

The Cost of Training Health Workers: Global and US Perspectives

Session: Structural and Financial Challenges in
Health Professions Education

Beyond Flexner 2016 Conference
Miami, FL
September 19, 2016

Eric Keuffel¹, PhD, MPH

¹Principal, Health Finance & Access Initiative, LLC

Global Context: UN Sustainable Development Goal 3.c

“Substantially increase **health financing and the recruitment, development, training and retention of the health workforce** in developing countries, especially in least developed countries and small island developing States”

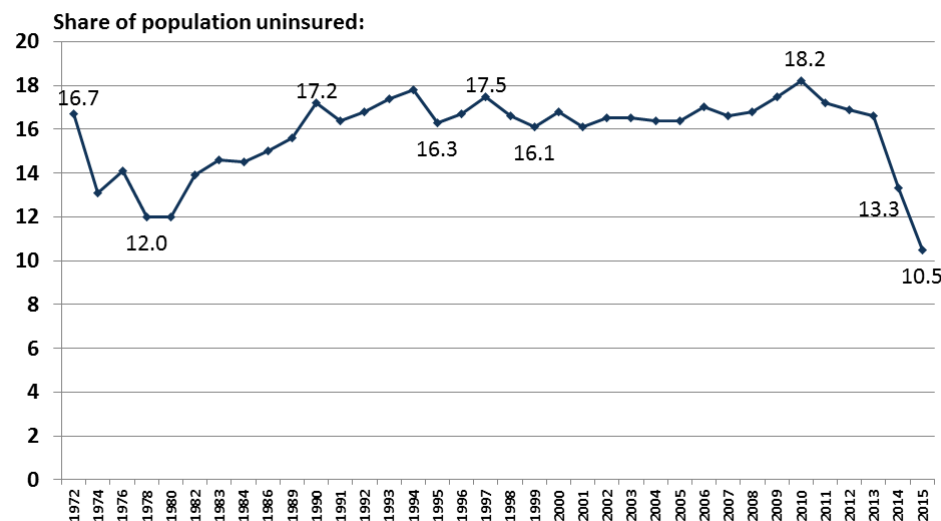
World Bank Country Income Level	MD per 1000 Population	Nurses per 1000 Population
Low	0.1	..
Lower Middle	0.8	1.7
Upper Middle	2	3
High	2.9	8.6
Global	1.5	3.3

The WHO Global Strategy on Human Resources for Health: Workforce 2030 aims to establish policy agenda which fulfills SDG vision.

US Context

- Increase in insurance coverage under ACA...also requires more health workers
- Regulated entry into health system
- Historic over/under supply cycles in nursing

Uninsured Rate Among the Nonelderly Population, 1972-2015



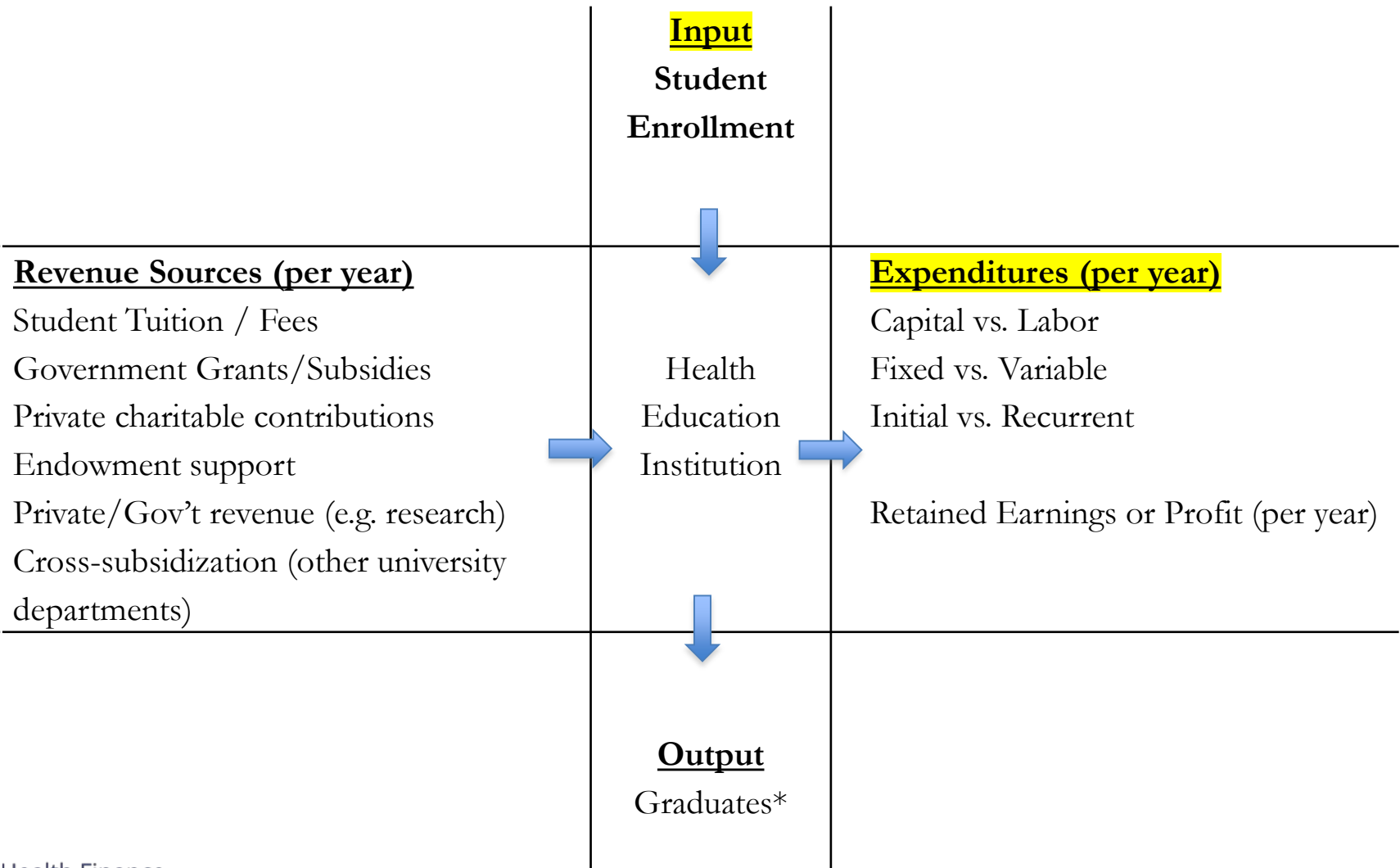
Source: CDC/NCHS, National Health Interview Survey, reported in http://www.cdc.gov/nchs/health_policy/trends_hc_1968_2011.htm#table01 and <http://www.cdc.gov/nchs/data/nhis/earlyrelease/insur201605.pdf>.



- Recent increase in new medical schools in US (n=15)...including our hosts (FIU Wertheim first class 2009)!
- Ongoing reassessment of how to optimally allocate tasks across various types of health workers

Sources: Kasier Family Foundation, AAMC A Snapshot of the New and₃ Developing Medical Schools in the U.S. and Canada (2012)

Key Point #1: Tuition < Costs (Sad, but usually true)

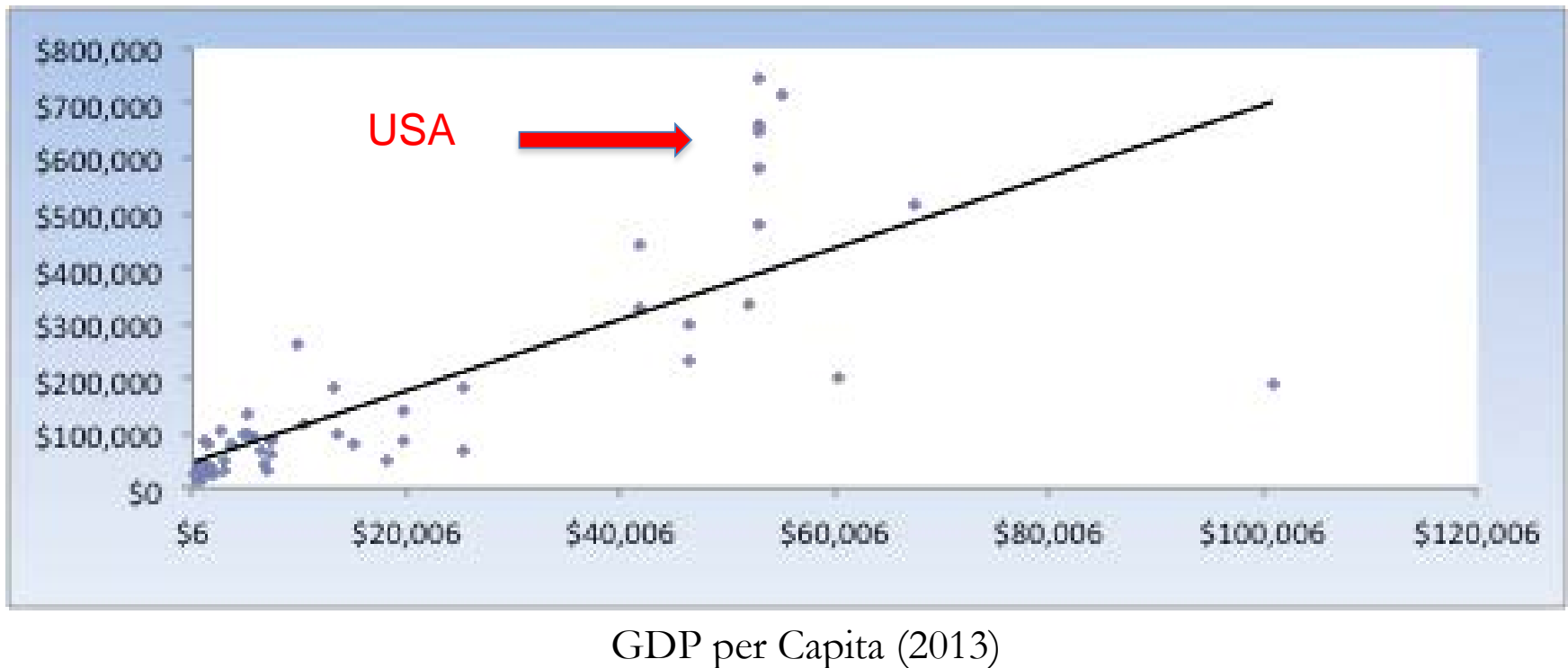


What is the COST of Generating a Physician?

Study	Metric	Year	Country	Estimate
Jones and Korn, Academic Medicine (1997)	Annual cost per student	1996	United States	\$82,500.00
AMA, Council on Medical Education	Annual cost per student	2002	United States	\$92,500.00
Rein et al., Academic Medicine (1997)	Cost per graduate	1994-5	United States	\$357,000
Goodwin et al., Academic Medicine, 1997	Annual cost per student	1994-5	United States	\$69,992
Franzini et al., Academic Medicine, 1997	Annual cost per student	1994-5	United States	\$57,370
Bickell et al., Health Policy and Planning (2001)	Cost per graduate	1997	Vietnam	VND Mil. 111,427
Beciu, World Bank, 2009	Annual cost per student	2009	Ghana	\$8,975
Vimelket et al., JMAT, 2003	Cost per graduate	2003	Thailand	THB 2,174,091
Valberg et al., Canadian Medical Association, 1994	Annual cost per student	1993	Canada	CAD 48,330
UK, PSSRU (Unit Costs of Health and Social Care)	Cost per graduate	2014	United Kingdom	£175,332

COST of Generating a Physician across the Globe (Larger Sample of Institutions)

Adj. Cost Per Graduate
 (2014)



Preliminary Estimates...do not cite!

Key Point #2: Labor is the Key Cost Driver in Health Worker Training Costs

- Reasonable labor estimate (vs. capital) is 65-75% of total annual expenditures, sometimes more
- High skill (high salary) population serve as instructors (and administrators) at health workforce education institutions (medical school, nursing schools et.)
- This is likely why we see a strong link between GDP per cap and cost of training (and perhaps why US is above the “cost curve” since physician reimbursement generally is higher in US vs. other industrialized countries with similar GDPs)
- Can new administrative/teaching models reduce cost? Lower student debt?

Estimate Global HW Costs for WHO

Current (2013) cost of medical education by cadre and income group (\$2013 millions)

Base Case: Generate Country Level Estimates on Robust Data Points Only (Estimates that explicitly captured capital and overhead costs)

	Physicians	Nurses/midwives	Other Cadres	Total Health Workers
Income				
High	45,659	51,118	25,346	122,123
Upper-middle	30,759	6,490	2,366	39,615
Lower-middle	3,399	2,047	860	6,306
Low	180	107	36	323
Region				
Africa	628	642	160	1,430
Americas	17,051	25,149	12,092	54,292
South-East Asia	1,592	864	304	2,760
Europe	29,898	20,474	10,204	60,576
Eastern Mediterranean	2,805	1,085	332	4,222
Western Pacific	28,021	11,548	5,516	45,085
World	79,997	59,761	28,608	168,366

Aggregate PSE Production Costs as Share of Estimated 2013-2030 Total Health Expenditures (\$US 2013)

	SDG Model Alt 1	SDG Model Alt 2	SDG Model Alt 3
High Income	0.74%	0.74%	0.74%
Upper Mid Inc.	2.80%	2.81%	2.82%
Lower Mid. Inc.	3.41%	3.84%	3.84%
Low Income	4.51%	5.34%	5.35%

$$\text{Annual Expenditure}_{w,c,t} = \text{Cost per Graduate}_{w,c,t} * \text{Graduates}_{w,c,t}$$

Key Point #3:

There is room for innovation to improve financing in health worker training institutions

Get Data

- Limited detailed financial data on medical schools....even less in nursing and allied health.

Incorporate Finance with Management/Curriculum Innovations

- Apply business/accounting innovations to improve efficiency (and quality!) in the education process.
 - Time Dependent Activity Based Costing
 - Zero Based Budgeting

Key Point #3:

There is room for innovation to improve financing in health worker training institutions

Take Advantage of Cost Efficiency Opportunities

- Healthcare (and health education) have some of the highest unit cost variances across health workers
 - Interactions across cadres during education process (increasingly important in practice of medicine).
 - Cost Effectiveness for the classroom? HBS outsources intro accounting to BYU...should HMS outsource anatomy?
- Reverse innovation: What can US learn from Ghana?

Key Point #3:

There is room for innovation to improve financing in health worker training institutions

Consider the potential benefits

- Can new administrative/teaching models reduce cost? → Lower student debt? → Tilt our workforce (at least for MDs) back to primary care?

Thanks!