

# Compensation and Production in Family Medicine by Practice Ownership

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1-5

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## Abstract

The increasing focus on high performance, patient-centered, team-based care calls for a strategy to evaluate cost-effective primary care. The trend toward physician practice consolidation further challenges the primary care health care system. Productivity measures establish provider value and help inform decision making regarding resource allocation in this evolving health care system. In this national survey of family medicine practices, physician assistant (PA) productivity, as defined by mean annual patient encounters, exceeds that of both nurse practitioners (NPs) and physicians in physician-owned practices and of NPs in hospital or integrated delivery system-owned practices. Total compensation, defined as salary, bonus, incentives, and honoraria for physicians, is significantly more compared to both PAs and NPs, regardless of practice ownership or productivity. Physician assistants and NPs earn equivalent compensation, regardless of practice ownership or productivity. Not only do these data support the value and role of PAs and NPs on the primary care team but also highlight differences in patient encounters between practice settings. Rural and underserved community practices, where physician-owned practices persist, also merit further consideration. Further research is needed to inform both organizational and policy decisions for the provision of high-quality, cost-effective, and accessible primary health care.

## Keywords

primary care, cost-effectiveness, access to care, efficiency, health economics, medical costs

## Introduction

Productivity, as measured by annual patient encounters, is a valuable metric by which to assess the contribution—financial and otherwise—of members of the health care team as well as utilization of primary care services. Productivity measures establish provider value and legitimacy in the health care system, in addition to informing other important practice- and system-level management decisions.<sup>1-3</sup> The emerging focus on quality and performance indicators, cost-effective care, and optimizing team-based care calls for an effective strategy to holistically evaluate access and productivity in family medicine.

In the current health care system, patients struggle to access preventive and primary care services, there is a maldistribution of primary care physicians, and the average cost per patient has steadily risen over the past decade.<sup>4,5</sup> For physicians, the pressures associated with outcomes-based care lead to new business models other than independent practice.<sup>2</sup> In 2012, between 50% and 60% of physicians were employed by hospital systems or medical groups,<sup>6</sup> and in 2014, 64% of recruitment opportunities were for hospital-employed physicians.<sup>7</sup> In response to a national call to disseminate workforce models that incorporate physician assistants (PAs) and nurse

practitioners (NPs),<sup>8</sup> this report highlights the contributions of PAs and NPs in both physician-owned and hospital or integrated delivery system-owned family medicine practices. Given the payment differentials based on practice ownership and the need to improve access, incorporating more PAs and NPs may maximize cost-effective primary health care.

Here we evaluate (1) mean total annual patient encounters by provider type and practice ownership and (2) mean annual compensation by provider type and practice ownership using a robust, national data set. These data inform the discussion on the team-based workforce capacity required for accessible, high-quality primary care in the United States.<sup>9,10</sup>

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**Table 1.** Total Annual Patient Encounters, by Provider Type.<sup>a</sup>

	Mean	SD	Percentage of Mean Encounters	N
Family medicine physician	3933	1554	36.70	1734
Nurse practitioner	2886	1452	26.90	176
Physician assistant	3908	1901	36.40	95

Abbreviation: SD, standard deviation.

<sup>a</sup>Adapted from authors' analyses of the Medical Group Management Association Physician Compensation & Production Survey, 2014 Report Based on 2013 Data.

## Study Data and Methods

To evaluate productivity and compensation, the authors used national data from the Medical Group Management Association (MGMA) Physician Compensation & Production Survey, 2014 Report Based on 2013 Data.<sup>11</sup> The MGMA represents more than 33 000 medical practice administrators and executives in primary and specialty care. The MGMA data represent individual providers, family practitioners, PAs, or NPs, from member physician group practices. In this article, we compared mean total patient encounters and mean annual compensation by provider type, defined as full-time family medicine physicians, PAs, and NPs without obstetrics.

Analyses also included mean annual encounters and mean annual compensation within and across practice ownership, defined as physician-owned or hospital or integrated delivery system-owned. Descriptive analyses included means, percentages, and standard deviations. All comparisons were made using an unpaired *t* test, presented in Appendices A and B. Stata (StataCorp. 2009. *Stata Statistical Software: Release 11*. College Station, TX: StataCorp LP) was used to complete all analyses.

## Study Results

### Overall Results

For overall annual patient encounters in family medicine without obstetrics, physicians and PAs reported equivalent annual mean percentage of patient encounters (36%; Table 1). For overall annual compensation, physicians reported the highest mean salary (US\$230 884), while PAs and NPs reported lower but equivalent salaries (US\$99,731 and US\$100,981, respectively; Table 2). Physicians comprise the majority of respondents (Tables 1 and 2).

In physician-owned practices, PAs are significantly more productive compared to physicians or NPs, based on annual patient encounters. Although physicians are compensated significantly more, particularly in physician-owned practices, compensation for PAs and NPs remains consistent across practice ownership, suggesting improved patient access within a cost-effective compensation structure (Tables 3 and 4).

### Annual Patient Encounters

In 2013, there was a 34% difference in mean annual patient encounters between physician-owned and hospital or

**Table 2.** Mean Annual Compensation, by Provider Type.<sup>a</sup>

	Mean	SD	Percentage of Mean Compensation	N
Family medicine physician	US\$230 884	US\$89 423	53.50	5983
Nurse practitioner	US\$99 731	US\$34 991	23.10	594
Physician assistant	US\$100 981	US\$30 465	23.40	408

Abbreviation: SD, standard deviation.

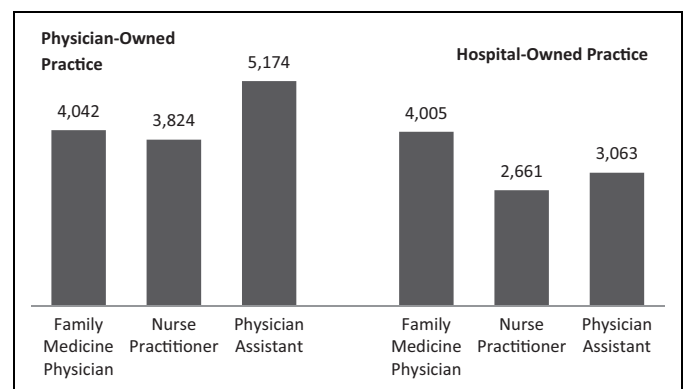
<sup>a</sup>Adapted from authors' analyses of the Medical Group Management Association Physician Compensation & Production Survey, 2014 Report Based on 2013 Data.

**Table 3.** Mean Annual Patient Encounters, by Practice Ownership and Provider Type, 2013.<sup>a</sup>

	Physician-Owned			Hospital or Integrated Delivery System-Owned		
	Mean	SD	N	Mean	SD	N
Family medicine physician	4042	627	1724	4005	108	1392
Nurse practitioner	3824	39	2502	2661	38	819
Physician assistant	5174	38	2374	3063	57	729
Total	13 040			9729		

Abbreviation: SD, standard deviation.

<sup>a</sup>Adapted from authors' analyses of the Medical Group Management Association Physician Compensation & Production Survey, 2014 Report Based on 2013 Data.

**Figure 1.** Mean annual patient encounters, by practice ownership and provider type, 2013.

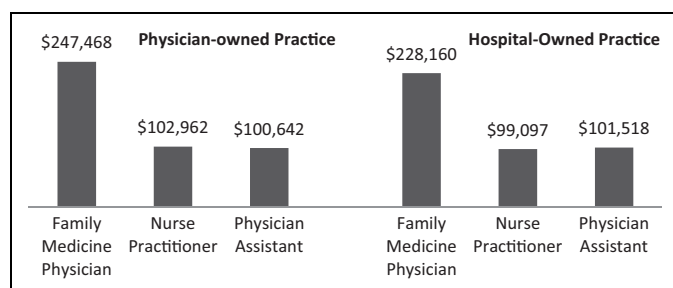
integrated delivery system-owned practices (13 040 and 9 729, respectively). In evaluating provider productivity within practice ownership, PAs reported significantly more patient encounters compared to both physicians and NPs in physician-owned practices. Physicians reported more annual patient encounters compared to NPs, but the results were not significant (Table 3 and Figure 1). Within hospital or integrated delivery system-owned practices, physicians reported

**Table 4.** Mean Annual Compensation, by Practice Ownership and Provider Type, 2013.<sup>a</sup>

	Physician-Owned	N	SD	Hospital or Integrated Delivery System-Owned	N	SD
Family medicine physician	US\$247 468	1229	US\$92 844	US\$228 160	928	US\$88 571
Nurse practitioner	US\$102 962	168	US\$31 257	US\$99 097	172	US\$37 062
Physician assistant	US\$100 642	148	US\$26 745	US\$101 518	102	US\$32 963

Abbreviation: SD, standard deviation.

<sup>a</sup>Adapted from authors' analyses of the Medical Group Management Association Physician Compensation & Production Survey, 2014 Report Based on 2013 Data.

**Figure 2.** Mean annual compensation, by practice ownership and provider type, 2013.

significantly more patient encounters compared to both NPs and PAs, and PAs reported significantly more patient encounters compared to NPs (Table 3 and Figure 1).

In evaluating productivity across practice ownership, both PAs and NPs were statistically more productive in physician-owned practices compared to hospital or integrated delivery system-owned (Table 3 and Figure 1). There was no difference for physicians. However, despite a difference of over 3000 annual encounters between physician-owned and hospital or integrated delivery system-owned practices, physicians were responsible for 41% of the total patient encounters, and PAs were responsible for 32% in hospital or integrated delivery system-owned practices (Table 3).

### Annual Compensation

In both physician-owned and hospital or integrated delivery system-owned practices, physicians reported significantly higher compensation compared to both NPs and PAs. There was no significant difference in compensation between NPs and PAs (Table 4 and Figure 2).

Physicians reported significantly higher compensation in physician-owned practices compared to hospital or integrated delivery system-owned practices, despite no difference in mean annual patient encounters (Table 4 and Figure 2). Nurse practitioners reported no significant difference in compensation in physician-owned practices compared to hospital or integrated delivery system-owned practices. Similarly, PAs reported no significant difference in compensation in physician-owned practices compared to hospital or integrated delivery system-owned practices, despite significantly more patient encounters in physician-owned practices compared to both physicians and NPs (Table 4 and Figure 2).

### Discussion

These data do not sufficiently account for “incident to” billing methodology that allows claims to be submitted under the physician’s National Provider Identifier for work provided by PAs and NPs in physician-owned practices. With incident-to-billing practices, the number of patient encounters may be skewed toward the physician in physician-owned practices. In these data, the lack of significance between physician encounters across ownership supports suggests a further, undocumented contribution of PAs and NPs in physician-owned practices.

These results do not control for hours worked, case mix, complexity of patient visits, provider demographics, or collections by provider or practice. Further clarity is needed in determining compensation structures in hospital or integrated delivery system-owned practices across provider type, as they seem to deviate from traditional productivity models.<sup>12</sup> Finally, here the patient encounters are not weighted, so some of the differences seen may be due to differences in complexity or severity or hours worked in clinical practice.<sup>13</sup>

The data presented do not account for management or administrative responsibilities assumed by physicians, team-based visits, time spent outside of the examination room on patient-related care, variability in state provider distribution, or level of delegated practice autonomy. These results are limited to family medicine without obstetrics and do not include primary care, family medicine with obstetrics, internal medicine, or pediatrics. The percentage of distribution of the sample overrepresents physicians in the family medicine workforce and underrepresents NPs. Finally, the MGMA Physician Compensation & Production Survey design does not permit temporal comparison between cohorts.

Although these data do not stratify by patient case mix or complexity, the results have implications for labor costs and workforce distribution in emerging models of primary care delivery. These results also suggest further research using longitudinal data on measures of productivity in clinical medicine to include resource utilization, labor costs, cost-effective care delivery, and models of high-quality, team-based practice. It will be important to consider complexity of cases, comorbidity, and management factors in further studies. Additionally, studies incorporating provider compensation and production, gender variances, time devoted to clinical care (vs administration or practice management), geographic distribution, payment mechanism, and specialty practice are needed for workforce planning.

## Conclusion

This study serves as a benchmark in demonstrating the contributions of PAs and NPs to the delivery of family medicine in emerging employment settings. Although these data provide a 1-year national snapshot of patient encounters and compensation, the results certainly seem supportive of other published reports.<sup>3</sup> Furthermore, these data inform the discussion surrounding new care delivery and reimbursement models.

These data demonstrate that PAs and NPs are important and productive primary care team members where they are deployed. Of note, it may be important to consider their contributions in rural and underserved communities where physician-owned practices remain the model.<sup>14,15</sup> Additional research is needed to inform both practice organizational and policy decisions for the provision of high-quality, cost-effective, and accessible health care. This is an ambitious but essential goal in order to improve the health of our population.<sup>16</sup>

## Appendix A

**Table A1.** Comparing Patient Encounters Within and Across Practice Ownership, Unpaired *t* Test, *p*-values reported.<sup>a</sup>

	Family Medicine Physician	Nurse Practitioner	Physician Assistant
Physician-owned practice			
Physician-owned practice (comparisons within)			
Nurse practitioner	<sub>-b</sub>	<sub>-b</sub>	<sub>-b</sub>
Physician assistant	0.4577	<sub>-b</sub>	<sub>-b</sub>
	<i>P</i> < .001	<i>P</i> < .05	<sub>-b</sub>
Hospital or integrated delivery system-owned (comparisons across)			
Family medicine physician	0.8326	<i>P</i> < .001	<i>P</i> < .001
Nurse practitioner	0.5812	<i>P</i> < .01	<i>P</i> < .05
Physician assistant	<i>P</i> < .001	<i>P</i> < .001	<i>P</i> < .001
Hospital or integrated delivery system-owned practice			
Hospital or integrated delivery system-owned (comparisons within)			
Family medicine physician	<sub>-b</sub>	<sub>-b</sub>	<sub>-b</sub>
Nurse practitioner	<i>P</i> < .001	<sub>-b</sub>	<sub>-b</sub>
Physician assistant	<i>P</i> < .001	<i>P</i> < .05	<sub>-b</sub>

<sup>a</sup>Adapted from authors' analyses of the Medical Group Management Association Physician Compensation & Production Survey, 2014 Report Based on 2013 Data.

<sup>b</sup>Not applicable.

## Appendix B

**Table B1.** Comparing Compensation Within and Across Practice Ownership, Unpaired *t* Test, *p*-values reported.<sup>a</sup>

	Family Medicine Physician	Nurse Practitioner	Physician Assistant
Physician-owned practice			
Physician-owned practice (comparisons within)			
Nurse practitioner	<sub>-b</sub>	<sub>-b</sub>	<sub>-b</sub>
Physician assistant	<i>P</i> < .001	<sub>-b</sub>	<sub>-b</sub>
	<i>P</i> < .001	0.4819	<sub>-b</sub>
Hospital or integrated delivery system-owned (comparisons across)			
Family medicine physician	<i>P</i> < .001	<i>P</i> < .001	<i>P</i> < .001
Nurse practitioner	<i>P</i> < .001	0.2999	0.7188
Physician assistant	<i>P</i> < .001	0.6737	0.8173
Hospital or integrated delivery system-owned practice			
Hospital or integrated delivery system-owned (comparisons within)			
Family medicine physician	<sub>-b</sub>	<sub>-b</sub>	<sub>-b</sub>
Nurse practitioner	<i>P</i> < .001	<sub>-b</sub>	<sub>-b</sub>
Physician assistant	<i>P</i> < .001	0.5867	<sub>-b</sub>

<sup>a</sup>Adapted from authors' analyses of the Medical Group Management Association Physician Compensation & Production Survey, 2014 Report Based on 2013 Data.

<sup>b</sup>Not applicable.

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## References

1. Moore KJ. A productivity primer. *Family Practice Management*. 2002;9(5):72-73.
2. Okie S. The evolving primary care physician. *N Engl J Med*. 2012;366(20):1849-1853.
3. Ogunfiditimi F, Takis L, Paige V, Wyman J, Marlow E, Rubino L. Assessing the productivity of advanced practice providers using a time and motion study. *J Healthc Manag*. 2013;58(3):173-185.
4. Davis K, Stremikis K, Squires D, Schoen C. *Mirror, Mirror on the Wall, 2014 Update: How the U.S. Health Care System Compares Internationally*. The Commonwealth Fund, June 2014.
5. Neprash HT, Chernew ME, Hicks AL, Gibson T, McWilliams JM. Association of financial integration between physicians and hospitals with commercial health care prices. *JAMA Intern Med*. 2015;175(12):1932-1939. doi:10.1001/jamainternmed.2015.4610.
6. The Physicians Foundation. Survey of America's Physicians: Practice Patterns and Perspectives. Boston: The Physicians Foundation/Merritt Hawkins; 2014. Web site. [http://www.physicians-foundation.org/uploads/default/2014\\_Physicians\\_Foundation\\_Biennial\\_Physician\\_Survey\\_Report.pdf](http://www.physicians-foundation.org/uploads/default/2014_Physicians_Foundation_Biennial_Physician_Survey_Report.pdf).
7. Merritt Hawkins. 2014 Review of Physician and Advanced Practitioner Recruiting Incentives. Web site. <http://www.merrithawkins.com/uploadedFiles/MerrittHawkins/Surveys/mha2014incensurvey.pdf>. Accessed December 17, 2015.
8. Eilrich FC, Doeksen GA, St. Clair CF. Models to estimate the economic impact of a rural nurse practitioner or physician assistant. August 2014. *Rural Health Works - Research Study*. Web site. [www.ruralhealthworks.org](http://www.ruralhealthworks.org). Accessed December 17, 2015.
9. The Berkeley Forum for Improving California's Healthcare Delivery System: Integrated Care with Aligned Financial Incentives. Appendix IX: Nurse Practitioners and Physician Assistants (Initiative Memorandum). Web site. <http://berkeleyhealthcare-forum.berkeley.edu/wp-content/uploads/Appendix-IX.-Nurse-Practitioners-and-Physician-Assistants-Initiative-Memorandum.pdf>. Accessed December 17, 2015.
10. The Commonwealth Fund, 2011. Why not the best? Web site. <http://www.commonwealthfund.org/publications/fund-reports/2011/oct/why-not-the-best-2011>. Accessed December 17, 2015.
11. Medical Group Management Association (MGMA). *Physician Compensation & Production Survey, 2014 Report Based on 2013 Data*. Englewood, CO: Medical Group Management Association; 2014.
12. Christianson JB, Carlin CS, Warrick LH. The dynamics of community health care consolidation: acquisition of physician practices. *Milbank Q*. 2014;92(3):542-567.
13. Liu N, D'Aunno T. The productivity and cost-efficiency of models for involving nurse practitioners in primary care: a perspective from queueing analysis. *Health Serv Res*. 2012;47(2):594-613. Epub ahead of print 8 November 2011.
14. Hooker RS, Everett CM. The contributions of physician assistants in primary care systems. *Health Soc Care Commun*. 2012;20(1):20-31.
15. Spenny ML, Ellsbury KE. Perceptions of practice among rural family physicians: Is there a gender difference? *J Am Pharm Assoc*. 2000;13(3):183-187.
16. Cortese D. A health care encounter of the 21st century. *JAMA*. 2013;310(18):1937-1938.

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