

## ORIGINAL RESEARCH

# An adequate nursing workforce is essential to health centers and their expected growth under health reform

Peter Shin<sup>1</sup>, Jessica Sharac<sup>2</sup>

1. Department of Health Policy, Gibson/RCHN Community Health Foundation Research Collaborative, George Washington University, Washington, DC, the United States. 2. Department of Health Policy, George Washington University, Washington, DC, the United States.

**Correspondence:** Peter Shin, PhD, MPH. Address: Department of Health Policy, George Washington University, 2021 K St. NW, Suite 800, Washington, DC 20006, the United States. Email: pshin@gwu.edu

**Received:** January 14, 2013  
**DOI:** 10.5430/jnep.v4n1p129

**Accepted:** April 26, 2013

**Online Published:** August 27, 2013

**URL:** <http://dx.doi.org/10.5430/jnep.v4n1p129>

## Abstract

Community health centers serve as an important source of care to a patient population of 20.2 million patients that is largely low-income and insured by Medicaid or uninsured. The Patient Protection and Affordable Care Act (ACA) allocated \$11 billion in funds through 2015 to community health centers (CHCs) to grow their capacity. Nurses are essential to the ability of CHCs to provide care to a patient population at higher risk for chronic health problems. This article draws on federal CHC staffing data and CHC growth estimates to examine the nursing workforce challenges that will need to be overcome in delivering care to 20 million new patients.

## Key words

Nurses, Community Health Centers, Federally Qualified Health Centers, Health workforce

## Introduction

Community health centers serve as an important source of care to a patient population of 20.2 million patients that is largely low-income and insured by Medicaid or uninsured <sup>[1]</sup>. Nearly all (93 percent) community health center (CHC) patients are low-income (72 percent are poor and 21 percent are between 100% and 200% of Federal Poverty Level) <sup>[2]</sup>. Nationally, about a third of the US population is low-income — 15% are poor and 19.4% are between one and two times the poverty line <sup>[3]</sup>. The national percentage of the low-income population served by CHCs is 17.2% but varies by state, ranging from six percent in Nevada to 55 percent in the District of Columbia <sup>[4]</sup>.

The Patient Protection and Affordable Care Act (ACA) allocated \$11 billion in funds through 2015 to CHCs to enable them to double their capacity to 40 million patients by 2019, expanded Medicaid coverage for adults up to 133% of poverty, and established health insurance Exchanges to provide subsidized private health insurance to individuals and small businesses <sup>[5]</sup>. Although the ACA also mandates coverage of numerous preventive services (including breast, cervical, and colorectal cancer screenings, screening and counseling for alcohol misuse and obesity, and screening for blood pressure, depression, and cholesterol levels for adults, and obesity screening and counseling, behavioral asse-

ssments, and appropriate vaccinations for children) that will significantly help to address the complex health and social needs of low-income patients at risk for acute and chronic conditions <sup>[6]</sup>, there is little understanding of the workforce needs for supporting effective care delivery. In this article, we examine the current and future role of nurses at CHCs by using data from the Uniform Data System, to which CHCs are required to report annual data on staffing, services provided, and financial information, and a brief literature review of nurses at CHCs.

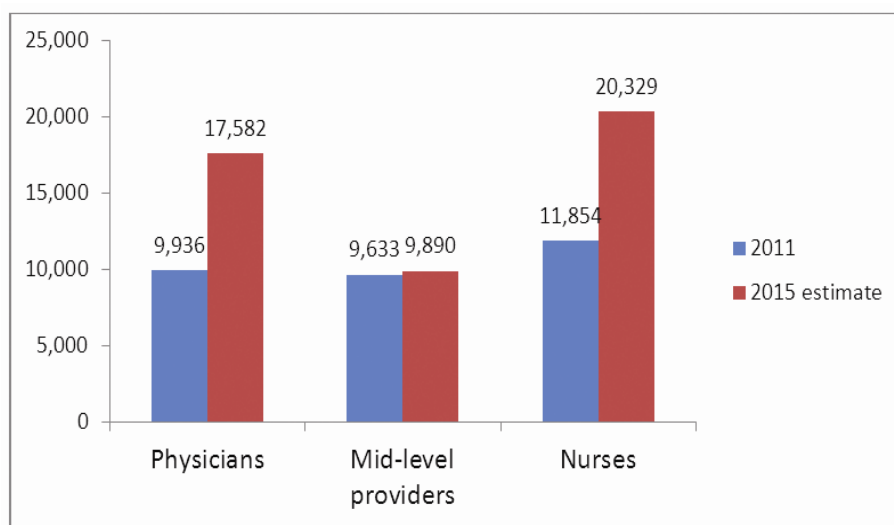
## CHC nursing shortfall

Nurses play an essential role in every healthcare setting; at CHCs, their roles include providing clinical support, in the form of primary and preventive care and home visits, as well as serving in administrative and leadership roles <sup>[7]</sup>. In 2011, nurses, nurse practitioners (NPs), and certified nurse midwives (CNMs) represented 12% of total full-time equivalent (FTE) employees at CHCs and 20% of total clinic visits; when looking specifically at medical services, they comprise 34% of FTE medical staff and 28% of clinic visits <sup>[8]</sup>. But to fully leverage the investments made under the ACA, CHCs will need to overcome significant workforce obstacles, such as retention and recruitment barriers in isolated and rural areas <sup>[9]</sup>. In 2004, 9% of nurse practitioner, 5.2% of certified nurse midwife, and 10.6% of registered nurse positions at CHCs were vacant. The numbers of these professionals per grantee were significantly lower in rural than in urban locations, and rural centers were more likely than urban centers to report that recruiting nurses and certified nurse midwives was very difficult <sup>[10]</sup>.

Nurse Practitioners and other advanced practice nurses are responsible for an estimated 40% of primary care provided at CHCs, but their scope of duties vary by state scope of practice laws <sup>[11]</sup>. As of March, 2013, sixteen states and the District of Columbia allow nurse practitioners to engage in “full practice”, including being able to prescribe medications, without the supervision of physicians <sup>[12]</sup>. CHCs are more likely to employ nurse practitioners in states with more limited Medicaid coverage for adults, likely because of their lower employment costs <sup>[13]</sup>.

An approximation of the number of providers required to serve 30 million patients at CHCs in 2015 estimated a minimum requirement of 20,329 nurses, 9,890 mid-level providers (nurse practitioners, physician assistants, and certified nurse midwives), and 17,582 physicians <sup>[14]</sup>. Figure 1 compares these estimates with the actual numbers of FTE providers at CHCs in 2011 and indicates that while the number of mid-level providers is close to the estimated requirement for 2015, the physician and nurse workforce will need to rapidly grow to meet the estimated patient demand.

**Figure 1.** Numbers of Providers at CHCs in 2011 and Estimated Required Numbers of Providers at CHCs in 2015 to Serve 30 Million Patients



CHCs rely on team-based care to serve patients who tend to be at higher risk for chronic diseases — the average percentage of medical patients at CHCs who had a primary diagnosis of a chronic disease was 31% in 2011 <sup>[15]</sup>. When

compared to patients at private physician offices, CHC patients have higher rates of diabetes, depression, and obesity <sup>[16]</sup>. In a separate study, when compared to physician office visits, CHC visits were more likely to be for depression or diabetes, but were less likely to be for acute conditions. Given their patients' need for more intensive care management and their greater focus on preventative care, CHCs are more likely to have at least one non-physician clinician and to have higher numbers of non-physician clinicians compared to physician offices <sup>[17]</sup>.

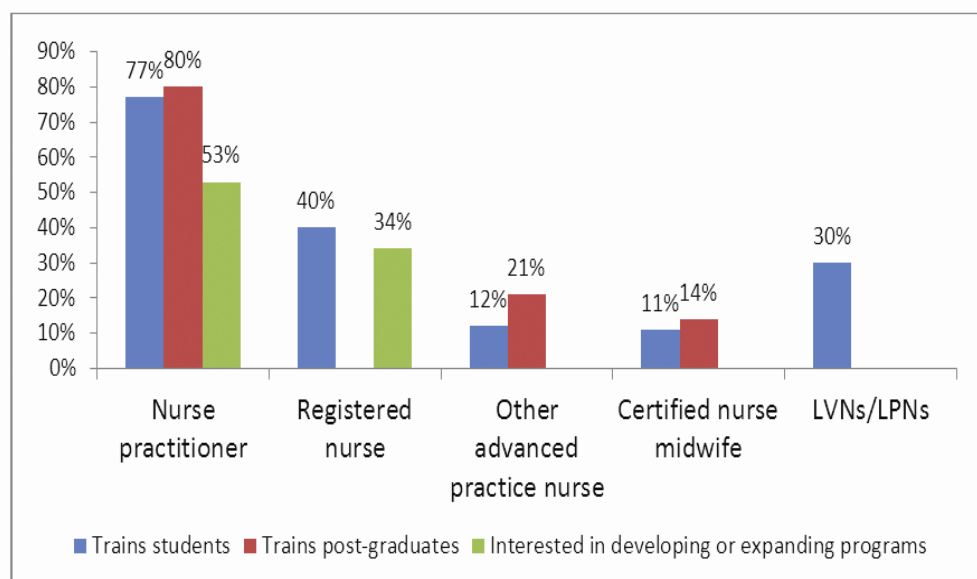
As in other low-resource settings, CHCs also use non-physician clinicians as a way to address the shortage of primary care physicians and to increase the provision of primary care. From 2005-2025, the workload for adult primary care practitioners is expected to increase by 29% while the number of adult primary care practitioners is estimated to grow by only 2%-7% <sup>[18]</sup>.

## ACA opportunity and challenges

The ACA allocated funding for a number of measures to address the national problem of primary care provider shortages, many of which target nursing students, nurses, and nurse practitioners. The Health Resources and Services Administration (HRSA) provides scholarships through the Nursing Scholarship Program to nursing students in exchange for a service commitment to work in critical shortage facilities, which include CHCs, in health professional shortage areas <sup>[19]</sup>. The ACA also provides funding for the training of an additional 600 nurse practitioners and the establishment of 10 nurse-managed health clinics in medically underserved areas, which will be led by nurse practitioners while at the same time serving as a training site for nurse practitioners <sup>[20]</sup>.

A survey of 390 CHCs found that 88% offer some sort of health professionals training program, that CHCs commonly offered nursing training for both post-graduate and current students, and that about half and a third of CHCs are interested in expanding or developing training programs for nurse practitioners and registered nurses, respectively (see Figure 2) <sup>[21]</sup>. The main advantages that CHCs cite in offering training programs is to recruit or retain health professionals and to encourage students' future practice of community healthcare, but the main barriers to offering training are lack of funding, lost staff productivity due to teaching, and the effects of the poor economy. Yet in the face of an increased demand for health services through health reform and an aging population, significant nursing shortages are expected and these efforts may be insufficient to meet the demand for nurses <sup>[22]</sup>.

**Figure 2.** CHCs That Offer and Would Like to Expand Nursing Health Professionals Training



Additionally, health centers will struggle to double their capacity to serve 40 million patients by 2019 due to the uncertainty surrounding states' decisions to expand Medicaid. In June 2012, the Supreme Court decision that upheld the individual mandate for health insurance simultaneously struck down the provision that required states to implement the Medicaid expansion. As of July 26, 2013, 16 states will not participate in the Medicaid expansion and a further seven will likely not participate<sup>[23]</sup>. It remains to be seen how many individuals will gain insurance coverage through the ACA and how this will impact the patient population at CHCs.

Adequate numbers of providers are important for CHCs because centers without physician or nurse practitioner shortages have greater medical home capacity<sup>[24]</sup>. When CHC visits are compared based on whether the patient saw a physician or a nurse practitioner, nurse practitioners were more likely to provide patients with health education services, but they did not differ on the provision of any other services, the reason for the visit, or the disposition of the visit (e.g. referred for specialty care)<sup>[25]</sup>. Nurse practitioners were more likely to see patients age 18-39 and female patients while physicians were more likely to see elderly patients, Medicare patients, patients with arthritis, and male patients. A study of seven Boston area CHCs found that, among health center factors, the most common barrier to chronic disease management care is the lack of staff members at CHCs that leaves existing staff members overburdened<sup>[26]</sup>. Based upon previous research which has found that nurse or nurse practitioner case management for chronic diseases results in improved care and patient outcomes, a trial of nurse practitioner and community health worker (CHW) case management teams on cardiovascular disease risk reduction for urban CHC patients was performed. Compared with patients who received enhanced usual care, patients under the care of the NP/CHW teams had significantly greater improvements in clinical health outcomes and perceptions of the quality of their care<sup>[27]</sup>. A systematic review comparing care provided by nurses and primary care doctors in primary care settings (i.e., not limited to CHCs) found no differences in patient health outcomes or processes of care, although nurses spent more time with patients<sup>[28]</sup>.

## Conclusion

Nurses are essential to the ability of community health centers (CHCs) to provide care to a largely low-income and uninsured or publicly insured patient population located in medically underserved areas. Many CHCs provide training opportunities for nursing students and post-graduates and many are interested in expanding training opportunities for nurses. However, nursing vacancies at CHCs are common, nursing positions are more difficult to recruit for in rural areas, and it seems unlikely that the number of nurses will increase to meet the level of forecasted patient demand at CHCs. While the ACA will likely increase the demand for health services at CHCs, provider shortages may limit CHCs' abilities to meet that demand and it is unclear how effective provisions of the ACA that are intended to address provider shortages will be.

## References

- [1] Bureau of Primary Health Care. Uniform Data System (UDS) Report 2011. Washington, DC: Health Resources and Services Administration, US Department of Health and Human Services. 2012. [http://bphc.hrsa.gov/uds/doc/2011/National\\_Universal.pdf](http://bphc.hrsa.gov/uds/doc/2011/National_Universal.pdf)
- [2] The annual federal poverty guideline for a family of three in the 48 contiguous states and D.C. was \$18,310 in 2011.
- [3] U.S. Census Bureau. Current Population Survey, Annual Social and Economic Supplement, 2011. <http://www.census.gov/cps/data/cpstablecreator.html>
- [4] GWU analysis using 2011 UDS data and 2011 CPS data.
- [5] Hawkins, D. & Groves, D. The future role of community health centers in a changing health care landscape. *Journal of Ambulatory Care Management*. 2011; 34(1): 90-99. PMID:21160356 <http://dx.doi.org/10.1097/JAC.0b013e3182047e87>
- [6] Healthcare.gov. Preventive Services Covered Under the Affordable Care Act. (updated July 31, 2012) <http://www.healthcare.gov/news/factsheets/2010/07/preventive-services-list.html>
- [7] Institute of Medicine. *The Future of Nursing: Leading Change, Advancing Health*. Washington, DC: The National Academies Press; 2011.

- [8] Bureau of Primary Health Care. Uniform Data System (UDS) Report 2011. Washington, DC: Health Resources and Services Administration, US Department of Health and Human Services. 2012. [http://bphc.hrsa.gov/uds/doc/2011/National\\_Universal.pdf](http://bphc.hrsa.gov/uds/doc/2011/National_Universal.pdf)
- [9] Bodenheimer, T. & Pham, H.H. Primary Care: Current Problems and Proposed Solutions. *Health Affairs*. 2010; 29(5): 5799-80. PMID:20439864 <http://dx.doi.org/10.1377/hlthaff.2010.0026>
- [10] Rosenblatt, R.A., Andrilla, C.H.A., Curtin, T., & Hart, L.G. Shortages of medical personnel at community health centers: implications for planned expansion. *Journal of the American Medical Association*. 2006; 295(9): 1042-1049. PMID:16507805 <http://dx.doi.org/10.1001/jama.295.9.1042>
- [11] Paradise, J., Dark, C., & Bitler, N. Improving Access to Adult Primary Care in Medicaid: Exploring the Potential Role of Nurse Practitioners and Physician Assistants. Kaiser Commission on Medicaid and the Uninsured, Kaiser Family Foundation. 2011. <http://www.kff.org/medicaid/upload/8167.pdf>
- [12] American Association of Nurse Practitioners. 2013 Nurse Practitioner State Practice Environment. 2013. <http://www.aanp.org/images/documents/state-leg-reg/stateregulatorymap.pdf>
- [13] Shin, P., Rosenbaum, S., Tolbert, J., Bruen, B., & Lu, X. Medicaid and Community Health Centers: the Relationship between Coverage for Adults and Primary Care Capacity in Medically Underserved Communities. Kaiser Commission on Medicaid and the Uninsured, Kaiser Family Foundation and the RCHN Community Health Foundation. 2012. <http://www.kff.org/medicaid/upload/8293.pdf>
- [14] NACHC, Robert Graham Center, & GWU SPHHS. Access Transformed: Building A Primary Care Workforce for the 21st Century. 2008. <http://www.nachc.org/client/documents/ACCESS%20Transformed%20full%20report.PDF>
- [15] GWU analysis of 2011 UDS data, using the definition of chronic condition "(i.e., primary diagnosis of diabetes, selected heart disease, hypertension, asthma, chronic bronchitis, emphysema, HIV, hepatitis B, or hepatitis C)" from: Shi, L., Lebrun, L.A., Tsai, J., & Zhu, J.. Characteristics of Ambulatory care patients and services: a comparison of community health centers and physicians' offices. *Journal of Health Care for the Poor and Underserved*. 2010; 21(4): 1169-1183. PMID:21099069
- [16] Shi, L., Lebrun, L.A., Tsai, J., & Zhu, J. Characteristics of ambulatory care patients and services: a comparison of community health centers and physicians' offices. *Journal of Health Care for the Poor and Underserved*, 21: 1169-1183. PMID:21099069
- [17] Ibid.
- [18] Bodenheimer, T. & Pham, H.H. Primary Care: Current Problems and Proposed Solutions. *Health Affairs*. 2010; 29(5): 799-805. PMID:20439864 <http://dx.doi.org/10.1377/hlthaff.2010.0026>
- [19] HRSA. <http://www.hrsa.gov/loanscholarships/scholarships/Nursing/facts.pdf>
- [20] Healthreform.gov. Fact Sheet: Creating Jobs and Increasing the Number of Primary Care Providers. 2012. <http://www.healthreform.gov/newsroom/primarycareworkforce.html>
- [21] National Association of Community Health Centers. An assessment of community health centers' involvement in health professions and residency training: a chartbook. 2011. <http://www.nachc.com/client/HPTChartbook.pdf>
- [22] Jurachek, S.P., Zhang, X., Rangnathan, V.K., & Lin, V.W. United States Registered Nurse Workforce Report Card and Shortage Forecast. *American Journal of Medical Quality*. 2012; 27(3): 241-249. PMID:22102163 <http://dx.doi.org/10.1177/1062860611416634>
- [23] The Advisory Board Commity. Beyond the pledges: where the states stand on Medicaid. (July 26, 2013). <http://www.advisory.com/Daily-Briefing/Resources/Primers/MedicaidMap#lightbox/2/>
- [24] Doty, M.M., Abrams, M.K., Hernandez, S. E., Stremikis, K., & Beal, A.C. Enhancing the capacity of community health centers to achieve high performance: findings from the 2009 Commonwealth Fund National Survey of Federally Qualified Health Centers. The Commonwealth Fund. 2010. [http://www.commonwealthfund.org/~media/Files/Publications/Fund%20Report/2010/May/1392\\_Doty\\_enhancing\\_capacity\\_community\\_hlt\\_ctr\\_2009\\_FQHC\\_survey\\_v5.pdf](http://www.commonwealthfund.org/~media/Files/Publications/Fund%20Report/2010/May/1392_Doty_enhancing_capacity_community_hlt_ctr_2009_FQHC_survey_v5.pdf)
- [25] Hing, E., Hooker, R.S., & Ashman, J.J. Primary health care in community health centers and comparison with office-based practice. *Journal of Community Health*. 2011; 36: 406-413. PMID:21046211 <http://dx.doi.org/10.1007/s10900-010-9322-x>
- [26] Ndumele, C.D., Russell, B.E., Ayanian, J.Z., Landon, B.E., Keegan, T., O'Malley, A.J., & Hicks, L.S. Strategies to improve chronic disease management in seven metro Boston community health centers. *Progress in Community Health Partnerships*. 2009; 3(3): 203-11. PMID:19802379 <http://dx.doi.org/10.1353/cpr.0.0080>
- [27] Allen, J.K., Dennison-Himmelfarb, C.R., Szanton, S.L., *et al.* Community Outreach and Cardiovascular Health (COACH) Trial: A randomized, controlled trial of nurse practitioner/community health worker cardiovascular disease risk reduction in urban community health centers. *Circulation: Cardiovascular and Quality Outcomes*. 2011; 4: 1-8.
- [28] Laurant, M., Reeves, D., Hermens, R., *et al.* Substitution of doctors by nurses in primary care. *Cochrane Database of Systematic Reviews*. 2004; Issue 4. Art. No.: CD001271. <http://dx.doi.org/10.1002/14651858.CD001271.pub2>