

Optimizing chronic kidney disease care: The primary-specialty care interface

Uncoordinated management of patients needing renal care must be replaced with collaborative management involving family doctors, nephrologists, and other health care providers.

ABSTRACT: Best care for the patient with chronic kidney disease requires primary care physicians and specialist physicians to work in a coordinated way with a team of ancillary care providers, including nutritionists, social workers, pharmacologists, and nurses. While challenges exist, coordinating a care plan based on each physician's core competencies will optimize both the patient's care and the use of increasingly scarce resources. In this primary-specialty care interface, communication and collaboration are essential.

In the current era of physician shortages, overbooked offices, antiquated fee schedules, and lengthy waiting lists for access to specialty care, the prospect of managing a patient with chronic kidney disease (CKD) can be daunting for the family doctor. Likewise, the nephrologist's office is inundated daily with requests for assessment and assistance managing the burgeoning number of CKD cases.¹ In the Vancouver Island Health Authority, for example, these pressures have resulted in an average wait for elective nephrology consultation of 8 months (range 4 to 14 months).

During the interval between specialty referral and consultation, the patient is often left to worry about the effects of kidney disease and the consequences of delayed treatment. Instead, the patient might be learning about CKD and accruing benefits from lifestyle changes and other general health measures.²

Examining the interface between primary and specialty care through a hypothetical but typical case is instructive. Much can be learned from considering first the status quo and then an improved model for care. The following discussion offers the perspectives of both the family doctor and

the nephrologist, while focusing on the most important issue: patient outcome and satisfaction.

The case of Mr J.

Mr J. is a 62-year-old with hypertension who was recently diagnosed with type 2 diabetes. He is on an angiotensin-converting enzyme (ACE) inhibitor, metformin, and lipid-lowering medication. Routine screening turns up gross dipstick-positive proteinuria, a serum creatinine of 145 $\mu\text{mol/L}$, and an estimated glomerular filtration rate (eGFR) of 37 mL/min/1.73 m^2 (normal >90 mL/min/1.73 m^2).³

Mr J.'s family doctor informs him that his tests indicate some trouble with his kidneys and that a referral to a kidney specialist will be made. The family doctor sends a one-page note to the nephrologist requesting the consultation and attaching the eGFR, a list of current medications, patient history, and allergies.

Mr J. waits to hear from the nephrologist. Since he doesn't have any symptoms from his renal disease, Mr

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J. understandably underestimates the importance of his illness during the long wait for consultation. Indeed, when he finally meets the nephrologist, Mr J. has forgotten why he was referred in the first place.

When the nephrologist's office receives Mr J.'s referral, it is put in the queue with the many other CKD referrals. A few weeks later Mr J. is notified that an appointment has been scheduled for 6 months hence and he is instructed to have some blood tests the week before his appointment.

After waiting half a year, Mr J. nearly forgets his appointment with the nephrologist and neglects to have the requested blood work done. The nephrologist's office staff scramble to track down any outstanding investigations and historical information at the last minute. Some data are missing, so a second appointment has to be made to complete the evaluation. In a four-page single-spaced report, the nephrologist carefully documents her opinion regarding Mr J.'s renal disease and discusses its management. Hidden in the report are recommendations for ongoing ACE inhibition, blood pressure control, and serial follow-up chemistries.

It is not clear who will make the follow-up arrangements or who is responsible for seeing Mr J. about his kidney disease, so Mr J. is lost in the system and doesn't show up for renal care until he eventually presents requiring urgent dialysis. The family doctor and nephrologist are frustrated with each other and Mr J. is ultimately the loser.

Wasted time and poor communication are distressingly common in clinical practice and as in Mr J.'s case can lead to a suboptimal outcome. Furthermore, by making him a passive bystander in his evaluation and treatment, both the family doctor and the nephrologist lost their most impor-

tant ally in the battle to achieve Mr J.'s best care.

A shared-care model for CKD

The term "shared care" refers to an arrangement where family doctors, specialists, and other health care providers (such as dietitians, community nurses, and social workers) work together to treat a patient. Generally, patients who benefit most from a shared-care model are those with chronic diseases and multiple medical problems. The key to effective shared care is good communication between all providers and a level of trust in each other's expertise. In many areas, shared-care protocols have been developed, often using disease-specific guidelines.

up—all in a timely fashion and at his convenience.⁴ By providing Mr J. with a clear and coordinated approach to his renal care and by giving him education and responsibility, his care providers give Mr J. his best chance for success (see **Figure**).

What does the family doctor need from the nephrologist?

When the possibility of CKD is recognized and a nephrology referral is made, the family doctor needs timely access for assessment in order to obtain a diagnosis and treatment plan for his or her patient. A clear understanding of process and responsibilities is mandatory.⁵ The nephrologist's office should provide the following:

- Consultation without undue delay.
- An accurate diagnosis, or at least

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Providing excellent renal care must start with the needs of the patient and then develop from the skills and services of both the primary care provider and the renal care team. In an approach that improves on the status quo just described, Mr J. would learn more about kidney disease with the help of an accurate diagnosis, an estimate of prognosis or expected disease course, and an outline of treatment options, along with a plan for follow-

diagnostic considerations and a plan for ongoing evaluation.

- Specific, well-defined instructions for ongoing assessment and follow-up.
- An explicit discussion of responsibilities for follow-up (who will see the patient and for what purpose).
- A list of indications ("red flags") for urgent reassessment by the nephrologist.

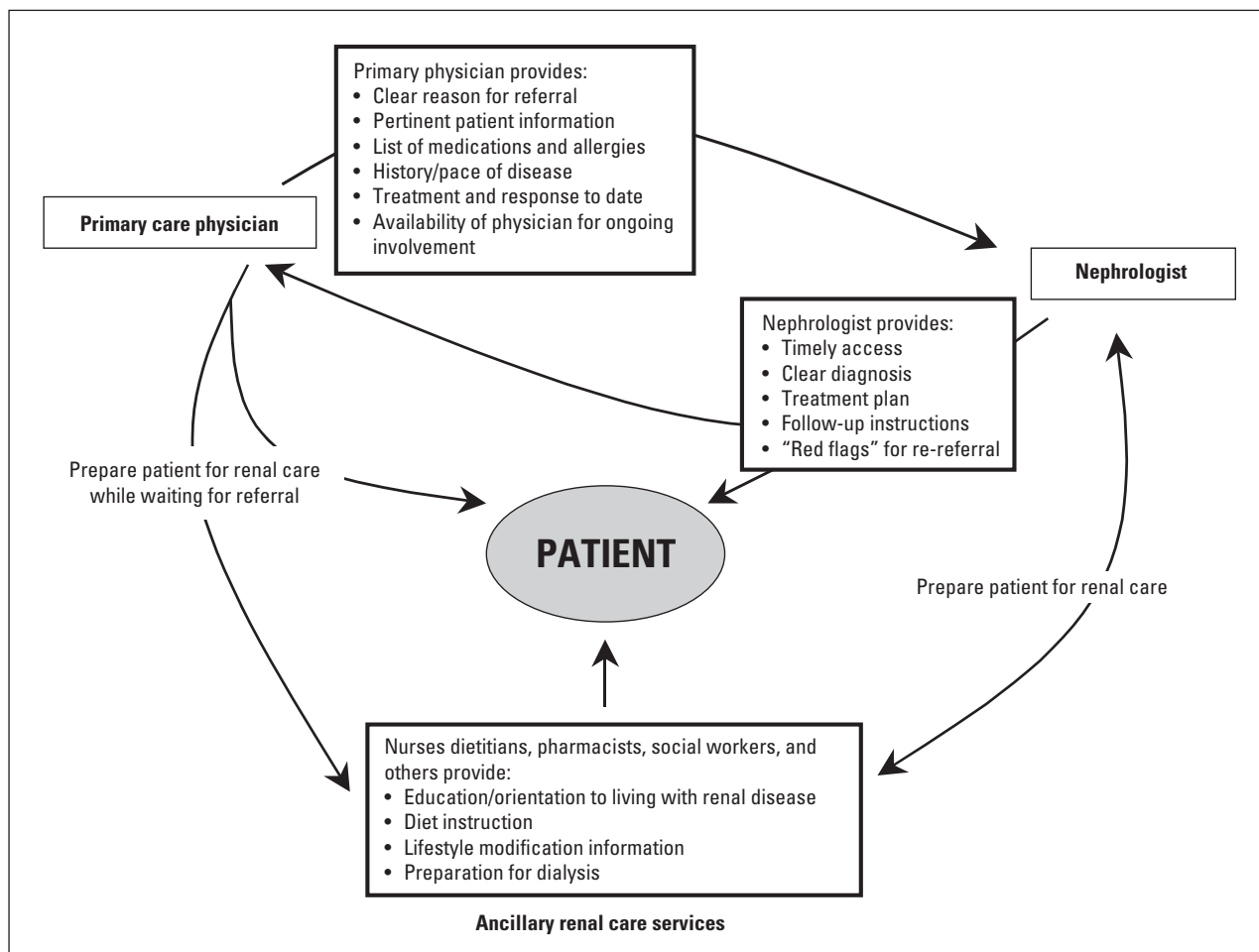


Figure. Shared care for CKD.

What does the nephrologist need in the consult request?

A carefully prepared referral package can greatly improve the interaction between specialty and primary care. Helping the nephrologist understand why he or she is seeing the patient will enhance the quality and appropriateness of the opinion given. The CKD consult request should contain all of the following:

- Pertinent personal information (name of patient, date of birth, personal health number, contact information).
- A clearly stated question or reason for the referral.

- Background information about the patient's renal health, including previous test results to assist with assessing pace of disease and renal risk factors such as diabetes, hypertension, vascular disease, connective tissue disease, and family history of renal disease.
- A summary of current investigations and treatment strategies employed to date.
- An accurate medication list, allergy list, and history of medication intolerances.
- A comment concerning the family doctor's availability for ongoing involvement in the patient's renal care.

What can the family doctor do while Mr J. is waiting for the appointment with the nephrologist?

The interval between referral and nephrology consultation should not be spent idly. Guidelines for CKD care can be followed to help Mr J. reach blood pressure targets, make appropriate dietary modifications, quit smoking, and learn more about renal disease. ACE inhibitor or angiotensin receptor blocker (ARB) therapy can be initiated or intensified, while dyslipidemia can be evaluated and treated.⁶ A schedule of routine visits for review of blood work and blood pressure monitoring can be established,

thereby paving the way for ongoing management of what will most likely be a chronic disease.

Can ancillary services (diet counseling, education sessions, online resources for patients) play a role?

In the last 10 to 15 years, CKD clinics have become an increasingly important part of renal care. These typically developed as predialysis clinics whose mission was the education and orientation of patients with advanced renal failure as they progressed to renal replacement therapy (dialysis or transplant). Presently, most renal programs in British Columbia have a CKD clinic staffed by a full complement of renal caregivers, including nurses, dietitians, social workers, pharmacists, clerical staff, and nephrologists. Patients are seen earlier in their disease course and more time and resources are available for those with earlier stages of renal disease. A family doctor might consider referring a patient to the local CKD clinic for dietary advice and general orientation to living with kidney disease in parallel with the referral for nephrology assessment. Patient self-management resources are listed in “Chronic Kidney Disease: A Guide for Patients,” available from the Chronic Disease Management web site (www.healthservices.gov.bc.ca/cdm/patients).

How can patients become more active in their own health management?

Involving patients in their own chronic disease management can be challenging. CKD does not typically cause symptoms until it reaches an advanced stage. Like asymptomatic hypertension and dyslipidemia, CKD is easy to ignore. Engaging patients early, providing educational resources, and ensuring undelayed medical attention can increase patients’ awareness of

important disease-modification strategies and may maximize their compliance with treatment recommendations. We have developed a “Know Your Numbers” patient handout that simply charts the keys to delaying CKD progression: blood pressure control, ACE inhibitor/ARB therapy, diabetes control, dyslipidemia control, and smoking cessation. Patients are shown how to enter their own data and track their disease.

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Who should follow Mr J. for routine renal care after his assessment is complete?

Indications for follow-up with the nephrologist or family doctor will vary from patient to patient, depending on diagnosis, disease severity, and pace of disease progression. Patients requiring chemotherapy for immune-mediated glomerulonephritis or patients with progressive CKD expecting to need dialysis within 1 to 2 years may be best served by the nephrologist assuming responsibility for most aspects of their renal care. Other patients with stable or slowly progressive CKD can have their renal care directed by the family doctor, with

timely access for nephrology re-referral guaranteed. It is paramount that overt and explicit communication regarding roles and responsibilities of each practitioner occurs. Furthermore, patients should be clearly informed of the treatment plan, including who is going to see them for follow-up and what the schedule of appointments will be. If Mr J. is ultimately diagnosed with diabetic nephropathy that is only slowly progressive, his nephrologist and family doctor may agree that routine follow-up should be with the latter and that the nephrologist will see him less frequently or only when he shows signs of progression or meets mutually agreed-upon benchmarks.

What should prompt the family doctor to call the nephrologist?

Unexpected complications or change in disease progression commonly develop in CKD. Early diagnosis and intervention may help avert adverse outcomes, so the family doctor needs to have ready access to ongoing nephrology consultation and assistance for these situations. Clinical changes or events that might indicate urgent re-referral include:

- Rapidly progressive decline in GFR (>10 mL/min/year).
- Symptomatic uremia or advanced azotemia—GFR <20mL/min, with nausea, pruritis, or weight loss.
- Marked electrolyte abnormalities, such as hyperkalemia, hyponatremia, or metabolic acidosis.
- Symptomatic edema, CHF, or intravascular volume overload.

Recommendations

The high prevalence of CKD⁷ (defined as persistent urinary abnormalities or GFR <90mL/min.) in the general population (11%) presents a challenge to any health care system. The current supply of nephrologists will not be

able to see and provide comprehensive ongoing renal care to all patients with kidney disease. The key will be to have all care providers working at the peak of their core competencies.

Primary care providers will need to focus on screening the appropriate population for renal disease using the screening form provided in the new provincial guidelines.⁶ They should then initiate an assessment to see whether those patients with abnormal renal test results have indications of more serious disease requiring nephrological consultation. Primary care providers can begin and intensify routine therapies that affect CKD outcomes, such as blood pressure control, ACE inhibition, lipid lowering, and smoking cessation. In many cases, supervising a patient's CKD care will become the purview of the primary care provider, once the provider and the nephrologist mutually agree on a plan.

For patients with CKD not yet on or approaching dialysis, nephrologists should direct their efforts to diagnosis and therapeutic recommendations. Routine follow-up appointments for the sole purpose of monitoring blood pressure or reviewing medication and chemistry might be delegated to other care providers, thereby freeing time for additional new patient assessments.

Early involvement of an interdisciplinary CKD team will foster patient education and self-management. These team members may be suited for some of the necessary routine follow-up just discussed.

We must not underestimate the importance of involving the patient. Engaging the renal patient to learn about his or her disease and its treatment might increase the chance that treatment targets are met, follow-up occurs, and unexpected crises are avoided.

Finally, we wish to emphasize communication. Roles and responsi-

bilities of each care provider should be agreeable to and understood by all participants. In the Vancouver Island Health Authority we have explored the development of service agreements between the renal care team and primary or other secondary care providers. The purpose of such agreements is to explicitly state which professional will assume responsibility for different aspects of the CKD patient's care.

Summary

CKD is an increasingly common and complex medical condition that requires a coordinated care plan that exploits the expertise of multiple practitioners. Early diagnosis and intervention will delay or eliminate many complications and should be the goal for all those caring for patients at risk for CKD.

Patients with CKD should be engaged in their own care and encouraged to pursue education about all aspects of renal care in order to delay their disease progression. Multidisciplinary CKD clinics are available in many communities and are uniquely situated to assist with this phase of patient care.

The family doctor and the nephrologist should direct the patient's care plan in partnership so that there will be no wasted time in the patient's journey and no unnecessary adverse outcomes. A carefully prepared referral package from the family doctor will allow the nephrologist the best opportunity to provide a timely and useful consultation. Once a diagnosis has been reached and a treatment plan has been clearly delineated, explicit communication between physicians regarding roles and responsibilities will guarantee appropriate care and ensure follow-up for these high-risk patients.

The status quo must go.

Competing interests

None declared.

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