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How does the Nurse Practitioner as the Most Responsible Provider Affect Care in Seniors Age 65 and Older Admitted to Hospitals in Ontario, Canada?

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Abstract

Background: Evidence for Nurse Practitioners (NP) hospital based roles positively impacting patient care exists. Enabling changes have authorized a broader scope of practice. There is limited understanding of the NP role from the Most Responsible Provider (MRP) lens during care across the hospital trajectory focusing on admission, treatment and discharge.
Aim: To identify how the NP as the Most Responsible Provider affects care in seniors over the age 65 admitted to Ontario Hospitals.
Methods: A comprehensive literature search methodology was utilized to identify studies. Electronic databases searched CINAHL, Embase, MEDLINE, PubMed, Evidence Based Medicine, Cochrane, Google Scholar and Digital dissertations. Studies describing NP models of care anchored in assuming MRP roles with a focus on caring for seniors were targeted.
Results: Seventeen studies met inclusion criteria: three randomized controlled trials, three systematic literature reviews, two mixed methods, two descriptive surveys, one cross-sectional, one pilot, one retrospective and four descriptive case studies.
Conclusion: A critical research opportunity exists to fully explore Nurse Practitioner role contributions as the Most Responsible Provider for hospitalized seniors.
What we know already: Information on the NP in the MRP role exists in pockets of primary care in Canada and the United States. NP hospital roles have only been evaluated in the context of consultation and shared care with physicians and teams.
What we can learn: Enabling, empowering and embracing NP maximal scope of practice contributions as the MRP can be valuable across the continuum of hospital experiences. Bridging and synergizing NP care to meet complex senior care is a timely, safe and innovative care solution.

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Introduction

Innovative nurse practitioner (NP) roles continue to evolve across all health care sectors. Nurse Practitioners practice autonomously in some jurisdictions and settings as the most responsible provider (MRP). Portals of NP access span outpatient emergency and ambulatory clinics, and inpatient hospital care. The hospital journey through acute care, post acute, alternate levels of chronic care and end of life care for seniors who are not able to return to their homes are the challenging lived realities. Maximizing NP health human resource contributions to improve hospital care is key. Autonomous yet collaborative interprofessional NP models of care in the form of consultation, shared care or as the formal MRP are quality solutions [1-7].

Background and Significance

Education and NP practice domains

Nurse Practitioners' as advance practice nurses (APN) maximize their scope for care impacts. The Canadian Nurses Association (CNA) highlights domains of clinical, research, leadership, and consultation/collaboration competencies as core pillars anchoring NP practice 8. Competencies build upon NP expertise first as Registered Nurses (RNs), while enhanced practice dimensions previously associated with medicine merge within the role [9]. Nurse Practitioner educational entry to practice has evolved from baccalaureate to graduate preparation in Canada. In the United States, the expectation is for a Doctorate of Nursing Practice (DNP) by 2015 [10].

Ontario NP Landscape

As of March 2013, 2,259 NPs are registered to practice in Ontario [11]. Four NP Specialties exist within the RN Extended class (RN-EC). Of these specialties, the NP - Primary Health Care (PHC) represents the largest group (1,632), followed by the NP – Adults (441) and then NP – Pediatrics (200). The last specialty group, NP –Anesthesia has graduated two classes and registration is underway. The number of NPs in Ontario has doubled from 1,344 to 2,777 between 2007 and 2011 [12]. In 2012, 1,874 NP were on the job in Ontario compared to 729 in 2007. More than half of NPs work in community practices [5,13].

A paradigm shift traditionally associated with practice settings is narrowing with the alignment of the various NP specialties related to geographical settings [1]. The notion that NP PHCs can only practice in communities, and NP Adult or NP Pediatrics are only authorized to practice in hospitals is diluting. Nurse Practitioner knowledge as generalists or specialists can be portable, transferable and responsive to care needs in diverse settings. Professional self- regulation matching NP competence and confidence for care accountabilities is the expectation.

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Authorized Controlled Acts for NPs

In Ontario, NPs are authorized to perform seven controlled acts: 1) communicating a diagnosis, 2) performing a procedure below the level of the dermis, 3) insertion into a body orifice, 4) application of prescribed energy, 5) setting or casting, 6) administration of a substance by injection/inhalation and lastly, 7) prescribing, dispensing or compounding drugs. Federal approval for prescribing controlled drugs and substances was granted in early 2013, provincial regulations are underway [9].

Ontario's Senior Strategy

The Ontario Seniors Care Strategy targets helping seniors to stay healthy and live longer with supports to optimize their independence [5,14]. Ontario's seniors aged 65 and over are expected to double by 2036. Frailty is associated with multiple chronic health conditions, vulnerability to functional decline and greater health care needs [15]. Care of older adults is core hospital business. Seniors account for 43% of provincial health expenditures. They face a two fold risk for adverse events, surgical complications, loss of independence, increased length of stay and readmissions [15]. Seniors accounting for non-acute alternate level of care (ALC) days range from 71% to 89%. Geriatric hospital care has demonstrated positive outcomes including cost effectiveness, improved function, decreased institutionalization, decreased length of stay, improved satisfaction, better human resource knowledge retention, and improved collaboration [15,16]. Ensuring an NP workforce prepared to care for older adults is a social imperative [17].

Research purpose

The research aim is to identify how the NP as the MRP affects care of seniors hospitalized. The population focus is directed at seniors, over the age of 65, admitted as inpatients to hospitals. The geographical setting is Ontario, Canada. Multiple complex comorbidities are seen in this aging population especially dementia, vascular disease (stroke, cardiac, renal, diabetes) and fra The MRP definition encompasses primary responsibility and consistent care assumed by the NP across the care trajectory during admission, treatment, diagnostics, diagnosis, prescribing, and discharge. While the comparison/control gold standard is physician care, reluctance to compare the collaborative roles and perpetuate professional competition will prevail. Quality of care variable outcomes for seniors include reducing potentially inappropriate medications such as psychotropics, catheter and physical restraint utilization reduction, advance care planning and increasing care satisfaction. ilty syndromes. Targeting the hospital NP model of care as the MRP intervention is the goal.

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Methods

Literature Search

A literature search was conducted independently and jointly with a Hospital Librarian to improve the research yield. The APN McMaster Database searched CINAHL, Embase, MEDLINE. PubMed and Evidence Based Medicine, including the Cochrane Database of Systematic Reviews for English language articles published in the last five years. Landmark sentinel literature beyond five years that informed inquiry were considered for inclusion. Search terms included NP OR APN OR Physician to retrieve articles examining NP/MD roles. The search retrieved 339 articles of which ten were further reviewed. The APN Database yielded another 12 reviewed from 238 articles. CINHAL search yielded nine titles reviewed from 191 results. Search criteria NP AND Hospital yielded 254 results, of which 14 articles were reviewed. Controlled vocabulary Medical Subject Headings included (NP, length of stay, attending physician, and hospital) in MEDLINE. Google scholar yielded two relevant unpublished articles. Two Ontario dissertations and one article in press were reviewed.

The total sample of articles was N = 833. Inclusion criteria included NP, hospital focused, MRP and care of seniors. Exclusions related to noncomparable models of care of n = 795. A subsample of articles n = 38 were analyzed for inclusion, 12 were included for criteria relevancy. Seventeen studies met inclusion criteria: three randomized controlled trials, three systematic literature reviews, two mixed methods, four descriptive surveys, one cross sectional design, one pilot study, one retrospective study and two descriptive case studies.

Results

Canadian National Nursing Advance Practice Framework

The Canadian National Advance Practice Nursing framework was utilized in the majority of studies in terms of theoretical underpinnings. The value added capacities can be optimized for the highest talent yield of NPs to support patients and organizational leadership [1,2,18,19].

NP Primary Care Randomized Controlled Trials (RCT)

The landmark Ontario RCT involving almost 1600 families established that NPs are able to manage office based patient care. Care was found to be both effective and safe almost 40 years ago in this sentinel NP research [24]. No RCTs were found for NP hospital comparisons. This research did not explicitly declare the NP as the MRP, but their care actions parallel with the NP role of MRP as first contact and delivering consistent care.

ADanish RCT studied NPs substituting for general practitioners with over 1500 patients and 12 experienced NPs. Patients highly appreciated the quality of comparable care. No differences were found in health status, resource consumption or guideline compliance. The NP intervention group invited more patient follow up and conducted longer consultations [21].

Primary care outcomes for patients treated by NPs versus physicians in ambulatory care revealed further positive comparable patient outcomes. Another RCT with almost 3400 patients found no significant differences in satisfaction, patient service utilization, or health status. In patients with hypertension, the diastolic value was statistically significantly lower for NP treatment patients (P=.04). The NPs had the same authority, responsibility, productivity, administrative requirements and patient populations [22]. The NPs were essentially acting as the MRP.

A Cochrane review illustrated evidence of nurses assuming responsibility for first contact, ongoing patient care and chronic disease management. Satisfaction was higher with nurse-led care.

Although data synthesis was limiting, no appreciable differences were found in health outcomes for patients, process of care, resource utilization or cost [31].

NP Hospital Practices

A mixed methods NP role study involved nine Ontario hospitals. Forty-four NPs with a minimum of 1 year experience participated in both outpatient and inpatient care activities [2]. Interprofessional teams valued and desired more NP clinical time. The results highlighted the hospital contributions NPs made through improved interprofessional practices. Positive NP attributes were evidenced in patient focused care, safety, trust, approachability and greater accessibility. Engagement of teams, breadth of knowledge, and bridging care gaps were valued NP roles [2]. Contributions to improving consistency in care, knowledge of the medical care plan, capacity to liaison, central coordinating roles, and integrating within the interprofessional teams fully support the MRP NP role [2].

Nurse Practitioners in acute hospital settings are on the radar in Ontario in three smaller studies. First, a comparative cross sectional design with 78 patients compared NP outcomes achieved within two Southern Ontario city hospitals. Patients who received NP care reported higher levels of satisfaction with physical, psychological and social functioning [23]. Secondly, organizational factors influencing NP roles in acute care settings descriptively studied 57 NPs. Analyses indicated the lack of formal clear role descriptions, lack of role receptivity, and conflicting demands negatively correlated with role implementation [24]. A third descriptive study focused on acute care NP practice patterns revealing clinical engagement in medical and advance nursing functions [32].

NPs Practicing in Academic versus Community Hospitals

The literature revealed a propensity to study NPs in academic hospitals. Community hospital NP role evaluation is underrepresented. Nurse Practitioners in community hospitals spend more time clinically than in academic hospitals. Conversely, NPs in academic hospitals spend more time in research activities [2]. One workforce study highlighted over 1,000 Acute Care NP practice patterns surveyed in Ontario Hospitals. The majority of NP practices are within academic hospitals, spending 75% of their time in direct patient care. Less than 20% of NPs work in community hospitals [1].

NP Boundary Work & Medical Activities

A descriptive case study researched boundary work with cardiology NPs at two academic hospitals in Quebec, Canada [25]. Findings revealed that boundary work is a micro level process that includes creating space, loss of valued function, trust, interpersonal dynamics, co-location and time. The significant power shifting boundaries with NP prescriptive privileges is a key finding [25]. The transfer of prescribing authority facilitated the development of medical activities within the NP scope of practice. The loss of exclusivity of prescriptive authority for physicians as a unique contribution to the team narrows the competence gap that sets the medical profession apart from other health care groups. Overlapping activities and evolving scopes of practice are necessary to provide safe and innovative care to patients [25].

NP Interprofessional Hospital Integration

A mixed methods study on the Ontario Integration of Nurse Practitioners across nine hospital sites involved 46 NPs [18]. Predominately, 75% of NP practice time was spent within the clinical/consultation/collaboration domain, 8% in leadership, and 7% in research. Community hospital NPs spent the most time clinically. Patient care delivered by NPs was found to be timely and responsive. Pediatric hospital NPs spent the greatest amount of practice in collaboration/consultation, while academic hospital NPs spent more time in research. The team highly regarded the NPs strong communication, evidence based care, and timely decision making [18].

A scoping review researched hospital-based NP roles and related interprofessional practice impacts. They mapped eight literature reviews to four countries including relevant Ontario and Canadian studies. Six themes emerged including NP role understanding, role status, workforce description, role integration, role outcomes and role perceptions [26]. Future linkage to the NP role as the MRP would further inform role contributions to patient and team care.

NP Models of Care

Quality NP outcomes related to timely care, patient follow up, improved safe discharge planning; cost appreciation and improved staff knowledge are realized. Contributions from Canadian NPs include role enactment, boundary work, and team effectiveness [27]. A new framework identifying the reciprocal relationship between structure, process and outcomes to link NP role enactment evolved. In an accountability and evidence approach era, indicators are intertwined [27]. Linkages to NPs providing synergistic medical and nursing care to seniors experiencing complex acute or chronic health conditions would be ideal.

NP Facilitators & Barriers for Hospital Care

A systematic literature review synthesized fourteen studies predominately from the United Kingdom for APN roles within hospital settings, which included NPs and Clinical Nurse Specialists. Relationships, communication, role definition and role expectations were the most important facilitators for NP role success [3]. Considering applicability to the NP through the MRP lens, variables such as previous employment, credibility and legitimacy in the hospital, political astuteness, established hospital networks and relationships, confidence, and specialty experience [3] such as senior care would support success. The value of the NP as MRP in terms of continuity of care, leadership, and full scope of practice are research rich areas for exploration.

A pilot study in four Ontario academic tertiary hospitals included diverse speciality NP practices including geriatrics [19]. Successful NP role implementation was related to the level of role development. Barriers included lack of mentorship, lack of NP role knowledge and lack of support from administrators and physicians. Themes impacting patient care included improved NP communication and attention to patient care issues. Role acceptance and enhanced continuity were also evidenced. Role clarity for understanding the purpose and value of the NP role is key for integration [19].

Discussion

Nurse Practitioner-Led Clinics

Broader utilization of the NP in Primary Health Care (PHC) exists within 26 NP-led clinics. This model of care delivery shifts clinical leadership and leverages shared NP governance. Nurse Practitioners championing collaborative interprofessional teams lead the model of

care and function as the MRP. They are improving access to care for more than 27,000 Ontarians [5]. The Primary Health Care NP skill mix majority are employed in community practices, however a few NP- Pediatric and NP - Adult are also utilized in family health teams and community health centers.

NP Legislative and Regulatory Leverages

Initiatives have reduced many practice barriers in an equitable effort to improve access and cost contain, resulting in significant care improvements through autonomous and accountable NP practice [11]. Legislative and regulatory changes in Ontario have enabled and empowered NPs to improve quality care in an effort to capitalize on our health human resources. On July 1, 2011, Bill 179 (Regulated Health Professions Act) and Regulation 965 (Public Hospital Act) were proclaimed to enable treatment and discharging of inpatients by NPs. In July 2012, NPs were authorized to admit inpatients to Ontario hospitals. Prior to these authorities granted, medical directives were utilized through the delegation of controlled acts NPs were not authorized to conduct in an effort to bridge established NP practice acts. Final proclamation of remaining components of Bill 179 related to ordering broad diagnostic tests including CT, MRI, x rays and ultrasounds is anticipated to be announced soon.

Nurse Practitioner scope of practice in the United States varies widely and lags behind Ontario's present successes. Eleven states permit NPs to practice independently without physician involvement similar to Ontario. Requirements for NPs to practice in collaboration with an MD exist in twenty seven states. Ten states require MD supervision of NPs. American NPs are impeded by scope of practice laws, reimbursement mechanisms, malpractice insurance policies and outdated practice models [28]. Restraint of trade and antitrust law provisions for NPs to prevent inequitable denial of hospital privileges for unsubstantiated reasons are encouraging [29].

NP Hospital Authority in Ontario

Three provinces have hospital admission and discharge authorities. Alberta was the first province authorized in 2007, Ontario in 2011, and British Columbia in 2012 [7]. Ontario is showcasing NP hospital admission and MRP management, capitalizing on optimizing access to hospital care with an evolving practice toolkit [7].

Two types of NP hospital practice exist. The first model is well established for hospital employed NPs who are authorized to treat both inpatients and outpatients. They do not require formal credentialing and privileging, but organizational support is crucial. The second track is for NP nonemployees whom the hospital board grants privileges as Professional Staff NPs, similar to physicians, dentists and midwives [6,7]. Bylaws and credentialing/privileging processes require amendments to be inclusive of NPs. Privileges range from courtesy (visiting), associate (admission and treatment), moving to active NP privileges after one year of practice with annual reappointment evaluation assurances [6,7].

Accountability and reporting structures for NPs currently align with the Medical Advisory Council for privileged staff. The Excellent Health Care for All Act has leveraged the role of the Chief Nurse Executive (CNE) to overlook the quality of NP care in hospitals [6,7,30]. The CNE holds a strategic role to leverage senior nursing leadership, support infrastructures for success, and ensuring NP appointments and performance reviews are relevant to the NP roles [6,7]. Professional liability coverage is mandatory for privileged staff. Employees may have additional coverage through organizational insurance, unionization or may carry personal NP professional liability coverage [6,7].

NP as the MRP - Accountability for Patient Care

The NP functioning as the formal MRP must be clearly established and communicated. Responsibilities for patient care upon admission include a comprehensive history, ordering diagnostic tests, prescribing medications and treatments, provisional diagnosis, regular care monitoring, documentation, ensuring on call coverage, and dictation of the medical record upon discharge. Linkages to relevant community providers and resource services are included in transfer of accountability and responsibility [6,7].

Nurse Practitioners may function in short term consultative models similar to specialists. They may also support admission, treatment and discharge in a shared care dyad with a physician colleague. To date only a few Ontario hospitals are leading as early adopters with NPs deemed the MRP. The designation MRP can be used interchangeably with Most Responsible Provider/Practitioner. The term defined; refers to the provider who has primary responsibility and accountability for the care of a patient within the hospital [6].

Lakeridge Health NP- Led Hospital Model of Care in Whitby, Ontario is the first pioneering hospital to showcase their senior care delivered by NPs as the MRP granted full admitting rights [7]. In this free standing specialty hospital, complex continuing care, rehabilitation, geriatric patients and interprofessional teams are experiencing the positive outcomes of the NP model of care as MRP. Provincial, national and governmental accolades have been received. Shadowing experiences from other provincial hospitals interested have occurred along with global visits from Israel and Australia. Richening patient care access and choice with NP admission privilege power demonstrates courageous innovative change. Process and successes have been shared in a toolkit to mentor other organizations interested [7]. Hospital gate keeping influences through cultural shifts, increased awareness and championing leadership for access equity in supporting patient care is being realized.

Future research opportunities are rich. A focus on capturing the extent that hospital NPs function as both the formal and informal MRP is needed. Highlighting the barriers and facilitators for role functioning, for both NP staff employees and NP non-employee privileged staff would be informative. Studying from the lens of both academic and community hospital nuances, models of care, subspecialties, levels of consultation, NP leadership/governance/mentorship, satisfaction, fiscal considerations, and outcome indicators would be prudent.

Limitations

The literature synthesis highlighted only four original studies including Ontario hospitals [1,2,18,19]. Two studies included NPs in Ontario hospitals [26]. One study included Quebec and Ontario hospital NPs [25]. No studies identified the NP from a formal MRP context. Although some of the research combines both, and academic hospitals models of care, focusing solely as the NP MRP may threaten generalizability to hospitals where staff mix and models of care may vary. The literature predominately focuses on NP roles in academic hospitals. A focus on Canadian hospital roles highlighted the lack of research for NPs as MRPs.

Conclusion

Nurse Practitioners functioning in the Most Responsible Provider role strive for patient centered care, quality experiences and favorable outcomes. Enabling and empowering NPs to be champions of change for optimal patient and organizational success leverages their knowledge and leadership capacity. This is not about NP trailblazing; it is paving the health path for seniors and capitalizing on NPs as health human resource champions. This is not about the transference of practice power, namely important prescriptive, diagnostic and admission authorities. It is about the power to deliver safe quality care and optimize accountabilities. Care should not be defined by geography and boundaries of hospital practices. Nurse Practitioner competence and population needs should be the drivers of meaningful change.

Competing Interests

The authors have no competing interests with the work presented in this manuscript.

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