

Wound management provided by nurse practitioners: a literature review

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Introduction

Improving healthcare systems around the world requires innovative strategies to address the many challenges that exist. Given that many current models of care struggle to meet the needs of their populations, alternate models of care must be explored. Nurse practitioners (NPs) scope of practice and professional regulation make them an ideal choice to provide wound care. The provision of wound care by NPs can be independent or in collaboration with other healthcare providers.

Review Objective

The objective of this literature review is to explore the state of knowledge regarding wound care provided by NPs or Advanced Practice Nurses (APN) in countries without a defined NP role. The concept of interest is the global participation of NPs in the provision of wound management, whether independently or as a part of a team.

Background

The role of the NP is recognized by many countries across the world. NPs practice in countries such as the United States (U.S.), United Kingdom (U.K.), Australia, New Zealand, Hungary, Canada, Ireland, Israel, and Jamaica.¹⁻³

Although the NP role varies from country to country, the majority of countries recognize NP as a protected title. In fact, most countries require graduate-level education, registration, certification and credentialing for NPs.^{1,4,5}

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Some countries do not require protected titles while others have APNs without a defined NP role.¹ In countries that have NPs, advanced health assessments, diagnostic testing, screenings, and the prescription of medications is performed by NPs.³ In these countries, the role of the NP is directed towards prevention, health education, monitoring chronic disease, and coordination of care.³ NPs work autonomously with client populations in a variety of healthcare settings such as clinics, primary and acute care facilities, rehab, curative and palliative care settings, private physician practices, nursing homes, schools, colleges, and public health departments.^{1,6,7}

Registration through a regulatory body provides the NP with the authority to practice at an advanced level. However, the authority granted by regulatory bodies varies by country. In Australia and Canada, NPs have been granted the authority to diagnose conditions, order and interpret diagnostic tests, prescribe medications (including controlled substances), provide treatments, consult or refer to specialists, and provide ongoing patient management.^{8,9} Practice regulation in the U.S. varies by state and falls into one of the following practice regulations: 1) full practice, which allows NPs to evaluate patients, diagnose conditions, provide treatments, prescribe medications (including controlled substances), order and interpret diagnostic tests; 2) reduced practice, requiring a career-long collaborative agreement with a health care provider, or limits one or more elements of practice and 3) restricted practice, which restricts the ability of NPs in at least one area of practice, with

requirements of career-long supervision.¹⁰ In Ireland, NPs manage and treat chronic diseases, prescribe medications, and order diagnostic and laboratory tests. The U.K. authorizes NPs to diagnose conditions, manage care, and order diagnostic tests.¹¹ Standards of practice and controlled acts, developed through regulatory bodies in each country, allow NPs to provide collaborative wound management.

Literature Review

A literature review using Cumulative Index to Nursing and Allied Health Literature (CINAHL) and Ovid MEDLINE was undertaken using the key words nurse practitioner, registered nurse extended class, advanced practice nurse, wound care, and wound management. The keywords were searched in the title, abstract, and keywords. Limitations were not placed on publication dates as there are variations in the historical development of NP roles globally. The search was limited to articles published in English. The search yielded a total of 193 articles which were reviewed for appropriateness and findings are reported.

Wound Management Provided by Nurse Practitioners Findings

Globally, NPs provide wound care in a variety of settings such as emergency departments (EDs),¹²⁻¹⁴ acute care,^{15,16} and long-term care facilities,¹⁷ military,¹⁸ urology clinics,¹⁹ primary care,²⁰ and community settings.²¹⁻²⁴ However, most articles regarding NPs and wound management originate in Australia.

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Research by MacLellan et al examined a ten-month trial of the NP-funded wound care model in 2001, by the Australian Capital Territory (ACT). This study took place in a tertiary institution in the ACT health care system.²⁵ The purpose of the ACT Nurse Practitioner Trial was to examine the feasibility of a wound care NP role in a tertiary environment. Outcomes measured included defining the scope of practice, patient demographics, and efficacy of the NP service. Results demonstrated that at-risk patients received expert wound management. This study was instrumental in the development of protocols to define the Wound Care Nurse Practitioners' scope in a tertiary environment in the Australian healthcare system today.

Research by Gibb et al²⁶ surveyed twenty-one NP respondents (71% response rate), to examine Wound Management Nurse Practitioner models of service in Australia. NPs in this model provided the following: patient and family education; ankle brachial pressure indexes (ABPI); sharp debridement; counselling, ordering medication and hospital admissions. Wound etiologies included leg ulcers, diabetic foot ulcers, pressure injuries, malignant, and complicated wounds. NP-led wound clinics provide not only inpatient care, but also provide interventions in the community setting. The NPs were responsible for assessments, diagnosis, treatments, diagnostic procedures, referrals, and education on wound management and prevention.

Additionally, there is literature examining NPs in various settings. A quantitative study by Lutze et al., examined the practice patterns of transitional NPs (students progressing to NP) in

two urban EDs.²⁷ Study results indicated that patients were evaluated for wound related concerns, follow-up, dressing changes, wound review, and minor wound suturing. Another paper by Asimus et al reviewed an NP wound management (NPWM) led Pressure Ulcer Prevention Program in New South Wales, Australia.¹⁵ They found that the prevalence of pressure ulcers decreased from 29.4% to 13.0% over a three-year period, with the introduction of the NPWM program.

In 1997, Flanders Medical Centre in Australia was the first hospital to develop and support the NP role as a wound management consultant.²¹ At Flanders, NPs provided wound care to inpatients throughout the hospital, and to outpatients (with consultation) throughout the community. NPs provided assessments, diagnosis, treatments diagnostic procedures, referrals, and education on wound management and prevention. A multidisciplinary approach was used to meet the complex wound care needs of these patients. In March 1999, 11 NP models including wound care were funded by the Victorian Minister for Health, followed in 2001 by the ACT funding a trial for a wound care NP model of care.²⁸

An NP-led service clinic in Brisbane, Queensland began seeing patients in 2008. The NP provided evidence-based wound healing and education to improve wound healing outcomes.²⁴ To reduce wait times and increase access to care, patients without access to health services were not required to have referrals. Results showed that 90% of leg ulcers healed within 24 weeks compared to an average of 26 weeks prior to admission. This outreach service also

provided education and clinical support to clinicians and students to help improve care. This NP-led wound care service demonstrated improved healing outcomes for patients with complex wounds.

In the United States Irvin et al performed a retrospective chart review at a community hospital to determine if there was a difference in hospital acquired pressure injury rates after NPs became wound care consultants. Results of the audit indicated that pressure injury rates were lower, suggesting that the chance of occurrence after the NPs became consultants was much less likely.¹⁶

Implications for Practice

Evidence demonstrates that NPs provide accessible,²⁹ cost-effective,^{26,29} evidenced-based, safe, and effective wound care.³⁰ They practice collaboratively within a healthcare team,³¹ and have the skill set to evaluate and treat wounds, while managing the overall care of the patient including specialist referral as appropriate.^{32,33} As such, NPs are an excellent choice to provide wound care. Furthermore, NPs can act as coordinators of patient care from acute settings to community care.³⁴ They function as consultants, educators, and researchers,²⁶ thereby making NPs vital members of multidisciplinary wound care teams.³⁵ Improving healthcare systems globally requires innovations in the delivery of healthcare, including increased utilization of NPs.³⁶ Based on the limited research available regarding nurse practitioners and wound care, future studies should focus on this important and timely topic.

Conclusion

The purpose of this review was to explore the global state of knowledge regarding wound care provided by NPs. It is clear from the literature reviewed that NPs are competent and educated in the provision of wound care, often improving patient outcomes in both

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community and acute care settings. It is clear that the utilization of NPs in multidisciplinary health care teams would be beneficial for team members and patients. Research is lacking regarding this very important topic. Given that wound care and wound prevention could have substantial financial effects on health care systems globally, future research should be conducted in this area.

Conflicts of interest

The authors declare no conflicts of interest.

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