

*The Affordable Care Act, State Policies and  
Demand for Primary Care Physicians*

*Marco D. Huesch, MBBS, PhD, Truls Østbye, MD,  
PhD, J. Lloyd Michener, MD*

*Paper No: 2016-010*

**CESR-SCHAEFFER  
WORKING PAPER SERIES**

*The Working Papers in this series have not undergone peer review or been edited by USC. The series is intended to make results of CESR and Schaeffer Center research widely available, in preliminary form, to encourage discussion and input from the research community before publication in a formal, peer-reviewed journal. CESR-Schaeffer working papers can be cited without permission of the author so long as the source is clearly referred to as a CESR-Schaeffer working paper.*

## **The Affordable Care Act, State Policies and Demand for Primary Care Physicians**

Marco D. Huesch, MBBS, PhD, Truls Østbye, MD, PhD, J. Lloyd Michener, MD

MDH,

USC Sol Price School of Public Policy, Schaeffer Center for Health Policy and Economics;

TØ,

Duke University School of Medicine, Department of Community and Family Medicine;

Duke Global Health Institute;

Duke-National University of Singapore Graduate School of Medicine

JLM,

Duke University School of Medicine, Department of Community and Family Medicine;

Duke School of Nursing

### **Abstract**

The Affordable Care Act is designed to increase healthcare access nationwide. Such foreseeable new demand in the face of a fixed supply of physicians could lead to greater, and/or more intensive, recruitment of primary care physicians. We analyzed all primary care advertisements on three important national physician recruitment websites by ‘scraping’ all content on two days one year apart and parsed the content using text analytic tools. We expected greater increases in recruitment activity in those states expanding Medicaid and which partnered with the federal government to construct insurance exchanges. Contrary to hypothesis, physician labor markets did not consistently respond to foreseeable increases in patient demand by increased recruitment activities.

## Introduction

The Affordable Care Act [ACA] is impacting primary healthcare across the nation in numerous and varied ways. New coverage for prevention and for children up to age 26, Medicaid expansion,<sup>1</sup> and subsidized health insurance marketplaces should increase patient demand for primary care. Yet similar reform in Massachusetts led to shortages in supply of primary care physicians.<sup>2</sup>

Foreseeable increases in patient demand in the face of a fixed supply of physicians could lead to greater, and/or more intensive, recruitment of primary care physicians. This may especially be the case in states that construct their own insurance exchanges and/or expand Medicaid. While the ACA was signed into law in 2010, one would expect these effects to take place gradually over several years, and we therefore explored recruitment by state in 2013 and in 2014 after the law went into effect to assess changes over time.

## Methods

We categorized the 50 states plus Washington DC by their policies with respect to two ACA-related policies: construction of insurance marketplaces (17 state-based [SBM], 7 federal-state partnership [PM], 27 federally-facilitated marketplaces [FFM]), and Medicaid expansion (25 states moving forward, 26 not) as at September 30, 2013.<sup>3</sup>

We defined *primary care* as family and general practice, internal medicine, general pediatrics, and urgent care. Using “web-scraping” software code that we developed,<sup>4</sup> we downloaded and categorized by state all 16,875 US primary care advertisements hosted on three important

recruitment websites: *JAMA* (1,266 ads on 10/7/2013 and 1,507 on 9/23/2014), *NEJM* (651 on 9/20/2013, and 1,103 on 9/27/2014) and the National Coalition of Healthcare Recruiters (NHCHR) (5,715 on 9/30/2013, and 6,633 on 9/27/2014).

We counted advertisements within policy categories by website and year. We also searched for 103 pre-specified positive financial incentives and motivation keywords (e.g. “bonus”, “good schools”, “\$xxxk”), computing rate of keywords per advertisement. We were especially interested in differences by policy category over the period of approximately one year from September 2013 to September 2014. Our use of this data did not constitute human subjects research and did not require Institutional review Board approval in the first author’s institution.

## **Results**

Contrary to hypothesis, states that developed their own state-based insurance exchange or expanded Medicaid generally saw *smaller* increases in primary care recruitment compared to states that did not construct their own exchanges or did not expand Medicaid, respectively (**TABLE 1**). In the NCHCR data, there was a 20.4% increase in advertised positions in FFM states compared to 8.2% in SBM states, and a 22.2% increase in states that did not expand Medicaid compared 6.6% in states that did. A similar trend was observed overall in the *NEJM* data, in *JAMA*’s family medicine data, and when aggregating the three specialties of family medicine, internal medicine and pediatrics across all three websites.

We found inconsistent changes in the rate in which ads contained financial and motivation keywords (**TABLE 2**). In the large NCHCR data and in the *JAMA* data but not in the *NEJM* data we observed a smaller increase in such keywords per advertisement in the SBM states compared to

FFM states, and in states expanding Medicaid compared to those states not expanding Medicaid, again contrary to hypothesis.

## **Discussion**

These unexpected results suggest that physician labor markets have not consistently responded to foreseeable increases in patient demand brought about by the implementation of the ACA and related state policies.

It is possible that hospitals and practice groups are adopting a wait-and-see approach, implementing alternative teaming models, or physicians are simply ‘making do’ and seeing more patients and working more hours. Primary care physicians may also respond more to non-financial incentives such as teamwork and lifestyle balance.

Analysis of job vacancies using “webscraping” and free text analysis are simple and novel tools for analyze trends in the physician labor market. However, an important limitation of their use is that the changes in these data are only indirect indicators of number of positions and even more indirect proxies of actual patient demand.

In the long-term, more physicians entering a primary care track, the ACA’s addition of a 10% primary care bonus from Medicare, additional funds for Academic Health Science graduate medical education<sup>5</sup> and loan forgiveness for rural primary care<sup>6</sup> will increase physician supply. In the short-term, more aggressive recruitment and more favorable compensation and bonuses, especially in those states most at risk of mismatches in supply and demand, may be a fruitful strategy.

**Acknowledgements** We acknowledge research assistance by Ms Shyamala Shastri (USC Viterbi School of Engineering) for which Ms Shastri received compensation.

**Disclosures** Drs Huesch reports grant support by AHRQ, Lockheed Martin, and Baxter, and reports consulting to the IOM Committee on Geographical Variation, Parkland Center for Clinical Innovation, and Precision Health Economics. Dr Østbye reports grant support by NIH.

## References

- 
- <sup>1</sup> Sommers BD, Epstein AM. U.S. Governors and the Medicaid expansion — no quick resolution in sight. *N Engl J Med* 2013; 368:496-499
  - <sup>2</sup> Massachusetts Medical Society. 2011 MMS physician workforce study. Boston (MA): The Society; 2011 Sep
  - <sup>3</sup> Kaiser Family Foundation. State decisions on health insurance marketplaces and the Medicaid expansion, as of September 30, 2013. <http://kff.org/health-reform/state-indicator/state-decisions-for-creating-health-insurance-exchanges-and-expanding-medicaid/>
  - <sup>4</sup> Shastri S. Webscraping physician recruitment sites. <https://github.com/shyamalashastri/Webscraping>
  - <sup>5</sup> Health & Human Services Department. HHS awards \$12 million to help Teaching Health Centers train primary care providers. <http://www.hhs.gov/news/press/2013pres/07/20130719a.html>
  - <sup>6</sup> Health & Human Services Department. Offering financial support to primary care providers. <http://nhsc.hrsa.gov/>

**Table 1. Change in primary care physician advertisements by state insurance exchange and Medicaid expansion**

% Change in ad numbers from 2013 <sup>a</sup> to 2014 <sup>b</sup>	All US	By state insurance marketplace			By Medicaid expansion	
		Federally- facilitated (FFM)	Federal-state partnership (PM)	State-based (SBM)	Not expanding	Expanding
<b>NCHCR advertisements</b>						
Family Practice	2.7	9.0	-10.3	-6.8	10.3	-8.8
General Practice	-41.2	-44.3	-37.0	-35.1	-45.6	-34.0
Internal Medicine	46.7	50.1	48.3	38.8	53.2	36.7
Pediatrics	11.9	17.6	3.9	0.0	18.4	0.0
Urgent Care	28.8	29.0	110.0	15.0	34.1	20.3
Total	16.1	20.4	10.0	8.2	22.2	6.6
<b>JAMA advertisements</b>						
Family Medicine	18.7	18.3	123.9	0.8	15.7	22.3
Internal Medicine	16.6	-4.1	-4.8	60.5	-10.0	52.4
Pediatrics	27.9	20.3	12.5	43.1	-8.6	66.7
Total	19.0	11.7	54.8	22.7	5.2	36.2
<b>NEJM advertisements</b>						
Family Medicine	122.5	141.8	650.0	78.6	152.9	101.6
General Practice	147.8	127.8	50.0	333.3	173.3	100.0
Internal Medicine	3.7	25.9	180.0	-22.7	33.6	-14.2
Pediatrics - General	161.0	300.0	533.3	21.9	254.2	97.1
Urgent Care	161.8	121.1	-33.3	275.0	110.5	226.7
Total	69.4	98.3	304.2	28.5	105.3	44.8
<b>Across NCHCR, JAMA and NEJM</b>						
Family Medicine	12.8	16.3	23.0	3.3	17.1	6.9
Internal Medicine	36.8	40.3	43.8	28.9	42.2	29.8
Pediatrics	27.4	33.9	28.6	13.7	27.3	27.5
Total	23.3	27.0	30.9	14.3	27.4	17.6

Notes: <sup>a</sup> NCHCR 9/30, JAMA 10/7, and NEJM 9/20/2013; <sup>b</sup> NCHCR 9/27, JAMA 9/23, and NEJM 9/27/2014

NCHCR: National Coalition of Health Care Recruiters [www.nchcr.com](http://www.nchcr.com)

**Table 2. Change in rates of financial and motivational keywords per advertisement by policy category**

% Change in financial keyword frequency per ad from 2013 <sup>a</sup> to 2014 <sup>b</sup>	All US	By state insurance marketplace			By Medicaid expansion	
		Federally-facilitated (FFM)	Federal-state partnership (PM)	State-based (SBM)	Not expanding	Expanding
<i>NCHCR advertisements</i>						
Family Practice	-3.7	-1.1	-13.1	-7.4	-0.9	-9.3
General Practice	0.3	8.4	-20.6	-11.3	15.7	-21.4
Internal Medicine	7.7	7.5	7.2	7.4	7.5	7.0
Pediatrics	-5.7	-9.9	19.9	-0.6	-8.2	0.3
Urgent Care	-22.6	-20.5	-32.2	-29.5	-21.4	-25.5
Total	1.2	2.6	-3.9	-1.4	3.0	-2.8
<i>JAMA advertisements</i>						
Family Medicine	11.3	12.7	29.4	3.3	14.5	7.6
Internal Medicine	9.2	14.1	16.3	0.2	10.9	6.7
Pediatrics	12.4	17.1	58.4	-3.9	15.9	7.3
Total	10.7	13.7	31.1	0.8	14.1	6.7
<i>NEJM advertisements</i>						
Family Medicine	139.7	87.7	100.0	220.0	101.1	180.7
General Practice	30.0	23.1	-11.1	488.5	37.7	7.7
Internal Medicine	33.0	5.6	52.6	62.0	6.3	55.7
Pediatrics - General	25.7	-4.7	109.6	38.0	3.0	48.3
Urgent Care	-24.9	-23.4	-83.3	-27.2	-19.6	-30.2
Total	50.5	20.9	73.8	82.7	28.2	69.9
<i>Across NCHCR, JAMA and NEJM</i>						
Family Medicine	19.1	18.4	21.7	14.7	21.1	14.7
Internal Medicine	12.9	10.0	19.0	10.9	8.7	14.0
Pediatrics	8.5	2.7	57.1	3.7	4.7	11.2
Total	13.5	10.4	31.5	9.6	11.6	13.3

Notes: <sup>a</sup> NCHCR 9/30, JAMA 10/7, and NEJM 9/20/2013; <sup>b</sup> NCHCR 9/27, JAMA 9/23, and NEJM 9/27/2014  
NCHCR: National Coalition of Health Care Recruiters [www.nchcr.com](http://www.nchcr.com)