CENTER FOR THE HEALTH PROFESSIONS

RESEARCH BRIEF

Physician Assistant and Nurse Practitioner Staffing Patterns in California's Licensed Community Clinics: 2005 - 2008

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ABSTRACT

Physician assistants (PAs) and nurse practitioners (NPs) play a critical role in the delivery of primary care in California's licensed community clinics. Between 2005 and 2008, clinics increasingly relied on PAs and NPs as care providers. The use of PAs increased more than the use of NPs. Rural clinics rely on both PAs and NPs to a greater extent than non-rural clinics. Physicians continue to be the principal care provider at most clinics, but data indicate that PAs and NPs may be functioning as substitutes for physicians at clinics that utilize them.

Introduction

This is the third in a series of issue briefs examining staffing patterns in California's licensed community clinics. Previous briefs focused on medical assistants, registered nurses, and licensed vocational nurses. The current brief extends this series to include physician assistants (PAs) and nurse practitioners (NPs).

The growing imbalance between primary care and specialty care physicians is well documented.[1] As California's network of licensed community clinic functions as the principle delivery system for populations that face barriers to primary care access, the limited supply of physicians entering primary care practice is having an impact on the staffing of community clinics. The use of physician assistants and nurse practitioners to deliver primary care in lieu of physicians has long been regarded as a potentially effective strategy for addressing the issue.[2,3] This issue brief presents an analysis of PAs and NPs as primary care providers at selected, licensed community clinics in California between 2005 and 2008.

Definition of the Database

California's licensed community clinics are regulated by the state's Department of Public Health. These clinics file utilization data reports with the California Office of Statewide Health Planning and Development (OSHPD) on an annual basis. These reports include data describing the types of clinical provider staff[4] and clinical support staff[5] utilized by the clinic site. These data serve as the basis for the analysis presented in this issue brief.[6]

Not all licensed community clinics provide comprehensive primary care. Some community clinics offer only limited services; for example reproductive health clinics, dental clinics and mental health clinics. There are also clinics that target their services toward specific populations such as seniors or those living with HIV/AIDS. Some of these clinics offer comprehensive primary care, but many do not.

In order to be certain that we were describing PA and NP use by primary care clinics, we limited the database to only those clinics having a *Federally Qualified Health Center (FQHC)* or *Federally Qualified Health Center look-alike* designation. FQHC and FQHC look-alike clinics are required to offer comprehensive

primary care services.[7] Because we were interested in potential differences in staffing based on geography, we geo-coded clinic addresses to identify sites located in rural parts of the state. Our definition of a rural clinic is based on whether or not the clinic site is eligible for federal, rural-based grants.[8]

Data Limitations

These data are not comprehensive in their coverage of community clinics in the state. FQHC and FQHC look-alike clinics account for most of the licensed community clinics that deliver comprehensive primary care services, but not all.[9] In addition, there are an unknown number of clinics not licensed by the state that may also deliver comprehensive primary care, but these clinics do not report data to OSHPD.[10] Therefore, findings from this analysis may not be generalizable to primary care clinics not represented in the OSHPD data.

Key Findings

The findings presented here illustrate several aspects of the use of physician assistants and nurse practitioners by FQHC and look-alike clinics. These include differences in the FTE provider per patient encounter ratio over time, and by clinic location (rural versus non-rural); differences in clinic staffing patterns with respect to whether PAs and NPs are used alone, in combination or not at all; differences in the frequency with which clinics rely on PAs or NPs as the principal provider of primary care (medical) services; and the relationship between the presence of PAs or NPs and the number of FTE physicians on staff.

General Clinic Growth

In Table 1 we show summary information on the total number of FQHC and look-alike clinics and total patient encounters (in millions), reported between 2005 and 2008.

Table 1. Total FQHC and Look-alike Clinics and Total Patient Encounters (California): 2005 – 2008

	2005	2006	2007	2008
Total clinics (#)	454	484	506	536
Patient Encounters	8.2M	8.84M	9.32M	9.83M
Rural clinics (#)	124	124	128	131
Patient Encounters	1.72M	1.81M	1.86M	1.97M
Non-rural clinics (#)	330	360	378	405
Patient Encounters	6.48M	7.03M	7.46M	7.86M

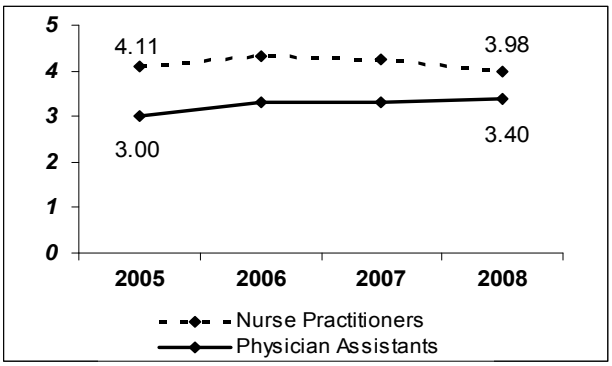
Source: OSHPD Primary Care Clinic Utilization File (2005-2008)

There were 82 more FQHC and FQHC look-alike clinics reported in California in 2008 compared with 2005, the total number increased from 454 to 536. At the same time, total patient encounters reported by all clinics increased by roughly 1.6 million. Clinic growth and the increase in patient encounters occurred largely at non-rural clinic sites. The number of rural clinics grew by only 7 during the period, while the number of non-rural clinics increased by 75. Approximately 85 percent of the 1.6M increase in total patient encounters occurred at non-rural clinics.

Physician Assistants & Nurse Practitioners per Patient Encounter

In Figure 1 the data describe changes in the ratio of FTE physician assistants and nurse practitioners per 100,000 patient encounters at FQHC and FQHC look-alike clinics in California between 2005 and 2008.

Figure 1. Total FTE Physician Assistants and Nurse Practitioners per 100,000 Patient Encounters: 2005 - 2008

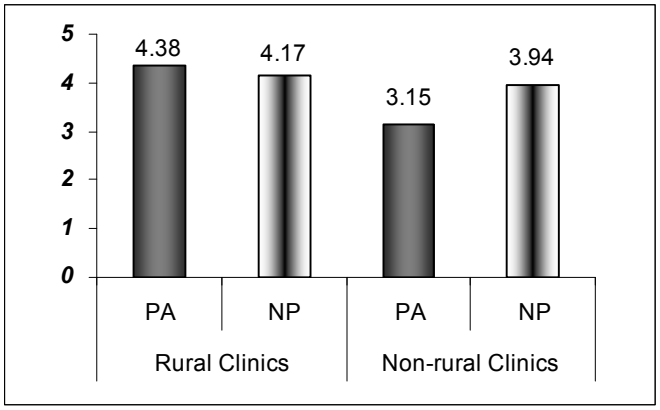


Source: OSHPD Primary Care Clinic Utilization File (2005-2008)

It is important to emphasize that the absolute number of both FTE PAs and FTE NPs used by FQHC and look-alike clinics increased during this period. In 2008, clinics reported 88 more FTE physician assistants (36 percent growth), and 55 more FTE nurse practitioners (16 percent growth) compared to 2005. However, Figure 1 demonstrates that clinic use of physician assistants grew faster than the volume of patient encounters, while use of nurse practitioners did not (the ratio of NPs per 100,000 patient encounters actually declined slightly). This indicates that the use of nurse practitioners did not keep pace with general growth in the volume of clinic services. In contrast, the increase in the ratio of physician assistants per 100,000 patient encounters suggests a change in clinics' practice of using PAs. Data not shown here indicate that during this same period, ratio of FTE physicians per 100,000 patient encounters increased very slightly (12.5 to 12.6).

In Figure 2 the data describe the 2008 ratio of FTE physician assistants and nurse practitioners per 100,000 patient encounters at FQHC and FQHC look-alike clinics in California between 2005 and 2008, by clinic location: rural versus non-rural.

Figure 2. Total FTE Physician Assistants and Nurse Practitioners per 100,000 Patient Encounters by Clinic Location in 2008: Rural vs. Non-Rural



Source: OSHPD Primary Care Clinic Utilization File (2008)

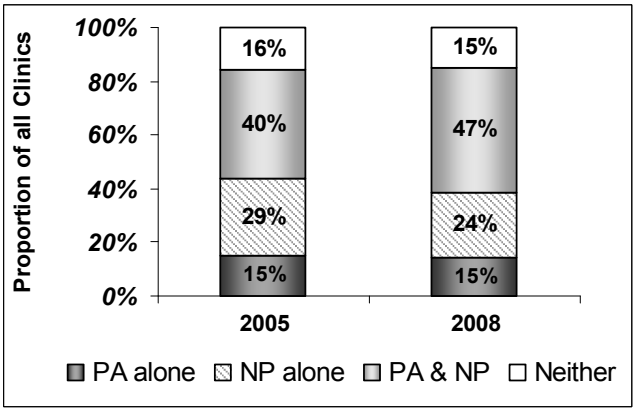
The year 2008 is the most recent for which these data are available. The data indicate that among rural FQHC and look-alike clinics, physician assistants are slightly more frequently used compared to nurse practitioners. Among non-rural clinics, the reverse is true, NPs are more frequently used compared to PAs, and the difference is more pronounced. Data not shown here indicate there are fewer physicians per PA or NP at rural clinics compared to non-rural clinics. In 2008, on average, there were 2.6 physicians for every PA and 2.7 physicians for every NP at rural clinics. At non-rural clinics these ratios were 4.1 physicians for every PA and 3.3 physicians for every NP.

Clinic Staffing Patterns

In Figure 3 the data describe four different PA and NP staffing patterns at FQHC and FQHC look-alike clinics in California for two points in time: 2005 versus 2008. The data represent the proportion of all clinics. The four patterns are:

- Use of PA but no NP
- Use of an NP but no PA
- Use of both a PA and NP
- Neither a PA nor an NP on staff

Figure 3. Physician Assistant and Nurse Practitioner Staffing Patterns: 2005 vs. 2008



Source: OSHPD Primary Care Clinic Utilization File (2005 & 2008)

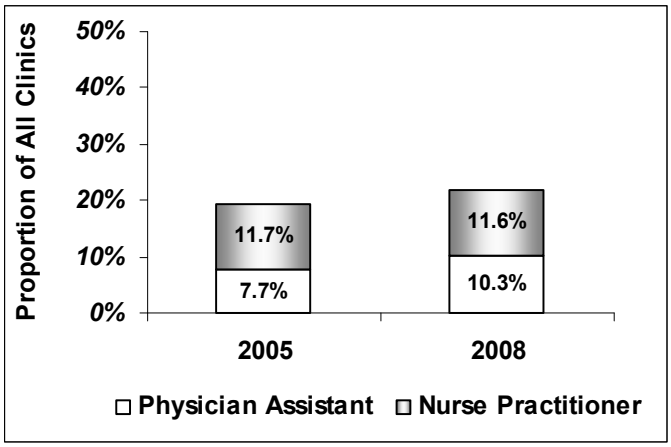
These data demonstrate that clinics increasingly staffed PAs and NPs together. We know that the total number of FTE nurse practitioners increased during this period, but FTE physician assistant growth was stronger by comparison. The share of clinics that staffed an NP but no PA declined between 2005 and 2008 (from 29 percent to 24 percent of all clinics), whereas the share

of clinics staffing both an NP and a PA increased during this period (from 40 percent to 47 percent of all clinics). In contrast, the share of clinics that reported neither a PA nor an NP on staff remained roughly the same between 2005 and 2008 (approximately 15 percent of all clinics). Data not shown here indicate that clinics operating without either a PA or NP on staff are predominantly smaller in size (reporting fewer than 10,000 patient encounters per year).

Physician Assistants and Nurse Practitioners as Principal Providers of Primary Medical Care

In the database used for this analysis, clinics report the number of patient encounters managed by each type of provider on staff. In Figure 4 the data compare the proportion of all FQHC and FQHC look-alike clinics in California where PAs and NPs functioned as the principal provider (meaning they managed the largest share of primary medical care encounters[10] for those clinics) for two points in time: 2005 versus 2008.

Figure 4. Proportion of Clinics Reporting Physician Assistants and Nurse Practitioners as Principal Primary Medical Care Provider: 2005 vs. 2008



Source: OSHPD Primary Care Utilization File (2005 & 2008)

Overall, the proportion of clinics where either a PA or an NP functions as the main provider for primary medical care is small but not insignificant. In 2008, a physician assistant (10.3 percent) or a nurse practitioner (11.6 percent) was reported as the principal provider of medical care at roughly 22 percent of all FQHC and look-alike clinics (N = 536) in California. This proportion is a small increase over 2005 (roughly 20 percent of all clinics). Physicians continue to function as the principal medical care provider at most FQHC and look-alike clinics.

However, these data reinforce the findings suggested throughout the brief; use of physician assistants is increasing, and both PAs and NPs are widely used as primary care providers. Data not shown here indicate that clinics, where either a PA or an NP functions as the primary medical provider, range in size from very small clinics reporting 1,000 – 5,000 patient encounters per year to large clinics reporting more than 40,000 patient encounters per year.

In Table 2 the data compare the 2008 average number of FTE physicians for two groups of FQHC and FQHC look-alike clinics in California, by clinic size. One group of clinics operates without PAs or NPs, the second group of clinics operates with either an NP or a PA (or both).

Table 2. 2008 Average Number of FTE Physicians by Clinic Size: Clinics without PA or NP vs. Clinics with PA or NP

Clinic Size (Patient Encounters)	Average # of FTE Physicians	
	No PA/NP	PA/NP
1,000 – 4,999	1.09	.45
5,000 – 9,999	2.29	.931
10,000 – 19,999	2.85	1.62
20,000 – 39,999	5.04	3.44

Source: OSHPD Primary Care Utilization File (2008)

At all size levels, the average number of FTE physicians is greater at clinics that do not use NPs or PAs, compared to clinics that use either a PA or an NP (or both). [11] This suggests that physician assistants and nurse practitioners may function as substitutes for physicians when clinics employ them.

Summary of Key Findings and Policy Issues

The use of physician assistants and nurse practitioners is widespread among FQHC and FQHC look-alike clinics in California. Roughly 85 percent of the 536 clinics serving patients in 2008 reported use of either a PA or an NP (in many cases both). The total number of FTE physician assistants and nurse practitioners increased between 2005 and 2008. However, the use of PAs outpaced growth in patient volume whereas the use of NPs did not. Growth in the use of PAs led to an increase in the proportion of clinics operating with both PAs and NPs on staff.

There are differences in PA and NP use between rural and non-rural clinics, as well as between smaller and larger clinics. In general, rural clinics rely more on PAs and NPs as providers compared to non-rural clinics. But rural clinics also rely on physician assistants to a greater degree than nurse practitioners, by comparison with non-rural clinics. Clinics that do not staff either PAs or NPs are most frequently small in size, reporting fewer than 10,000 patient encounters per year.

Although physicians remain the principal primary medical care provider at most clinics, the proportion of clinics where PAs and NPs function in this role grew between 2005 and 2008. In 2008, a PA or an NP was the principal medical provider at roughly 22 percent of all FQHC and look-alike clinics. Data comparing the average number of FTE physicians at clinics operating with and without physician assistants or nurse practitioners indicate that PAs and NPs may function as substitutes for physicians.

Further research could focus in greater detail on the differences in practice patterns for physician assistants and nurse practitioners working in licensed primary care clinics, and how their roles both overlap and are distinct.

Notes

1. Grumbach, K., Chattopadhyay, A., Bindman, A. Fewer & More Specialized: A New Assessment of Physician Supply in California. California Healthcare Foundation, June 2009.

2. Cooper, R.A. (2007) New Directions for Nurse Practitioners and Physician Assistants in the Era of Physician Shortages. *Academic Medicine*, 82 (9), 827-828.

3. Mechanic, D. (2009) The uncertain future of primary medical care. *Ann Intern Med,* 151 (1), 66-67.

4. Specific categories of clinical provider staff identified in these data include: Physician, Physician Assistant, Nurse Practitioner, Nurse Midwife, Dentist, Psychiatrist, Clinical Psychologist, Licensed Clinical Social Worker, and other Medi-Cal billable providers not already identified.

5. Specific categories of clinical support staff identified in these data include: Medical Assistant, Licensed Vocational Nurse, Registered Nurse, Patient Educator, Marriage & Family Therapist, Substance Abuse Counselor, Registered Dental Hygienist, both Registered and Unregistered Dental Assistant, and "other" clinical support staff not already identified.

6. Source of data is the Office of Statewide Health Planning and Development, State Utilization Data File for Primary Care Clinics, 2005-2007. These data files are derived from the Automated Licensing Information & Report Tracking System (ALIRTS)-based Annual Utilization Report of Primary Care Clinics, filed annually by California's licensed community clinics.

7. For more information on the federal health center program see: http://bphc.hrsa.gov/about/

8. We geo-coded the address of each clinic using the Rural Health Grants Eligibility Advisor tool (a searchable database made available by the Health Resources and Services Administration) to determine whether the clinic was eligible for federal, rural health grants. If the clinic was grant-eligible, we identified it as being located in a rural setting.
For more info see: http://datawarehouse.hrsa.gov/RuralAdvisor/ruralhealthadvisor.aspx?ruralByAddr=1

9. The number of non-FQHC or look-alike clinics operating as licensed community clinics and delivering comprehensive primary care is currently unknown. We are closely analyzing data in the OSHPD utilization files at the individual clinic level in an effort to determine this number.

10. Clinics not identified by OSHPD data include: for-profit clinics operated by private providers; clinics operated by any federal, state or local government agency or entity (including cities and counties); clinics owned and operated by hospitals. For a full listing of the types of clinics not licensed by the state, see California Health & Safety Code, Division 2, Chapter 1, Article 1, Section 1206.

11. We defined primary care (medical) encounters as those involving the following types of providers: Physicians (MD), Physician Assistants, Nurse Practitioners, Nurse Midwives, other Advance Practice Nurse, other Medi-Cal billable provider. We excluded oral healthcare providers, mental healthcare providers, or other Comprehensive Perinatal Health Provider (CPHP).
12. A two independent samples t-test with unequal variances found that these differences are statistically significant at a significance level of 5% (meaning there is only 5% chance that the differences in the average number of FTE physicians seen in Table 2 are actually zero).

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