

Research Corner

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The relative value and risks of nonphysician health care providers

As nonphysician providers become a larger proportion of the health care workforce, researchers become more interested in the impact these new providers have on the medical environment in which they work. This installment of Research Corner reviews an article that analyzed data to measure the impact of physicians, physician assistants (PAs), and nurse practitioners (NPs) have on each others' income as their relative numbers and their practice and legal environments have changed. Also reviewed is a meta-analysis that attempts to quantify the impact of advanced practice nurses (APNs), PAs, and pharmacists. Last, the issue of malpractice risk for nonphysician providers compared with physicians is often brought up in discussions involving PA and NP utilization, and an analysis of liability data is now available to add to such discussions.

Perry JJ. The rise and impact of nurse practitioners and physician assistants on their own and cross-occupation incomes. *Contemp Econ Policy*. 2009;27(4):491-511.

ABSTRACT: There has been a dramatic increase in the authority granted to nurse practitioners (NPs) and physician assistants (PAs). This "expanded" authority has changed who can provide health care services and has weakened the control physicians have traditionally held over the provision of medical services. These changes in regulation have varied by occupation, state, and year and provide variation that can be exploited to empirically measure the individual and collective impacts of changes in

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NP authority and PA authority on practitioner incomes. Changes in NP and PA regulatory authority are found to impact the labor markets of all three practitioner categories. NPs having greater practice authority brings physician incomes down, has differential impacts on PA incomes, and improves their own earnings, other factors held constant. PAs having increased authority has a downward effect on NP earnings, a positive impact on physician income, and little impact on their own incomes.

Laurant M, Harmsen M, Wollersheim H, et al. The impact of nonphysician clinicians: Do they improve the quality and cost-effectiveness of health care services? *Med Care Res Rev*. 2009;66(6 suppl): 36S-89S.

ABSTRACT: Health care is changing rapidly. Unacceptable variations in service access and quality of health care and pressures to contain costs have led to the redefinition of professional roles. The roles of nonphysician clinicians (nurses, physician assistants, and pharmacists) have been extended to the medical domain. Such revision of roles is expected to improve health care effectiveness and efficiency. The evidence suggests that nonphysician clinicians working as substitutes or supplements for physicians in defined areas of care can maintain and often improve the quality of care and outcomes for patients. The effect on health care costs is mixed, with savings dependent on the context of care and specific nature of role revision. The evidence base underpinning these conclusions is strongest for nurses with a marked paucity of research into pharmacists and physician assistants. More robust evaluative studies into role revision are needed, particularly with regard to economic impacts, before definitive conclusions can be drawn.

Hooker RS, Nicholson JG, Le T. Does the employment of physician assistants and nurse practitioners increase liability? *J Medical Licensure Discipline*. 2009;95(2):6-16.

ABSTRACT: We assessed whether physician assistant (PA) and nurse practitioner (NP) utilization increases liability. In total, 17 years of data compiled in the United States National Practitioner Data Bank (NPDB) was used to compare and analyze malpractice incidence, payment amount, and other measures of liability among doctors, PAs, and advanced practice nurses (APNs).

From 1991 through 2007, 324,285 NPDB entries were logged involving 273,693 providers of interest. Significant

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differences were found in liability reports among doctors, PAs, and APNs. Physicians made, on average, malpractice payments twice that of PAs but less than that of APNs. During the study period, the probability of making a malpractice payment was 12 times less for PAs and 24 times less for APNs. For all three providers, missed diagnosis was the leading reason for malpractice report, and female providers incurred higher payments than males. Trend analysis suggests that the rate of malpractice payments for physicians, PAs, and APNs has been steady and consistent with the growth in the number of providers.

There were no observations or trends to suggest that PAs and APNs increase liability. If anything, they may decrease the rate of reporting malpractice and adverse events. From a policy standpoint, it appears that the incorporation of PAs and APNs into American society has been a safe and beneficial undertaking, at least when compared with doctors.

DISCUSSION

Health care workforce research on physician assistants appears to be entering a new phase. Over the short history of the profession, early workforce research was primarily descriptive and limited to questions answerable by relatively small studies. As the visibility and relative importance of PAs increase with the profession's growth and maturation, PAs are increasingly included in research conducted as part of larger projects and by an increasing number of disciplines.

The article by Perry investigates the relative salaries of PAs, NPs, and physicians in relation to the growing professional parameters, sometimes referred to as scope of practice, of the NP and PA professions in the United States. The author quantifies professional parameters by measuring the change in state prescriptive regulations and reimbursement authority regulations over time. In this model, improvements in legislated prescriptive authority and reimbursement are assumed to allow nonphysician providers to practice more like physicians, and these changes can then be correlated with changes in each profession's earnings. Data were assembled to track the changes in individual state practice laws for NPs and PAs regarding prescribing and reimbursement. These changes were quantified in four measured increments between 1992 and 2005, and a score was generated to reflect the increase in practice scope. Data from the National Sample Survey of Registered Nurses and the AAPA Annual Census were used to calculate NP and PA salaries. The Current Population Survey for the Annual Social and Economic Supplement conducted and maintained by the US Bureau of Labor Statistics and the US Census was used to calculate physician salaries. Results indicated that as NPs gained greater prescriptive authority, NP salaries increased while physician and PA incomes dropped; however, PA salaries decreased much less than

those of physicians (−1.4% compared with −7.6%). When PAs gained prescriptive authority, NP salaries decreased slightly (−0.8%), while PA salaries increased and physician salaries strongly increased (+8%). When NPs gained reimbursement authority, PA salaries increased slightly. This article illustrates that factors involved in the medical workforce are likely interrelated and complicated.

The article by Laurant and colleagues is a meta-analysis of studies that address the basic questions produced by the establishment of new health care professions: What impact does utilization of the new type of provider have on effectiveness, efficiency, quality of care, patient satisfaction, patient outcome, and overall costs? The literature search criteria included all articles written in English and Dutch containing data describing the impact of APNs, PAs, and pharmacists utilized in roles traditionally performed by physicians. The search revealed 18 systematic reviews comparing physicians and APNs, two systematic reviews and three original studies comparing physicians and PAs, and four reviews reporting the effectiveness of pharmacist interventions to improve health care delivery. These data suggest that nonphysician providers can improve the quality of care and patient outcomes, but the overall impact on health care costs is mixed.

The article by Hooker and colleagues analyzes data collected from the NPDB, which was established under Title IV of Public Law 99-660 of the Health Care Quality Improvement Act of 1986. These data include malpractice actions involving licensing, clinical privileges, professional society memberships, Drug Enforcement Administration issues, and Medicaid/Medicare programs. Physician, PA, and APN entries totaled 320,034, 1,535, and 2,715, respectively, from data collected from 1991 to 2007. While the number of actions recorded per year against PAs and APNs has increased in recent years, this is likely because of the increasing number of these providers in the workforce. Overall, the chances of paying a malpractice award in 2006 were 1 in 62 for physicians, 1 in 563 for PAs, and 1 in 1,016 for APNs, based on the ratio of awards divided by the number of licensed providers. Thus, malpractice risk for PAs is 9.1 times less than the risk for physicians.

Taken together, these three articles illustrate new approaches to analyzing the impact of PAs in the health care workforce: an economic study looking at how changes in scope of practice impact salaries of the professions involved, a meta-analysis of studies from several countries looking at the impact of nonphysician providers on several outcome parameters, and quantifying the malpractice risk of PAs compared with physicians and APNs. Two conclusions can be taken from these studies: PAs provide safe and effective care with low risk of malpractice, and the impact of PAs, APNs, and physicians on each other is complicated. [JAAPA](#)