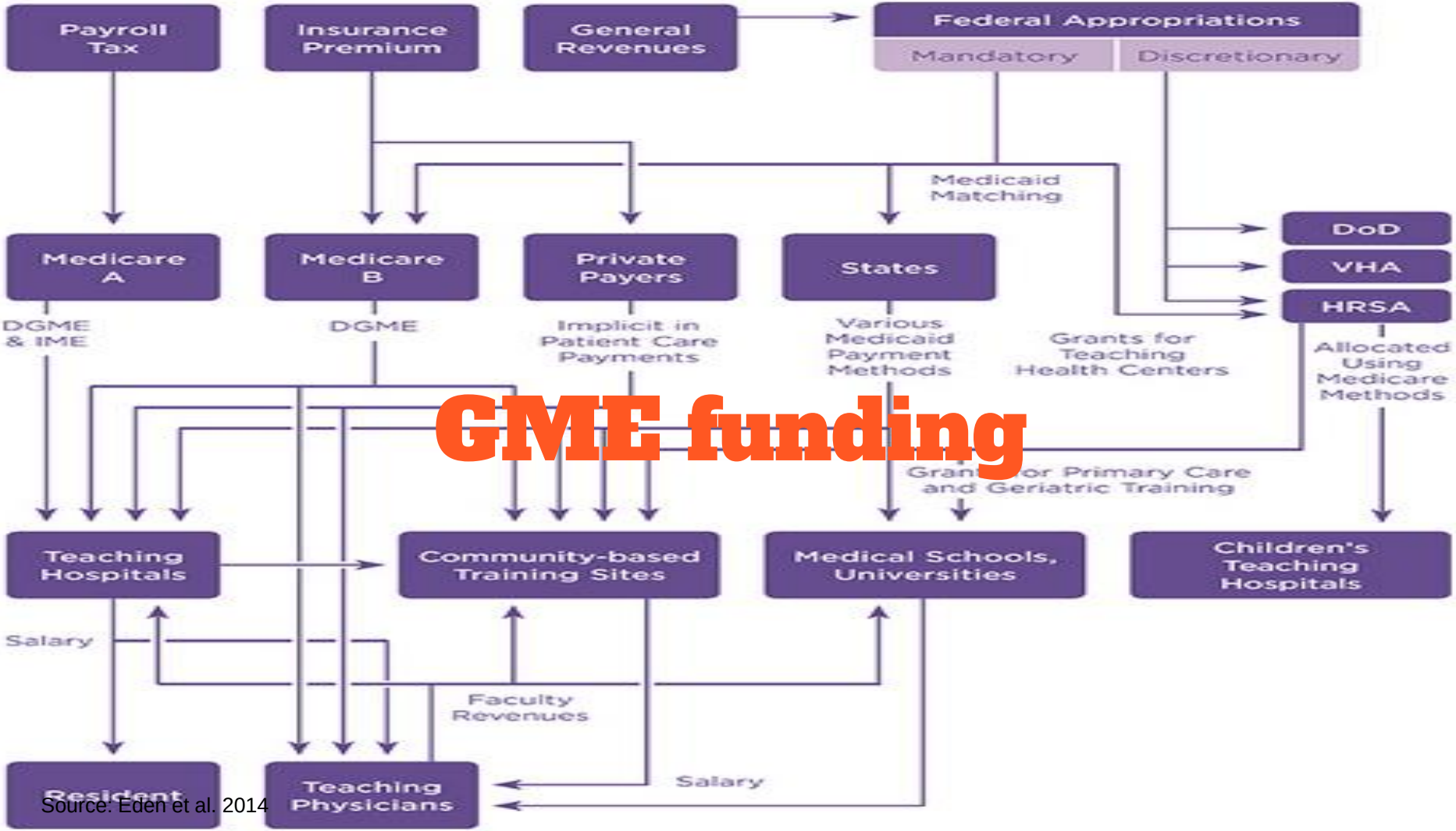
Medical school graduate diversity



Diversity within NC health professions



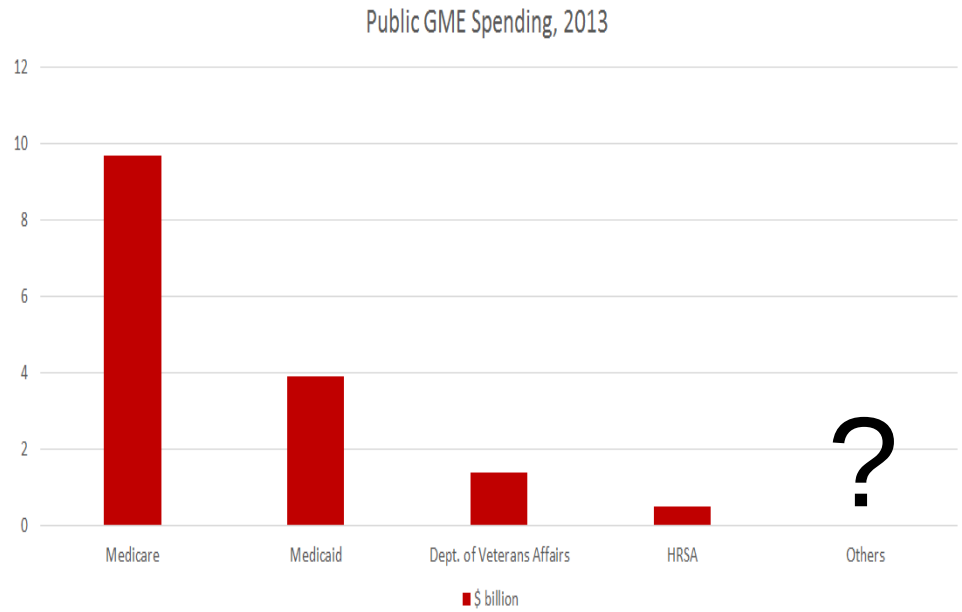
Sources: Eden et al. 2014, McGee and Fraher 2012



Source: Eden et al. 2014

Public spending on GME

Nationally



North Carolina

$274 million from Medicare in 2010 (10th-highest in the nation)

$115 million from Medicaid in 2012 (5th-highest in the nation)

Sources: Eden et al. 2014, Henderson 2010, Chen et al. 2013

Medicare GME funding

Medicare immediately began funding GME

> *Educational activities enhance the quality of care in an institution, and it is intended,* ***until the community undertakes to bear such education costs in some other way****, that a part of the net cost of such activities (including stipends of trainees, as well as compensation of teachers and other costs)* ***should be borne to an appropriate extent*** *by the hospital insurance program.*

Two Medicare GME funding streams:

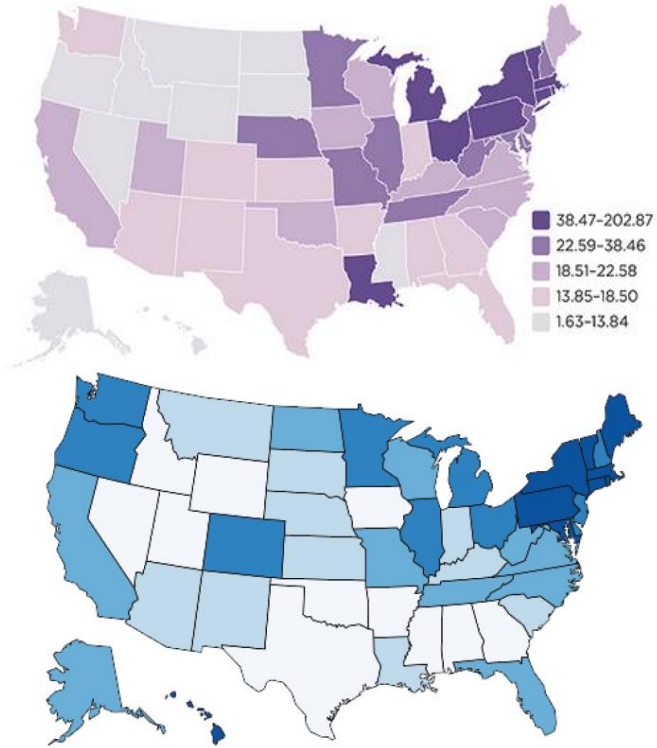
1. Direct Medical Education (DME) funding
    a. DME = (GME learners) x (Medicare volume) x (per-resident amount)
2. Indirect Medical Education (IME) funding

With a few exceptions, funding new learners was capped in 1997

Source: Henderson 2010, Chen et al. 2013, S. Rep. 404, 89th Cong., 1st Sess., p. 36 (1965), and H.R. 213, 89th Cong., 1st Sess., p. 32 (1965).

Medicare GME-funding criticisms

- Intent was to be temporary and proportionate, not permanent and disproportionate
- Funding formulas are antiquated
- Neglects institutions with low Medicare volume
- IME is nebulous and likely too generous
- The cap
  - Exacerbates existing trends in disproportionate specialty growth
  - Perpetuates the maldistribution of GME
- Prejudices community-based medical training
- Graduates lack service obligations



Sources: MedPAC 2010, Eden et al. 2014, AAMC 2011 State Databook

Medicaid GME financing

Most states use Medicaid funds to support GME

- That number is declining
- This year the NC legislature voted to end Medicaid funding for GME
- California, Massachusetts, and Illinois all make do without Medicaid GME funding

States have significant leeway in how they can use these funds, but most adopt a funding formula that resembles Medicare's

Quality data is lacking

Source: Henderson 2010

GME governance

Nationally

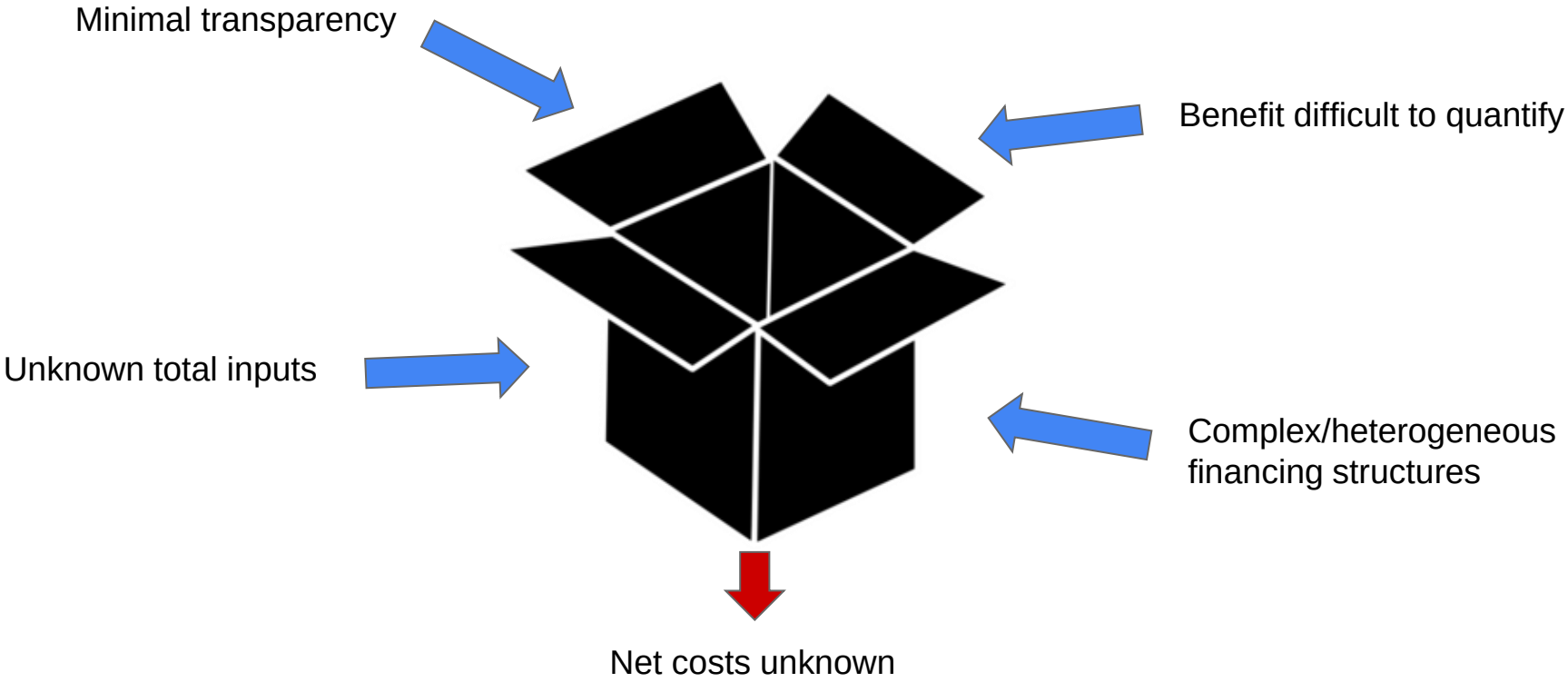
- No federal governing body
  - MedPAC and COGME are purely advisory

States

- Few take an organized approach
  - Most GME decisions made at the institutional level

Source: Spero et al. 2013

The black box of GME financing



The role of the academic medical center

On the one hand…

- Most operate as not-for-profit
- Important site of training for many health professionals
- Conduct important research
- Provide critical care
- Provide safety-net care

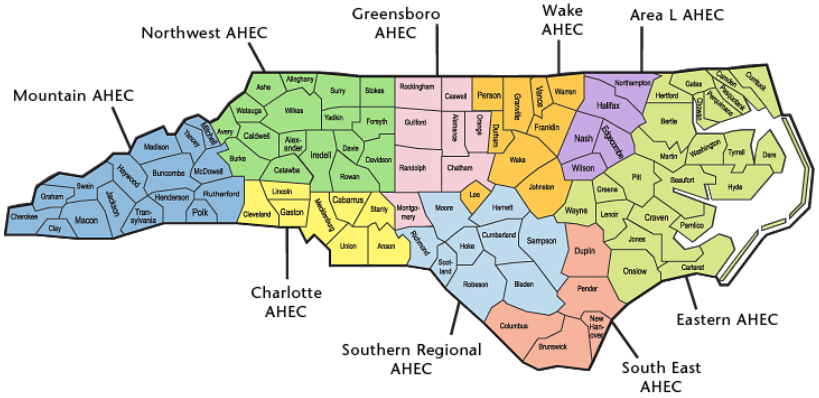
On the other…

- Minimal fiscal transparency
- Minimal accountability
- Motivated by profit
- Disconnected from state and national needs
- Not all engage to the same degree in social mission activities
- Alternate funding streams exist to pay for complex and safety-net care

AHEC

Established by Congress in 1970 to "recruit, train and retain a health professions workforce committed to underserved populations."

Creates partnerships between academic medical centers and rural/underserved locales to support *in situ* training of health professionals



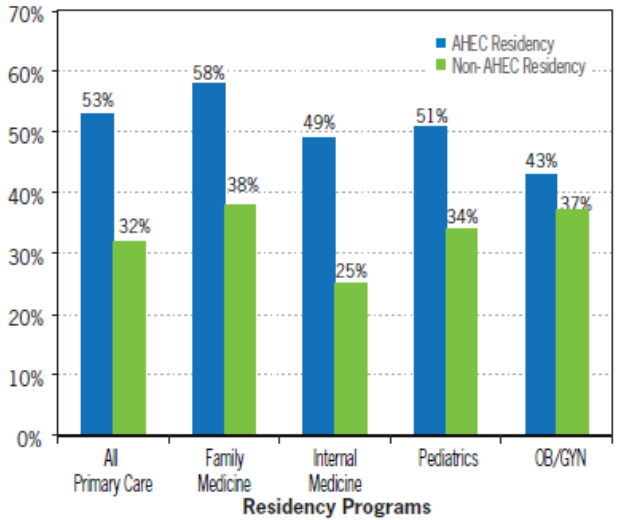
One of only 2 AHECs to engage in direct GME, but at the same time comprises less than 10% of NC residency slots

Source: Spero et al. 2013, NC AHEC website

AHEC outcomes

Physician retention

46% of AHEC grads remain in NC, vs. 31% of non-AHEC grads



Physician distribution

15% of AHEC grads enter practice in a rural area

12% of non-AHEC grads enter rural practice

Source: Fraher et al. 2013

What should be done?

Nationally (from the Institute of Medicine)

- Financing: transition to more transparent, performance-based Medicare funding
- Governance: Promote public accountability by creating an executive branch GME Policy Council as well as a GME Center within Medicare

State-level (from our Sheps colleagues)

- Create and expand health care workforce data collection systems
- Establish a GME advisory entity
- Pay for performance: use funds to address state workforce needs
- Finance reform: consider more equitable funding systems such as “all-payer”
- Address the continuum of physician training

Sources: Eden et al. 2014, Spero et al. 2013

Our proposal

Assumption: The absence of incentives lies at the root of the GME's intransigence.

The incentive: Every year AHEC distributes approximately $3 million to NC GME

The broad strokes: Through a transparent process, AHEC will gradually shift funding toward programs that demonstrate ability to address North Carolina health care workforce needs

Our (tentative) metrics

Physician retention

- Percentage practicing in North Carolina 5 years after graduation

Specialty mix

- Percentage practicing *primary care* in North Carolina 5 years after graduation (family medicine, general internal medicine, primary care pediatrics)
- Percentage practicing in other needed specialties (general surgery, psychiatry, etc.)

Fiscal accountability

- Percentage who accept Medicaid/Medicare

This will require certain structural reforms

Training location

- Decentralization and promotion of community-based residencie

Governance

- Possible institution of a governing board

Data

- Formalize process for workforce tracking and analysis

Thanks to...

- Erin Fraher, Tom Bacon, and Julie Spero with the UNC Sheps Center
- Warren Newton, UNC Dept. of Family Medicine Chair and Director of NC AHEC

Discussion

1. How feasible is measuring whether physicians accept Medicare/Medicaid?
2. Other outcomes we ought incentivize? (curriculum, population health, etc.)
3. What types of physicians do we most need?
4. Would residency program “report cards” prove useful?
5. How can residencies influence where and what their graduates practice?
6. What word choice resonates best: social accountability, value, return on investment, etc.?