A new nursing model for the care of patients with chronic kidney disease: the UNC Kidney Center Nephrology Nursing Initiative. (Continuing Nursing Education) (University of North Carolina)

Goal

To provide an overview of the development and implementation of a nephrology nurse initiative using a continuous quality improvement model.

Objectives

1. Explain the nurse-directed model of care as developed and implemented by this institution.

2. Discuss barriers to quality patient care and strategies to overcome these barriers.

3. Describe how the Nephrology Nursing Initiative model has helped provide improved quality of care to patients with CKD at this institution.

The care of patients with chronic kidney disease (CKD) is complex and requires continual assessment, planning, intervention, and patient education over a continuum that may last days or decades. Historically, the key roles for nephrology nurses were at the point of end stage renal disease (ESRD) in the hospital, dialysis units, or transplant programs. More recently, as the incidence of CKD has increased, nephrology nurses have assumed more responsibility in the care of patients with CKD prior to ESRD. With the effort to recognize CKD at earlier stages and delay ESRD comes labor-intensive monitoring, education, and coordination of care. Management of the systemic consequences of renal disease as well as planning for renal replacement therapy is now guided by new regulations and standards (National Kidney Foundation [NKF], 2006a, b, 2007).
At the University of North Carolina Kidney Center in Chapel Hill, North Carolina (UNC-CH), nephrology nurses have created a new nursing model to optimize patient care through improved communication, systematic review of barriers to care, and developing strategies to address these barriers. The goal is efficient, high-quality care where every patient has early CKD education, early referral for access and kidney transplantation, and nurses to serve as resources at all points of care. As the patient population has changed over the last 25 years, the nursing model has evolved to encourage and support self-management among the patient population.

Historical Background for the UNC Kidney Center Nephrology Nursing Initiative

Twenty-five years ago, the nephrology division at UNC-CH, like many centers, had one inpatient and one outpatient dialysis unit, and nephrology clinics were held twice weekly. The kidney transplant list was small, and the authors' center performed about 30 kidney transplants annually. The number of patients on dialysis and waiting for kidney transplantation has risen exponentially over the last two decades. Currently, the authors' center serves several hundred adult and pediatric patients on dialysis at multiple dialysis units and several hundred patients on the transplant waiting list. Similar growth has occurred across all patient age groups. The increased population of patients with CKD has mandated improved coordination of care and efficiency. Every day at this center, pediatric and adult nephrology attending physicians cover three inpatient services, outpatient nephrology clinics, an inpatient acute dialysis unit, and six outpatient dialysis units in different cities. Hundreds of patients require services related to dialysis, transplant referral and evaluation, dialysis access placement, admissions to the hospital, and discharges back to the dialysis units.

With the rise in the incidence of CKD, patients enter the system with varying levels of acuity and needs. This has led to the creation of several nursing positions within the UNC Kidney Center. One year ago, the UNC Kidney Center had a designated post-transplant nurse, a pediatric CKD and transplant nurse, and two vascular access nurses. These nurses all functioned separately, with very little overlap in daily function. Within the last year, a nephrology nurse practitioner was hired to serve as a liaison between the inpatient and outpatient settings for all patients on dialysis.

The goal of this nurse is to decrease emergency department visits and hospital admissions, decrease lengths of stay for admissions, and to smooth the transition for patients on dialysis being admitted or discharged from the hospital, including patients new to dialysis. The nurse practitioner also provides patient education and staff education related to CKD Stage 5. Finally, a nurse was hired to manage a new CKD clinic. In this clinic, patients receive education related to prevention of disease progression, preparation for renal replacement therapy through education regarding
dialysis options and transplantation, and dietary instruction. The CKD clinic focuses on promoting disease self-management.

The director of the UNC Kidney Center recognized that nephrologists are geographically scattered due to coverage of the inpatient services and outpatient dialysis units. Conversely, nurses are a geographically stable group who come in contact with all patients. The director gave a mandate to create a nursing structure to manage patient flow and improve efficiency, effectiveness, and quality of care for all patients as they progressed along the continuum of their disease. Improving early referral rates for dialysis access and transplantation and improving patient education were key features of this mandate.

Nurse-Directed Model of Care

As the nursing structure began to take shape, a series of meetings was held to determine the focus and the best model of collaboration while maintaining individual roles. The CQI process allowed a very systematic way to identify specific barriers to quality patient care and how those areas might be impacted. Examination of the previous model of care revealed a very linear process in which physicians referred patients for dialysis access, then dialysis initiation, and once the patient was stable on dialysis, for transplantation. Physicians frequently rotated to outside dialysis units or inpatient services, and little communication occurred between the points of care along the continuum. For example, the access team was not aware of where the patient might be in the transplant evaluation process. The only patient education occurring consistently was related to ESRD, regarding access placement and transplantation. Very little pre-ESRD patient education was occurring consistently. The linear nature of the previous model of care for patients with CKD is shown in Figure 1.

The Nephrology Nursing Initiative (NNI) group created a new structure with the current six nurses. While each nurse has an individual role, the new structure set up the expectation and means of communication between all points of care for patients from the early stages of CKD through renal replacement therapy, including transplantation. Patients have a nurse available to them at all stages, and the nurses initiate referrals for the CKD clinic, anemia clinic, vascular access, initiation of dialysis, and transplantation evaluation. This provides an environment where referrals occur in a timely fashion, and multiple goals may be addressed at one time. For example, patients may be referred to the CKD clinic, anemia clinic, and access clinic all at the same time, and nurses managing these clinics communicate with ...
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