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THE ROLE OF NURSE PRACTITIONERS IN MODERN HEALTHCARE

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Abstract
With the increasingly complex nature of healthcare, the importance of the role that Nurse Practitioners (NPs) play in modern healthcare is explored. The significance of NPs in contemporary healthcare is investigated through examining the NPs' education, scope of practice, and collaborative care. There is little doubt that NPs have contributed significantly to the healthcare team and patient care outcomes. And their effective role was demonstrated through various measurements such as prescribing antibiotics, listening and emotional support, patient explanation and relationship, and patient satisfaction. However, the role of NPs still has room for further improvements in future, such as restrictions on benefits limitation, lack of pharmacological guidelines, limited diagnostic tools, and professional mask requirements. As the key findings, NPs are well prepared and effective within their role providing the quality and patient-centered care. Also, despite challenges and deficiencies in their role, achievement demonstrated in their role functions and future prospective are promising.
As today's world faces population increase, an aging demographic, chronic effects, staffing scarcities, and financial moderation in health care services, global healthcare services are put under increasing pressure. The progress of health care provision has necessary needs to evolve standards to treat such challenges and flares. In supporting multifaceted nursing roles from primary care to specialized hospitals, advanced nurse practitioners (ANPs) play an important role in developing today's health care model. The ANP role was enacted and supported in certain way in the United Kingdom in 2000, and being an NP has been further recognized within the extent of their practice and provision (Htay & Whitehead, 2021). The course of the U.K. practice conducted the four pillars of advanced practice that subsequently progressed as the global nature of Advanced Nurse Practitioners (ANPs) broadened practice; these being clinical practice, leadership, education, and research. There is an increasing study considering the clinical benefit of NPs when compared to groups of health staffs in terms of patient outcomes. However, in coherently representing and reviewing diverse studies research outcomes, no clear consensus was found. It was also revealed that many observational studies made without controlled measures were not randomized.

1.2 **Keywords**

In many countries, including Australia, a range of settings remains where patients see a professional nurse within a supportive primary care practice team or nursing care model. There is

growing use and debate about nurse practitioners and current and proposed regulatory frameworks, including the collaborative practice model, are likely to increase this growth. Those advocating nurse practitioner practice in these environments need to quantify the benefits and devise an equitable professional and funding response. In evaluation of the four professions in this health care setting and practice model, the study found aspects of the extended nursing care model well regarded by patients and a quality and safety focused practice model able to achieve equivalent practice outcomes (Foster, 2010). Each of these attributes is however maintained at a level well below that employed in doctor based practice. There was little evidence that expansion of the role to levels of nurse practitioner practice consistent with the intention of the nurse practitioner role would confer additional benefit in terms of access, satisfaction or health care delivery, patient outcomes, or general practice. In terms of patient satisfaction and patient health outcomes the recommendations do not support nurse practitioner practice outside the current levels of supervision that characterize nurse practitioners in general. There was evidence of strong support for nurse practitioners in general within this health care model by health workers, patient and nurses, providing impetus for job creation in a professional group wide open to the expansion of nursing positions (Hahn, 2007).

1.3 1. Introduction

In the current climate of increasing demand on the health care system due to a growing and aging population, nurse practitioners (NPs) have the skills and versatility to contribute to improving health care outcomes. Over the forty years of their existence, NPs have evolved from a group of dedicated visionaries, who saw the inequities and shortcomings of the health care system and were not content to abide the status quo, to an increasingly recognised and accepted group of health professionals. Patient satisfaction ratings with NPs are generally high and a recent report stated that 56% of Canadians who know about NPs believe they will have a positive impact on the Canadian health care system. NPs are a group of registered nurses (RNs) with additional education in health assessment, diagnosis, disease management, and health promotion. The legal regulation and credentialing of this professional group vary widely between states and territories (Foster, 2010).

NPs are authorised by legislation to practise to the full extent of their educational preparation, which includes prescribing medications, ordering and interpreting diagnostic tests, managing disease management therapies, providing referrals, and admitting and discharging patients. NPs are highly autonomous practitioners who work in a variety of settings, including general practice, public and private clinics, community health, urgent care, aged care, and private practice. The patient population of all the NPs described in the research comprises individuals across the lifespan who present with a wide range of acute and chronic conditions or preventative health care needs (Hahn, 2007).

1.4 2. Historical Overview of Nurse Practitioners

A brief overview of the history of nurse practitioners will first be given to put their position in contemporary healthcare into wider perspective. The role of nurse practitioners emerged in the United States in the late 1960s, with the first wave of graduates from a master's level educational program at the University of Colorado in 1965-1966. Following this a number of training courses were developed throughout the US and the pioneering students began work in community settings supplemented with physicians' backup and supervision.

Despite the rapid growth of the role throughout the 1970s, general practitioners were heavily opposed as they saw the development of nurse practitioners as a threat to their livelihood (Foster, 2010). Their fears were buttressed by opposition from the American Medical Association (AMA),

which included suing over matters of nurse practitioner training, funding, and scope and practice in the 1970s. Socio-political factors, conjuncturally led by the dearth of primary care physicians in the US, were also against the ability of nurse practitioners to independently run their own practices, and so some states—particularly those influenced by professional groups of doctors—brought in legislation saturating nurse practitioners able to work only in Medicaid funded clinics. The reduction in government funding in the 1980s and the difficulties of private financing were felt keenly by these settings, and the number of nurse practitioners overall began to shrink until the late 1980s. In contrast, the development of nurse practitioners proceeded in different avenues and generally this was more progressive within the context of national health services.

In Great Britain, the Shadow Health Minister decided to pilot nurse practitioner training programs in the National Health Service when she read about the role's success in the United States press, which enabled the position to be a standardized part of an overhauled General Practitioner (GP) service after Labour's victory in 1997. Canada followed at a more gradual pace; the first course in Ontario commenced in 1972, and policies encouraging the widespread availability of nurse practitioners can only be evidenced in the late-1990s. The situation has been uneven with nurse practitioner roles subject to different levels of restriction in different provinces; however, more liberal standards were instituted at the federal level in 2000.

1.5 3. Educational and Certification Requirements for Nurse Practitioners

Nurse practitioners (NPs) are Advanced Practice Nurses who have obtained additional education beyond the Bachelor of Science in Nursing (BSN; (Ljungbeck et al., 2019)). The completion of a master's or doctoral degree in one of the four recognized NP populations (family, adult-gerontology primary care, adult-gerontology acute care, or pediatrics) is required to take a national certification exam ((Fitzgerald et al., 2011)). Laws and regulations in all states and the District of Columbia, as well as by U.S. territories, require successful completion of the appropriate certification exams to practice legally. Employers also require successful completion of the appropriate certification exams to obtain or maintain hospital admitting privileges and be credentialed by insurance providers to bill independently.

The American Nurses Credentialing Center (ANCC) and the American Academy of Nurse Practitioners Certification Board (AANPCB) are nationally recognized organizations that certify NPs. Interested individuals must contact the appropriate certifying organization for details on applying for the exam. Eligibility to take the exam is determined by graduate level educational preparation, which must be from a formal NP accredited master's or doctoral program. Nurse practitioner education organizations are accredited by either the Commission on Collegiate Nursing Education (CCNE) or the Accreditation Commission for Education in Nursing (ACEN). NP programs that do not meet these national educational standards cannot be offered to students after June 2015. Successful completion of an accredited NP program must be within the population.

Graduates of NP programs are eligible to sit for a variety of Family and Adult-Gerontology certification exams. Additional exams are available to NPs choosing one of the other six patient populations recognized by certification organizations: adult-gerontology primary care, adult-gerontology acute care, school, pediatric primary care, acute care pediatric, women's health, neonatal, psychiatric-mental. Credentialing organizations only accept graduates of the programs listed. To maintain certification, NPs must demonstrate the completion of a minimum of 1,000 supervised clinical hours every two years. Since these applications must be submitted annually, it is advisable for NPs to maintain documentation of precepted clinical hours. The completion of 75 continuing education hours is also listed as a certification renewal requirement. Diplomates of the

American Academy of Nurse Practitioners National Certification Board (AANPCB) are required to complete 100 CNE hours every 5 years as of the 2007 certification exam. Hence, it is necessary for applicants to verify with the certifying organization their need to complete 75 or 100 CNE hours.

1.6 4. Scope of Practice for Nurse Practitioners

The scope of practice for the Nurse Practitioner (NP) is defined in laws and regulations. Most states, as well as the District of Columbia and parts of the federal government, have established nurse practitioner practice rules and licensure laws that limit how medical services can be performed by means of an NP. Current laws and regulations range widely, and therefore the breadth regarding medical experts within nurse practitioner procedure is set by the guidelines on the position in which medical experts perform. Nevertheless, the subsistence over an exhaustive manner in this limit regarding procedure at the place of medical experts is to a great extent lacking. In a few countries, medical care experts are prohibited from indicating and directing prescriptions (Ortiz et al., 2018). In different regions, there are limitations on giving nurses permission to meet patients. This greatly limits the scope over any practice where nurse practitioners will engage of clinical practice.

In accordance regarding these current models, there is the notion that there have to remain among the law a provider over healthcare over an individual or model (also acknowledged so the "supervisor") up to expectation has absolute obligations according to the observance on positions performed with the aid of the health worker (also known as the "supervisee"). There may remain certain action closer in conformity with the patient between the practitioner then the supervisee, so much so the analyze then remedy about a patient. The act regarding a medication expert, after identifying and adjusting remedies, exists both half about employment that is often committed through nurse practitioners and consequently discusses potential patients. In countries the place it can like this be handed on a medical expert, that is regularly a job deed about the medical specialist. In this formality, there should continue a medical provision as to when a provider performs therefore doing assessment then management over a patient, it is often obligated as like "supervision" according to the provider.

1.7 5. Collaborative Practice Agreements and Supervision Requirements

Nurse practitioners have provided primary care to patients for over half a century, but their modern role truly expanded in the wake of the United States' Patient Protection and Affordable Care Act of 2010. Today, nurse practitioners are healthcare practitioners who have a graduate-level education from an accredited program and are qualified to diagnose and treat health illnesses or conditions. Authorization to practice varies by state, however, and nurse practitioners must conform to practice regulations and requirements unique to the state in which they work. One primary type of such regulation is the collaborative practice agreement and/or supervision requirements between the NP and physician in charge. Theoretical exemptions are permitted in majority state legislation, in cases like those of the State of Maryland that can even participate with groups of NPs instead of individual practitioners (van der Biezen et al., 2017).

Most states necessitate that a NP have a formal written agreement with a chosen physician prior to commencement of practice, although there may be some clinical or rural quarter exceptions. It should go without saying that the more supervised a NP might be, the less autonomy they would have; and indeed, high levels of "autonomy [were] linked to less rigid and more efficient met and a greater focus on patient education and prevention" in a nurse practitioner's scope of care. The more nurse practitioners in a collaborative model the more each practitioner should be able to

directly specialize in unison with a physician's treatment criteria. Co-treatment and shared agreement models would be more likely to prompt increase NP use across rural regions.

6. Benefits of Integrating Nurse Practitioners into Healthcare Teams

7. Challenges and Barriers Faced by Nurse Practitioners

Nurse Practitioners have the capability to be leaders on the healthcare team and provide the expertise needed to successfully reform healthcare delivery. However, there are barriers and challenges that continue to impact this progress. One of the greatest challenges to nurse practitioner autonomy remains the broad scope of practice regulations as well as a lack of full practice authority by state governments. State laws and regulations that restrict full practice authority and autonomy within the NP role create impediments resulting in the inability for NPs to independently perform their role's duties (F. Haupt, 2016). Nationwide, there are broader state-to-state disparities between NP practice authority. Emerging research has demonstrated these restrictions lead to suboptimal healthcare outcomes, primary care access, and increased healthcare system utilization results in opposition to the ITE.

Additionally, there remains disparities in NP and physician reimbursement rates. Payment differentials with regard to the same medical service and procedures skew the competitiveness of nurse practitioners and further disadvantage the NP role in the billing and bureaucratic realm in comparison to bilateral counterparts. NPs additionally suffer from an issue of practice setting hierarchy. NPs often report lesser forms of professional recognition occurring in the workplace climate from physicians, supervisors who are not NPs themself, and/or office managers; this results in an accurate underestimation of the role of NPs, according to the FTE. Perspective surveys show that while NPs and MDs understand respective roles, other healthcare workers do not. This results in difficulties navigating complex workplace dynamics, misunderstanding patients and patients' families, and interferes with certain socioeconomic subpopulations.

8. Legislation and Policy Impacting Nurse Practitioners

Nurse practitioners (NPs) are facing a healthcare system that is undergoing rapid changes in the way care is delivered and reimbursed. It is important to understand the various legislative and policy factors which influence NP practice. At the most basic level, each NP operates in a unique setting and each state has a complex set of laws and regulations which dictate the operational framework for the NP. Because of these unique practice environments, the implications are broad and include understanding the regulatory authority of the NP, the setting in which the NP is employed, and the contractual relationships of the NP. NPs will also be impacted by new healthcare reform initiatives. The Affordable Care Act is changing the way many Americans receive care and how that care is reimbursed. NPs are natural allies to the forces pressing for better systems for the delivery and access to care. However, numerous policies restrict the ability of NPs to offer high quality care in underserved urban and rural areas. It is important to recognize that policies can either empower or restrict NPs in their ability to deliver care. The landscape is complex and NPs should seek to understand both the operational and financial implications (Annesley, 2019). Nursing is heavily influenced by policy and nurses are often the strongest advocates for better care. It is important for NPs to understand the political framework which dictates the way care is delivered and be engaged with organizations which represent their interests. Currently, a common issue facing NPs relates to the Direct Access to Care initiative. NPs are licensed to provide many of the same services as doctors at lower cost yet barriers often prevent NPs from doing so with full independence. Full Practice Authority exists in sixteen states and Washington, D.C. In these locations the regulation has evolved to recognize the unique skills of the NP, expand the autonomy of practice, and allow broad independence. There is momentum for

change on this issue and within the last year several states have expanded the scope of their NP practice laws (M. Beck, 1995).

1.11 9. Nurse Practitioners' Role in Primary Care

Providing comprehensive care within the healthcare system has always been problematic. Today, this issue is more paramount than ever given the recent decline in general practice registrars entering primary care. In rural Australia each full-time general practitioner accommodates an average of 2416 residents, as opposed to the more abundant 457 in major cities. This discrepancy means that the majority of Australians have limited or no access to primary care. Nurse practitioners have increasingly been used as a solution to primary care shortages. Like most innovative practice models their use has probably outstripped strategies supporting their efficacy. However, a range of controlled and uncontrolled studies, and judicial committees, report NP effectiveness to be comparable to care delivered by doctors. In many studies care delivered by NPs is reportedly superior. Not only do NPs produce similar health outcomes to doctors, but they also produce such care more sensibly and humanely. Additionally, doctors who work with NPs routinely praise their knowledge, work ethic, empathy and communication skills. Despite beliefs to the contrary the medical profession in Australia is overwhelmingly supportive of NPs. Comprehensive and continuous care is best provided by a collaborative inter-professional team. Early patient evaluations have reported high patient satisfaction with the care provided by NPs. Controlled studies have found that this level of satisfaction is maintained over time. By investing time and emotion in a relationship of trust and understanding, NPs are able to challenge patients' beliefs, attitudes and behaviours regarding health and illness. They develop an individual management plan for chronic disease within a biopsychosocial model of care at variance with the dominant medical model. This is facilitated by longer consultations providing more scope for patient education. Finally, rural patients are more likely to feel comfortable and less judged by NPs than GPs allowing more honest and deliberate conversation.

The scope and demographic of nurse practitioner roles in Australian primary care has yet to be thoroughly explored revealing barriers to NP models, including limitations on claiming Medicare rebates under team care arrangements, the handling of prescriptions, and nursing 'title usage'. Consistent with prior research (Hahn, 2007), registries indicate that NPs are not practicing in areas of identified primary care need. Many NP services are reportedly terminated during their infancy. Findings raise broader considerations with regard to the nature of primary care delivery and the appropriateness of current health workforce remodelling strategies across Australia.

1.12 10. Nurse Practitioners' Role in Specialty Areas

The role of nurse practitioners (NPs) in various professional specialty practice areas has been evolving in recent years, consistent with the expansion and diversification in the assignment of medical specialties in general. This expansion has been reflected in the standards for the psychiatric nurse practitioner, the community health nurse practitioner, and most recently the standards for the pediatric nurse practitioner and gerontological nurse practitioner. The new nursing specialty autonomous practitioners and proposals for other nurse practitioner specialty areas are additional indicators. Additionally, a number of nursing specialty associations have adopted NP positions and standards for specialized care delivery that have expanded the concept of medical specialty somewhat differently. The growing utilization of NPs in nonprimary care and/or nonclinical care settings unfamiliar with advanced practice nursing is underscored. Currently, NPs work in emergency rooms, mental health settings, health maintenance organizations, corporate health, and a host of other public and private practice settings as well as some hospital services (DOCKS at The University of North Carolina at Greensboro & "Randy"

Rasch, 1996). The practice setting standards for nurse practitioner care and the research standards for nurse practitioner care represent an expansion of the role and opportunities for NPs, beyond primary care, to provide needed services in specialty practice areas. For nursing, developing specialty practice areas challenges the nursing community's commitment to interdisciplinary collaboration as most nursing specialty associations advocate a model of multi-disciplinary care with the nurse as the coordinator. Although background nursing research concerning the NP's role as an interdisciplinary team member exists, gaps in understanding remain. For example, little data are available on the impact of employing more than one NP within a specialized care setting on either the care delivered or the primary costs. A case study research design fitted for understanding these complex, co-dependent relationships that NPs hold in a nursing specialty care setting is described. Drawing on the extant literature, this article considers what is known about NP practice in a specialty care setting, and identifies what questions remain about the NP's role serves as a prelude to a case study application of research design.

1.13 11. Nurse Practitioners in Rural and Underserved Communities

Underserved communities in rural areas, often lacking quality education, face additional healthcare disparities, compared to populations with greater urban access to services (Kamla, 2017). With a persistent growing focus on health disparities and underprivileged communities over the last decade, the demand for primary care providers increases following the same pattern. Often nurse practitioners can act as a primary care provider in areas with few physicians and can also assist with the mental component of the overall health plan. Nurse practitioners can provide care for various conditions, but also focus on health education, mental health, and preventive care. An array of health care models of care can be implemented by new primary care providers to reach underserved rural populations (Ohta et al., 2024). Beyond a typical brick and mortar clinic setting, primary care providers can operate in conjunction with charitable faith-based organizations or mobile units. Telehealth services have also been developed, which connects a novice provider with a patient via computer, tablet, or phone.

Research and correlational study conducted on underserved rural communities. Ultimately, there has been an improvement in overall preventive care, care plan adherence, and a decrease in blood pressure, blood glucose, and hemoglobin a1c levels noted at clinics where the healthcare plan was put into effect. Finally, rural-dwelling populations in need of quality primary care also face even further disparities compared to more urban settings; flu vaccines, preventative education, blood pressure, and blood glucose testing are services largely lacking in rural areas. Major issues faced by rural and underserved communities include lack of resources, educational opportunities, and living in a food desert. Economically disadvantaged populations are often faced with cost-prohibitive opportunities to better their finances and health outcomes, such as buying groceries that are healthier for them or furthering education. With any governmental agency likely to be additional funding received and the legality of nurse practitioners can act as stand-alone providers with full practice capabilities without any direct or collaborative agreement. In the interest of populations served by charity care centers, it’s more important for advancements to be made regarding healthcare education and prevention. With nurse practitioners being able to legally practice at the full extent of their training, free or low-cost services can better reach underserved populations, improving the overall health of at-risk and uneducated communities. This also creates better financial security for impoverished or underemployed populations by avoiding the large costs associated with a future chronic disease, currently well-managed, and ultimately reducing the need for extensive emergent care.

1.14 12. Research on the Efficacy of Nurse Practitioners' Care

Since the earliest inception of the nurse practitioner role in the 1960s, there has existed an interest in documenting the efficacy of care provided by these innovative healthcare providers. Steadily rising numbers of studies have sought to compare patient outcomes of nurse practitioner care to that provided by physicians and other healthcare professionals. The results of individual evaluations have been varied. Some show nurse practitioners providing care of equal quality to that of physicians, whereas others demonstrate patterns that are either inferior or superior. Yet, when the outcomes of a series of studies examining like patient populations and comparable outcome measures are reviewed, patterns emerge that suggest that, despite a fair amount of variability, the care of nurse practitioners is capable of being accepted widely as high quality (Htay & Whitehead, 2021).

An area of consistent strength pertained to patient satisfaction rates when nurse practitioner care recipients were the comparison group. In the majority of studies conducted, nurse practitioner patients expressed satisfaction rates as high as or higher than those patients who received care from other healthcare providers. When other healthcare providers were the reference group, the satisfaction rates for these populations were found to be equal to those receiving care from a physician (Chavez et al., 2018). More recent research indicates positive patient perceptions of care provided by Indiana NP students. Further, as is the case with physicians, patients express a preference for NP care. From the perspective of a healthcare system such as the managed care organization, data of this type coupled with equivalent quality and potential cost savings represent a major impetus for NP hiring.

Two of the most significant national studies in terms of funding and sample size have been conducted by the U.S. Public Health Service. Not only did this work substantiate the contributions nurse practitioners were making in the management of chronic illnesses and the broader areas of illness prevention, health screening and promotion, but the findings underscored the continued need for ongoing research. Current research territories that merit exploration include comparison of NP and physician patient dollar cost expenditures over time, the potential economic non-inferiority of NP care when viewed in terms of particular patient course outcomes, and the determination of the best “match” between nurse practitioner beginning preparation and future role.

1.15 13. Patient Satisfaction and Outcomes with Nurse Practitioner Care

A significant portion of these articles and papers focus on patient satisfaction with care provided by nurse practitioners (NPs). This was an important factor, as patients are the end users of the service. User and provider satisfaction are both important parts of sustainable services and New Brunswick’s NP model. Satisfied patients are generally more compliant and have better outcomes (Hahn, 2007). Studies have found that NPs usually develop close collaborative relationships with their patients and provide very personalized comprehensive care. This is a large part of why patients consider the NP model of care excellent. In studies of the NP model in primary care, NPs ended up spending more time with their patients, most of whom received a comprehensive examination and insurance-based cancer screenings during that time. Studies of patient satisfaction with NP care in a primary care and retail-based clinic also found that patients were very satisfied and reported the majority of consults were primarily for health prevention.

One of the biggest issues that this paper examines is the possibility of other parts of the healthcare system creating barriers and a negative environment for NPs. There is a general consensus that the high satisfaction surrounds the strong patient-provider relationship usually cultivated in NP care. The personal, comprehensive care almost always creates a feeling of trust and understanding that

is hard for NPs to accomplish. Studies found that most patients remained upbeat about NPs, but said they would like a return to the old system alongside NPs for emergencies in emergency rooms. Furthermore, there is the debate of whether the return to the old system is based on perceptual issues and financial pressures created by a mix of providers or an actual difference in care provided by the NP. Many doctors and specialists who are opposed to NPs eagerly push the issue, despite a few studies finding no significant difference in health outcomes. However, a growing body of them purport a link between health outcomes and the provider type in regards to managing chronic diseases; studies found NP care results in better health outcomes in a variety of practices. This is primarily because NPs are often the providers who give the most attention to chronic patients. In Orono, NPs made up 23% of the medical staff, but provided nearly half of all annual patient care encounters, and the majority of these visits were centered on chronic patients. Compliance with healthy life changes and drug therapy was reported to have improved, and more patients were able to manage their own health.

1.16 **14. Interprofessional Collaboration with Nurse Practitioners**

As healthcare system becomes more complex, the requirement for interprofessional collaboration (IPC) is strongly important. There is increasing emphasis on patient-centred care that includes involvement of patients in healthcare decisions, promotes health and minimizes the risks of illness by identifying and treating in early stage. Interprofessional collaboration is seen in hospital settings with the presence of multiple health professionals providing specialized services ((M. Ries, 2016)). The primary objective of professional healthcare is to provide this patient-centred care. A complete healthcare system is needed to address all of these needs including physicians, specialists, nurse practitioners, and other healthcare providers. The use of a nurse practitioner is good practice that improves the quality of healthcare provided. Nurse practitioners are known as NP who have advanced education and practical skills in order to work in multiple specialties and provide multiple services. This approach promotes an exchange of information, knowledge, and decision-making among staff members. Therefore, healthcare settings should provide nurse practitioners with specialists and physicians to enhance the quality of healthcare services ((van der Biezen et al., 2017)). However, the effective use of NPs and GPs during OOHs requires a second look at the way in which care is provided. Role clarification of the NPs is important. In order to role out a NP effectively, teams should acknowledge the diversity between GPs and NPs. In order to promote cost-effective service delivery, the role and scope of practice of each member of the team need to be clear ().

1.17 **15. Future Trends and Innovations in Nurse Practitioner Practice**

Advances in technology are shaping healthcare service delivery, including the practice of nurse practitioners. Nurse practitioners are well-positioned to adapt to these changes and incorporate new technologies and innovations to advance their practice. Many nurse practitioners already working to the top of their licensure have embraced technologies that support patient and family-centered care. For example, advances and increased emphasis on telehealth are described by some nurse practitioner survey participants. They are using these options to provide care and education to patients who live in remote and under-resourced areas, use them for second opinions, and help individuals who have anxiety about coming into the office (Li et al., 2012). Technologies that promote electronic health records, electronic access to health information, and communication with patients already play an increasingly salient role in healthcare. Nurse practitioners as the largest group of primary care providers are becoming more aware and adapting to the capabilities EHRs offer, including obtaining direct real-time data that reduces the need for laboratory follow up on patients, prevention of adverse events via drug-to-drug interaction alerts, data entered for

referrals is more organized and complete, patient population monitoring, and analysis of population health data.

However, it is critical to improve the CPT and likely ICD-9 coding of all health care professionals in the US, let alone form nurse practitioners. EHR is also valued by insurance companies mainly for the same reasons. Therefore, it is believed these systems will be more globally adopted in the near future and ultimately overtaken by Medicare. Good resource allocation is always mindful of medical necessity. Similarly, it is believed that affinal therapeutics such as those related to podiatry and pain management are more likely to receive a level of Medicare funding and hence become more salient for nurse practitioners. In contrast, nurse practitioners must be more aware of the legal responsibilities accrued by creating EHR notes. Shorter note formats and the access of those notes to patients function as ethical responsibilities. Poor health literacy and innumeracy means a lot of patients depend on nurse practitioners for honest disambiguation of their health. Proper documentation will also protect nurse practitioners from frivolous malpractice lawsuits filed by nefarious individuals or greedy medical malpractice attorneys. More NP programs will focus on education and exposure to leadership and management to better prepare graduates to be future nurse practitioner leaders with an understanding and knowledge of: care coordination and utilization management; principles of clinical documentation for reimbursement of services; outcome analysis of clinical quality performance; and ethical practice with a focus on advocacy for primary care with the nurse practitioner community.

1.18 16. Global Perspectives on Nurse Practitioner Roles

A global perspective of nurse practitioner roles is provided. Nurse practitioner role development is examined in various countries in relation to the health care system, culture, and social context. Economic, ethical, and societal rationales for the introduction of nurse practitioner roles are reviewed. The integration of nurse practitioner roles into existing health care models is explored, using countries with established roles as case examples. Reflecting the diversity of countries where nurse practitioners contribute to the health care system, common and contrasting themes of role development worldwide are considered. Here the discussion is structured by examining the literature under the sub-headings of educational preparation, scope of practice, regulatory mechanisms, models of care, public acceptance, and challenges.

Nurse practitioner roles as a means to achieve Universal Health Coverage face complex challenges that are economic, ethical, and societal in nature. Countries at different levels of socioeconomic development have approached this challenge in a variety of ways to integrate advanced practice nursing roles into the health care system. In this review, the global perspective of nurse practitioner roles is considered in relation to the health care system, culture, and social context. The literature from advanced practice nursing roles in various countries is explored for common and contrasting themes in role development. Beyond individual patient care, the role of nurse practitioners is examined, particularly focusing on nursing and the health system improvement. There is growing empirical evidence that advanced practice nurses lead to high-quality patient care, with patients at least as satisfied with the care provided by advanced practice nurses as with the care provided by other health professionals. Moreover, advanced practice nurses are also much more likely than other nurses to deliver patient care that assists people in the community as well as patients and families with acute, chronic or complex health conditions. Given the aging of populations worldwide, the people's need for care becomes much more important.

1.19 17. The Economic Impact of Utilizing Nurse Practitioners

The economic consequences of systems utilizing nurse practitioners (NPs) have far-reaching implications for healthcare systems seeking to integrate the advanced practice role into

multidisciplinary teams. Cost-effectiveness is a driving conversation topic as systems face growing population health needs amidst the backdrop of staffing challenges and increasingly constrained, or in some cases constricted, financial resources. The current review climate of NPs' cost-effectiveness examines de novo care provision by NPs, rather than acting as triage providers. The highest number of economic evaluations explores de novo care provision in primary care settings, with an emerging corpus of evidence showing NPs to be at least cost-equivalent with physicians. Exemplar systematic review evidence of the patient outcomes of NPs acting in primary care and coupled with various models of service provisions find NPs are cost-neutral, lower costs, or improve cost-effectiveness (Martin-Misener et al., 2015). Analyses of return on investments have also been conducted, suggesting that primary care practices employing NPs could save between $59,000 to $465,000 per NP over five years, with suggested possibilities in "7:1 return on investment" in high adopter settings (Htay & Whitehead, 2021). There are also implications for economic policy decisions, as evidence suggests prioritizing NPs in emergency department and acute care triage roles, not only as this will likely "alleviate the burden on the healthcare workplace" but will bridge gaps in service delivery currently being filled by expensive emergency department admissions. Importantly, since NPs are often employed by systems and workgroups, these interventions in practice become more salient to the financial health of the system more broadly. Nonetheless, key challenges to the greater financial recognition of NP roles in practice are indicated, particularly in the need to a paradigm shift in the apprehension of NPs by systems as true policy-focused and equal stakeholders rather than ancillary service providers, potentially calibrated to motion or legislative changes on the national or state levels. There remains a significant conversation to be had on how NP roles are understood individually and their positions in care teams are better recognized on a broader financial level. Modelling this intellectual contribution may be of substantial interest to a general body of specialists, NPs themselves, systems that employ NPs, or systems looking to earlier integrate NPs into a broad array of practice settings.

1.20 18. Ethical Considerations in Nurse Practitioner Practice

Ethics is closely related to the field of health, guiding how people view the relevance of each decision made therein. At the heart of ethics is an ethical problem that encourages debate, as differing perspectives create the issue. There are practical distinctions about what should be thought through when nursing. Theoretical ethics examines areas of responsibility. The focus here is assigning tasks and duties. Normative ethics helps make decisions about what is right and wrong. It teaches physicians how they should behave through ethics. Virtue ethics helps individuals to focus on the character of individuals involved instead of focusing on the act. Less about ethical actions and more about the right and good character is asked. Aside from defining private, personal information in relation to the child or parent, consent and confidentiality are also the issues of current interest that will be discussed further (Sonay Turkmen & Savaser, 2015).

StateChanged by more advanced patient involvement, medical technology, and information dissemination, nursing has undergone significant shifts in its values and principles. Hence, nursing has increasingly been recognized as a profession with a set of unique values and principles that govern and shape the way nurses care for patients. To show nursing as a profession in its own right, the professional codes of the American Nurses' Association and the International Council of Nursing stated that the relationship between the patient's well-being and the nursing care given should be the primary concern. It was based on care given to respect human dignity and defend human rights. Both professional codes also offer guidance in the form of broad ethical norms.

These are an outline of the ideal conduct for members of the profession, allowing nurses to make ethical judgments in terms of their responsibilities.

1.21 19. Conclusion and Future Directions

Nurse practitioners (NPs) comprise a diverse group of healthcare providers who offer general and primary care services in a variety of settings, including nursing homes, hospitals, clinics, and private physicians' offices. Intended to fill remaining gaps left by the physician shortage, the changing role of nurse practitioners has caused much debate among various stakeholders. As hospital systems expand, many private practices consolidate, and the cost of advanced care by a physician rises, NPs increasingly serve as the primary caregivers for a growing number of older patients. NPs use similar imaging, lab tests, physical exams, and disease management plans to establish diagnoses, treat conditions, and write prescriptions. Many think that NPs are not acting in the best medical interest of the patients as they are focusing more on financial aspects of running a clinic compared to the patient's well-being. As the US healthcare system moves to a pay-for-performance system, NPs take on tasks previously handled by doctors to increase profits. Also, they are seen as having a lower quality of care due to less rigorous education standards than medical schools. This paper probes the effect of NPs on care utilization and health. With recent changes, NPs can now bill as an independent provider for the first time. Their unique provider identification code in Medicare claims data is used to identify relevant profile physicians and track patient care at the individual level. Administrative claims data and hospitals focus on the number of inpatient admissions, number of days spent in the hospital, medical cost changes, and several demographic controls. Fixed effects estimates confirm previous findings that NPs are associated with a decrease in healthcare utilization. According to the individual-level model, the switch from a medical to an NP primary care provider (PCP) is positively correlated with higher health spending. Model results also suggest that the gender of the primary care provider (PCP) influences the referral behavior of patients and the observed health outcomes. The model, which incorporates selection bias, is an estimation of the model.

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