# Chapter 8. The Role and Effectiveness of Advanced Practice Nurses in Contemporary Health Care Systems

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## Introduction

This chapter describes the effectiveness of APNs, with particular attention to Clinical Nurse Specialists and Nurse Practitioners, to demonstrate their contribution to the quality, efficiency, and sustainability of care. In health-care systems facing increasing demands due to population aging, a rising chronic disease burden, and workforce shortages, there is a need to use the competencies of APNs to the fullest.

**Keywords:** effectiveness, scope of practice, care quality, coordination of care

## Why Advanced Practice Nurses Are Needed

Health care systems worldwide are undergoing a profound transformation, driven by demographic change, epidemiological transitions, and workforce challenges. Chronic diseases, multimorbidity, and population ageing increasingly dominate contemporary health care needs. By 2030, one in six people globally is projected to be aged 60 or older, with continued growth in the oldest age groups thereafter (WHO, 2025a). Older age is strongly associated with frailty, multiple long-term conditions, and polypharmacy, all of which demand comprehensive assessment, active monitoring, continuity of care, and coordination across care settings.

In parallel, non-communicable diseases, such as cancer, diabetes, cardiovascular diseases, and chronic respiratory conditions, are now the leading causes of morbidity and mortality worldwide (WHO, 2025b). These conditions are characterized by long illness trajectories, fluctuating care needs, and high demands for person-centred, preventive, and self-management-oriented care (WHO, 2025b). As a result, healthcare systems should increasingly shift from episodic, acute models toward service structures capable of providing longitudinal, integrated, and multidisciplinary care.

This transformation coincides with critical workforce challenges. The WHO projects a global shortfall of approximately 5.8 million nurses by 2030 (WHO, 2025c), while many countries also report shortages of general practitioners and primary care physicians (OECD, 2020). These shortages necessitate a reconfiguration of professional roles, focusing on an optimized skill-mix, task redistribution, and supportive regulatory frameworks.

Within this context, the development and expansion of advanced practice nursing roles have emerged as a key policy priority (WHO, 2025c). According to the International Council of Nurses (ICN), advanced practice nurses (APNs) are registered nurses with advanced education (at least at master's level), expert knowledge, complex decision-making capacity, and advanced clinical competencies (ICN, 2020). These competencies align closely with the demands of contemporary chronic and complex care, including early detection of deterioration, health promotion, patient education, care coordination, and holistic assessment, and there is no evidence of reduced quality when training and regulation are adequate (Brownwood & Lafortune, 2024).

**Effectiveness of Advanced Practice Nurses**

A growing body of international literature demonstrates that APNs contribute significantly to health-care quality, efficiency, and patient outcomes across a wide range of settings. Systematic reviews and meta-analyses consistently show that APN-led care achieves outcomes equivalent to or superior to physician-led or usual care, particularly in chronic disease management, patient satisfaction, and safety (Htay & Whitehead, 2021; Yang et al., 2025).

A recent meta-analysis of 22 randomized controlled trials found that APN interventions significantly reduce overall healthcare costs while simultaneously improving care quality and patient well-being (Fajarini et al., 2025). Overall, mean total costs were reduced by 1.31% with hospitalization costs decreasing by 35.53% and diagnostic costs by 31.69%. The random-effects model demonstrated that APN-led interventions were significantly less costly than care delivered by other health professionals and mitigated broader societal costs, such as productivity loss. Clinical outcomes were similarly positive. APN involvement was associated with reduced likelihood of hospitalization and readmission, lower mortality, and shorter lengths of stay (Fajarini et al., 2025). Mental and physical health outcomes also improved, with reductions in anxiety, depression, pain, and fatigue, and measurable improvements in quality of life. Earlier randomized controlled trials and observational studies support these findings. APN-led outpatient clinics have demonstrated improvements in disease management and medication use (Chan et al., 2009), reduced waiting times and consultation duration (Stables et al., 2004), and higher patient satisfaction scores (Dunlap et al., 2022). Collectively, this body of evidence indicates that APNs enhance efficiency and quality without compromising patient safety, while improving patient experiences and outcomes.

APNs also play a critical role in addressing the needs of populations underserved by traditional physician-centred models. Evidence from global and Nordic contexts shows that APNs provide high-quality, coordinated care for patients living with multimorbidity, frailty, mental health conditions, and highly complex cross-sectoral needs (Eriksson et al., 2018; Laubek & Thomsen, 2026; Yang et al., 2025). In addition, patients report that APN care is more relational, accessible, and supportive,

particularly for those with low health literacy or who are vulnerable (Schönenberger et al., 2020).

Importantly, APNs generate value beyond individual patient encounters by acting as boundary spanners within fragmented systems (Htay & Whitehead, 2021). They facilitate communication among professionals and across sectors, align care plans, and maintain continuity during transitions such as hospital discharge or post-acute recovery (Eriksson et al., 2018; Laubek & Thomsen, 2026). Furthermore, family members and informal caregivers benefit through reduced coordination burden, improved communication, and emotional support (Bales et al., 2025; Schönenberger et al., 2020).

Taken together, the literature demonstrates that APNs offer an effective, safe, and cost-efficient response to rising health-care complexity and demand, particularly in systems struggling with workforce shortages and fragmentation.

**Effectiveness of Clinical Nurse Specialists and Nurse Practitioners**

Within the broader category of advanced practice nursing, both Clinical Nurse Specialists (CNSs) and Nurse Practitioners (NPs) have been extensively evaluated. The CNS role is among the most well-established internationally. It is defined as an APN providing expert clinical care within a specialized practice area, combined with a systematic approach to professional practice and organizational development (Schober et al., 2020).

Evidence links CNS involvement to improved patient outcomes, higher-quality care, and more efficient use of resources, although effect sizes vary by context. A systematic review of 79 studies found that CNS-led palliative care interventions reduced hospitalizations, emergency department visits, rehospitalizations, and length of stay, while improving adherence to evidence-based treatment (Salamanca-Balen et al., 2018). In critical care settings, CNS leadership has been associated with significantly lower ICU mortality and more appropriate use of mechanical ventilation, mediated through advanced clinical decision-making and team coordination (Fukuda et al., 2020).

CNSs also contribute at the organizational level. They enhance evidence-based practice cultures, support the professional development of novice nurses, and improve practice environments (Yoder et al., 2025). Earlier systematic reviews linked CNS involvement to reduced length of stay, lower costs, and fewer complications across surgical and medical populations (Newhouse et al., 2011).

While CNSs frequently operate within hospital and specialist settings, NPs are particularly prominent in primary care and outpatient services. Across studies, NP-led care achieves high patient satisfaction, shorter waiting times, and outcomes comparable to physician-led care in both chronic and acute non-critical conditions (Htay & Whitehead, 2021; Stables et al., 2004). NPs are especially effective in

managing long-term conditions, transitional care, and preventive services, where continuity and accessibility are essential.

Despite robust evidence of effectiveness, implementation of CNS and NP roles remains highly context dependent. Barriers include limited role awareness, inconsistent regulation, and insufficient organizational support (Bachiller-Barquín et al., 2025). Where these challenges are addressed, however, both CNSs and NPs emerge as central contributors to high-quality, sustainable health-care delivery. Table 1 outlines the outcomes associated with APN functions.

**Table 1.** Examples of outcomes associated with APN functions

| **Clinical outcomes** | **Clinical Nurse Specialists (CNSs)** | **Nurse Practitioners (NPs)** |
|---|---|---|
| | Reduced mortality, fewer complications, better symptom control, and evidence-based care in specialized settings (Fukuda et al., 2020; Salamanca-Balen et al., 2018; Newhouse et al., 2011). | Equivalent or superior outcomes to physician-led care; reduced hospitalization, readmission, and mortality in chronic conditions (Htay & Whitehead, 2021; Fajarini et al., 2025). |
| Service use & efficiency | Shorter hospital stays; fewer emergency visits and rehospitalizations (Salamanca-Balen et al., 2018). | Shorter waiting times, reduced length of stay, improved access in primary and outpatient care (Stables et al., 2004; Dunlap et al., 2022). |
| Patient experience | Improved safety, quality, and continuity through advanced clinical leadership (Yoder et al., 2025). | High patient satisfaction; relational, person-centred consultations, particularly for vulnerable groups (Eriksson et al., 2018; Schönenberger et al., 2020). |
| Chronic & complex care | High impact in high-acuity, oncology, and palliative care contexts (Fukuda et al., 2020). | Strong effects for multimorbidity, frailty, mental–somatic comorbidity, and transitional care (Yang et al., 2025; Laubek & Thomsen, 2026). |
| Economic outcomes | Lower costs via reduced length of stay, complications, and improved efficiency (Newhouse et al., 2011; Jokiniemi et al., 2021). | Lower total, hospital, and diagnostic costs; favorable cost-effectiveness (Fajarini et al., 2025). |
| System-level impact | Strengthens evidence-based practice culture and workforce development (Yoder et al., 2025). | Enhances integration, continuity, and system responsiveness; reduces physician workload (Brownwood & Lafortune, 2024). |
| **Note.** CNS = Clinical Nurse Specialist; NP = Nurse Practitioner. Evidence derived from systematic reviews, meta-analyses, and primary studies across health-care settings. | | |

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