How Do You Deliver a Good Obstetrician? Outcome-based Evaluation of Medical Education

Reference:
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Author Institutions:
¹Center for Health Equity Research and Promotion, Philadelphia Veterans Affairs Medical Center; Perelman School of Medicine and Wharton School, University of Pennsylvania; Penn Medicine Center for Health Care Innovation, Philadelphia, PA, USA.
²Department of Policy Analysis and Management, Cornell University, Ithaca, NY, USA; National Bureau of Economic Research, Cambridge, MA, USA.
³Division of Maternal Fetal Medicine, Perelman School of Medicine, University of Pennsylvania, Philadelphia, PA, USA.
⁴Yale School of Medicine, Yale University, New Haven, CT, USA; Health Research & Educational Trust, Chicago, IL, USA.
⁵Center for Health Equity Research and Promotion, Philadelphia Veterans Affairs Medical Center, Philadelphia, PA, USA; Perelman School of Medicine, University of Pennsylvania, Philadelphia, PA, USA.

Tags

Clinical domain
Medical Expert
General

Educational domain
Program evaluation
Education research
(Post)graduate

Background

As educators in the health professions, we all want to think that our dedication to preparing the next generation of competent physicians has an impact. But just how big is that impact? Do we as teachers and curriculum designers really shape future practice patterns? Put another way, how much does the location of training impact future patient outcomes? Isn't this really the "holy grail" of the art, science, and enterprise that is medical education? Previous work by meded researchers like Tamblyn and Norcini have suggested that "geography is destiny", or where you train predicts your future practice.
Purpose

David Asch and colleagues set out to test the implications of the “geography is destiny” hypothesis by looking for associations between training experiences and various patient outcomes and practice patterns for US Obstetricians.

Furthermore, this group wanted to explore what medical education can learn by examining large data sets on physician practice patterns.

Type of paper

Review: Narrative overview of a series of observational administrative database studies by this group

Key Points on the Methods

This paper is a narrative overview, a tour-de-force synthesis of a series of studies by Asch et al.

The research comprises administrative database studies looking at maternal outcomes as a surrogate marker of competence or performance in practice. The authors looked at all hospital-based deliveries in the states of Florida and New York across decades (from 1992-2007). To be included, obstetricians had to be licensed, trained in the US, and contribute at least 100 deliveries to the dataset. This data was cross-tabbed to compare programs who trained at least 10 of the physicians in the sample. 4.9 million deliveries performed by 4,124 physicians from 107 residency training programs in the US. The residency program sample represents 43% of American programs. They tried to control for differences in maternal health and type of delivery.

For further details, have a look at the original works in a variety of journals:


Key Outcomes

There were a number of very important findings in this paper, making it a go-to reference and an instant high-impact classic. The patterns were stable across decades in this large sample.

1. The authors were able to stratify the programs (representing groups of physicians who graduated) into quintiles based on the composite maternal outcomes. Graduates complication rates were determined by where they trained, and this was very stable over time.

2. The top performing quintile had a maternal complication rate of 10.3%. The lowest 13.6% for a whopping 32% relative risk.
3. Licensing examination scores by graduates (a marker of the selection process for training programs) had little effect on the maternal complication rate, indicating that it truly was a training effect.

4. Running the analysis again to control for change over a decade of practice (as a marker of greater experience as a clinician), complications rates fell over time. 2% in first decade, 1% in decade 2, and 0.5% in decade 3. This is good news for those interested in continuing professional development and learning in practice.

5. It is not all good though for CPD enthusiasts: further analysis indicated that initial performance predicted the future career far more than any improvement over time. In other words, the quintiles were very stable, even though every population improved each decade.

**Key Conclusions**

The authors conclude that residency training is associated with a major and pervasive impact on practice performance.

**Spare Keys – other take home points for clinician educators**

1. This is a synthesis of landmark studies that suggest "Geography is Destiny", and where you trained impacts your career practice patterns. This suggests that residency education is a critical enterprise deserving major attention.

2. This is part of the educational theory of "imprinting" teachers' practice patterns on trainees.

3. It demonstrates that "true" outcome-based education must take into account these downstream effects of training sites.