

Nurse Practitioner Roles and Responsibilities in the Nephrology Practice Setting

By Jennifer Branch

I have been fortunate to work in the field of nephrology my entire career, mostly as a registered nurse for the first 20 years and now as an advanced practice provider over the past 3 years. I currently serve as an inpatient nurse practitioner in transplantation at an academic health system. For the first 2 years, I also had experience in outpatient clinics and dialysis units.

Outpatient clinic experience

Seeing patients on an outpatient basis during my outpatient clinic experience allowed me to review labs, medications, and health issues with many minutes of teaching while completing a full examination. Health maintenance reminders and why they are important (e.g., for mammograms, vaccines, etc.) were always addressed, encouraged, and written for follow-up or referrals, as well as a review of kidney diagnoses and health in patients with chronic kidney disease (CKD). My responsibilities included reviewing charts, seeing patients and families at clinic visits, writing orders and notes with independent billing, and reviewing post-visit labs with follow-up while keeping a consistent plan of care for optimal personalized CKD care. I saw many patients for post-hospital follow-up, reviewing reasons for hospitalization and medication changes as well as the patient's status. This was a great opportunity for me to assist in a smooth transition of care, providing follow-up if details had been missed or dropped. As a nurse practitioner, I have the tools to tackle examinations and extensive education while keeping the patient at the center of holistic care.

Hospital follow-up visits always included a thorough review of inpatient records, including discharge summaries and a medication list. If patient medications were added or adjusted, I made sure those changes were being implemented and followed by the patient. If patients were missing medications or did not understand the purpose for a medication, information was given, and medications were ordered or arranged to be ordered. Labs were reviewed and explained. Oftentimes, patients and families did not understand why they were hospitalized or what treatment was received while being hospitalized, which was addressed and explained. For

example, patients admitted for acute kidney injury (AKI) often did not understand the implications and risks of repeat AKI, what AKI meant, what kidney function was, stages of CKD, and preventative interventions, such as home blood pressure, daily weights, or medication recommendations. Preventative practices were addressed, explained, and strongly encouraged for inhibition of CKD progression and/or re-hospitalization.

I enjoyed appointments that were specifically scheduled for CKD and end stage kidney disease (ESKD) education. The visits included discussing modality options, diet, signs and symptom of ESKD, and labs. Meeting with patients and their support systems allowed me to address the plan of care in a holistic way by getting a glimpse of the patient's family dynamics, past experiences, and values. A range of emotions, from scared and unknowing to increased confidence and empowerment, could be seen in such a short span of time.

Outpatient dialysis experience

We are given so much opportunity to make an impact on dialysis regimen wellness, seeking input about management of care with the patient, which often leads to improved adherence, decreased acute issues, and ultimately less frequent hospitalizations. Rounds in the unit allowed me time to address and educate patients about alternate modalities of treatment, such as peritoneal and home hemodialysis. There was always time to consistently educate patients about transplantation options; routine visits allowed me to follow up on pretransplant checklists and discuss what to expect posttransplant. I enjoyed participating in and leading care-plan meetings that included interdisciplinary team members all contributing to the dialysis regimen with the patient. Concise documentation of rounds with accurate billing is essential to communicating with other health care team members for subsequent visits and care. I was able to act as a resource for troubleshooting, educating, and ordering what the dialysis staff and patients needed with support from physicians never far away if needed.

Inpatient rounds and dialysis

There is something special about getting to see patients in an acute setting. They do not pick us to be there at their time of need, and we are fortunate to be able to contribute at a stressful time. Patients and families are often scared, do not feel well, and may not understand their health issues or what is being done for the plan of care. Verbalization of explanations may be difficult for patients to comprehend, and there is often little time for visits. Each morning, I review charts, including vitals, labs, medications, and trends, as well as any changes to the plan of care. I order recommended interventions, including dialysis treatments, labs, medications, or other changes to the plan of care, and communicate all these tasks with interdisciplinary team members. I round on my assigned patients daily, provide updates on their plan of care emphasizing nephrology- and transplant-related issues, conduct education daily, and document with consult or progress notes with billing components. My notes are separately billed under my position with intermittent review by my collaborating physician. I work independently but also frequently with the service attending, fellows, and residents throughout the day. This supports a more comprehensive health regimen in a time of acute care for patients and families.

I consider myself lucky for the fulfilled, enriched roles I've had throughout various practice settings in my nephrology career. Working across practice settings alongside interdisciplinary teammates keeps my contributions cohesive and patients' wellness possible. As an advanced practice provider, I have found my niche weaving in additional education for holistic care for patients and families affected by kidney diseases by increasing patient confidence and empowerment, ultimately leading to improved outcomes. ■

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Driving Change: The Role of Nurse Practitioners in Nephrology Care Delivery Redesign

By Candice Halinski

The suboptimal outcomes experienced by patients with chronic kidney disease (CKD) are a direct result of flaws in the design of the health care delivery model. This is evidenced by lack of pre-existing nephrology care, high rates of dialysis initiation using a central venous catheter, increased morbidity and mortality, and low rates of preemptive transplantation (1). Improvement on the associated outcomes can be facilitated by the creation and deployment

of supportive interdisciplinary care delivery models.

Under the Advancing American Kidney Health initiative, ambitious targets have been identified to improve on the care delivery model for patients with kidney diseases, including the aim to increase the use of home dialysis therapies and transplantation. Little progress can be made on these initiatives without the identification of gaps in the existing care delivery model. This requires foundational knowledge of the disease trajectory, direct

experience with the population, stakeholder management, organizational awareness, and expertise in population and community health initiatives. The direct patient access, advanced education and training, knowledge of evidence-based practice, and expanded clinical skills (2) of nurse practitioners (NPs) make these professionals ideal candidates to lead the co-creation of care delivery models.

Launched in 2012, Northwell Health's Healthy Transitions program is evidence that the integrated use of NPs and nephrologists has positively affected health care delivery. Under this model, NP-driven care delivery design coupled with nephrologist collaboration, partnership, and medical direction results in positive patient outcomes. In affiliation with a medical director and under the clinical supervision and daily operational direction of an NP, the Healthy Transitions program was created to deliver evidence-based treatment interventions that improve coordination of care and education to decrease

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cost and proactively prepare for treatment therapies (3).

In 2017, a formalized, randomized controlled study of the program (4) provided evidence for the value of coordinated care management. This study randomized 130 patients with late-stage kidney diseases (stages 4 and 5) to an intervention and control group for a period of 18 months. Patients assigned to the intervention group received education, monitoring, and follow-up care with an assigned nurse care manager. Study results revealed a significant reduction in hospitalization when the intervention group was compared with the control group.

Hospitalizations were measured per patient per year with 0.61 per year in the intervention group and 0.92 per year in the control group (incident rate ratio, 0.66%; 95% CI, 0.43–0.99; $p = 0.04$); 37% of patients initiated peritoneal dialysis, and 58% of program participants initiated dialysis therapies without hospitalization. In addition, at the start of hemodialysis therapy, a catheter was

present in 37% of the intervention group compared with 69% of the control group; 53% of those in the intervention group initiated dialysis with a functioning arteriovenous access compared with 27% in the control group.

Insight into the patient journey affords teams the opportunity to develop patient-centered care solutions and engage in design thinking (5) (Figure 1). This is particularly true in CKD care. In nephrology, experienced nephrology NPs offer a distinct, competitive advantage because they understand the health care delivery system from a patient and provider perspective as well as possess working knowledge of the internal and external patient journey. In addition, they are afforded the opportunity and time to educate and monitor patients throughout the trajectory of their disease. In nephrology settings, NPs are often called on to deliver care in one primary setting (i.e., dialysis, transplant, or clinic). When compared with the competing demands placed on the neph-

rologist to deliver care in multiple settings, NPs are more accessible and may have more bandwidth to provide personalized educational sessions and follow-up. This allows for additional insight into psychosocial factors and social determinants of health. Understanding patient-, organizational-, and nephrologist-related obstacles (Figure 2) in the context of patient care delivery allows for consideration of fundamental questions (6) (Figure 3) to enable the collaborative creation and adoption of policies, procedures, and protocols that drive positive patient outcomes.

The process of health care delivery redesign is facilitated when there is comprehensive understanding of the disease trajectory and the lived experience of the patient. With foundational training in leadership, communication, and holistic care; knowledge of disease management; and advanced clinical assessment skill, NPs can integrate science into practice to design programs that improve clinical outcomes. Their experience as clinical team leaders and patient advocates is essential to the co-creation, development, and sustainability of health care delivery design. As the nephrology landscape continues to evolve, it is likely that there will be a rising demand for NPs to serve as collaborators and leaders in health care delivery design. ■

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The author reports no conflicts of interest.

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Figure 1. Design thinking in the creation of kidney-related care delivery models

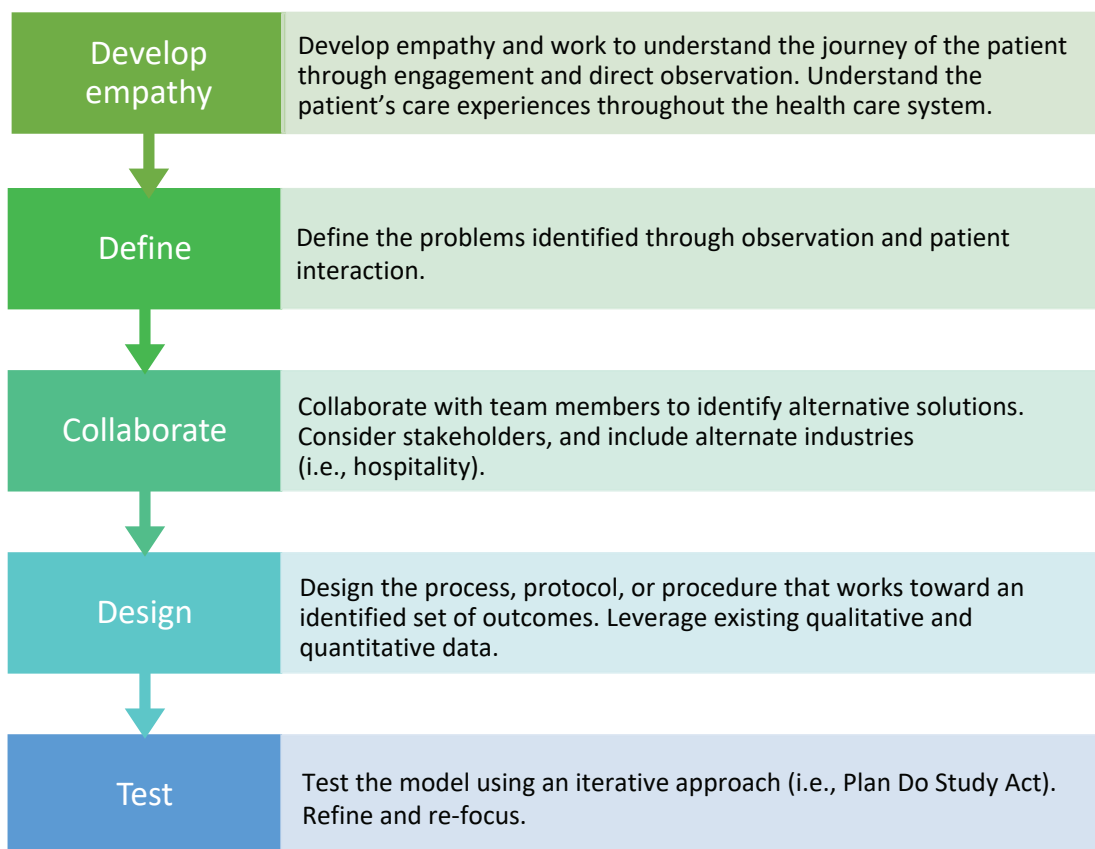
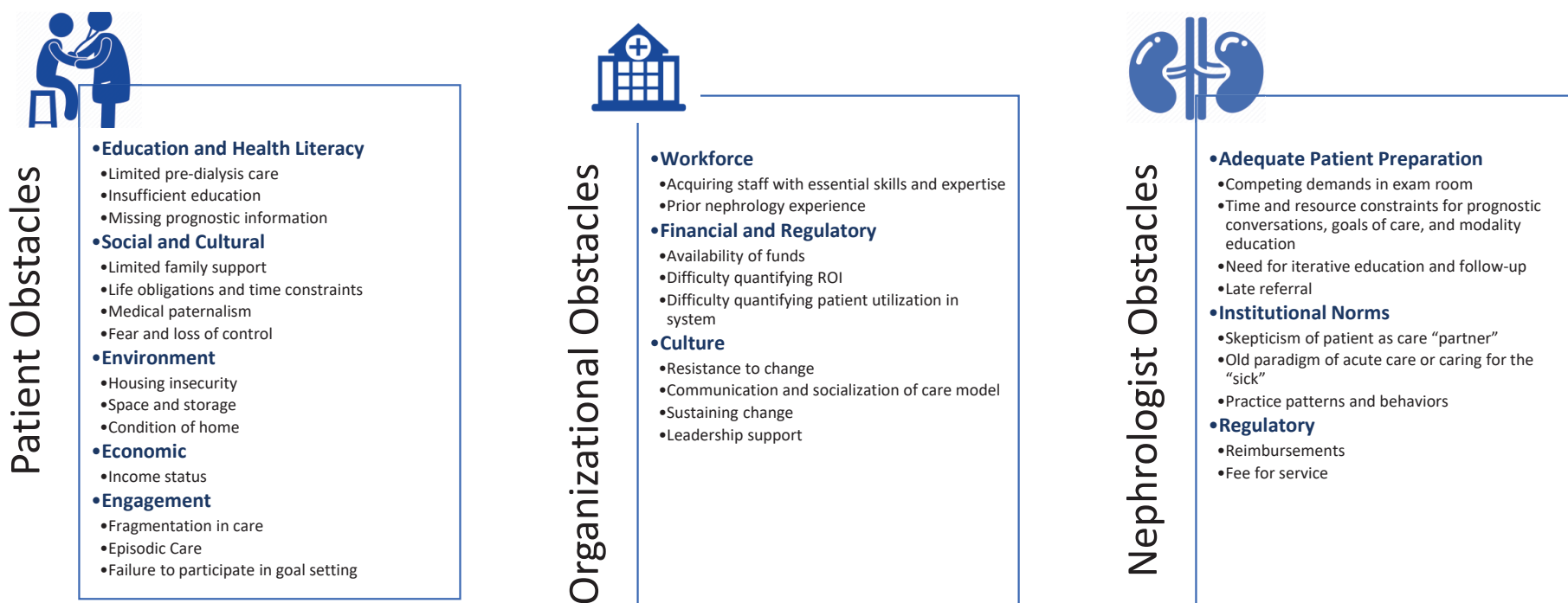


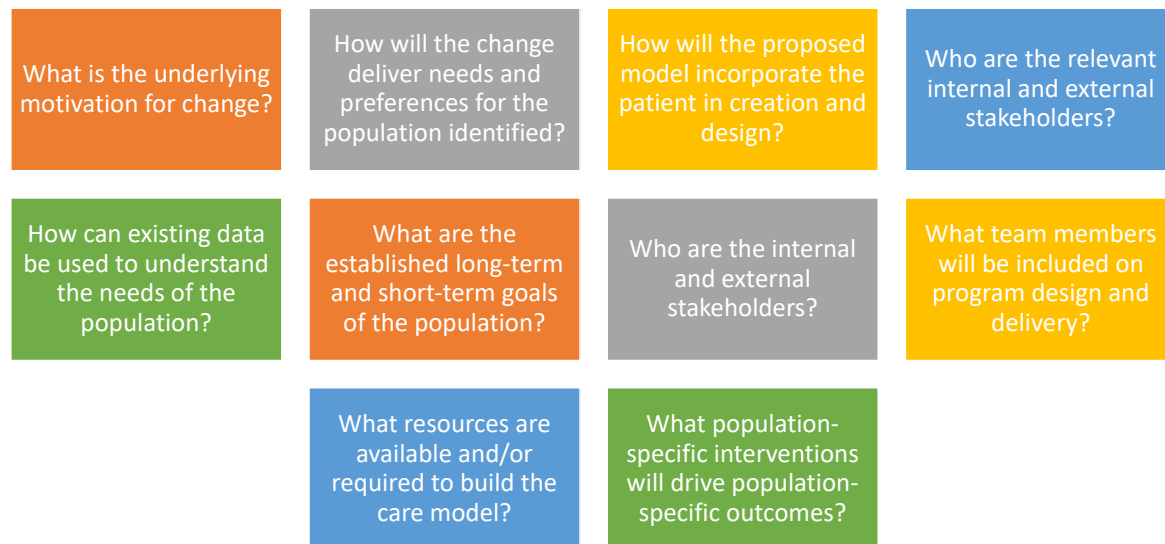
Figure 2. Obstacles in nephrology care delivery



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Figure 3. Fundamental questions for health care delivery design



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Nurse Practitioners in Nephrology: Understanding the Educational and Career Pathway to Specialty Practice

By Candice Halinski

Originally trained to provide holistic primary care, nurse practitioners (NPs) practice in a variety of acute and chronic care settings. The pathway to practice requires candidates to pursue multiple educational prerequisites and degrees (Figure 1). These rigorous demands are likely to increase in the coming years. Education and training begins with the completion of baseline prerequisites in addition to the attainment of a Bachelor of Science in Nursing (BSN) and active licensure as a registered nurse (RN) in the state of practice. State licensure requires that candidates successfully pass a board certification examination formally known as the National Council Licensure Examination.

State licensure as an RN typically permits entry into graduate-level degree programs for advanced practice nursing. Such programs build on the knowledge and experience gained as a BSN-prepared RN. Programs characteristically range from 12 to 24 months depending on full-time or part-time enrollment. The curriculum typically includes courses in pathology, pharmacology, leadership, research, and physical assessment, whereas primary objectives focus on clinical practice because NPs will provide direct patient care and medical management (1). The clinical rotation requirements vary in length (500–1000 hours) by educational institution, with an average range of over 500 precepted hours to meet minimum eligibility requirements for certification (2).

The completion of a Master's degree-level program results in attainment of a Master of Science in Nursing and eligibility to become licensed as an NP in the state of practice. Although licensure can be submitted, most states require the successful completion of a national certification examination before practicing. National board certification is an evidence-based means to validate the knowledge areas (Table 1) and experience gained throughout the educational process, as well as to assess the competency level for entry into practice (1). Board certification is renewed every 5 years by means of re-examination or continuing medical education of 100 contact hours of advanced continuing education (CE). There is a mandatory requirement of 25 CE credits of advanced practice pharmacology, as well as an accom-

panying requirement of at least 1000 clinical practice hours (3).

More than 69% of NPs practice in primary care settings. However, because of the increasing population of individuals with chronic kidney disease (CKD) and end stage kidney disease, entry into the nephrology specialty with minimal clinical nephrology experience may be permitted (1). Exposure to nephrology may begin within the NP program, where a designated number of preceptors facilitate practice hours in an area of interest. Graduate NPs may pursue direct entry into nephrology depending on organizational needs. Although no formalized nephrology-specific NP program exists, graduates of accredited programs with 2000-plus clinical practice hours can sit for additional board certification through the Nephrology Nursing Certification Commission. Passing the examination allows an NP to be recognized as a Certified Nephrology Nurse–Nurse Practitioner (4).

Given the increasing population of patients with CKD and kidney failure, coupled with reimbursement changes that permit NP coverage of patients on hemodialysis, NPs can enter practice in the chronic outpatient setting; however, additional opportunities exist in a multitude of settings (5). The role of the NP in nephrology is no longer exclusively dialysis rounding. It has evolved to include chronic and acute care in hospital settings, outpatient dialysis units, transplant centers, CKD clinics, research programs, care management, home care, palliative care, government settings, equipment and drug manufacturers, and leadership positions.

In light of increasing patient complexity, reimbursement changes, care-delivery redesign, and nephrologist shortages, NPs have become an integral part of the nephrology care team. Their expertise, educational preparation, and advocacy in the nephrology setting have contributed to a variety of positive outcomes for patients with CKD and kidney failure. This includes improvements in access to care, continuity of care, patient safety, and quality of care (6). Nephrology has allowed NPs across the nation to practice independently and collaboratively while maximizing their scope of practice that highlights their ability to provide exceptional health

care for millions of Americans. ■

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