Did the ACA Medicaid Expansion boost demand for Registered Nurses in outpatient care settings?

by

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Chapter 1

1.1 Introduction

Low income families in the United States face unique obstacles when it comes to accessing basic health care. The minimum requirements for public insurance and the high cost of private insurance have made even basic primary care inaccessible to many. For those who do have Medicaid, finding a primary care physician presents an additional challenge since many physicians refuse to accept it due to low reimbursement rates compared to those of the commercial market. The Affordable Care Act (ACA) introduced measures intended to increase accessibility of primary care for the most vulnerable including a substantial expansion of public insurance, increased funding for health centers and the promotion of alternative payment models that encourage a collaborative approach to care by expanding the roles of non-physicians such as registered nurses. These measures have the potential to impact both the supply and demand sides of the health care system. While much research has been carried out on the demand side, very little work has been done on the supply effects of these changes. In this study, I examine the effect that these measures may have had on the supply of registered nurses in outpatient settings relative to hospitals. I expect the role that registered nurses play in the provision of primary care and management of chronic diseases to have expanded both as a means of improving the quality of care and for reducing its overall cost.

1.2 Background

Healthcare expenditure is currently a major concern in the United States. At $9,892 per capita in 2017, the nation's health care spend was 145 percent above the median spend among industrialized member countries of the Organization for Economic Co-operation Development (OECD). Despite having the highest spend, in 2015 the US had 19 percent fewer practicing physicians per 1,000 than the OECD median. Of practicing physicians, it had the absolute lowest percentage of general practitioners among all OECD countries [2]. General practitioners are the front line for basic health care and include those practicing in general and family medicine, internal medicine, geriatrics, and pediatrics but do not include hospitalists [22].

National demand for primary care physicians is projected to exceed supply by over 23,000 full-time equivalents (FTEs) by 2025 assuming current trends of workforce participation, health care delivery and utilization continue [22]. This shortfall is expected to be most severe among Medicaid beneficiaries [3]. Contributing to the shortage on the supply side is an imbalance in clinician supply as higher numbers of new clinicians are choosing to specialize [30]. Median compensation for primary care physicians is significantly lower than for those who enter a specialty thus luring new physicians away from general medicine. In 2017, the median compensation for physicians across all specialties was $300,000 while median compensation for physicians in primary care was only $242,000. Among physicians specializing in radiology, median compensation was as high as $460,000. Even with this wide a variance in compensation, primary care physicians remain toward the lowest end of the spectrum [4].

Further weakening supply, fewer physicians are choosing to accept public insurance due to lower reimbursement rates relative to private insurers and the higher administrative burden associated with Medicaid [7, 6]. While private insurer prices vary widely by hospital and individual insurer, they average out to approximately 50 percent above Medicare payment rates. Medicaid payment rates are even lower than those of Medicare. Before the ACA went into effect, primary care payment rates for

Medicaid services were averaging about 59 percent of the Medicare fee levels [4].

The rising price differential between private and public insurers has been largely attributed to rampant price growth in the private sector due to increasing consolidation of hospitals and physician groups. Consolidation reduces competition by reducing the number of physician groups in the market and thus increasing each group's share of the market. When a physician group claims a higher market share, they gain leverage in negotiations with insurers which they can use to drive up payment rates in the private insurance market. The rates in the private market reflect the supply and demand equilibrium whereas Medicaid rates are arbitrarily set by the government. The divergence may thus equally suggest that Medicaid rates are set too low. As the divergence between private insurer and Medicaid reimbursement grows over time, the profitability of caring for a privately insured patient incentivizes physicians to prioritize them over Medicaid beneficiaries and either institute long wait times for Medicaid patients or decline to participate in the public program altogether[4].

While supply continues to stagnate, the U.S. population is expected to have grown by 18 percent between 2000 and 2020, resulting in an additional fifty million people who will require healthcare and the aging baby boomer generation with a higher prevalence of chronic conditions is also expected to intensify demand for healthcare services [31]. The ACA also increased demand through various measures including expansion of Medicaid coverage, subsidies for individual plans, an insurance mandate whereby those not covered and above a certain income threshold are subject to a penalty and by eliminating cost sharing for essential preventive care services.

The Affordable Care Act (PPACA) of 2010 mandated that all states expand Medicaid eligibility to all non-elderly adults with household incomes up to 138 percent of the Federal Poverty Level (FPL). This measure was struck down in 2012 by the Supreme Court, making expansion optional to each individual state. As of July 2016, 30 states and D.C. opted to expand their Medicaid programs. In March 2013, just before the first open enrollment period, the uninsured rate among non-elderly adults was 17.6 percent and by March 2015 it fell to 10.1 percent [17]. Between 2013 and 2015, the number of uninsured adults fell by over 15 million [17]. The fall in the

overall uninsured rate was substantially larger in states that expanded Medicaid than in those that did not. In states that expanded Medicaid, the uninsured rate decreased by 52.5 percent and in states that did not expand, the decrease was only 30.6 percent [17]. Studies have shown a significant increase in coverage among the targeted population of low-income childless adults [28, 5] with the highest gains seen among those without a college degree, non-whites, young adults, unmarried individuals, and those without children in the home [5].

The ACA required non-grandfathered private insurance plans to provide preventive care services without any cost sharing in the form of deductibles, copayments or co-insurance. This would enable those who were previously insured but had foregone preventive care due to the cost of their deductibles to seek care. There is reason to believe that this would have contributed to a surge in demand for preventive care from underinsured individuals who had previously delayed due to cost. An individual is considered to be underinsured if their out-of-pocket costs excluding premiums over the 12 months prior are equal to 10 percent or more of household income. Being either uninsured or underinsured is associated with difficulty paying medical bills as well as delaying or forgoing preventive care such as cancer screenings due to cost [26]. In 2010, 44 percent of adults between the ages of 19 and 64 were either uninsured or underinsured. A significant proportion of these at-risk adults had incomes below 250 percent of the federal poverty level [26]. Eliminating cost sharing for preventive care would have enabled those who had previously delayed or forgone care to be able to afford it.

Indeed studies have shown there was a surge in primary care utilization after the ACA was passed reflecting the demand induced by expanded coverage and greater affordability of care. Increases in outpatient visits, fewer who skipped medications as a result of cost, increased screening for diabetes delivered by primary care providers and fewer emergency department visits [29, 8]. Access to preventive care and related chronic disease management may have also decreased the incidence of ED visits and higher cost hospitalizations.

Increased demand for primary care resulting from coverage expansions has been

estimated to require an additional 7,200 primary care providers or 2.5 percent of the 2013 baseline supply [14]. In 2013, an estimated seven million people resided in areas where the expected increase in demand was greater than 10 percent of the baseline [14]. To address the primary care physician shortage, the ACA contained several provisions to boost the supply side of the primary care market. To encourage acceptance of new Medicaid patients among providers, the ACA increased Medicaid reimbursement rates to match those of Medicare for primary care services. This would have have a varying differential impact across states because of the wide distribution in Medicaid to Medicare reimbursement ratios that prevailed before the ACA. States with the lowest Medicaid to Medicare ratios in 2008 such as New Jersey at 37 percent and California at 47 percent also had the lowest Medicaid patient acceptance rates [7] thus showing the potential to increase acceptance through this policy lever.

Ideally, there would not be a physician shortage and every person would have access to a physician for basic health care regardless of their geographic location or demographics. One solution to the physician shortage is to empower the nursing workforce to share responsibility in providing care by (1) enabling nurse practitioners and physicians assistants (PA) to practice to their fullest potential, (2) to expand the role that registered nurses play in ambulatory care through care delivery transformation by implementing alternative payment models (APM) such as those based on the patient centered medical home and bundled payments that aim to reduce costs through resource optimization and care coordination while ensuring quality of care standards are met (3) and by increasing the prevalence of nurse-led clinics in high need areas.

Nurse practitioners (NPs) also known as advanced practice registered nurses (APRNs) are trained in primary care and qualified with a Master's of Science degree but are inhibited from practicing in many states due to a patchwork of state restrictions. In 2013, there were 57,330 NPs in the labor force and that number is expected to grow to 110,540 full-time equivalents (FTEs) by 2025 whereas the primary care physician workforce is only expected to grow by 22,880 FTEs to 133,420 over the same period [22]. The ACA contained several provisions to expand the supply of NPs in primary

care through scholarships, loans and training opportunities in health clinics.

While NPs and PAs can practice independently as primary care providers in many states, their scope of practice is more limited in other states by mandates for physician oversight, transition to practice periods, restrictions on their authority to prescribe medications and lower rates of reimbursement relative to physicians. The National Council of State Boards of Nursing defines independence as practicing with "no requirement for a written collaborative agreement, no supervision, [and] no conditions to practice." In its report on supply and demand, the HRSA highlights the potential to effectively mitigate primary care provider shortages by allowing NPs and PAs to practice to the fullest extent of the their training [22] and in 2010, full practice status became the recommended model in the Institute of Medicine's Future of Nursing Report and the National Council for State Boards of Nursing's Model Nursing Practice Act and Administrative Rules [6, 7]. In 2013 before the ACA Medicaid expansions went into effect, 17 states and the District of Columbia had full scope of practice policies in place.

Allowing NPs to provide primary care independently may lead to more collaborative care as NPs establish nurse-led clinics in which responsibilities are shared with registered nurses and other medical professionals. Unlike the lone physician model of care in which all care is delivered or delegated by the physician, collaborative delivery models foster sharing of responsibility with a team from the start.

While empowering NPs to practice would directly increase the supply of primary care providers, it is the army of registered nurses that could have a substantial impact on primary care capacity. Registered nurses comprise the single largest segment of the US healthcare workforce [21]. In May, 2019 there were over 2,980,000 registered nurses employed in the US workforce outnumbering both physicians and NPs by over a million combined at 109,370 and 200,600 respectively [23].

In practices that follow the traditional fee for service model (FFS), decisions are often made and carried out by the lone physician with a few helpers on hand, usually medical aids, under increasingly strained capacity as the ratio of clinicians to population declines [9, 13]. Increasing the number of patients seen by physicians

would require increasing their panel size, the number of patients seen in a given year. Increasing panel sizes are associated with compromised quality and burnout among physicians. In addition, there is usually little communication between providers which can lead to redundancies in care.

To address the capacity limiting constraints of the FFS system, increasing attention has been paid to expanding the roles of registered nurses to include chronic disease management, prescription refills and other care occurring in ambulatory care settings for which well-established clinical practice guidelines are available. It has been shown that registered nurses can add value among patients with hypertension, diabetes, rheumatoid arthritis or hyperlipidemia. Expanding the roles of nurses in this way could thereby add capacity without further demands on a physician's time[9, 27].

Nurse-led care has been shown to be both cost-effective and lead to outcomes that are on par with and sometimes superior than those of physician-led care. One study found that among patients with rheumatoid arthritis, nurse-led care achieves better outcomes and is more cost effective than rheumatologist-led care [18]. Another study that was based on a randomized trial found that among patients with atrial fibrillation, nurse-led care produced better patient outcomes including better adherence to treatment and lower mortality rates than cardiologist-led care [12].

In addition to increasing primary care capacity, there are other incentives that could motivate more practices to adopt a team-oriented approach. Most APMs include cost sharing incentives that tie profits to cost savings achieved relative to an established baseline level. To reduce the cost of care, organizations can optimize skill-mix by allocating primary care providers, RNs and other staff to cases for which their care would be most effective in terms of both quality and cost. Shifting care from physicians and NPs to nurses can reduce the overall cost by substituting lower cost practitioners for those who command a higher wage [16]. As part of their recommendations on policy, The American Academy of Nursing recently highlighted the value of expanding the role of baccalaureate registered nurses in primary care. The ACA contained several provisions intended to support the transformation of healthcare delivery including the implementation of ACOs in the Medicare program through the

Medicare Shared Savings Program, testing of bundled payment and episode based payment initiatives, the expansion of value-based purchasing in the Medicare Program (ACA Title III Subpart A, Part I, Secs 3001-3008) and Community Health Teams to support Medical Homes (Sec 3502).

NPs and RNs already play an integral role in Health Centers. Health Centers are a vital source of outpatient care for patients who are uninsured or on Medicaid, and for those located in medically underserved areas, participants of high-deductible health plans and low income patients with chronic illness. The Health Centers Program administered by the Health Resources and Services Administration (HRSA) and authorized in Public Health Service Act Section 330 distributes grants to Federally Qualified Health Centers (FQHC). In order to be eligible, Health Centers must provide comprehensive primary care services as well as ancillary services via a sliding scale payment structure that facilitate access in a health care shortage area. Health Centers that are not designated as FQHCs can receive many of the same benefits but are not entitled to receive Section 330 grant funds.

The wide array of services that must be provided by health centers in order to qualify necessitates a team-based approach among physicians, non-physician clinicians and other staff. A study comparing office-based and health center based primary care found that Health Centers employ significantly more non-physician clinicians (including PAs and NPs) than physician offices. Using 2006-2007 data from the National Ambulatory Medical Care Survey, it found that nearly a third of all visits were with non-physicians and the vast majority of these were without a physician being present [13]. This suggests that the uptake of team-oriented care and reliance on non-physicians has long been on the rise and moving faster in Health Centers than in physician offices. Another study of prevailing staffing patterns in Health Centers found that overall levels of productivity are similar across Health Centers with typical staffing patterns and those staffed with a high proportion of RNs. It found that neither model was dominant over the other showing that practices can be productive with varying blends of physicians, NPs, RNs and other medical staff [15]. Furthermore, staffing patterns is linked to local factors such as the supply of clinicians

and non-clinicians as well as scope of practice laws which together may suggest that any solution to the primary care provider shortage would require some flexibility as demonstrated among Health Centers.

Health Centers have also been shown to be cost-effective. In 2017, 16 percent of Medicaid patients were served by Health Centers while Health Center Medicaid revenue represented only 1.7 percent of total Medicaid Expenditures [20]. Health Center patients on Medicaid have lower utilization of and spending on both inpatient and outpatient services relative to non-health centers [19]. In addition, they have lower utilization of costly hospital emergency department related services [19]. This suggests that if individuals can access basic primary care including preventive and chronic disease services, they may be less likely to face more complicated problems that require hospitalization later on. Thus channeling resources to primary care may reduce health care expenditure overall.

Medicaid is the largest source of health center funding accounting for 44 percent of total revenue in 2017 [11]. The Medicaid expansion was shown to have a substantial effect on the percentage of Health Center patients covered by Medicaid. The figure (((hcpatientsbyins.png))) below shows that from 2000 to 2013, the number of Medicaid patients served by Health Centers steadily increased from 3.9 million to 8.8 million and from 2013 to 2017, as the total number of patients continued to increase steadily, the growth in patients covered by Medicaid accelerated sharply to 13.3 million. The percentage of patients served by Medicaid rose from 41 to 49 percent during this time. Furthermore, the number of uninsured patients fell by 1.4 million suggesting that some proportion of those who were previously uninsured had secured Medicaid coverage through the ACA. From 2010 to 2017, health center Medicaid revenue increased by 97 percent when adjusted for inflation while on a per patient basis, it grew by only 11 percent reflecting the increase in Medicaid beneficiaries and not an increase in per patient cost [25].

The second largest source of health center funding comes from federal grants under Section 330. The ACA established the Community Health Center Fund to supplement program funding from the annual appropriations process and directed

11 billion dollars in mandatory appropriations over fiscal years 2011 through 2015 [32] which ensured a consistent flow of resources to the Health Centers Program and ultimately supplanted the funds previously granted through the discretionary appropriations process. This cumulative increase across its key sources of revenue has enabled health centers to expand capacity and increase services. Over 2010 through 2017, the number of health center sites increased by 59 percent to 11,056 sites, the number of patients served increased by 40 percent to 27.2 million, and total staff increased by 70 percent to 223,840 FTEs [24].

In 2013, 40 percent of Health Center funding came from Medicaid patient revenue whereas only 18 percent of this funding came from its second largest source, Section 330 grants. With Medicaid comprising a substantial share of overall Health Center revenue, the increase in revenue over 2013 to 2017 attributable to the influx of patients who were newly insured by Medicaid would have had larger impact in expansion states than in those that did not expand Medicaid. While the percentage of total revenue attributable to Medicaid increased from 38 percent in 2010 to 44 percent in 2017 across all states, there was a wide gap between expansion and non-expansion states. Among Medicaid expansion states the percentage of revenue coming from Medicaid was 48 percent and among non-expansion states it was only 29 percent [**?**].

There was also a substantially larger increase in the number of health center patients among Medicaid expansion states than among non-expansion states. Among expansion states, the number of patients served grew by 43 percent whereas it only rose by 33 percent among non-expansion states. The higher number of patients served in expansion states is largely attributable to the surge in operating revenue from the increased share of patients insured by Medicaid that enabled health centers to expand capacity through more sites and hiring of additional staff. A study conducted in 2015 found that health centers located in expansion states were more likely to report increasing their service capacity in substance use treatment, chronic care management and vision care than those in non-expansion states [24].

The ACA also established a new grant program for Nurse-Managed Health Clinics (NMHCs) which are similar to Health Centers but are usually led by a team of NPs.

The increase in resources flowing to health centers across all communities led to expansion in capacity and to growth in the number of sites across the country. This may have increased the number of registered nurses employed in outpatient settings along the intensive and extensive margins, respectively.

In May 2019, the BLS reported that the mean hourly wage across the US was $37.24 and $40.73 for RNs working in hospitals and outpatient care centers, respectively, but the average was only $33.45 for RNs working in physician offices. It is possible that the higher average wage in outpatient centers reflects a higher marginal revenue product for work performed in outpatient centers such as in Health Centers where RNs increasingly play an integral role in care coordination and delivery as more teams adopt collaborative approaches to care.

The regular day time working hours in clinics and physician offices may be more attractive than irregular shifts in hospitals for some RNs especially those with young children. A health care clinic setting may also be a less stressful environment with more routine work and appointments scheduled ahead of time in contrast to the intense shift work and emergency care associated with hospitals [1]. Preferences are likely to vary with one's family situation and household income. For example, one study found that among nurse qualification holders who have children, not having a partner decreased the likelihood of working as a nurse whereas with a partner, the likehood of working as a nurse increased with decreasing partner's income [10].

The demand for primary care among created by the surge in the number of individuals covered by Medicaid is sure to have intensified the strain in the supply for primary care providers in areas experiencing a shortage in primary care providers. uptake of collaborative care approach In response to this surge in demand, many outpatient care clinics such as health centers, nurse-led clinics and physician undertook an effort to mobilize resources and restructure delivery by adopting or moving toward a collaborative approach to care which may have led to a surge in demand for RNs in outpatient care settings.

The analysis that follows uses the ACA Medicaid expansion to examine whether more RNs chose to work in outpatient care settings such as health centers and physi-

cian offices rather than in hospitals as a result of the surge in demand for primary care. During this period when primary care is already strained in capacity, incorporating registered nurses into primary care delivery could be seen as a cost-effective way to help bridge the gap between demand and supply. It is this author's expectation that demand for RN labor in primary care settings is on the rise in the current environment of payment and delivery restructuring, expanding roles of nurses including NPs as primary care providers, primary care provider shortages and the growth and continued success of Health Centers.

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