

## **Surveillance de l'affection rénale chronique dans une clinique gérée par du personnel infirmier et supervisée par des médecins : l'expérience CanPREVENT**

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L'objet de cette étude était d'examiner la nature des soins apportés aux personnes souffrant d'affection rénale chronique, dans le cadre d'une étude plus large sur les cliniques gérées par du personnel infirmier et supervisées par des médecins, ainsi que la description que les patients, le personnel infirmier et les néphrologues font de leur expérience de ces cliniques. Les entretiens ont été réalisés avec 7 infirmières, 5 médecins et 23 patients. La collecte de données a également nécessité l'examen de 40 graphiques choisis au hasard. Les thèmes recensés étaient en lien avec les caractéristiques de l'infirmière, les soins axés sur le patient, la promotion de la santé, l'enseignement, la gestion des problèmes, le temps, les protocoles, la consultation et les orientations, la logistique de la clinique, les travaux d'écriture/la documentation, ainsi que la collaboration entre infirmières et médecins. Difficultés et résultats ont également été décrits dans le cadre de l'expérience vécue à la clinique. Les patients ont participé activement à l'autocontrôle et fait état de niveaux de satisfaction élevés concernant les soins de même que d'améliorations des résultats sélectionnés. Dans l'ensemble, les perceptions de ce modèle de soins étaient positives et l'approche justifie de plus amples recherches.

Mots-clés : clinique gérée par du personnel infirmier, affection rénale chronique

# **Managing Chronic Kidney Disease in a Nurse-Run, Physician-Monitored Clinic: The CanPREVENT Experience**

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The purpose of this study was to examine the nature of the care provided to people with chronic kidney disease within a larger study of nurse-run, physician-monitored clinics, as well as how patients, nurses, and nephrologists described their experience with the clinics. Interviews were conducted with 7 nurses, 5 physicians, and 23 patients. Data collection also entailed review of 40 randomly selected charts. Identified themes related to characteristics of the nurse, patient-centred care, health promotion, teaching, dealing with problems, time, protocols, consultation and referrals, clinic logistics, paperwork/documentation, and nurse-physician collaboration. Challenges and outcomes were also described as part of the experience with the clinic. Patients were actively engaged in self-management and reported high levels of satisfaction with care as well as improvements in selected outcomes. Overall, the perceptions of this model of care were positive and the approach warrants further exploration.

**Keywords:** nurse-run clinic, nursing clinic, chronic kidney disease, qualitative research

In Canada the incidence of end-stage renal disease (ESRD) has increased steadily, at more than 7% per annum, over the past decade (Canadian Institute for Health Information [CIHI], 2006). ESRD occurs mainly as a result of chronic progressive kidney diseases (CKD), increasingly due to diabetes (CIHI, 2006). People with ESRD have a markedly reduced survival rate and quality of life (Molzahn, Northcott, & Dossetor, 1997; Molzahn, Northcott, & Hayduk, 1996) and very high treatment costs (Goeree et al., 1995). Since CKD is under-recognized and under-treated in the community, opportunities exist to prevent ESRD.

CKD is also associated with cardiovascular disorders, resulting in increased morbidity and mortality, but several interventions of proven efficacy can slow progression of kidney disease and reduce the morbidity and mortality associated with cardiovascular disease (Barrett, 2003). The challenge is to identify people who will benefit from these interventions and apply them consistently. In the current system, patients see physicians intermittently, and this system is not well designed for chronic disease management. However, a nurse supported by a nephrologist,

running a multiple risk factor intervention and disease management clinic may be effective in reducing or delaying the onset of advanced kidney disease, cardiovascular events, and death. To examine this hypothesis, the Canadian Collaborative Group for the Prevention of Renal and Cardiovascular Endpoints Trial (CanPREVENT) was designed as a randomized controlled trial, and a pilot test was conducted in five centres. In this article, we describe the nature of the care provided in the centres and the experiences of patients, nurses, and physicians with the clinic after nearly 3 years of operation.

### **Research Questions**

The research questions for this sub-study of the CanPREVENT project were as follows: *What is the nature of the care provided by nurses and physicians to those in the intervention group of the CanPREVENT study? How do the nephrologists and nurses work together to provide care to those in the study? How do patients, nurses, and physicians describe their experience with the clinic?*

### **Literature Review**

Frequently, CKD goes unrecognized in the early stages. As a result, many of its complications are left untreated and result in progression of the disease and further complications. While the benefits of treatment may be great, the regimen and care needs are complex, posing many challenges for those delivering care (Barrett, 2003).

Earlier intervention is necessary, as many people with CKD die or experience cardiovascular events before they reach ESRD. Current management of CKD is sub-optimal; CKD is under-recognized and frequently under-treated (Coresh et al., 2001). Hypertension is poorly controlled generally (Joffres et al., 1997). For example, Tonelli et al. (2001) report that Canadians attending nephrology offices with CKD are commonly under-treated with regard to blood pressure, lipid control, and aspirin administration.

It has been suggested that nurses be involved earlier in a multiple risk factor intervention approach to CKD (McLaughlin, Manns, Culleton, Donaldson, & Taub, 2001; Zabetakis & Nissenson, 2000). A recent randomized trial of a clinic focusing on intensified multiple risk factor intervention versus usual care showed clearly improved outcomes in diabetics within 4 years (Joss, Paterson, Deighan, Simpson, & Boulton-Jones, 2002). Similar benefits of clinic-delivered multiple interventions were seen in a before-after study with diabetics who had advanced CKD (Gaede et al., 2003). Almost 80% of people with CKD attending a pre-dialysis clinic expressed a willingness to consider a strict diet, taking up to six extra medications a day, and making six extra clinic visits a year if this would

delay the onset of ESRD by even a few weeks (Trivedi, Pang, Campbell, & Saab, 2002). Protocol-guided care, coordinated by nurses and focusing on illness management and prevention, may offer the best chance to maximize uptake of effective therapies for people with CKD.

Patients with advanced CKD are increasingly cared for in hospital-based multidisciplinary clinics. These clinics, staffed by specialized nurses and nephrologists, with variable involvement of other health professionals, have been associated with improved outcomes (Levin et al., 1997; Mosley, 2000). However, one trial that failed to show a benefit left it to primary care providers to implement suggested interventions (Harris, Luft, Rudy, Kesterson, & Tierney, 1998).

Care in specialized clinics has been found to reduce hospitalizations and costs for those with heart failure (McAlister, Lawson, Teo, & Armstrong, 2001a). Processes of care, hospitalization, quality of life, and functional status have also been shown to be generally improved by approaches similar to those used for coronary heart disease (McAlister, Lawson, Teo, & Armstrong, 2001b). It has been found that patients have a greater response to non-medical interventions (fluid/diet restrictions and regular self-weighing) with intensive counselling by a nurse who is part of a multidisciplinary team (Jaarsma & van Veldhuisen, 2007).

Nurses, collaborating with physicians, already effectively deliver protocol-based care in nephrology settings (Breiterman-White & Becker, 1997). Nurse case managers in disease management programs are seen to play an important role for people with CKD (Bolton, 1998; Holland, 1998; Sidorov et al., 2002). In the present study we explore the nature of care provided to people with early CKD (stages 1 to 3) and describe the experience with nurse-run, physician-monitored clinics.

## **Methods**

### ***Intervention***

The intervention consisted of a protocol-guided, multiple risk factor clinic based in a hospital and run by a registered nurse supported by a nephrologist. Patients in a control group received usual care from their primary care physician. The philosophy of care for the intervention group involved collaboration and partnership with patients and families to improve health and enhance quality of life.

An orientation program was offered to nurses, Web-based resources were developed, and regular teleconferences among the nurses were held. A series of medical protocols were developed regarding: managing blood pressure; controlling lipids with diet and statins; disrupting the renin-angiotensin system with angiotensin converting enzyme inhibitors; using angiotensin II receptor blockers for diabetics; treating anemia; using

acetylsalicylic acid to prevent atherothrombotic events; and controlling calcium/phosphorus with diet, phosphate binders, and activated vitamin D. In addition, emphasis was placed on managing weight, controlling glycemia in diabetics, exercise, restricting dietary sodium, and smoking cessation.

Most nurses worked half-time and the intention was that they would be responsible for a group of 50 patients in the intervention group; a few nurses also worked with the 50 control-group patients, in order to create full-time positions. Three of the five centres exceeded the target enrolment so those nurses may have cared for up to 60 patients. Some nurses also had responsibilities with other research studies in their centres.

The qualifications and care provided by nurses in the clinics could not be standardized. A standard job description was developed for the nurses when the study was initiated. Recruitment of each nurse was the responsibility of the centre and was governed by institutional policies and practices. It was assumed that individual nurses, with their unique skills and knowledge based on education and experience, would use a range of interventions and strategies. These interventions could foster patient self-management, facilitate adherence to treatment regimens, and improve outcomes. It was anticipated that health promotion and illness prevention activities (unrelated to renal disease) would also be offered.

### ***Participants***

Five centres (located in Vancouver, British Columbia; London, Ontario; Greenfield Park, Quebec; Halifax, Nova Scotia; and St. John's, Newfoundland and Labrador) participated in this pilot study. Seven nurses (because of turnover) and five nephrologists were interviewed. The nurses' credentials ranged from diploma to master's degree in nursing and most had extensive nephrology nursing experience. Purposive sampling was used to select five patients from the intervention group at each participating centre. A total of 23 patients who were considered to be good informants were interviewed; at the most recently established centre, only three patients were interviewed because the centre had fewer patients and saturation had been reached. The participating patients ranged in age from 58 to 78 years and were 52.2% male.

### ***Data Collection***

Telephone interviews were conducted with intervention group patients approximately 9 months after their first visit to the clinic and with physicians and nurses after approximately 9 to 12 months' experience at the clinic. All interviewees were asked to describe their experience with the intervention. All interviews were semi-structured and were audiotaped; they ranged from 30 to 90 minutes in duration. At his request, one

patient was interviewed on two occasions. The tapes were all transcribed verbatim.

To augment the findings, charts of randomly selected patients who had been receiving care for at least 9 months were reviewed. These charts were not necessarily those of the study participants. Forty charts (10 from each of 4 centres; for the Quebec centre, analysis in French is still in process) were examined. Copies of the clinic charts were sent to the investigator after all identifiers had been removed.

### ***Data Analysis***

Transcripts were read multiple times by the investigator and research associate and themes were identified. The research team reviewed the transcripts and agreed that the themes reflected the data. To analyze chart data, the researchers employed an inductive approach using content analysis.

Rigour of the analysis was ensured through transcript review by several members of the research team. An audit trail was maintained in order to record the context and background of the decisions regarding data analysis. Ideas, decisions, actions, and responses were recorded and monitored by the researchers. Triangulation of findings was facilitated through the use of different data sources.

## **Findings**

The themes pertaining to nature of care were as follows: patient-centred care, health promotion, teaching, dealing with problems, time, protocols, consultation and referrals, clinic logistics, paperwork/documentation, physician-nurse collaboration, challenges and recommendations, and outcomes. Each of these areas is described below.

### ***Patient-Centred Care***

It was evident from the descriptions of nurses, physicians, and patients that care was patient-centred. The nurses made many efforts to accommodate patients' schedules, often coming in early, staying late, changing appointment times, and, on rare occasions, making a home visit if the patient was too ill to attend the clinic. They usually collected the blood samples themselves to save the patients the wait in the lab (and in some instances travel to the lab). It was not unusual to find it noted in the chart that the nurse "went the extra mile"; for example, one nurse picked up a forgotten 24-hour urine sample from a patient's home while he was having breakfast.

In a number of instances, the nurses worked diligently to tailor the patients' care to their needs. One nurse commented:

*I can't get her back into this clinic because it's too far for her to come, so I've had to do a lot of phone calls for her, but we've made some major changes in her blood pressure and improvements...there's still areas to work on but...I think that she really appreciates the calls and the concern and she's been very receptive to the follow-up that I've been trying to give her.*

Patients made similar observations:

*I know I can ask my nurse any question. If anything was to come up, I could ask her the question and she's going to find out the answer, to the best of her ability, to help me out. If you've got the faith in your nurse, I think that's the best.*

### **Health Promotion**

General health promotion strategies were used by all nurses in caring for the intervention group patients. Nurses and physicians addressed general health concerns to the best of their ability, rather than referring patients back to primary care physicians:

*...just being able to see the patient and not just focusing on maybe one aspect of their health but really focusing on all aspects, because, you know, in the end they all come together to affect their general health.*

One nurse contrasted this type of care with that given in dialysis units, where “you never had the whole picture like you do in this study.”

However, health promotion often posed challenges for nurses:

*Challenges would be in areas of maybe assisting people with behaviour change, dealing with dietary issues and smoking cessation, which hasn't been a frequent problem, honestly...and being able to give appropriate advice on exercise patterns and supporting people through those lifestyle management choices.*

There were many notes in the charts about the nurses encouraging health promotion strategies such as exercise for weight loss, smoking cessation, and, for patients with diabetes, regular monitoring of blood glucose. A few diabetic patients commented that no one had ever checked their feet until they began attending this clinic, and no one had ever told them about the importance of wearing well-fitting shoes.

### **Teaching**

Patient education was a key focus of nursing care for people in the intervention group.

*In terms of that side of my role, it was to explain to the patient what it was that we were doing and [the] risk factors that we were looking at.*

*We talk about the small changes that could be made in people's activities and...in their diet. And we talk about their blood pressure and I explain that it can cause problems down the line. It's not just something a pill's going to treat, but the impact of having high blood pressure — we talk about that a little. We talk about kidney disease and how it might be related to their diabetes or their blood pressure. And I have pamphlets that I give them to take home as well. We go over their BMI... And I discuss over-the-counter medications that could possibly be harmful for their kidneys.*

While the teaching seemed to be a routine part of the job for the nurses, it was very important to the patients:

*What I like about it is [the nurse] does a little bit of health teaching as she's doing the blood pressure and weighing you and all these things.*

A patient who was still trying to absorb the diagnosis of kidney disease gave an example of being educated about the condition by the nurse:

*The last time I was [at the clinic, the nurse] had a nice little chart that showed what my kidney levels should be as far as deterioration from being 100% with age.*

### **Dealing with Problems**

In providing care to the patients, the nurses often focused first on specific problems that had been identified in the assessments. Frequently these problems related to high blood pressure, uncontrolled blood glucose, or lack of adherence to the treatment plan:

*For the most part it was blood pressure-related problems for those people. They were either not on something or their family doctors felt their BP was fine but when they were here it was high.... We would hook them up and...record them for the 24 hours... [referring to ambulatory blood pressure monitoring over 24 hours]. And then they would be initiated on whichever blood pressure drug that Dr. X chose. And then we would always bring them back for re-check.*

*If there are things that I need to follow up on — it might be blood pressure or follow-up blood work or just to see how the patient is doing with whatever things we had decided on — I may do follow-up phone calls or a follow-up visit, where I'll meet with the patient again before their next 4-month visit.*

A physician commented on the work of a nurse in regulating the blood glucose of diabetic patients:

*[The nurse will] work with them to establish what their pattern of sugars are. She may give them feedback/advice on her own, and then sometimes she'll e-mail me data and ask questions.*

### **Time**

Nurses, physicians, and patients all commented on the value of nurses' time in the intervention. "We have the luxury of having more time to focus on their other parameters that are actually quite normal," said one nurse, while a physician stated:

*[The nurse] spends an hour with each patient. I think that's something people don't see these days. It's unheard of — an hour in the health-care system. Nobody gets that kind of treatment.*

During their time with patients, the nurses were able to focus on health promotion and teaching to an extent that is rare in most health-care settings. They were also able to deal with psychosocial issues that could have had an impact on the person's care. One nurse joked,

*I should have been a social worker, because I had a man whose wife died and I had somebody else who had an overdose.*

A few patients commented on how much they appreciated the emotional support they received from the nurse, especially when they first learned that they had kidney problems. Patients noted that the nurses responded to their concerns quickly, which was greatly appreciated.

### **Protocols**

Both nurses and physicians described the work entailed in implementing the medical protocols. Two of the nurses expressed some frustration with the protocols because of the lack of specific guidance. One commented:

*Well, the protocol is loose, very loose. I do other trials where you have definitive guidelines, and this is sort of like, well, do it however your site wants to do it, site-specific. And so I find that a bit challenging.*

In contrast, a physician said:

*When you start doing this kind of study, everything becomes protocolized, which is great, but some things are difficult to protocolize — even medicine, not every single decision in medicine is evidence-based.*

Some nurses and physicians worked on specific standards of care to address this concern, while others were able to establish other arrange-

ments or communicated to clarify issues when the protocols did not address the concern.

### ***Consultation and Referrals***

Each of the centres had different resources available. In some centres it was difficult to access a dietitian unless specific criteria were met. In these cases it was the nurse who conducted the dietary assessment and teaching. This entailed additional learning for the nurse, but also pride in the ability to provide this care when necessary. The nurses recognized the value of the multidisciplinary team and negotiated the involvement of others. Referrals to other professionals and to outside agencies such as diabetic resource clinics were common. Social workers and physiotherapists were involved at times. Referrals to medical specialists were fairly common.

The nurses regularly wrote to general practitioners and specialists to update them and facilitate communication and collaboration within the team. Communication with other professionals was often time-consuming for the nurses:

*That was literally a day's work — talking to Dr. X, talking to the patient, talking to the specialist, getting the results, then re-talking to the patient and explaining to him.*

A patient commented:

*Everybody exchanges information — the kidney doctor, my family doctor, and the clinic. So everybody's informed [of] exactly what's going on. So that's good.*

### ***Clinic Logistics***

In describing their experiences with the clinic, both nurses and physicians discussed the logistics of organizing their clinic's activities and data collection. This was quite time-consuming in the initial stages of the study but less so at the time of the interviews:

*It's running pretty well... I think [with] a lot of these patients cholesterol and dietary control had come up and we were scrambling and doing things at the 8-month visit that we should have been doing at the first-month visit.*

Their comments reflect the time needed to establish a new clinic, organize routines, and learn based on the types of patients being seen.

### **Paperwork/Documentation**

The nurses spent considerable time documenting the care that was provided. Much of this documentation was for the purposes of the research and would not normally be part of routine care:

*It almost takes up your full day just getting everything prepared for one visit and then actually having the visit and then...charting it up when they're finished.*

*I spend a fair amount of time...seeing intervention patients for their... 4-, 8-, [or] 12-month visit.... I'll follow up with a letter to the family doctor.*

Similarly, patients commented on the amount of study documentation and number of questionnaires:

*I've answered a lot of questionnaires for them...and I have some information here in front of me...there's a schedule here of everything that they've done.*

Some of the nurses remarked that some of the data collected were not necessarily useful to them and the time might have been better spent.

### **Nurse-Physician Collaboration**

The nurses and physicians spoke positively about the nature of their relationships and their collaboration. They did not view this as unusual or extraordinary. Both nurses and physicians were satisfied with the collaboration, and the nurses reported feeling that they were supported in the provision of care and could contact the physicians as necessary with questions. Many did so through e-mail or telephone, so meetings were not required on a regular basis.

Some physicians explained that they were perhaps more receptive than their colleagues to working collaboratively with nurses:

*I've worked a lot with nursing, dietitian, case management coordinators, NPs...so I'm much more willing to have them as part of the clinic than some physicians are — they don't want to give up their doctor roles.*

Nurses and physicians saw themselves as part of a team. One physician said, "We've really moved to a team approach. And then the physician is supposed to sort of provide guidance or help but not necessarily do all of the day-to-day care." Another physician stated that nurses and physicians contributed in different ways:

*I think we've more or less evolved the relationship quite easily.... It just sort of happens. There's parts of it that she does a lot better than I do, and*

*she can spend more time with some of the patients when they require it than I...sometimes have. So that's good.*

In each of the centres, nurses and physicians developed strategies for handling prescriptions when the physician did not actually see the patient. One physician said, "We've got a system now that if they need prescriptions, rather than me writing them out or doing anything I'll phone them in." Another physician telephoned in prescriptions after receiving an e-mail request from the nurse. Yet another "may write prescriptions in between when I'm over at the clinic area and leave them in the patient's file, and then the nurse will activate those if necessary."

### ***Challenges and Recommendations***

All participants were asked if they had suggestions for improving the operation of the clinic. Most of their recommendations related to administrative or organizational aspects. Both nurses and physicians found it challenging to establish the structure and organization of the clinic, given that it was a new setting/environment. The physical location was often far from the physician's office and other clinic/hospital facilities. There were logistical issues such as a permanent location and parking facilities:

*The biggest problem we face is that our clinic is downtown, which means that driving in and parking and just the location...becomes a bit of a problem. Parking's at a premium.*

One nurse said, "If I could change something, I would like to have a permanent spot for the clinic," while another nurse wished "that the blood-taking station was right next door and the line-up wasn't 45 minutes, so my patients [wouldn't be] hungry" (because of the need to fast for some lab tests before coming to the clinic).

A nurse suggested getting

*organized with work sheets at the very start...and get the standards of care that we got here so that they [have] something besides the protocol for guidance.*

Both nurses and physicians brought up the need for organization given the volume of forms to be completed, protocols to be implemented, and care to be provided. "The first challenge," said one physician, "is to set up teamwork. It sounds basic to nurses but not to physicians." A difficulty in some centres was the lack of a full-time secretary to assist with sending faxes, typing letters, and making follow-up phone calls to set up meetings with patients.

The nurses indicated that they did not always have ready access to the resource materials needed to address the variety of concerns or issues

confronting them. Although a Web site with resource materials had been established for the use of nurses, it was not available until several months after the commencement of the study, so nurses did not have access to the online resources or discussion forum from the start. One nurse said:

*I think the Web page [with resources for nurses and patients] is underutilized right now... If [only] there had been time in the organizational phase to get all of that done so it was there and the nurses were using it right from the outset.*

### **Outcomes**

It was evident that there were high levels of satisfaction with the clinic. One physician said, "I'm happy to see it is working." Another stated, "It has convinced me that we should be doing more of this. I can follow a large number of patients this way. I'm happy with the results, because there are no catastrophes." However, one physician was tentative about the outcomes:

*It's an unblinded trial to some degree, so maybe...patients' self-reported outcomes will...look more impressive than they would if the intervention were blinded.... I'm not so sure...there'll be definitive clinically important differences.*

All nurses and physicians described successes in the management of patients. A physician said, "We've had some successes with blood pressure control and that type of thing," while one of the nurses offered more detail:

*These patients in the clinics are being extremely well looked after. And we've had the occasion now to see a few things that have been picked up and corrected in our intervention patients that gives us great pleasure...in terms of picking up a colon cancer that might have been missed, and having a patient whose BP was in the 220/100 and something range prior to the study...[and] now is almost at target range, and the patient came in the other day and she said, "I could kiss you guys. I feel so much better."*

Patients also reported positive outcomes, such as feeling better, losing weight, having lower blood pressure, and having better control of blood glucose. A number of them commented that problems not identified by their family physician were identified in the clinics, something for which they were grateful. Patients' reported satisfaction with care was consistent across all centres, and their positive comments pertained to both nursing and medical care. One patient commented:

*[The nurses are] very caring and follow-up is exceptionally good... I'm contacted before my visit to make sure I don't forget...or if I have to bring anything along for that particular session.*

## **Discussion**

Nurses often do not have the opportunity to use their full scope of practice. Like Attridge, Budgen, Hilton, Molzahn, and Purkis (1997), we found that nurses, when given opportunities to provide more autonomous care, are able to meet the challenge. With the support of the nephrologists, they implemented the medical protocols and addressed a wide range of health issues. The qualitative reports suggest positive experiences and outcomes. Other research related to the quantitative outcomes of the intervention will be of interest. For example, data pertaining to morbidity, mortality, biochemical and physiological parameters, quality of life, and cost-effectiveness are being collected as part of the overall trial and will be reported at a later date.

It appears from both the interview and chart data that the intervention was implemented as designed. Not only were medical protocols used as recommended but nursing interventions included patient-centred care, health promotion, teaching, and nursing time. One surprising finding was the lack of evidence of family-centred care. It seems that patients did not usually bring family members to their visits or teaching sessions.

Issues emerging from the clinics include a number of logistical and organizational challenges, some related to the fact that this was a trial. It is often difficult to plan health-care interventions outside of the established structures of the health-care system. Different physical locations and supports were negotiated at the various centres. However, when the situations were less than ideal, nurses were affected. Greater attention to planning structures and processes of care in advance might facilitate better use of nurses' time.

One question that may emerge is the optimum number of patients that can be cared for by a nurse in a similar clinic. This is difficult to assess given the considerable work of documentation and data collection, particularly during the randomization phase of the study. For example, at the baseline, 12-month, and 24-month visits, the nurses were required to complete 57 pages of case report forms. Despite this administrative and research work, nurses working half-time could effectively manage 50 to 60 patients during the study randomization and implementation phases. Questions arise regarding cost-effectiveness of this type of care, and more data will be required to address those questions.

The intervention used in this clinic for the management of early CKD seems to have been positively received by the participants and a

number of positive outcomes were reported for individual patients. Nurse-run clinics have also been found to be effective in other settings (e.g., Attridge et al., 1997; Gorenber & Cohen, 1994; McEvoy & Vezina, 1986).

The study has a number of limitations. Findings from qualitative research are not generalizable to other settings or populations. Patients were selected for interviewing because they were seen to be good informants; their experiences may not reflect the experiences of others in the same situation. Interviews took place at only one time point and it is possible that the experiences of nurses, physicians, and patients change over time. This intervention is not necessarily the same as other nurse-run clinics, so caution should be used in interpreting the findings.

### Conclusion

The nature of care provided in this illness management clinic included patient-centred care, health promotion, teaching, dealing with problems, time, protocols, consultation/referrals, logistics, paperwork/documentation, and physician-nurse collaboration. Challenges and outcomes were also described as part of the experience. Patients were actively engaged in self-management and reported high levels of satisfaction with care as well as improvements in selected outcomes. There were positive perceptions overall about this model of care and the approach warrants further exploration.

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