

July 12, 2017

The Honorable Thomas E. Price, M.D.
Secretary
U.S. Department of Health & Human Services
200 Independence Avenue, S.W.
Washington, D.C. 20201

Agency Name: CMS-9928-NC

RE: RIN 0938-ZB39 Reducing Regulatory Burdens Imposed by the Patient Protection and Affordable Care Act & Improving Healthcare Choices to Empower Patients (82 Fed. Reg. 26885), June 12, 2017.

Dear Secretary Price:

The American Association of Nurse Practitioners (AANP), representing more than 234,000 nurse practitioners (NPs) in the United States, appreciates the opportunity to provide comment in response to the Reducing Regulatory Burdens Imposed by the Patient Protection and Affordable Care Act (PPACA) & Improving Healthcare Choices to Empower Patients (82 Fed. Reg. 26885), June 12, 2017. AANP strives to ensure that all patients have timely access to high quality care by the provider of their choice. We commend the Department of Health and Human Services (HHS) for beginning this important discussion on the reduction of burdens imposed by the PPACA and other regulations and look forward to a continuing dialogue on topics that impact the lives of every American.

NPs are advanced practice registered nurses who are prepared at the masters or doctoral level to provide primary, acute, chronic and specialty care to patients of all ages and walks of life. Daily practice includes: assessment; ordering, performing, supervising and interpreting diagnostic and laboratory tests; making diagnoses; initiating and managing treatment including prescribing medication and non-pharmacologic treatments; coordinating care; counseling; and educating patients and their families and communities. NPs practice in nearly every health care setting including clinics, hospitals, Veterans Affairs and Indian Health Care facilities, emergency rooms, urgent care sites, private physician or NP practices (both managed and owned by NPs), nursing homes, schools, colleges, retail clinics, public health departments, nurse managed clinics, homeless clinics, and home health. NPs hold prescriptive authority in all 50 states and the District of Columbia.

It is important to note that 89.2% of NPs are certified in primary care, the majority of whom see Medicare and Medicaid patients. NPs complete more than one billion patient visits annually. We appreciate the opportunity to discuss regulatory burdens to practice. Below, we have identified several burdens that could be reduced through guidance or rulemaking to increase access to timely and high quality health care for patients across the nation.

Decrease Administrative Burdens Within Medicare Home Health Services:

Currently, NPs with patients who need home health care services must locate a physician who will document the nurse practitioner's assessment and provide a plan of care. Further, while NPs are authorized to perform a required face-to-face assessment of the patient's needs, the PPACA also requires that a physician documents that the encounter has taken place. These delays in treatment jeopardize patient health and cause the Medicare program to incur additional costs by requiring the participation of additional providers who may have never seen the patient before. This can be particularly problematic in areas of the country where there are few primary care providers, especially physicians.

We ask that HHS either broaden the definition of "physician" to include nurse practitioners or add "nurse practitioner" after "physician" in the regulatory language covering home health services for Medicare beneficiaries. The statutes governing home health services for Medicare beneficiaries do not define the word "physician" as it relates to those services, and thus the Secretary has the discretion to revise the existing regulations to include NPs in that definition. Changes in definitions within the Medicare home health care regulatory framework would also apply to the Medicaid program. An example of how this might work can be found in the Federal Register (65 F.R. 83129, pg. 83132) related to Diabetes Outpatient Self Management Training. HHS used its rulemaking authority to expand the class of practitioners authorized to order this treatment in the instance when the practitioners treating the patient's diabetes was not a physician.

Decrease Administrative Burdens for Medicare Patient Access to Diabetic Shoes:

NPs treating a patient with diabetes must locate a physician to certify the patient's need for these therapeutic shoes. Currently, an NP's patient must undergo the following redundant multistep process to obtain their necessary treatment: the NP who is treating the patient with diabetes makes the initial determination that the patient needs diabetic shoes, then the NP must send the patient to a physician who then refers that patient to a podiatrist or other qualified individual to fit and furnish the shoes. NPs are authorized to be reimbursed for the treatment of patients with diabetes under the Part B program. They have demonstrated that they provide expert treatment and management of patients with diabetes without the need for physician supervision. Requiring a physician, who may have never seen the patient before, to certify that a patient requires diabetic shoes after the patient's NP has already made that determination leads to delays in treatment and increased costs to the Medicare program by requiring the participation of an additional provider.

We ask that HHS either broaden the definition of "physician" to include nurse practitioners or add "nurse practitioner" after "physician" in the regulatory language covering diabetic shoes for Medicare beneficiaries. The statute governing diabetic shoes for Medicare beneficiaries does not define the word "physician" as it relates to those services, and thus the Secretary has the discretion to revise the existing regulations to include NPs in that definition. The citation above would also apply in this circumstance.

Accountable Care Organizations (ACOs):

HHS has acknowledged the vital role that NPs play in ACOs and has used its rulemaking authority to ensure that NPs are active participants. Despite these efforts, regulations remain in place that result in unnecessary duplicative treatment because beneficiary assignment is linked to care provided by a primary care physician, even if the patient's primary care provider is a nurse practitioner. This means that while patients may see an NP for their primary care under the current ACO structure, patients must visit a primary care physician at least once a year to be included in the Shared Savings Program. Therefore, especially in rural and underserved areas, this may result in patients and NPs not being included in that program. This contradicts the intended purpose of transforming care from a volume-based to a value-based system.

Section 3302 of the PPACA, which governs ACOs, grants the Secretary broad waiver authority as “necessary to carry out the provisions of this section,” and explicitly allows the Secretary to waive requirements of title XVIII of the Act. By waiving the definition of “physician” in title XVIII of the Act, the Secretary could remove these unnecessary burdens on NPs and their patients.

“Incident To” Billing:

While it is our opinion that “incident to” billing should be discontinued, we also note that the billing guidelines related to “incident to” services could be amended by regulation or guidance to ensure that all practitioners bill under their own billing ID for the services that they provide. In the transition to value-based reimbursement, it is important that the most accurate data is obtained to document and evaluate practitioners and the services they provide.

Current “incident to” billing practices undermine the foundations of value-based reimbursement. Simplifying these billing guidelines to require practitioners to bill under their own billing ID for the services that they perform will lead to administrative simplification and more accurate data which is essential in the transition to value-based reimbursement. Alternatively, we propose the creation of a billing modifier that would identify the provider of the service being billed. This would ensure the accuracy of billing and claims data.

Membership on Medicare Administrative Contractor (MAC) Advisory Committees:

Currently, guidance states that physicians are the only health care practitioners that are allowed membership on MAC advisory committees. These committees play an essential role in the development of local coverage determinations (LCDs), which have a significant impact on the provision of services in the Medicare program and provider reimbursement. The current guidance excludes the valuable input of nurse practitioners, and neglects the significant role that NPs play in the Medicare program.

We ask that HHS provide guidance to the MACs instructing them that MAC advisory committees should be comprised of NPs in addition to physicians. This will ensure that NPs are able to use their expertise to provide input in the development of LCDs which will enrich the quality of the Medicare program.

Skilled Nursing Facility (SNF) Admitting Examinations and Bi-Monthly Assessments:

NPs are essential providers in SNFs, and studies have demonstrated that NP participation in SNFs has lowered overall costs and improved quality of care. Even though NPs provide high-quality care to SNF patients, they are still prevented from approving a SNF admission by not being authorized to perform the admitting examinations and all monthly patient assessments. These are unnecessary restrictions on practice that inhibit access to care in SNFs and diminish a facility’s ability to utilize available clinicians to the full extent of their capabilities. We ask that HHS recognize that many of these patients may be under the care of an NP, thus making them the most appropriate provider to direct that patient’s care. We encourage HHS to explore options that would modernize SNF regulations to authorize providers, such as NPs, to admit and perform the admitting assessment and all monthly patient assessments.

The statute requires that a patient must be under physician supervision while in a SNF, but the regulations go further than the statute requires. We ask HHS to remove these unnecessary restrictions and allow NPs to perform the admitting examinations and all monthly patient assessments. This places unnecessary regulatory burdens on NPs and threatens patients’ access to timely care.

Inpatient Rehabilitation Facilities (IRFs):

As is the case in SNFs, NPs are important providers in inpatient rehabilitation facilities, yet they are still prevented from practicing to the fullest capacity of their license. In IRFs, there are unnecessary restrictions that inhibit access to care and create additional administrative burdens within the setting. We ask that HHS recognize that many of these patients may be under the care of an NP, thus making them the most appropriate provider to direct that patient's care. Facilitating the full utilization of nurse practitioner skills in these facilities will contribute to the safety and well-being of their patients in an efficient and cost effective manner.

Cardiac Rehabilitation Incentive Payment Model:

The cardiac rehabilitation incentive payment model is an important tool to increase the use of cardiac rehabilitation services after an acute myocardial infarction or coronary artery bypass graft episode of care. Implementation of this incentive payment model, including the utilization of nurse practitioners, has the potential to improve patient outcomes and decrease hospital utilization.

Under current Medicare regulations, only a physician can perform the functions of a supervisory physician, prescribe exercise, and establish, review and sign an individualized treatment plan. This model will provide a waiver to authorize nonphysician practitioners, including nurse practitioners, to perform these functions. This flexibility is essential to ensure that hospitals have the resources to provide this care and that patients have freedom of choice of services and providers. We encourage HHS to expedite the implementation and universalization of this model to ensure patient access to these critical services. In addition, we encourage HHS to apply the same waivers to nurse practitioners in the area of pulmonary rehabilitation.

Colonoscopy and Screening Barium Enema Coverage:

Under Medicare regulations for colorectal cancer screening tests, NPs are currently reimbursed for performing sigmoidoscopies and fecal occult blood tests, but colonoscopies and screening barium enemas are only covered when performed by a physician. NPs have the clinical training and expertise to perform colonoscopies and screening barium enemas. We ask HHS to amend the regulations to include NPs in the class of practitioners who are authorized under the Medicare program to perform these procedures.

Recognizing the Value and Benefit of Small NP Practices to the Health Care System:

We continue to encourage HHS to reduce administrative burdens placed on clinicians, such as nurse practitioners, in small practices. We request continued efforts to ensure that small practices, such as those led by NPs, can participate in the Quality Payment Program without overly cumbersome requirements. We believe that the transition to value-based reimbursement should be equitable and available to all health care providers.

We applaud HHS's commitment to reducing regulatory burdens to practice, and we appreciate the opportunity to provide comment. We look forward to working with you and your staff to ensure that patients have access to the health care provider of their choice, such as nurse practitioners. Please contact MaryAnne Sapio, VP of Federal Government Affairs, at msapio@aanp.org if you have any questions.

Sincerely,

David Hebert
Chief Executive Officer

Enclosures

Scope of Practice for Nurse Practitioners

Professional Role

Nurse practitioners (NPs) are licensed, independent practitioners who practice in ambulatory, acute and long-term care as primary and/or specialty care providers. Nurse practitioners assess, diagnose, treat, and manage acute episodic and chronic illnesses. NPs are experts in health promotion and disease prevention. They order, conduct, supervise, and interpret diagnostic and laboratory tests, prescribe pharmacological agents and non-pharmacologic therapies, as well as teach and counsel patients, among other services.

As licensed, independent clinicians, NPs practice autonomously and in coordination with health care professionals and other individuals. They may serve as health care researchers, interdisciplinary consultants, and patient advocates. NPs provide a wide-range of health care services to individuals, families, groups, and communities.

Education

NPs are advanced practice registered nurses who obtain graduate education, post-master's certificates, and doctoral degrees. Educational preparation provides NPs with specialized knowledge and clinical competency which enable them to practice in various health care settings, make differential diagnoses, manage and initiate treatment plans and prescribe medications and treatment. National NP education program accreditation requirements and competency-based standards ensure that NPs are equipped to provide safe, high-quality patient care from the point of graduation. Clinical competency and professional development are hallmarks of NP education.

Accountability

The autonomous nature of NP practice requires accountability to the public for delivery of high-quality health care. NP accountability is consistent with an ethical code of conduct, national certification, periodic peer review, clinical outcome evaluation, and evidence of continued professional development.

Responsibility

The patient-centered nature of the NP role requires a career-long commitment to meet the evolving needs of society and advances in health care science. NPs are responsible to the public and adaptable to changes in health care. As leaders in health care, NPs combine the roles of provider, mentor, educator, researcher, and administrator. NPs take responsibility for continued professional development, involvement in professional organizations, and participation in health policy activities at the local, state, national and international levels. Five decades of research affirms that NPs provide safe, high-quality care.

Standards of Practice for Nurse Practitioners

I. Qualifications

Nurse practitioners are licensed, independent practitioners who provide primary and/or specialty nursing and medical care in ambulatory, acute and long-term care settings. They are registered nurses with specialized, advanced education and clinical competency to provide health and medical care for diverse populations in a variety of primary care, acute and long-term care settings. Master's, post-master's or doctoral preparation is required for entry-level practice (AANP 2006).

II. Process of Care

The nurse practitioner utilizes the scientific process and national standards of care as a framework for managing patient care. This process includes the following components.

A. Assessment of health status

The nurse practitioner assesses health status by:

- Obtaining a relevant health and medical history
- Performing a physical examination based on age and history
- Performing or ordering preventative and diagnostic procedures based on the patient's age and history
- Identifying health and medical risk factors

B. Diagnosis

The nurse practitioner makes a diagnosis by:

- Utilizing critical thinking in the diagnostic process
- Synthesizing and analyzing the collected data
- Formulating a differential diagnosis based on the history, physical examination and diagnostic test results
- Establishing priorities to meet the health and medical needs of the individual, family, or community

C. Development of a treatment plan

The nurse practitioner, together with the patient and family, establishes an evidence-based, mutually acceptable, cost-awareness plan of care that maximizes health potential. Formulation of the treatment plan includes:

- Ordering and interpreting additional diagnostic tests
- Prescribing or ordering appropriate pharmacologic and non-pharmacologic interventions
- Developing a patient education plan
- Recommending consultations or referrals as appropriate

D. Implementation of the plan

Interventions are based upon established priorities. Actions by the nurse practitioners are:

- Individualized
- Consistent with the appropriate plan for care
- Based on scientific principles, theoretical knowledge and clinical expertise
- Consistent with teaching and learning opportunities

E. Follow-up and evaluation of the patient status

The nurse practitioner maintains a process for systematic follow-up by:

- Determining the effectiveness of the treatment plan with documentation of patient care outcomes
- Reassessing and modifying the plan with the patient and family as necessary to achieve health and medical goals

III. Care Priorities

The nurse practitioner's practice model emphasizes:

- A. Patient and family education
The nurse practitioner provides health education and utilizes community resource opportunities for the individual and/or family
- B. Facilitation of patient participation in self care.
The nurse practitioner facilitates patient participation in health and medical care by providing information needed to make decisions and choices about:
 - Promotion, maintenance and restoration of health
 - Consultation with other appropriate health care personnel
 - Appropriate utilization of health care resources
- C. Promotion of optimal health
- D. Provision of continually competent care
- E. Facilitation of entry into the health care system
- F. The promotion of a safe environment

IV. Interdisciplinary and Collaborative Responsibilities

As a licensed, independent practitioner, the nurse practitioner participates as a team leader and member in the provision of health and medical care, interacting with professional colleagues to provide comprehensive care.

V. Accurate Documentation of Patient Status and Care

The nurse practitioner maintains accurate, legible and confidential records.

VI. Responsibility as Patient Advocate

Ethical and legal standards provide the basis of patient advocacy. As an advocate, the nurse practitioner participates in health policy activities at the local, state, national and international levels.

VII. Quality Assurance and Continued Competence

Nurse practitioners recognize the importance of continued learning through:

- A. Participation in quality assurance review, including the systematic, periodic review of records and treatment plans
- B. Maintenance of current knowledge by attending continuing education programs
- C. Maintenance of certification in compliance with current state law
- D. Application of standardized care guidelines in clinical practice

VIII. Adjunct Roles of Nurse Practitioners

Nurse practitioners combine the roles of provider, mentor, educator, researcher, manager and consultant. The nurse practitioner interprets the role of the nurse practitioner to individuals, families and other professionals.

IX. Research as Basis for Practice

Nurse practitioners support research by developing clinical research questions, conducting or participating in studies, and disseminating and incorporating findings into practice.

Quality of Nurse Practitioner Practice

Nurse practitioners (NPs) provide high-quality primary, acute and specialty health care services across the life span and in diverse settings, including patients' homes, community-based clinics, schools, colleges, prisons, hospitals, and long-term care facilities. All NPs have advanced clinical training and competency to provide health care beyond their initial registered nurse preparation. NPs have graduate education, with masters or doctoral degrees, and they bring a unique perspective to health services in that they emphasize both care and cure. NPs diagnose, treat, and manage acute and chronic illness. NPs focus on health promotion, disease prevention, and health education and counseling, guiding patients to make smarter health and lifestyle choices. Since the NP role was created in 1965, over 50 years of research has consistently demonstrated the excellent outcomes and high quality of care provided by NPs.

The body of literature supports the position that NPs provide care that is safe, effective, patient-centered, timely, efficient, equitable and evidenced based. Furthermore, NP care is comparable in quality to that of their physician colleagues. Patients under the care of NPs have higher patient satisfaction, fewer unnecessary hospital readmissions, potentially preventable hospitalizations, and fewer unnecessary emergency room visits than patients under the care of physicians. This paper summarizes a number of important research reports supporting the quality of nurse practitioner practice. These references are listed as an annotated bibliography.

Annotated Bibliography

Avorn, J., Everitt, D.E., & Baker, M.W. (1991). The neglected medical history and therapeutic choices for abdominal pain. A nationwide study of 799 physicians and nurses. *Archives of Internal Medicine*, 151(4), 694-698.

A sample of 501 physicians and 298 NPs participated in a study by responding to a hypothetical scenario regarding epigastric pain in a patient with endoscopic findings of diffuse gastritis. They were able to request additional information before recommending treatment. Adequate history-taking resulted in identifying use of aspirin, coffee, cigarettes, and alcohol, paired with psychosocial stress. Compared to NPs, physicians were more likely to prescribe without seeking relevant history. NPs, in contrast, asked more questions and were less likely to recommend prescription medication.

Bakerjian, D. (2008). Care of nursing home residents by advanced practice nurses: A review of the literature. *Research in Gerontological Nursing*, 1(3), 177-185. doi: 10.3928/00220124-20091301-01.

Bakerjian conducted an extensive review of the literature, particularly of NP-led care. She found that long-term care patients managed by NPs were less likely to have avoidable geriatric complications such as falls, UTIs, pressure ulcers, etc. They also had improved functional status, as well as better managed chronic conditions.

Borgmeyer, A., Gyr, P.M., Jamerson, P.A., & Henry, L.D. (2008). Evaluation of the role of the pediatric nurse practitioner in an inpatient asthma program. *Journal of Pediatric Health Care*, 22(5), 273-281.

Administrative and electronic medical record data from July 1, 2009, to June 30, 2010, was retrospectively reviewed from the Children's Hospital of Colorado's inpatient medical unit as well as inpatient satellite sites in the Children's Hospital Network of Care. This study evaluated cost and pediatric patient outcomes between a pediatric nurse practitioner (PNP) hospitalist team, a combined PNP/MD team, and two resident teams without PNPs. Adherence to clinical care guidelines was comparable, and there was no significant difference in length of stay between the PNP, PNP/MD teams or resident teams. The direct cost of the PNP patient care was significantly less than the PNP/MD team and resident teams.

Brown, S.A. & Grimes, D.E. (1995). A meta-analysis of nurse practitioners and nurse midwives in primary care. *Nursing Research*, 44(6), 332-9.

A meta-analysis of 38 studies comparing a total of 33 patient outcomes of NPs with those of physicians demonstrated that NP outcomes were equivalent to or greater than those of physicians. NP patients had higher levels of compliance with recommendations in studies where provider assignments were randomized and when other means to control patient risks were used. Patient satisfaction and resolution of pathological conditions were greatest for NPs. The NP and physician outcomes were equivalent on all other outcomes.

Carter, A., Chochinov, A. (2007). A systematic review of the impact of nurse practitioners on cost, quality of care, satisfaction and wait times in the emergency department. *Canadian Journal of Emergency Medicine*, 9(4), 286-95.

This systematic review of 36 articles examines if the hiring of NPs in emergency rooms can reduce wait time, improve patient satisfaction and result in the delivery of cost-effective, quality care. Results showed that hiring NPs can result in reduced wait times, leading to higher patient satisfaction. NPs were found to be equally as competent as physicians at interpreting x-rays and more competent at following up with patients by phone, conducting physical examinations, and issuing appropriate referrals.

Congressional Budget Office. (1979). Physician extenders: Their current and future role in medical care delivery. Washington, D.C.: US Government Printing Office.

As early as 1979, the Congressional Budget Office reviewed findings of the numerous studies of NP performance in a variety of settings and concluded that NPs performed as well as physicians with respect to patient outcomes, proper diagnosis, management of specified medical conditions, and frequency of patient satisfaction.

Cooper, M.A., Lindsay, G.M., Kinn, S., Swann, I.J. (2002). Evaluating emergency nurse practitioner services: A randomized controlled trial. *Journal of Advanced Nursing*, 40(6), 771-730.

A study of 199 patients randomly assigned to emergency NP-led care or physician-led care in the U.K. demonstrated the highest level of satisfaction and clinical documentation for NP care. The outcomes of recovery time, symptom level, missed work, unplanned follow-up, and missed injuries were comparable between the two groups.

Ettner, S.L., Kotlerman, J., Abdelmonem, A., Vazirani, S., Hays, R.D., Shapiro, M., et al. (2006). An alternative approach to reducing the costs of patient care? A controlled trial of the multi-disciplinary doctor-nurse practitioner (MDNP) model. *Medical Decision Making*, 26, 9-17.

A total of 1207 patients were randomized to a standard treatment group or to a physician-NP treatment model in an academic medical center. The physician-NP team achieved significant cost savings during the initial inpatient stay and during post-discharge compared to the control group while the outcomes between the treatment and control group were comparable.

Gracias, V. H., Sicoutris, C. P., Stawicki, S.P., Meredith, D. M., Horan, A. D., Gupta, R., Schwab, C.W. (2008). Critical care nurse practitioners improve compliance with clinical practice guidelines in “semiclosed” surgical intensive care unit. *Journal of Nursing Care Quality*, 23(4), 338-344. doi:10.1097/01.NCQ.0000323286.56397.8c

This study examined adherence to clinical practice guidelines in a critical care setting by an NP team and a non-NP team. Critical care patients were prospectively assigned to a NP or non-NP team, and findings indicate that clinical practice guideline adherence was significantly higher among patients belonging to the NP team.

Horrocks, S., Anderson, E., Salisbury, C. (2002). Systematic review of whether nurse practitioners working in primary care can provide equivalent care to doctors. *British Medical Journal*, 324, 819-823.

A systematic review of 11 randomized clinical trials and 23 observational studies identified data on outcomes of patient satisfaction, health status, cost, and/or process of care. Patient satisfaction was highest for patients seen by NPs. Comparisons of the results showed comparable outcomes between NPs and physicians. NPs spent more time with their patients, offered more advice/information, had more complete documentation, and had better communication skills than physicians. No differences were detected in health status, prescriptions, return visits, or referrals. Equivalency in appropriateness of diagnostic studies ordered and interpretations of x-rays were identified.

Kuo, Y., Chen, N., Baillargeon, J., Raji, M. A., & Goodwin, J. S. (2015). Potentially Preventable Hospitalizations in Medicare Patients With Diabetes: A Comparison of Primary Care Provided by Nurse Practitioners Versus Physicians. *Medical Care*, 53(9), 776-783. doi:10.1097/MLR.0000000000000406

Potentially preventable hospitalizations of Medicare beneficiaries with a diagnosis of diabetes were analyzed between patients of physicians and NPs. Several statistical methods demonstrated that receipt of care from NPs decreased the risk of potentially preventable hospitalizations. These findings suggest that NPs are exceptionally effective at treating diabetic patients.

Laurant, M., Reeves, D., Hermens, R., Braspenning, J., Grol, R., & Sibbald, B. (2006). Substitution of doctors by nurses in primary care. *Cochrane Database of Systematic Reviews*. 2006, Issue 1. CD001271.

This meta-analysis included 25 articles relating to 16 studies comparing outcomes of primary care nurses (nurses, NPs, clinical nurse specialists, or other advanced practice registered nurses) and physicians. The quality of care provided by nurses was as high as that of the physicians. Overall, health outcomes and outcomes such as resource utilization and cost were equivalent for nurses and physicians. The satisfaction level was higher for nurses. Studies included a range of care delivery models, with nurses providing first contact, ongoing care, and urgent care for many of the patient cohorts.

Lenz, E.R., Mundinger, M.O., Kane, R.L., Hopkins, S.C., & Lin, S.X. (2004). Primary care outcomes in patients treated by nurse practitioners or physicians: Two-year follow-up. *Medical Care Research and Review* 61(3), 332-351.

The outcomes of care in a prior study described by Mundinger, et al. in 2000 are further described in this report, including two years of follow-up data, confirming continued comparable outcomes for the two groups of patients, one seen by NPs, and one seen by physicians. No differences were identified in health status, physiologic measures, satisfaction, or use of specialist, emergency room, or inpatient services. Patients assigned to physicians had more primary care visits than those assigned to NPs.

Lin, S.X., Hooker, R.S., Lens, E.R., Hopkins, S.C. (2002). Nurse practitioners and physician assistants in hospital outpatient departments, 1997-1999. *Nursing Economics*, 20(4), 174-179.

Data from the National Hospital Ambulatory Medical Care Survey (NHAMCS) were used to identify patterns of NP and PA practice styles. NPs were more likely to see patients alone and to be involved in routine examinations, as well as care directed towards wellness, health promotion, disease prevention, and health education than PAs, regardless of the setting type. In contrast , PAs were more likely to provide acute problem management and to involve another person, such as a support staff person or a physician.

Martsof, G., Auerbach, D., Arifkhanova, A. The Impact of Full Practice Authority for Nurse Practitioners and Other Advanced Practitioners in Ohio. Santa Monica, CA: Rand Corporation, 2015.

The researchers identified three high-quality studies addressing the impact that more favorable NP practice environment laws could have on health care access, quality, and costs. Informed by this review of literature, the authors describe the potential effect of removing state practice law restrictions for APRNs in the state of Ohio. Their review of the literature and effect estimates demonstrate that granting APRNs full practice authority would likely increase access to health-care services for Ohioans, with possible increases in quality and no clear increase in costs.

Mundinger, M.O., Kane, R.L., Lenz, E.R., Totten, A.M., Tsai, W.Y., Cleary, P.D., et al. (2000). Primary care outcomes in patients treated by nurse practitioners or physicians: A randomized trial. *Journal of the American Medical Association*, 283(1), 59-68.

The outcomes of care were measured in a study where patients were randomly assigned either to a physician or to an NP for primary care between 1995 and 1997, using patient interviews and health services utilization data. Comparable outcomes were identified, with a total of 1316 patients. After six months of care, health status was equivalent for both patient groups, although patients treated for hypertension by NPs had lower diastolic values, indicating positive trends in blood pressure for NP patients. Health service utilization was equivalent at both 6 and 12 months, and patient satisfaction was equivalent following the initial visit.

Naylor, M.D. and Kurtzman, E.T. (2010). The Role of Nurse Practitioners in Reinventing Primary Care. *Health Affairs*, (5), 893-99.

This meta-analysis of studies comparing the quality of primary care services of physicians and NPs demonstrates the role NPs play in reinventing how primary care is delivered. The authors found that comparable outcomes are obtained by both providers, with NPs performing better in terms of time spent consulting with the patient, patient follow-ups, and patient satisfaction.

Newhouse, R. et al (2011). Advanced practice nurse outcomes 1999-2008: A systematic review. *Nursing Economics*, 29(5), 1-22.

The outcomes of NP care were examined through a systematic review of 37 published studies, most of which compared NP outcomes with those of physicians. Outcomes included measures such as patient satisfaction, patient perceived health status, functional status, hospitalizations, emergency department visits, and bio-markers such as blood glucose, serum lipids, blood pressure. The authors conclude that NP patient outcomes are comparable to those of physicians.

Office of Technology Assessment. (1986). Nurse practitioners, physician assistants, and certified nurse midwives: A policy analysis. Washington D.C.: US Government Printing Office.

The Office of Technology Assessment reviewed studies comparing NP and physician practice, concluding that, “NPs appear to have better communication, counseling, and interviewing skills than physicians have,” and that malpractice premiums and rates supported patient satisfaction with NP care, pointing out that successful malpractice rates against NPs remained extremely rare.

Ohman-Strickland, P.A., Orzano, A.J., Hudson, S.V., Solberg, L.I., DiCiccio-Bloom, B., O’Malley, D., et al. (2008). Quality of diabetes care in family medicine practices: Influence of nurse-practitioners and physician’s assistants. *Annals of Family Medicine*, 6(1), 14-22. doi:10.1370/afm.758

The authors conducted a cross-sectional study of 46 practices, measuring adherence to American Diabetes Association clinical guidelines. They reported that practices with NPs were more likely to perform better on quality measures including appropriate measurement of glycosylated hemoglobin, lipids, and microalbumin levels and were more likely to be at target for lipid levels.

Oliver, G. M., Pennington, L., Revelle, S., & Rantz, M. (2014). Impact of nurse practitioners on health outcomes of Medicare and Medicaid patients. *Nursing Outlook*, 62(6), 440-447. doi:10.1016/j.outlook.2014.07.004

The relationship between nurse practitioner practice environment and state-level health outcome measures was analyzed. The authors gathered findings from existing publications on potentially avoidable hospitalizations, hospital readmissions, and nursing home resident hospitalization of Medicare and Medicaid patients. Significant differences existed for all three state-level outcome measures between states with and without full practice authority. Results showed that states with full practice authority have decreased hospitalizations and better overall health outcomes. There were no significant differences in the state-level outcome measures between reduced and restricted states, which suggests that any limit on NP practice may negatively impact patient outcomes.

Prescott, P.A. & Driscoll, L. (1980). Evaluating nurse practitioner performance. *Nurse Practitioner*, 5(4), 28-32.

The authors reviewed 26 studies comparing NP and physician care, concluding that NPs scored higher in many areas. These included: amount/depth of discussion regarding child health care, preventative health, and wellness; amount of advice, therapeutic listening, and support offered to patients; completeness of history and follow-up on history findings; completeness of physical examination and interviewing skills; and patient knowledge of the management plan given to them by the provider.

Ritsema, T. S., Bingenheimer, J. B., Scholting, P., & Cawley, J. F. (2014). Differences in the delivery of health education to patients with chronic disease by provider type, 2005-2009. *Preventing Chronic Disease*, 11E33. doi:10.5888/pcd11.130175

This original Centers for Disease Control and Prevention (CDC) research paper utilizes a large sample of more than 136,000 adult patients with select chronic conditions drawn from the National Hospital Ambulatory Medical Care Survey (NHAMCS). Across all conditions, the study finds that nurse practitioners provide health education to patients more frequently than physicians.

Roblin, D.W., Becker, R., Adams, E.K., Howard, D. H., & Roberts, M.H. (2004). Patient satisfaction with primary care: Does type of practitioner matter? *Medical Care*, 42(6), 606-623.

A retrospective observational study of 41,209 patient satisfaction surveys randomly sampled between 1997 and 2000 for visits by pediatric and medicine departments identified higher satisfaction with NP and/or PA interactions than those with physicians, for the overall sample and by specific conditions.

Sacket, D.L., Spitzer, W. O., Gent, M., & Roberts, M. (1974). The Burlington randomized trial of the nurse practitioner: Health outcomes of patients. *Annals of Internal Medicine*, 80(2), 137-142.

A sample of 1,598 families were randomly allocated, so that two-thirds continued to receive primary care from a family physician and one-third received care from a NP. The outcomes included: mortality, physical function, emotional function, and social function. Results demonstrated comparable outcomes for patients, whether assigned to physician or to NP care.

Safriet, B. J. (1992). Health care dollars and regulatory sense: The role of advanced practice nursing. *Yale Journal on Regulation*, 9(2).

The full Summer 1992 issue of this journal was devoted to the topic of advanced practice nursing, including documenting the cost-effective and high quality care provided, and to call for eliminating regulatory restrictions on their care. Safriet summarized the U.S. Office of Technology Administration study concluding that NP care was equivalent to that of physicians and pointed out that 12 of the 14 studies reviewed in this report which showed differences in quality reported higher quality for NP care. Reviewing a range of data on NP productivity, patient satisfaction, and prescribing, Safriet concludes “APNs are proven providers, and removing the many barriers to their practice will only increase their ability to respond to the pressing need for basic health care in our country.”

Spitzer, W.O., Sackett, D.L., Sibley, J.C., Roberts, M., Gent, M., Kergin, D.J., Hacket, B.D., & Olynich, A. (1974). The Burlington randomized trial of the nurse practitioner. *New England Journal of Medicine*, 290(3), 252-256.

This report provides further details of the Burlington trial, also described by Sackett, et al.. This study involved 2,796 patients being randomly assigned to either one of two physicians or to an NP, so that one-third were assigned to NP care, from July 1971 to July 1972. At the end of the period, physical status and satisfaction were comparable between the two groups. Clinical activities were evaluated and it was determined that 69% of NP management was adequate compared to 66% for the physicians. The conclusion was that “a nurse practitioner can provide first-contact primary clinical care as safely and effectively as a family physician”.

Stanik-Hutt, J., Newhouse, R., (2013). The quality and effectiveness of care provided by Nurse Practitioners. *The Journal for Nurse Practitioners*, 9(8). doi:10.1016/j.nurpra.2013.07.004

Evidence regarding the impact of nurse practitioners (NPs) compared to physicians (MDs) on health care quality, safety, and effectiveness was systematically reviewed. Data from 37 of 27,993 articles published from 1990-2009 were summarized into 11 aggregated outcomes. Outcomes for NPs compared to MDs are comparable or better for all 11 outcomes reviewed. A high level of evidence indicated better serum lipid levels in patients cared for by NPs in primary care settings. A high level of evidence also indicated that patient outcomes on satisfaction with care, health status, functional status, number of emergency department visits and hospitalizations, blood glucose, blood pressure, and mortality are similar for NPs and MDs.

Traczyski, J., Udalova, V. (2013). Nurse Practitioner independence, health care utilization and health outcomes. Retrieved from http://www.lafollette.wisc.edu/research/health_economics/Traczynski.pdf.

The authors examined how state practice laws impact health care utilization and patient outcomes. In states that have fewer unnecessary practice restrictions on NPs, the frequency of routine checkups and preventive health exams increases. More favorable practice environments also were associated with higher patient-reported health status, and less emergency room visits by patients with ambulatory sensitive conditions.

Virani, S. S., Maddox, T. M., Chan, P. S., Tang, F., Akeroyd, J. M., Risch, S. A., & ... Petersen, L. A. (2015). Provider Type and Quality of Outpatient Cardiovascular Disease Care: Insights From the NCDR PINNACLE Registry. *Journal of the American College of Cardiology*, 66(16), 1803-1812. doi:10.1016/j.jacc.2015.08.017

Quality of coronary artery disease (CAD), heart failure, and atrial fibrillation care was compared for care delivered by physicians versus NPs or physicians assistants (PAs) for outpatient visits during a one month period. Quality measures were comparable among both groups, and smoking cessation screening intervention was higher among the NP / PA group for CAD patients.

Wright, W.L., Romboli, J.E., DiTulio, M.A., Wogen, J., and Belletti, D.A. (2011). Hypertension treatment and control within an independent nurse practitioner setting. *American Journal of Managed Care*, 17(1), 58-65.

A cross-sectional, retrospective study of 1,284 propensity score-matched patients with hypertension, one-half of whom were treated by NPs and the other half by physicians, found comparable controlled blood pressure rates among the comparison groups.

Nurse Practitioner Cost-Effectiveness

Nurse Practitioners (NPs) are a proven response to the evolving trend towards wellness and preventive health care driven by consumer demand. A solid body of evidence demonstrates that NPs have consistently proven to be cost-effective providers of high-quality care for almost 50 years. Examples of the NP cost-effectiveness research are described below.

Over three decades ago, the Office of Technology Assessment (OTA) (1981) conducted an extensive case analysis of NP practice, reporting that NPs provided equivalent or improved medical care at a lower total cost than physicians. NPs in a physician practice potentially decreased the cost of patient visits by as much as one third, particularly when seeing patients in an independent, rather than complementary, manner. A subsequent OTA analysis (1986) confirmed original findings regarding NP cost effectiveness. All later studies of NP care have found similar cost-efficiencies associated with NP practice.

The cost-effectiveness of NPs begins with their academic preparation. The American Association of Colleges of Nursing has long reported that NP preparation cost 20-25% that of physicians. In 2009, the total tuition cost for NP preparation was less than one-year tuition for medical (MD or DO) preparation (AANP, 2010).

Comparable savings are associated with NP compensation. In 1981, the hourly cost of an NP was one-third to one-half that of a physician (OTA). The difference in compensation has remained unchanged for 30 years. In 2010, when the median total compensation for primary care physicians ranged from \$208,658 (family) to \$219,500 (internal medicine) (American Medical Group Association, 2010), the mean full-time NP's total salary was \$97,345, across all types of practice (American Academy of Nurse Practitioners [AANP], 2010). A study of 26 capitated primary care practices with approximately two million visits by 206 providers determined that the practitioner labor costs and total labor costs per visit were both lower in practices where NPs and physician assistants (PAs) were used to a greater extent (Roblin, Howard, Becker, Adams, and Roberts, 2004). When productivity measures, salaries, and costs of education are considered, NPs are cost effective providers of health services.

Based on a systematic review of 37 studies, Newhouse et al (2011) found consistent evidence that cost-related outcomes such as length of stay, emergency visits, and hospitalizations for NP care are equivalent to those of physicians. In 2012, modeling techniques were used to predict the potential for increased NP cost-effectiveness into the future, based on prior research and data. Using Texas as the model State, Perryman (2012) analyzed the potential economic impact that would be associated with greater use of NPs and other advanced practice nurses, projecting over \$16 billion in immediate savings which would increase over time.

NP cost-effectiveness is not dependent on actual practice setting and is demonstrated in primary care, acute care, and long term care settings. For instance, NPs practicing in Tennessee's state-managed managed care organization (MCO) delivered health care at 23% below the average cost associated with other primary care providers, achieving a 21% reduction in hospital inpatient rates and 24% lower lab utilization rates compared to physicians (Spitzer, 1997). A one-year study comparing a family practice physician-managed practice with an

NP-managed practice within an MCO found that compared to the physician practice, the NP-managed practice had 43% of the total emergency department visits, 38% of the inpatient days, and 50% total annualized per member monthly cost (Jenkins and Torrisi, 1995). Nurse managed centers (NMCs) with NP-provided care have demonstrated significant savings, less costly interventions, and fewer emergency visits and hospitalizations (Hunter, Ventura, and Keams, 1999; Coddington and Sands, 2009). A study conducted in a large HMO setting established that adding an NP to the practice could virtually double the typical panel of patients seen by a physician with a projected increase in revenue of \$1.28 per member per month, or approximately \$1.65 million per 100,000 enrollees annually (Burl, Bonner, and Rao, 1994).

Chenowith, Martin, Pankowski, and Raymond (2005) analyzed the health care costs associated with an innovative on-site NP practice for over 4000 employees and their dependents, finding savings of \$.8 to 1.5 million, with a benefit-to-cost ratio of up to 15 to 1. Later, they tested two additional benefit-to-cost models using 2004-2006 data for patients receiving occupational health care from an NP demonstrating a benefit to cost ratio ranging from 2.0-8.7 to 1, depending on the method (Chenowith, Martin, Pankowski, and Raymond (2008). Time lost from work was lower for workers managed by NPs, compared to physicians, as another aspect of cost-savings (Sears, Wickizer, Franklin, Cheadie, and Berkowitz, 2007).

A number of studies have documented the cost-effectiveness of NPs in managing the health of older adults. Hummel and Prizada (1994) found that compared to the cost of physician-only teams, the cost of a physician-NP team long term care facility were 42% lower for the intermediate and skilled care residents and 26% lower for those with long-term stays. The physician-NP teams also had significantly lower rates of emergency department transfers, shorter hospital lengths of stay, and fewer specialty visits. A one-year retrospective study of 1077 HMO enrollees residing in 45 long term care settings demonstrated a \$72 monthly gain per resident, compared with a \$197 monthly loss for residents seen by physicians alone (Burl, Bonner, Rao, and Kan, 1998). Intrator (2004) found that residents in nursing homes with NPs were less likely to develop ambulatory care-sensitive diagnoses requiring hospitalizations. Bakerjian (2008) summarized a review of 17 studies comparing nursing home residents who are patients of NPs to others, finding lower rates of hospitalization and overall costs for the NP patients. The potential for NPs to control costs associated with the healthcare of older adults was recognized by United Health (2009), which recommended that providing NPs to manage nursing home patients could result in \$166 billion healthcare savings.

NP-managed care within acute-care settings is also associated with lower costs. Chen, McNeese-Smith, Cowan, Upenieks, and Afifi (2009) found that NP-led care was associated with lower overall drug costs for inpatients. When Paez and Allen (2006) compared NP and physician management of hypercholesterolemia following revascularization, they found patients in the NP-managed group had lower drug costs, while being more likely to achieve their goals and comply with prescribed regimen.

Collaborative NP/physician management was associated with decreased length of stay and costs and higher hospital profit, with similar readmission and mortality rates (Cowan et al., 2006; Ettner et al., 2006). The introduction of an NP model in a health system's neuroscience area resulted in over \$2.4 million savings the first year and a return on investment of 1600 percent; similar savings and outcomes were demonstrated as the NP model was expanded in the system (Larkin, 2003). Boling (2009) cites an intensive short-term transitional care NP program documented by Smigleski et al through which healthcare costs were decreased by 65% or more after enrollment, as well as the introduction of an NP model in a system's cardiovascular area associated with a decrease in mortality from 3.7% to 0.6% and over 9% decreased cost per case (from \$27,037 to \$24,511).

In addition to absolute cost, other factors are important to health care cost-effectiveness. These include illness prevention, health promotion, and outcomes. See Documentation of Quality of Nurse Practitioner Practice (AANP, 2013) for further discussion.

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