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EDUCATION

ETHICS

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JUDICIARY

TRANSPORTATION

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Education Committee Chair

Senate Bill 115: Summary of Research Examining the Safety, Effectiveness, and Affordability of PA-Delivered Care

Quality and Outcomes Related to PA Delivered Care (with intermittent cost assessment)

2021	Quality, Outcomes and Cost	<p>Study: Malloy et al. Hidden Costs in Resident Training: Financial Cohort Analysis of First Assistants in Reduction Mammoplasty. <i>Plast Reconstr Surg Glob Open</i> https://doi.org/10.1097/GOX.0000000000003333</p> <p>Findings: Operative time and procedural charges between a surgical resident and a PA first-assisting in surgery were compared. It was determined that procedures completed by residents took 34 minutes longer than PAs and were \$3,750 more expensive.</p>
2020	Quality and Outcomes	<p>Study: Fejleh et al. Quality metrics of screening colonoscopies performed by PAs. <i>JAAPA</i> https://doi.org/10.1097/01.JAA.0000657192.96190.ab</p> <p>Findings: Authors explored differences in quality measures of PAs and MDs in screening colonoscopies. PAs performed flexible sigmoidoscopies comparably to gastroenterologists. Comparisons of attending physicians and PAs grouped by years of experience did not show differences in performance. PAs performed superior to GI fellows with regard to performance of thoroughness of the procedure and withdrawal time. No significant difference was found between the thoroughness of the procedure of PAs and attending gastroenterologists.</p>
2020	Quality and Outcomes	<p>Study: Fung et al. The impact of adding a physician assistant to a rural community hospital intensive care unit. <i>Journal of Canada's Physician Assistants</i> https://doi.org/10.5203/jcanpa.v2i6.873</p> <p>Findings: The outcomes of adding a PA to an ICU team was compared to an ICU without a PA. The PA provided care to 132 patients, who experienced lower 30-day mortality (26.85 patients died within 30-days on the PA ICU team versus 42.03 for the ICU team without a PA). There were no significant differences in hospital readmission rates between the two groups.</p>

2019	Quality and Outcomes	<p>Study: Everett et al. Primary care provider type: Are there differences in patients' intermediate diabetes outcomes? JAAPA https://doi.org/10.1097/01.JAA.0000558239.06875.0b</p> <p>Research question: Are there differences in diabetes outcomes between patients (n = 609,668) with different types of primary and supplemental providers (physicians, PAs and NPs)?</p> <p>Findings: No clinically meaningful differences were observed in intermediate diabetes outcomes between care delivered by a primary care PA and care delivered by either a physician alone or a physician and a PA.</p>
2018	Quality and Outcomes	<p>Study: Faza et al. Effectiveness of NPs and PAs in managing diabetes and cardiovascular disease. JAAPA https://doi.org/10.1097/01.JAA.0000534983.61613.91</p> <p>Findings: A group of 185,694 patients with chronic cardiovascular disease and diabetes treated by NPs were compared to 66,217 treated by PAs in a primary care setting. Measurements of blood pressure, beta blockers, statins, antiplatelets, primary or specialty care visits, lipid panels, and the number of stress tests ordered was comparable between the two groups. No differences in using resources between PAs and NPs in the VA were noted.</p>
2018	Quality and Outcomes	<p>Study: Jackson. Intermediate Diabetes Outcomes in Patients Managed by Physicians, Nurse Practitioners, or Physician Assistants: A Cohort Study. Annals of Internal Medicine</p> <p>Findings: This study found that patients with diabetes who received primary care services at VA facilities from a physician, an NP, or a PA over a two-year period saw no significant variation in health outcomes. Authors conclude that "similar chronic illness outcomes may be achieved by physicians, NPs, and PAs.</p>
2018	Quality and Outcomes	<p>Study: Rymer et al. Advanced Practice Provider Versus Physician-Only Outpatient Follow-Up After Acute Myocardial Infarction. Journal of the American Heart Association https://doi.org/10.1161/JAHA.117.008481</p> <p>Findings: For patients recovering from acute myocardial infarction, there was no difference in medication adherence, readmission, mortality, or major adverse cardiovascular events for patients seen by PAs and NPs and those seen by physicians. The authors also note that the prevalence of PAs and NPs providing follow-up for MI appeared to be less in certain regions (e.g., the southeast) due to licensure, supervision/collaboration, and scope of practice-related restrictions.</p>
2017	Quality and Outcomes	<p>Study: Kurtzman and Barnow. A comparison of nurse practitioners, physician assistants, and primary care physicians' patterns of practice and quality of care in health centers. Medical Care https://doi.org/10.1097/MLR.0000000000000689</p>

		<p>Findings: A first-of-its-kind study found that PAs and NPs delivered similar quality of care, services, and referrals in community health centers as physicians. Researchers at The George Washington University School of Nursing reviewed five years of data from the National Ambulatory Medical Care Survey's Community Health Center subsample and compared nine patient outcomes by practitioner type. The study could have implications for the structure of community health centers in the future.</p>
2017	Quality and Outcomes	<p>Study: Liu et al. The impact of using mid-level providers in face-to-face primary care on health care utilization. Medical Care https://doi.org/10.1097/MLR.0000000000000590</p> <p>Findings: Greater use of NP/PAs in primary care visits in the Kaiser Permanente system in Georgia was not associated with higher specialty referrals, advanced imaging, ED visits, or inpatient stays. The authors conclude that using PAs and NPs in face-to-face primary care may be a promising primary care delivery model from an efficiency standpoint.</p>
2017	Quality and Outcomes	<p>Study: Rattray et al. Prime movers: Advanced practice professionals in the role of stroke coordinator. Journal of the American Association of Nurse Practitioners https://doi.org/10.1002/2327-6924.12462</p> <p>Findings: The authors followed a stroke quality improvement clustered randomized trial and a national acute ischemic stroke directive in the VHA in 2011. The study examined the role of PAs and NPs in quality improvement activities among stroke teams. The authors conclude that the presence of PAs and NPs related directly to group-based evaluation of performance data, implementing stroke protocols, monitoring care through data audit, convening interprofessional meetings involving planning activities, and providing direct care. Further, the authors state that, because of their boundary spanning capabilities, the presence of PAs and NPs is an influential feature of local context crucial to developing an advanced, facility-wide approach to stroke care.</p>
2017	Quality and Outcomes	<p>Study: Yang et al. Nurse Practitioners, Physician Assistants, and Physicians Are Comparable in Managing the First Five Years of Diabetes. The American Journal of Medicine https://doi.org/10.1016/j.amjmed.2017.08.026</p> <p>Findings: The article posits that the increased use of NPs and PAs is a potential solution to the issue of primary care provider shortages in the United States. In this specific investigation, the study found that diabetes management by NPs and PAs were similar to the treatment provided by physicians. Consequently, the researchers believe that employing NPs and PAs in a broader sense may combat the shortages of providers observed in the health care setting.</p>

2016	Quality and Outcomes	<p>Study: Agarwal et al. Process and outcome measures among COPD patients with a hospitalization cared for by an advance practice provider or primary care physician. Plus One https://doi.org/10.1371/journal.pone.0148522</p> <p>Findings: Compared to patients cared for by physicians, patients cared for by PAs and NPs were more likely to receive short acting bronchodilator, oxygen therapy and been referred to pulmonologist. Patients cared for by PAs and NPs were less likely to visit an ER for COPD compared to patients cared for by physicians, conversely there was no difference in hospitalization or readmission for COPD between physicians and PAs/NPs.</p>
2016	Quality, Outcomes and Cost	<p>Study: Capstack et al. A comparison of conventional and expanded physician assistant hospitalist staffing models at a community hospital. Journal of Clinical Outcomes Management https://www.mdedge.com/jcomjournal/article/146081/practice-management/comparison-conventional-and-expanded-physician</p> <p>Findings: The researchers found that an expanded PA hospitalist staffing model at a community hospital provided similar outcomes and a lower cost of care than a conventional model. Researchers did a retrospective study comparing two hospitalist groups at a 384-bed community hospital in Annapolis, MD. One group had an expanded PA staffing model, with three physicians and three PAs. The other group had a "conventional" staffing model, with nine physicians and two PAs.</p>
2016	Quality and Outcomes	<p>Study: Pavlik et a. Physician assistant management of pediatric patients in a general community emergency department: a real world analysis. Pediatric Emergency Care https://doi.org/10.1097/PEC.0000000000000949</p> <p>Findings: Based on the outcome measure of 72-hour recidivism, PA management of pediatric patients 6 years or younger is similar to that of attending emergency physicians (EPs). In addition, this study suggests that the PAs have the ability to recognize more severely ill children and elicit the input of a physician in those cases.</p>
2016	Quality and Outcomes	<p>Study: Virani et al. Comparative effectiveness of outpatient cardiovascular disease and diabetes care delivery between advanced practice providers and physician providers in primary care: implications for care under the Affordable Care Act. American Heart Journal https://doi.org/10.1016/j.ahj.2016.07.020</p> <p>Findings: This study found that physicians and PAs and NPs provided comparable diabetes and cardiovascular disease (CVD) care quality with clinically insignificant differences. The authors conducted the research with diabetic and CVD patients in 130 Veterans Affairs facilities, and found that there is a need to improve performance regardless of provider type.</p>

2015	Quality and Outcomes	<p>Study: Virani et al. Provider type and quality of outpatient cardiovascular disease care. Journal of American College of Cardiology https://doi.org/10.1016/j.jacc.2015.08.017</p> <p>Findings: The large national study sought to determine whether there were clinically meaningful differences in the quality of care delivered by teams of physicians and PAs or NPs versus physicians-only teams. Patients with coronary artery disease (CAD), heart failure and atrial fibrillation received comparable outpatient care from physicians, PAs and NPs. There was a higher rate of smoking cessation screening and intervention and cardiac rehabilitation referral among CAD patients receiving care from PA/NPs.</p>
2014	Quality and Outcomes	<p>Study: Costa et al. Nurse practitioner/physician assistant staffing and critical care mortality. Chest Journal https://doi.org/10.1378/chest.14-0566</p> <p>Findings: ICUs are increasingly staffed with NPs and PAs. The authors examined the association between NP/PA staffing and in-hospital mortality for patients in the ICU, and found NPs/PAs to be a safe adjunct to the ICU team. The findings support NP/PA management of critically ill patients.</p>
2013	Quality and Outcomes	<p>Study: Everett et al. Physician assistants and nurse practitioners perform effective roles on teams caring for Medicare patients with diabetes. Health Affairs https://doi.org/10.1377/hlthaff.2013.0506</p> <p>Findings: Medicare claims and electronic health record data from a large physician group was used to compare outcomes for two groups of adult Medicare patients with diabetes whose conditions were at various levels of complexity: those whose care teams included PAs or NPs in various roles, and those who received care from physicians only. Outcomes were generally equivalent in thirteen comparisons.</p>
2013	Quality and Outcomes	<p>Study: Glotzbecker et al. Impact of physician assistants on the outcomes of patients with acute myelogenous leukemia receiving chemotherapy in an academic medical center. Journal of Oncology Practice https://doi.org/10.1200/JOP.2012.000841</p> <p>Findings: The data demonstrated equivalent mortality and ICU transfers, with a decrease in length of stay, readmission rates, and consults for patients cared for in the PA service. This suggests that the PA service is associated with increased operational efficiency and decreased health service use without compromise of healthcare outcomes.</p>
2013	Quality and Outcomes	<p>Study: Nabagiez et al. Physician assistant home visit program to reduce hospital readmissions. Journal of Thoracic Cardiovascular Surgery https://doi.org/10.1016/j.jtcvs.2012.09.047</p> <p>Findings: A PA home care (PAHC) program was initiated to improve the care of patients who had undergone cardiac surgery. The 30-day</p>

		readmission rate was reduced by 25% in patients receiving PAHC visits. The most common home intervention was medication adjustment, most commonly to diuretic agents, medications for hypoglycemia, and antibiotics.
2012	Quality, Outcomes and Access	<p>Study: Nestler et al. Effect of a Physician Assistant as a Triage Liaison Provider on Patient Throughout in an Academic Emergency Department. Academic Emergency Medicine https://doi.org/10.1111/acem.12010</p> <p>Findings: The article discusses overcapacity issues that routinely inhibit various emergency departments. According to this article, studies suggest that triage liaison providers (TLPs) may benefit emergency departments struggling with overcapacity by shortening a patient's length of stay (LOS). Additionally, the article posits that enabling PAs to serve in such a role, TLPs, may reduce the number of patients who leave the emergency department without being seen. The findings of this study suggest that the LOS for patients was shorter, treatment room times were shorter, and fewer patients left without being seen.</p>
2011	Quality, Outcomes and Cost	<p>Study: Kavar and Digiovine. MICU care delivered by PAs versus residents: do PAs measure up? JAAPA https://doi.org/10.1097/01720610-201101000-00008</p> <p>Findings: Clinical outcomes between patients admitted to a resident and a PA in the medical intensive care unit (MICU) were compared. Authors examined 5,346 patient admissions to a MICU (3,971 to 32-bed MD-managed MICU and 1,375 to a 16-bed PA-managed medical ICU) and found that there was no in-hospital difference of mortality or intensive care unit mortality between the two groups. Survival analyses showed no difference in 28-day survival between the two groups. A PA-managed MICU produced no significant differences in survivorship compared to a MD-managed MICU and hospital average length of stay was similar between the two groups.</p>
2011	Quality and Outcomes	<p>Study: Singh et al. A comparison of outcomes of general medical inpatient care provided by a hospitalist-physician assistant model vs a traditional resident-based model. J Hosp Med https://doi.org/10.1002/jhm.826</p> <p>Findings: 2,171 inpatients cared for by PA hospitalists were compared to 7,510 inpatients cared for by medical residents. The risk of readmission at 7, 14, and 30 days and the risk of inpatient death were similar between the two groups.</p>
2010	Quality and Outcomes	<p>Study: Moote et al. PA-driven VTE risk assessment improves compliance with recommended prophylaxis. Journal of American Academy of Physician Assistants https://doi.org/10.1097/01720610-201006000-00008</p> <p>Findings: A PA-driven venous thromboembolism (VTE) risk assessment process resulted in a dramatic increase in the number of patients within</p>

		the health system who were prescribed appropriate orders for VTE prophylaxis according to published guidelines and according to individual patient risk.
2009	Quality and Outcomes	<p>Study: Dhuper and Choski. Replacing an academic internal medicine residency program with a physician assistant-hospitalist model: a comparative analysis study. American Journal of Medical Quality https://doi.org/10.1177/1062860608329646</p> <p>Findings: This study describes a comparative analysis of replacing medical residents with PA-hospitalist teams on patient outcomes in a community hospital. Quality of care provided by the PA-hospitalist model was equivalent to resident physician provided care.</p>
2008	Quality and Outcomes	<p>Study: Roy. Implementation of a physician assistant/hospitalist service in an academic medical center: impact on efficiency and patient outcomes. J Hosp Med https://doi.org/10.1002/jhm.352</p> <p>Findings: The quality and efficiency of patient care of a PA hospitalist service was compared with that of traditional MD house staff services. 992 patients admitted to the PA hospitalists experienced no difference in inpatient mortality, readmissions, or patient satisfaction compared with those admitted to MD hospitalists. There was also no difference in ICU transfers or length of stay. The total cost of care was marginally lower for patients admitted to PA hospitalists.</p>
2005	Quality and Outcomes	<p>Study: Wilson et al. Quality of HIV care provided by nurse practitioners, physician assistants, and physicians. Annals of Internal Medicine https://doi.org/10.7326/0003-4819-143-10-200511150-0001</p> <p>Findings: For the measures examined, the quality of HIV care provided by NPs and PAs was similar to that of physician HIV experts and generally better than physician non-HIV experts. NPs and PAs can provide high-quality care for persons with HIV. Preconditions for this level of performance include high levels of experience, focus on a single condition, and either participation in teams or other easy access to physicians and other clinicians with HIV expertise.</p>
2004	Quality, Outcomes and Cost	<p>Study: Hooker. Physician assistants in occupational medicine: how do they compare to occupational physicians? Occup Med https://doi.org/10.1093/occmed/kqg126</p> <p>Findings: Authors assessed the care delivered by 12 OEM PAs during 80,764 patient encounters and found that they assessed patients in the same way as OEM MDs. The injury severity scale, patient age, and gender were matched for both providers. The use of resources was the same, but the number of days for disability was shorter by 1.8 for the PA as compared to the MD. PA cost of care is 50% less due to wages.</p>
2004	Quality and Outcomes	<p>Study: Oswanski. Comparative review of use of physician assistants in a level I trauma center. The American Surgeon PMID: 15055854</p>

		Findings: Outcomes of 479 patients who received care from PAs in a PA-assisted trauma program (without residents) were compared to 293 patients who received care from a MD resident-assisted trauma program. No differences in mortality rates were found between the two groups. PA-delivered care reduced the length of stay by 1 day.
1998	Quality and Outcomes	Study: Miller et al. Use of physician assistants as surgery/trauma house staff at an American College of Surgeons-verified level II trauma center. The Journal of Trauma: Injury, Infection, and Critical Care https://doi.org/10.1097/00005373-199802000-00025 Findings: Utilization of a trauma surgeon-PA model resulted in a 43% decrease in transfer time to the OR, 51% decrease in transfer time to the ICU, 13% decrease in overall length of stay and 33% decrease in length of stay for neurotrauma intensive care.
1994	Quality and Outcomes	Study: Carzoli et al. Comparison of neonatal nurse practitioners, physician assistants, and residents in the neonatal intensive care unit. American Medical Association, Archives of Pediatrics and Adolescent Medicine https://doi.org/10.1001/archpedi.1994.02170120033005 Findings: Patient charts were analyzed to compare care provided in the neonatal intensive care unit by teams of resident physicians and teams of PAs and NPs. Results demonstrated no significant differences in management, outcome, or charge variables between patients cared for by the two teams.
1977	Quality, Outcomes and Cost	Study: Tompkins et al. The effectiveness and cost of acute respiratory illness medical care provided by physicians and algorithm-assisted physicians' assistants. Med Care https://doi.org/10.1097/00005650-197712000-00003 Findings: 2,149 patients with acute respiratory illness treated by PAs were compared to 389 patients treated by MDs. Diagnostic test costs by the PA were less than the MD group (\$4.26 vs. \$5.48). (p <0.05). Direct medical care costs were significantly lower: PA group = \$12.78 vs MD group = \$16.86.

Cost of PA-Delivered Care

2020	Cost	Study: Smith et al. Utilization and Costs by Primary Care Provider Type: Are There Differences Among Diabetic Patients of Physicians, Nurse Practitioners, and Physician Assistants? Med Care. https://doi.org/10.1097/MLR.0000000000001326 Findings: The cost of care provided to 25,352 patients cared for by PAs were compared to 301,361 patients cared for by MDs and NPs. Patients of PAs have lower odds of inpatient admission and lower emergency department use, which this translates into PAs having ~\$500–\$700 less health care costs per patient per year than MDs.
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2019	Cost	<p>Study: Morgan et al. Impact Of Physicians, Nurse Practitioners, And Physician Assistants On Utilization And Costs For Complex Patients. Health Aff https://doi.org/10.1377/hlthaff.2019.00014</p> <p>Findings: The healthcare use and the total costs of care among 47,236 medically complex patients (veterans with diabetes) by physician, NP, and PA primary care providers were compared. The 2,806 patients who received care from PAs were less likely than patients of MDs to incur hospitalization related to their ambulatory care. PAs utilized fewer resources than MDs for the same matched group of chronically ill patients even in expanded roles. Estimated annual medical expenditures of PAs vs MDs: total (inpatient, outpatient, pharmacy) \$32,350 (PAs) vs \$34,650 (MDs).</p>
2016	Cost	<p>Study: Eilrich. The Economic Effect of a Physician Assistant or Nurse Practitioner in Rural America. Journal of the American Academy of PAs https://doi.org/10.1097/01.JAA.0000496956.02958.dd</p> <p>Findings: PAs and NPs who provide primary care services in medically-underserved areas can help offset physician shortages and positively impact the local economy.</p>
2016	Cost	<p>Study: Essary et al. Compensation and production in family medicine by practice ownership. Health Services Research and Managerial Epidemiology https://doi.org/10.1177/2333392815624111</p> <p>Findings: In this national survey of family medicine practices, 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. PAs 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.</p>
2016	Cost	<p>Study: Mafi et al. Comparing use of low-value health care services among U.S. advanced practice clinicians and physicians. Annals of Internal Medicine https://doi.org/10.7326/M15-215</p> <p>Findings: A comparison of NPs, PAs and physicians found that the three practitioners provided an equivalent amount of low-value health services. The purpose of the comparison was to dispel physicians' perceptions that PAs and NPs provide lower-value care than physicians for patients presenting with upper respiratory infections, back pain, or headaches.</p>
2016	Cost	<p>Study: Resnick et al. Physician assistants improve efficiency and decrease costs in outpatient oral and maxillofacial surgery. Journal of Oral Maxillofacial Surgery https://doi.org/10.1016/j.joms.2016.06.195</p>

		<p>Findings: The addition of PAs into the procedural components of an outpatient oral and maxillofacial surgery practice resulted in decreased costs whereas complication rates remained constant. The increased availability of the oral and maxillofacial surgeon after the incorporation of PAs allows for more patients to be seen during a clinic session, which has the potential to further increase efficiency.</p>
2016	Cost	<p>Study: Timmons. The effects of expanded nurse practitioner and physician assistant scope of practice on the cost of Medicaid patient care. Health Policy https://doi.org/10.1016/j.healthpol.2016.12.002</p> <p>Findings: The author examines how changes to occupational licensing laws for nurse practitioners and physician assistants have affected cost and intensity of health care for Medicaid patients. The results suggest that allowing physician assistants to prescribe controlled substances is associated with a substantial (more than 11%) reduction in the dollar amount of outpatient claims per Medicaid recipient. Relaxing occupational licensing requirements by broadening the scope of practice for healthcare providers may represent a low-cost alternative to providing quality care to America's poor.</p>
2013	Cost	<p>Study: Althausen et al. Impact of hospital-employed physician assistants on a level II community-based orthopaedic trauma system. Journal of Orthopaedic Trauma https://doi.org/10.1097/BOT.0b013e3182647f29</p> <p>Findings: The indirect economic and patient care impact of PAs on the community-based orthopaedic trauma team was evaluated. By increasing emergency room pull through and decreasing times to OR, operative times, lengths of stay, and complications, PAs are clearly beneficial to hospitals, physicians, and patients.</p>
2009	Cost	<p>Study: Eibner et al. Controlling health care spending in Massachusetts: an analysis of options. RAND Corporation, TR-733-COMMASS. https://www.rand.org/pubs/technical_reports/TR733.html</p> <p>Findings: RAND identified a few options that appear to have the potential to slow the rate of increase in health spending in Massachusetts over the next decade. Those ideas include expanding the scope of practice of PAs and NPs and encouraging the greater use of PAs and NPs in primary care.</p>
2008	Cost	<p>Study: Morgan et al. Impact of physician assistant care on office visit resource use in the United States. Health Services Research. https://doi.org/10.1111/j.1475-6773.2008.00874.x</p> <p>Findings: Analysis of Medicare's Medical Expenditure Panel Survey (MEPS) data found adult patients who saw PAs for a large portion of their yearly office visits had, on average, 16 percent fewer visits per year, than patients who saw only physicians. These findings account for adjustments for patient complexity.</p>

2004	Cost	<p>Study: Roblin et al. Use of midlevel practitioners to achieve labor cost savings in the primary care practice of an MCO. Health Services Research https://doi.org/10.1111/j.1475-6773.2004.00247.x</p> <p>Findings: Data from twenty-six primary care practices and approximately 2 million visit records found PAs/NPs attended to 1 in 3 adult medicine visits and 1 in 5 pediatric. Primary care practices that used more PAs/NPs in care delivery realized lower practitioner labor costs per visit than practices that used fewer.</p>
2002	Cost	<p>Study: Grzybicki and Sullivan. The Economic Benefit for Family/General Medicine Practices Employing Physician Assistants. The American Journal of Managed Care https://www.ajmc.com/view/jul02-165p613-620</p> <p>Findings: The study sought to identify whether or not model PA practice in a family or general medicine practice environment was comparable, in terms of care provided and financial productivity, to a physician-only practice. The study found that the employment of family and/or general medicine PAs lead to significant economic benefits to the practices where they are employed.</p>
2002	Cost	<p>Study: Hooker. Cost analysis of physician assistants in primary care. Journal of the American Academy of Physician Assistants https://www.ncbi.nlm.nih.gov/pubmed/12474431</p> <p>Findings: This study examines the cost associated with employing PAs from the employer's perspective. Analysis of data on record for episode, patient characteristics, health status, etc., found that for every medical condition managed by PAs, the total episode cost was less than similar episode managed by a physician.</p>

Liability

2021	Liability	<p>Study: Hickman. Evaluating liability in the supervising physician, PA, and employer relationship. JAAPA https://doi.org/10.1097/01.JAA.0000791480.34010.29</p> <p>Findings: Author reviewed case law and found that courts generally assign liability for the actions of the PA to the PA, but liability to the physician and employer for failure to meet the statutory requirements for oversight of the PA. The author concluded that less cumbersome statutory requirements for PAs would reduce the likelihood of physician liability noncompliance.</p>
2023	Liability	<p>Study: DePalma et al. Medical malpractice payment reports of physician assistants/associates related to state practice laws and regulations. J Med Regul https://doi.org/10.30770/2572-1852-109.4.27</p> <p>Findings: Authors addressed malpractice payments for physician and PA delivered care in states with either permissive or restrictive PA practice</p>

		laws. Authors found that no significant drawbacks and numerous benefits for states with more permissive practice laws.
2016	Liability	<p>Study: U.S. Department of Health and Human Services, Health Resources and Services Administration. National Practitioner Data Bank. Rockville, Maryland. https://www.npdb.hrsa.gov/analysistool/</p> <p>Findings: Nationally, there were 1,399 liability claims paid against PAs in the 10 years from 2005-2014. The ratio of claims to PAs averaged 1 claim for every 550 PAs (1:550). By comparison, the number of physician claims paid from 2005-2014 totaled 105,756; the ratio for physicians during that decade averaged one claim for every 80 physicians (1:80). This data can be extracted from the Data Analysis Tool on the NPDB website.</p>
2009	Liability	<p>Study: Hooker et al. Does the employment of physician assistants and nurse practitioners increase liability? Journal of Medical Licensure and Discipline http://www.paexperts.com/Nicholson%20-%20Hooker%20Article.pdf</p> <p>Findings: Seventeen 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 physicians, PAs and APNs. Seventeen years of observation suggests that PAs may decrease liability, at least as viewed through the lens of a national reporting system. During the first 17-year study period, there was one payment report for every 2.7 active physicians and one for every 32.5 active PAs. In percentage terms, 37 percent of physicians, 3.1 percent of PAs and at least 1.5 percent of APNs would have made a malpractice payment during the study period. The physician mean payment was 1.7 times higher than PAs and 0.9 times that of APNs, suggesting that PA employment may be a cost savings for the healthcare industry along with the safety of patients. The reasons for disciplinary action against PAs and APNs are largely the same as physicians.</p>