Advancing Home Dialysis

Best Practices For The Way Forward

Baxter

Introduction

Since 2009, the Ontario Government has been working with Ontario chronic kidney disease (CKD) clinics on a funding initiative aimed at increasing the proportion of CKD patients receiving dialysis at home. As a result, several Ontario hospitals have been developing innovative home dialysis transition programs. In particular, St. Joseph's Healthcare Hamilton and William Osler Health System (Osler), which are among the top five fastest growing home dialysis programs in Ontario, have found solutions to help more patients dialyze with confidence from the comfort of their own homes. Both programs, seen as trailblazers for their growth and innovation, have generously shared their experiences and outlined the best practices they employed to successfully overcome barriers to advance home dialysis.

Realizing the Rewards of Home

By all accounts, the increased focus on enabling more independent home-based dialysis has had benefits for clinics, CKD patients and hospitals as outlined in this document. And these rewards are in addition to the savings that are generated across the healthcare system each time a dialysis in-patient makes the transition from hospital to home.[1]

Improved patient-focused CKD care

Currently, an estimated 1 in 4 of Ontario's 10,000 dialysis patients receive this lifesaving treatment at home.[2] Offering CKD patients the option of independent home dialysis early in their disease can provide increased quality of life[3,4,5,6] while also producing overall savings to the healthcare system.[7] Peritoneal dialysis (PD), a home therapy option, also offers greater convenience for work and travel[2], allows for a more liberal diet[8] and better blood pressure control.[9] Research suggests that, when given the choice, 50 per cent of patients would prefer to dialyze at home.[10]

Increased clinic sustainability

Increasing multidisciplinary staff expertise to meet the needs of patients enhances a nephrology program's size and sustainability. Dr. Darin Treleaven, Head of Service, Nephrology Program at St. Joseph's Healthcare Hamilton, says the greatest benefit has been in terms of the clinic's critical mass:

"Focusing on patient education and choice of dialysis modality in the CKD clinic has allowed us to grow the programs to the point that we have a seamless ability to offer patients choice, with clinics dedicated to home PD, hemodialysis (HD) as well as long-term, experienced staff. And considering the larger picture, participating in research provides these clinics with an opportunity to play a greater leadership role, and to make a contribution to province-wide improvements in CKD care."

Enhanced clinical outcomes

There may be clinical benefits to the slower, gentler process of home dialysis. According to Dr. Hitesh Mehta, Nephrologist at the William Osler Health System, fitting the dialysis modality to the patient and their stage of kidney disease offers the potential to extend their renal function:

"Maintaining residual renal function in dialysis patients is important and studies suggest that PD may do that better than HD. This may provide a slight survival benefit in the first few years of dialysis for some patients. In addition, PD provides more lifestyle flexibility, allows for fewer dietary and fluid restrictions, and due to its continuous nature, provides less hemodynamic stress to the body which may be of benefit in patients with significant cardiac disease. Also you do not have to travel to a HD unit three times per week. Our goal should be to do pre-emptive renal transplants but when this is not feasible, we should try to start patients on independent dialysis modalities such as PD and provide as much support as we can to help them maintain this."

Expanding fiscal advantages

Promoting independent, at-home dialysis for a greater proportion of patients has also meant cost saving benefits for the clinic and hospital. "The program has increased our clinic's treatment capacity without major capital investment, so we have resources in the system that can be used for other needs," notes Rick Badzioch, Clinical Director of St. Joseph's Healthcare Hamilton Nephrology Program.

Best Practice:

Cast a Wide Net and Educate Early

The CKD clinics featured here noted the importance of first appraising their routine procedures related to intake of new dialysis patients, to identify systemic barriers around increasing the uptake of home dialysis – for instance, in-clinic HD may be the automatic default. Both centres strive to target first-time patients presenting at clinic for earlier education on home dialysis, assessment for body access, and ideally, catheter/tube insertion. Acute start HD patients are referred to the CKD home dialysis transition unit for education once their medical needs are addressed. Nurses are instrumental in ascertaining patients' preferences at an earlier stage of kidney failure, and matching patients to physician teams based on patients' demographics and wishes.

"Once patients get used to the dialysis routine at the clinic and are comfortable, it's a psychological issue – it becomes difficult for patients to entertain going home and doing dialysis on their own. Providing education early in the process allows patients to make an informed decision."

Dr. Darin Treleaven, Head of Service,
Nephrology Program,
St. Joseph's Healthcare Hamilton

"We changed the focus of our patient education regarding dialysis modalities, considering that the majority of patients can do PD. In-centre HD should really be restricted to sicker patients. Experience has confirmed that many of the old contraindications for not doing PD – such as obesity, abdominal surgeries, cirrhosis and chronic ascites are really not contraindications and that these patients can successfully do PD."

Dr. Hitesh Mehta, Nephrologist,
William Osler Health System

"Our PD program has grown over 55 percent in the last year; I attribute that to the timely one-on-one modality teaching provided to our patients. We have focused on educating patients early, so they can select home dialysis before they have an unplanned start in the in-centre HD unit."

Patricia Mercer, Nephrology Nurse, Home Dialysis Coordinator, William Osler Health System

Best Practice:
Build Your Dream Team

Both St. Joseph's and Osler's nephrology clinics have found that fostering specialized expertise in either PD or HD among clinic staff has helped increase their uptake of home dialysis. And it's important to equip staff with all the tools needed to initiate home PD or HD, from educational materials to catheterization/tube insertion to arranging patients' return home.

One effective strategy has been to designate experienced nephrology nurse/nurse practitioners to act as patient navigators or case managers, who will:

1. Screen presenting CKD patients to identify all appropriate candidates for home dialysis

2. Provide support by arranging appointments for patients and ensuring their attendance

3. Ensure patients are supported throughout the transition to home dialysis

St. Joseph's has developed physician/surgical teams with specific expertise in HD or PD; they assign appropriate patients accordingly to their long-term physician on presentation to the clinic. Multidisciplinary care rounds help optimize efficiency of patient care and support. Dr. Treleaven adds, "It's important to provide a long-term experience with a single physician and maintain that relationship, so the patients know there is one physician who is responsible for their care – there's more comfort this way."

Osler has a patient educator who provides one-on-one teaching with patients and their families early on, so that they understand the how's and why's of independent home dialysis, and their fears are addressed up front. They are currently working with a diversity coordinator (along with other hospitals) to create educational material in various languages to better serve their diverse patient population. Osler's Nephrology Nurse and Home Dialysis Coordinator Patricia Mercer says, "Everyone has to be on board with the goals and targets of the program so that no patients fall through the cracks. Our clerical staff will alert me if they find out a patient is cancelling their appointment."

"To increase the uptake of independent dialysis, you need the support – beginning with patient educators who are experienced in home dialysis and including dedicated nurses and physicians such as surgeons, radiologists and nephrologists who are committed to PD and willing to do timely insertions of PD catheters. They in turn need support from the hospital to provide space, staffing and dedicated operating room (OR) times be able to do this. Then we need support of our dedicated PD nurses, social workers and the multidisciplinary team including pharmacists, dietitians and community services such as local Community Care Access Centres (CCACs) to help people stay on PD."

Dr. Hitesh Mehta, Nephrologist,
William Osler Health System

Best Practice:
Create Seamless Dialysis Access

For many clinics, timely access to ORs for catheter insertion is a challenge and creates bottlenecks in terms of getting patients set up for home dialysis quickly, before they become too accustomed to in-clinic HD. For the success of any program, having available skilled surgeons, access to ORs and dedicated procedure rooms for catheter insertions are key.

St. Joseph's for example has taken action to reduce the need for high level ORs by establishing use of minor procedure rooms for catheter/tube placement. They now have dedicated space and surgical staff to perform bedside catheterization.

Osler's Dr. Mehta notes that the experience of their surgical team has allowed them to provide a more seamless transition to independent dialysis: "Buried PD catheters are inserted in advance of the patient requiring dialysis, and can be exteriorized with a simple incision when needed. Now we are working on implementing bedside catheterization for patients who may not be able to tolerate general anesthesia."

Osler recently established an overnight in-center nocturnal hemodialysis program which to date has been very successful. Dr. Mehta adds: "It's like home nocturnal dialysis, for patients who are not yet comfortable dialyzing at home. It is a good choice for patients who work, and for patients who have issues with fluid overload, since we have a longer period of time to remove this excess fluid. We are hopeful that once patients realize the benefit of this therapy, some of them may elect to do home nocturnal dialysis. It will also provide respite care for our home nocturnal patients who need a break."

Best Practice:

Integrate the Clinic With Hospital and Regional Healthcare Systems

Ensuring that patients are well supported during and after their transition to home dialysis involves careful coordination of the CKD clinic's role within the hospital, as well as with community partners such as the CCACs. According to St. Joseph's Rick Badzioch, this goes back to aligning the priorities between the hospitals, the Ontario Renal Network (ORN) and the clinic. "This is a key factor in our success – we try to tie all the pieces together, to avoid bottlenecks and work around challenges as they arise."

To allow the clinic to respond to growing demands for dialysis and function more efficiently within the hospital, the Osler CKD clinic is in the process of establishing a dedicated nephrology ward, and reducing demands on renal nurses by training general nurses to provide PD.

Clinics face a common challenge in promoting home dialysis: patients who dialyze at home may be at risk of feeling isolated, and those who start dialysis in-clinic may be reluctant to give up the social support they receive there. Both St. Joseph's and Osler's CKD clinics have primary nurses who manage all aspects of care for a core group of patients, so they are aware of their social and home environments and can do frequent follow-up calls and home visits.

St. Joseph's clinic staff realized that while peer to peer support was in place for patients on home HD, patients on PD felt more isolated. To fill that gap, they established a monthly support group run by a social worker, to allow home PD patients to get together and share their experiences.

To optimize patient support at home, St. Joseph's has found it helpful to identify nurses within the CCAC who are experienced with PD and HD. They are working to clarify the role of their CKD clinic in providing health maintenance services in conjunction with the CCAC, toward moving physiotherapy/social support care out of the acute setting.

In addition, both clinics are beginning to look at increasing transition to home dialysis among more complex patients who need more assistance in terms of home support. "We work with the CCAC to help patients stay on PD as long as possible – if CCAC services were increased, we could provide care to more of these sicker patients," says Osler's Dr. Mehta.

St. Joseph's Rick Badzioch echoes this sentiment: "The model is not worked out but it's on the radar of the ORN, and we are working on doing better in this area."

Osler's CKD clinic is also working with nursing homes toward establishing an independent PD program for long-term care (LTC) facilities, to reduce demands on LTC kidney patients and on patient transfer services. Rick Badzioch notes that LTC homes need financial assistance to implement such a program. "It's expensive to send a nurse every day to hook someone up to the machine, but it's still cost effective."

The additional opportunity to gather kidney care data also drives these programs forward. A large part of the ORN home dialysis initiative involves tracking CKD patients on their journey, and these clinics are rising to meet the challenge.

"If you're only providing this program in "slivers" then you'll never grow. A successful home dialysis transition program requires measurement, monitoring and innovation. We are constantly evaluating and conducting clinical trials. At St Joseph's, we are involved in several large research programs – one involves providing information to patients via the Web; another focus is on understanding if there are better tools out there to help assess fluid removal in dialysis."

Dr. Darin Treleaven, Head of Service,
Nephrology Program,
St. Joseph's Healthcare Hamilton

"There are very few contraindications for PD in terms of age and physical ability – CCAC support has removed a large barrier for home PD. When CCAC begins working with one of our independent dialysis patients, our nurse will do a joint home visit with the community nurse – this provides a smooth transition of patient care from the hospital to the home."

Patricia Mercer, Home Dialysis Coordinator, William Osler Health System

Advancing Home Dialysis

Best Practices For The Way Forward

Casting a wide net by offering the option of home dialysis to all appropriate patients, and educating them as early as possible in the course of their CKD will help them make an informed and timely decision.

Having the right level of staff expertise and clinical support will help drive program growth and sustainability.

Dedicating the infrastructure necessary to allow catheterization or vascular access is central to avoiding or reducing bottlenecks in transitioning patients from in-clinic dialysis to home dialysis.

Working to integrate the clinic with hospital and regional healthcare systems provides patients with the support they need to make the transition successfully over the long-term.

"We have to have ambitious goals to motivate people. But you have to work hard at it. As every program starts to scale up and grow we'll see more and more innovation that will allow people to get closer to these targets. Our program begins and ends with the patients. We should be providing patients with choices and structure that facilitates having as normal life as possible."

Dr. Darin Treleaven, Head of Service, Nephrology Program,
St. Joseph's Healthcare Hamilton

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