

jurisdictional SNApshot

HOME DIALYSIS PRACTICES & STRATEGIES:
A JURISDICTIONAL SCAN

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To support our Health System Partners, CHRSP has produced this Snapshot Report of health care practices, processes, and policies inside and outside of Canada. This report is designed to inform decision-makers about the healthcare landscape across jurisdictions, particularly with respect to practice variation and policy initiatives. It will also help guide topic selection for other CHRSP products, such as our Evidence in Context Reports and Rapid Evidence Reports.

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1. About Snapshot Reports

In 2016, the NL Centre for Applied Health Research (NLCAHR), under its Contextualized Health Research Synthesis Program (CHRSP), introduced *Snapshot Reports* to provide rapid decision support for stakeholders in the Newfoundland and Labrador health system.

Snapshot Reports provide a brief scan of health policies, practices or models and a summary of established or emerging interventions that have been carried out on the issue in question in jurisdictions outside Newfoundland and Labrador (NL). This new format was developed in response to demand from our health system stakeholders for timely information about policies/practices/models in other jurisdictions that might be suitable for adaptation within the NL context. Snapshot Reports are prepared in response to specific requests from CHRSP's health system stakeholders on topics identified by the health system as being of immediate interest. The results of a given Snapshot Report may provide all the information required or it may indicate that further study is needed, possibly in the form of a CHRSP Evidence in Context Report or of a Rapid Evidence Report.

Snapshot Reports are not intended to be a comprehensive or exhaustive evaluation of the practice or policy under study; rather, they offer a brief overview that includes:

- an executive summary;
- the research objective that clearly states the policy or practice under consideration;
- the focus and scope of the report;
- a summary of key descriptive findings;
- a table listing the practices/policies/models identified in other jurisdictions, with web links where available; and
- an appendix containing more detailed information.

Given the limitations of this approach, *Snapshot Reports* should not be construed as a recommendation for or against the use of any particular healthcare intervention or policy.

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2. Executive Summary

Topic: Upon request from senior health system decision makers in Newfoundland and Labrador, members of the CHRSP research team at NLCAHR have completed a jurisdictional scan of strategies or practices used in other Canadian provinces and select international jurisdictions to increase the uptake of home dialysis. This research will contribute to the goals set out in *The Way Forward: Chronic Disease Action Plan*.

Study Approach: For this study, we contacted senior leaders in dialysis services and care across the country requesting information on what strategies, programs or policies are being implemented in their province to increase the uptake of home dialysis by health care providers and patients. Where possible, we asked about physician remuneration and about barriers and enablers to home dialysis. In addition, we searched the websites of Canadian provincial governments, and provincial renal health agencies as well as the other relevant publicly available websites. We also explored publicly-available information in select international jurisdictions.

Key Findings:

Strategies and practices frequently addressed:

- Home First Strategies: Provinces across the country are focusing their efforts on creating a culture where the home of a patient is the first place considered for dialysis therapy.
- Assisted Peritoneal Dialysis Programs: These programs involve healthcare workers providing assistance to individuals who wish to remain in the home, but who, for a variety of reasons, are unable to successfully perform the tasks required for peritoneal dialysis independently.
- Standardized Modality Education: The goal of modality education is to increase patient knowledge to support informed decision-making about dialysis modalities.
- Financial Support Programs: Some jurisdictions are attempting to address the financial barriers associated with home dialysis modalities by creating financial support programs and reimbursement for patients.
- Modality/Transition Coordinators: Many renal programs across the country have a specific individual hired to provide modality education and ease a patient's transition into dialysis.
- Educational Sessions for Renal Staff: Staff education, through formal sessions or grand rounds, have proved important for many renal programs.

Promising Strategies:

- START Initiative: Developed to address the growing demand for dialysis, improve patient outcomes, and reduce costs to the health system by implementing best practice guidelines and optimizing the use of peritoneal dialysis therapy.
- Home Dialysis Open House Events: These in-centre educational events with patient, renal staff, and company representatives are designed to provide insight into life on home dialysis.

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• MATCH-D: The MATCH-D Canadian Version has been developed to help nephrologists and dialysis staff identify and assess candidates for home dialysis therapies.

• Remote Patient Monitoring: New dialysis equipment is being used to provide remote communication to a nurse in the peritoneal dialysis main unit.

Barriers and enablers:

- Geography and Travel: Inclusion of patients who live in rural or remote areas has proved challenging for many home dialysis programs.
- Patient-Related Factors: Patient-related factors, such as cost, living conditions, storage space, and fear, were addressed as barriers to home dialysis uptake.
- Strong Nephrology Leadership: Strong support and personal investment by nephrologists and renal leaders was cited as an important enabler of success for many home dialysis and renal programs.
- Advancements in Technology: New equipment and monitoring systems are expanding the availability of home dialysis modalities to new patients.

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3. Background & Research Objective

According to CADTH (2017), the number of patients in Canada being initiated onto long-term dialysis is steadily increasing. In all Canadian provinces, hemodialysis is the most frequently used modality to treat end-stage kidney disease (ESKD), with in-centre hemodialysis being the predominant approach. Despite this, the available evidence suggests that home hemodialysis and home peritoneal dialysis achieve similar clinical outcomes and are often more desirable for the patient. Home dialysis modalities also represent an area of potential cost savings for the healthcare system (CADTH, 2017). Even though there has been continual growth in the total number of dialysis patients, the number on home-based modalities remains quite low. The low utilization of home modalities is a lost opportunity to decrease health system burden and improve quality of life for patients (Walker, Howard & Morton, 2017).

In *The Way Forward: Chronic Disease Action Plan*, the Government of Newfoundland and Labrador highlighted the importance of home-based health care initiatives in encouraging individuals to take an active role in the management of their health. In 2017, the Government announced the purchase of twenty new home hemodialysis machines, providing an increased opportunity for patients to participate in home dialysis treatment. Within the Provincial Kidney Program, the goal for the province is to increase the rate of home dialysis from nine to fifteen percent by the end of 2018. According to the government, initiatives to provide education on the benefits and positive health outcomes of home dialysis therapy to increase uptake of this modality should be focused on healthcare providers, patients and their caregivers.

To support this ongoing transformation, senior health system decision makers in NL asked NLCAHR to conduct a jurisdictional scan of strategies, practices, or programs being used in other Canadian jurisdictions to increase the uptake of home dialysis by both healthcare providers and patients. Where possible, we were asked to explore physician remuneration policies in relation to home dialysis, as well as barriers and enablers to successful uptake of these modalities.

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4. Focus and Scope of this report

The main focus of this report is to highlight implementation strategies, programs and practices being used to increase the uptake of home dialysis by both healthcare providers and patients. The methodology used to complete this project was intended to generate a *summary* for decision makers rather than providing a comprehensive or exhaustive list of all available methods to improve home dialysis uptake from across Canada or from other jurisdictions. Below, we outline the search parameters we used, discuss our search strategy, and provide an overview of the findings.

Search parameters

Table 1 outlines the parameters of our search. The search criteria for this report were refined in consultation with the health system partners from the Department of Health and Community Services, who proposed the research objective.

TABLE 1: Search Parameters, Inclusion and Exclusion Criteria

Parameter	Inclusion criteria	Exclusion criteria
Population	 Patients with end-stage renal disease who have initiated or are going to initiate dialysis Nephrologists Renal healthcare professionals 	 Patients without end-stage renal disease Healthcare professionals in other specialties
Strategy/Intervention Focus	 Home dialysis strategies targeting healthcare professionals Home dialysis strategies targeting patients 	Strategies without a home dialysis component
Settings where program/strategy is implemented	At homeIn a transition unit	In-centre only
Jurisdictions	Canada (key informants and online)Australia, New Zealand, UK (online only)	• None

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Search Strategy

Key informants: We began the search process by contacting senior leaders in dialysis services and care from provinces across the country, excluding the province of Quebec, based on a contact list provided by the Department of Health and Community Services. After narrowing the research question, we asked each senior leader the following questions via email:

- 1. Please briefly describe any strategies or programs being implemented in your jurisdiction to increase the uptake of home dialysis.
 - a. What strategies are being used to target healthcare professionals?
 - b. What strategies are being used to target patients?
- 2. If applicable, what are the physician remuneration policies in relation to home dialysis?
- 3. In your jurisdiction, are there any barriers or challenges associated with home dialysis implementation and how are these barriers being addressed?
- 4. In your jurisdiction, are there any enablers or facilitators to the success of home dialysis implementation?
- 5. For the above strategies or programs named, please provide any relevant web links, program documents, or additional contacts, should we wish to follow up.

Of the 17 initial emails we sent, 14 yielded a response either by telephone or email. Through this process, additional informants were identified, and these individuals were contacted as well. In the end, we received responses from every province contacted, though some provided significantly more detail than others. The information gathered through this process can be found in *Appendix A: Data Extraction – Key Informant Information*.

Online search: Key informant interviews were supplemented by an online search exploring Canadian governmental and other publicly-available websites, including the websites of provincial and territorial governments and relevant kidney health agencies (e.g. Kidney Foundation of Canada; Canadian Kidney Knowledge Translation and Generation Network). CADTH resources were also searched. The goal of the search was to identify additional strategies that had not been discussed in the key informant interview process. This search did not yield any strategies or information that had not already been gathered through the interviews. We also searched international agencies for home dialysis strategies being used in other jurisdictions; specifically the UK, Australia and New Zealand. The information on international jurisdictions can be found in *Appendix B: International Jurisdictions*.

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5. Summary Table

Below is a summary table providing an overview of the information gathered using the strategies outlined above. We provide a brief description of ways that each province is targeting healthcare professionals and patients to improve uptake of home dialysis, and outline physician remuneration methods (where available), and any barriers or enablers to home dialysis uptake. A more thorough exploration of this information can be found in *Appendix A*.

TABLE 2: Summary of Home Dialysis Strategies, Remuneration, Barriers and Enablers

British Columbia	British Columbia				
Strategies Targeting Healthcare Professionals	Strategies Targeting Patients	Physician Remuneration	Barriers to Home Dialysis Uptake	Enablers to the Success of Home Dialysis	
 Regular rounds and review of current practices Healthcare professional training on home dialysis modalities BC Kidney Days 	 Standardized education materials Home Dialysis Open House Event with patient representatives, machine companies, renal staff and education materials Financial support programs Peritoneal Dialysis Assist program 	 No specific physician remuneration policies are in place Home dialysis programs are remunerated based upon the program support required (training, nurses, etc.) 	Geography and travel for patients	Ongoing education and auditing of the program	

Alberta	Alberta					
Strategies Targeting Healthcare Professionals	Strategies Targeting Patients	Physician Remuneration	Barriers to Home Dialysis Uptake	Enablers to the Success of Home Dialysis		
• As part of the START Initiative, frontline staff from all kidney clinics across Alberta have attended collaborative educational sessions on barriers to home dialysis and peritoneal dialysis use	As part of the START initiative, all new patients are identified and assessed for peritoneal dialysis eligibility and supported to make an informed modality decision	Nephrologists are normally salaried rather than fee for service	 Capacity for peritoneal dialysis education Availability of peritoneal dialysis assist program Patient and healthcare provider perceptions Geography for delivering dialysis equipment 	 Dialysis, Measurement, Analysis and Reporting System Peritoneal Dialysis rounds Strong nephrologist leadership Advancements in technology and equipment 		

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Alberta (continued from previous page)					
Strategies Targeting Healthcare Professionals	Strategies Targeting Patients	Physician Remuneration	Barriers to Home Dialysis Uptake	Enablers to the Success of Home Dialysis	
In Northern Alberta, the Renal Program consulted with frontline staff to investigate perceptions of home dialysis and remove prominent misconceptions	 Standardized and comprehensive modality education was introduced 2 years ago My Choice Unit in Southern Alberta targets patients who have not made a modality decision yet, in the hopes of avoiding starting in the hospital setting Peritoneal Dialysis Assist in Southern Alberta currently supports 18 patients Home Sweet Home educational events occur twice a year in Northern Alberta 				

Saskatchewan	Saskatchewan					
Strategies Targeting Healthcare Professionals	Strategies Targeting Patients	Physician Remuneration	Barriers to Home Dialysis Uptake	Enablers to the Success of Home Dialysis		
Presentations at Grand Rounds and educational sessions for staff on home modalities	 Redesign of the province's modality education classes to focus on home modalities Ministry of Health working with renal program to reduce cost of home dialysis for patients 	Weekly fee code for supervision	 Community support for peritoneal dialysis Utility and water costs for home hemodialysis Poor living conditions of patient Inadequate storage for peritoneal dialysis equipment Patient and caregiver fear Water quality 	 Strong nephrologist support Increase in peritoneal dialysis staffing Strong administrative support 		

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Manitoba				
Strategies Targeting Healthcare Professionals	Strategies Targeting Patients	Physician Remuneration	Barriers to Home Dialysis Uptake	Enablers to the Success of Home Dialysis
 At weekly nephrology rounds, new patients are discussed and the transition coordinator makes note of any that are eligible for home modalities Renal staff participate in courses and workshops on home modalities 	 Printed educational materials provided to all new patients Transition coordinator meets with all new patients to provide one on one modality education Assisted peritoneal dialysis available in community and some long-term care settings Reimbursement program to help offset patient costs for home hemodialysis New dialysis machines available that can be used in rural and remote areas Remote patient monitoring for peritoneal dialysis patients 	Home modality remuneration is competitive with in-centre hemodialysis	 Peritoneal dialysis catheter insertions that require a surgical procedure Insufficient support system for rural patients 	Highly-educated Chronic Kidney Disease clinic nurses Transition coordinator role Strong nephrologist support Advancements in technology and equipment

Ontario Strategies Targeting Healthcare Professionals	Strategies Targeting Patients	Physician Remuneration	Barriers to Home Dialysis Uptake	Enablers to the Success of Home Dialysis
 Educational sessions on home dialysis modalities for nursing staff Nephrology Grand Rounds Modality education specialist who provides support to staff 	 New Start Unit with focused and standardized education Shared decision-making approach used for educating patients 	No difference in physician remuneration between in- centre and home dialysis	The presence of satellite hemodialysis units can be a deterrent to home modalities	 Increased ability to insert peritoneal dialysis catheters acutely Ontario Renal Network funding for peritoneal dialysis catheter insertion

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Ontario (continued from	Ontario (continued from previous page)				
Strategies Targeting Healthcare Professionals	Strategies Targeting Patients	Physician Remuneration	Barriers to Home Dialysis Uptake	Enablers to the Success of Home Dialysis	
 Home Dialysis Coordinator at all renal programs who promotes home modalities to staff and community partners Home First Framework which ensures infrastructure and services are in place for all patients to receive dialysis in their place or residence 	 Home Dialysis Coordinator who ensures patients and families receive consistent, high quality modality education Assisted Peritoneal Dialysis in long-term care hospitals Library of educational resources for Aboriginal communities Centres of Practice providing patients with timely access to vascular and peritoneal access services 			 Educational activities in New Start Unit Modality education specialist Home dialysis utility grant to help offset costs of home hemodialysis 	

New Brunswick	New Brunswick				
Strategies Targeting Healthcare Professionals	Strategies Targeting Patients	Physician Remuneration	Barriers to Home Dialysis Uptake	Enablers to the Success of Home Dialysis	
 Healthcare professionals work within the Home First mandate, and strive to eliminate barriers to home modalities There is a standardized consulting format for home unit nurses when discussing home modalities with patients 	Group education classes on home modalities in advanced kidney care clinic for patients	 Remuneration for home dialysis is at a much lower rate than for hospital hemodialysis Difference in remuneration is not a barrier to home dialysis uptake, as the provinces home dialysis rate is high 	 The need for more internal staff training about home dialysis Definition of "home" not yet inclusive of nursing or special care homes 	 Success transitioning rapid start peritoneal dialysis patients to home modality with no visit to hemodialysis unit Monitoring and advocating for timely peritoneal dialysis catheter insertion 	

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Nova Scotia				
Strategies Targeting Healthcare Professionals	Strategies Targeting Patients	Physician Remuneration	Barriers to Home Dialysis Uptake	Enablers to the Success of Home Dialysis
 The province has recently developed a Home First approach to renal care Education provided to staff about Home First Modality coordinator role established in one renal program to support staff Province provides list of medical and social contraindications for the use of home modalities Collaboration across the province to address barriers to home dialysis 	Standardized home dialysis educational materials Patient advisors involved in creation of Home First approach	 Remuneration policies being reviewed Goal is to have a blended fee code for kidney care 	 Insufficient home care resources/support Need additional support for late referrals and transitions from acute start Surgical barriers, such as operating room and surgeon availability 	 Development of Home First approach Nephrology leadership support Dedicated staff and processes for acute starts, late referrals and transfers Province-wide effort to identify and overcome barriers Regular progress reports on home dialysis achievements

Strategies Targeting Healthcare Professionals	Strategies Targeting Patients	Physician Remuneration	Barriers to Home Dialysis Uptake	Enablers to the Success of Home Dialysis
 Targeted information sessions for renal staff focused on peritoneal dialysis patient education Peritoneal dialysis home support nurses who are hired through the renal program and have hemodialysis expertise Common home modality assessment tool, MATCH-D 	 Home support nurses working within hemodialysis units to promote peritoneal dialysis in-centre Dialysis modalities discussed early with patients in kidney disease treatment Working closely with primary care to promote home modalities to patients 	Physicians are better compensated for hemodialysis than peritoneal dialysis	 Staff/physician and patient bias towards in-centre treatment Need for additional support for home modalities Patient costs associated with home modalities Health literacy issues Home environment not suitable for dialysis 	 Renal staff and governmental support for home modalities Ability to insert peritoneal dialysis catheters locally

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6. Key Findings

Throughout the data gathering process, certain strategies and practices were frequently addressed. They are:

- Home First Strategies: Provinces across the country are concentrating their efforts on creating a culture where the home of a patient is the first place considered for dialysis therapy. Along with this cultural shift, provinces are working to address barriers influencing the uptake, attrition, and retention of patients on these home therapies. Some examples of the work being done include enabling proper infrastructure for dialysis training, supporting patient and provider education on the modalities, and providing funding support for the added expense that can be incurred by the patient when dialysis occurs in the home.
- Peritoneal Dialysis Assist Programs: Peritoneal Dialysis Assist programs were regularly mentioned by our key informants. These programs involve healthcare workers providing ongoing assistance to individuals who wish to remain in the home but who, for a variety of reasons, are unable to successfully perform the tasks required for peritoneal dialysis independently. The goal of these programs is either to maintain individuals on home-based peritoneal dialysis or to increase access to peritoneal dialysis for patients who require additional support who may not have been eligible for this modality in the past. Some peritoneal dialysis assist programs are available in or expanding to long-term care facilities.
- Standardized Modality Education: Standardized modality education is being implemented in many provinces to promote a consistent patient experience. The goal of modality education is to increase patient knowledge to support informed decision-making about dialysis modalities. Education is delivered through group sessions, site visits, take-home printed materials and one-on-one, personalized education. These sessions are often provided by a specialized modality educator/coordinator.
- Financial Support Programs: Jurisdictions are attempting to address the financial barriers associated with home dialysis modalities by creating financial support programs for patients. These programs differ and can involve paying for the hemodialysis machines, funding home renovations, providing reimbursement for out-of-pocket costs, or offering a utility subsidy.
- Modality/Transition Coordinators: Many renal programs across the country have a specific individual hired to provide modality education and ease a patient's
 transition into dialysis. This individual often works with every patient coming through the program, and ensures that everyone receives thorough modality education
 and initiates the modality of their choice, where possible.
- Educational Sessions for Renal Staff: Renal programs across Canada are utilizing training sessions and grand round events to educate their renal staff on the benefits of home modalities, and outlining standardized ways to discuss these modalities with their patients.

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The following strategies appear promising, but are being implemented in only one or two provinces:

• START Initiative: Starting Dialysis on Time at Home on the Right Therapy. The START initiative was developed to address the growing demand for dialysis, improve patient outcomes and reduce costs to the health system by implementing best practice guidelines related to dialysis initiation and optimizing the use of peritoneal dialysis therapy across the province.

- Home Dialysis Open House Events: These educational events are directed at incoming dialysis patients and are designed to provide insight into life on home dialysis. The events include demonstrations and discussions led by patient representatives, renal staff, dieticians, social workers and machine company representatives. Patients are provided with take home educational materials as well.
- MATCH-D: The Method to Assess Treatment Choices for Home Dialysis (MATCH-D) Canadian Version has been developed by the Medical Education Institute, Inc. to help nephrologists and dialysis staff identify and assess candidates for home dialysis therapies.
- Remote Patient Monitoring: New dialysis equipment being used in Manitoba provides remote communication via Sharesource software to a nurse in the peritoneal dialysis main unit, relieving patients' anxiety related to the monitoring of their own care.

Additionally, we gathered information on barriers and enablers to home dialysis uptake and success. Those frequently highlighted are outlined below:

- Geography and Travel: Inclusion of patients who live in rural or remote areas has proved challenging for many home dialysis programs, often due to difficulties delivering equipment and supplies or due to the amount of travel necessary for initial in-unit patient training.
- Patient-Related Factors: Patient-related barriers to home dialysis uptake, such as the cost of home hemodialysis, poor living conditions or water quality, inadequate storage for peritoneal dialysis equipment, fear of medicalizing the home and bias towards in-centre treatment were uncovered throughout the data gathering process.
- Strong Nephrology Leadership: Strong support and personal interest by nephrologists and renal leaders was regularly cited as a significant enabler to the success of many home dialysis and renal programs.
- Advancements in Technology: New technologies, such as: home hemodialysis machines that can be used on a well and septic tank; remote patient monitoring for peritoneal dialysis patients; and telehealth clinics are opening doors for patients that were previously excluded from eligibility for home modalities, either because they lived in rural or remote places or because they lacked confidence in their ability to monitor their own care.

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7. Appendix A – Data Extraction

Jurisdiction	British Columbia
Named Strategies or	Peritoneal Dialysis Assist
Programs	Home Dialysis Open House
Targeting Healthcare	Regular rounds and review of current practices (for example, feedback and audit)
professionals	Training of all health care professionals regarding home dialysis modalities, including educational rounds and
	province wide rounds.
	BC Kidney Days (BC annual conference) always has 2-3 educational sessions specific to home therapies
	(attendance to conference = 400 delegates from around BC)
Targeting Patients	There is a provincial program integrated into early kidney care programs and aimed at new patients. The
	program includes standardized education materials and timing of dialysis modality conversations at estimated
	glomerular filtration rate (GFR) < 20 or with trajectories of greater than 8 ml/min/year.
	• Each health authority in BC holds an annual Home Dialysis Open House that has patient representatives, machine
	companies, staff, and educational materials. Patients with GFR less than 20 are invited. Home dialysis patients
	often lead the event and answer questions about the type of home therapy they are doing. The format may be
	slightly different in each health authority, but the take home message is the same.
	 There is financial support available for patients, including paying for machines and funding renovations required for their homes.
	The province has recently implemented a peritoneal dialysis assist program (for those already on peritoneal
	dialysis) to ensure respite or support during changes in patient or caregiver health issues, and to help maintain
	patients on peritoneal dialysis.
Remuneration	No specific remuneration policies are in place. Programs (health region based) are remunerated for the program
	support required (training, renal nurses, etc.)
Barriers	Geography and travel for patients can be an issue: the province is continuing to look at innovative ways to train
	patients to reduce time away from home for training.
	Needling is an issue for home hemodialysis.
Enablers	Ongoing education and auditing of program.

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	A "why not home therapy" approach for new starts on dialysis.
Additional	www.bcrenalagency.ca
Information or	http://www.bcrenalagency.ca/resource-
Web Links	gallery/Documents/KCC%20Algorithm%2c%20Tasks%20and%20Timelines.peritoneal dialysisf
	• http://www.bcrenalagency.ca/health-professionals/clinical-resources/modality-choices
	All patients and health care workers have access to materials on the web.

Jurisdiction	Alberta
Named Strategies or	START Initiative
Programs	Modality Education
	My Choice Unit
	Peritoneal Dialysis Assist
	Home Sweet Home
Targeting Healthcare	• START Initiative: Starting Dialysis on Time at Home on the Right Therapy. This provincial initiative was developed
professionals	by the Kidney Health Strategic Clinical network in partnership with the Alberta Kidney Care programs, to address
	the growing demand for dialysis, improve patient outcomes and reduce costs to the health system by
	implementing best practice guidelines related to dialysis initiation and optimizing the use of peritoneal dialysis
	therapy across the province. The initiative is supported by a rigorous measurement framework, the Dialysis,
	Measurement, Analysis and Reporting (DMAR) system. This initiative is also supported by the Innovation
	Learning Collaborative Model to engage frontline providers in the process of identifying opportunities for
	improvement and implementing practice changes specific to their local environments. Collaborative sessions
	have been attended by frontline staff from all chronic kidney disease clinics across Alberta. This has provided
	frontline staff with a greater understanding of barriers to help focus their quality improvement efforts to
	optimize peritoneal dialysis use and improve the patient experience.
	In the Northern Alberta Renal Program (NARP), in order to grow home dialysis, they began with a doodle poll of
	all nephrology staff, from inpatient, clinics and hemodialysis units. They wanted investigate staff perceptions of
	home dialysis, see what were perceived barriers in order to address and remove prominent misconceptions.
Targeting Patients	START initiative: All new patients with kidney failure are to be identified and assessed for peritoneal dialysis
	eligibility; educated about treatment options and offered peritoneal dialysis if they are eligible; supported to

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make an informed modality decision; and successfully initiated on their chosen therapy. This structured review process ensures that all patients are given the information, skills and support in making decisions regarding the dialysis option that is best suited to them.

- Modality Education: A standard and comprehensive approach to modality education was introduced over 2 years ago by the province's renal programs. The goal was to increase patient knowledge and informed decision-making with respect to the optimal treatment for kidney failure, given the patients' circumstances, abilities and/or physiological health factors. Where appropriate and consistent with the patients' wishes, education will promote living donor transplantation, home dialysis and non-dialysis conservative care. The educational sessions provided are 90 minutes, and include discussions on transplantation, peritoneal dialysis and hemodialysis with a focus on home therapy; the advantages and disadvantages of home dialysis, and patients are provided with take-home education materials. There is an optional post-session tour of the peritoneal dialysis and Home Hemodialysis Unit. Modality educator/nurse position very important for the patient education component.
- My Choice Unit: A pilot project in the Southern Alberta Renal Program (SARP) beginning in July, 2018. The goal of the unit is to target patients who have not made a modality choice yet, in the hopes of avoiding starting dialysis in the hospital setting. In the unit, which is based in the community near the home dialysis unit, patients will meet with a social worker, whose function is to ease the transition from pre-dialysis to dialysis, and help with any psychological or emotional concerns related to the transition. Patients in this unit will receive full modality education, and then will either be initiated in the community hemodialysis unit, or initiate home dialysis training. The unit is important, as it will help patients see others making their modality choices, and exposes them to the home dialysis unit.
- Peritoneal Dialysis Assist: Started in SARP in 2008. A large barrier to peritoneal dialysis uptake was the availability of patient support. The renal program had a contract with Licensed Practical Nurses (LPNs) to assist with the take down and set up of the cycler. The program was originally limited to within Calgary, and could only provide support to 18 patients. In July 2018, SARP will be switching to a model of using health care aids instead of LPNs, and the program should expand to 24 patients and to the outskirts of Calgary. The level of support provided to patients will also be increased due to the change to health care aids—there will be two visits per day instead of one, and they will work to provide the support based on the specific needs of the patient.
- Home Sweet Home events: Twice a year for four hours on a Saturday, NARP runs a Home Sweet Home event in Edmonton. During this event, the home-hemodialysis unit is set up to look like the rooms in a patient's home, and in each room, patients meet with a health care professional and a patient representative. Throughout the

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	day, patients meet with a dietician, renal nurse and social worker. This educational event allows current dialysis
	and pre-dialysis patients and their support person to explore home dialysis in a fun, speed-dating format with
	staff and patient volunteers on hand to provide demonstrations and field questions.
Remuneration	Nephrologists are normally salaried as opposed to fee-for-service.
Barriers	Capacity for peritoneal dialysis education – increasing demand for peritoneal dialysis has strained existing
	resources for peritoneal dialysis education, resulting in wait times for peritoneal dialysis education in some
	sites. This will require a reallocation of resources to address the demand.
	Availability of peritoneal dialysis assist – currently, this is only available in Calgary. More broad availability of
	peritoneal dialysis assist would increase eligibility for peritoneal dialysis. This is especially challenging in rural
	and remote areas – where peritoneal dialysis assist is harder to operationalize given volumes and geographic
	distances. Innovative staffing models need to be considered.
	Policies – policies regarding centralized peritoneal dialysis training, priority criteria for peritoneal dialysis training.
	Patient and Health Care Provider perceptions – patients and providers sometimes believe peritoneal dialysis is
	not as beneficial as other modalities.
	Geography – delivering peritoneal dialysis equipment to rural and remote areas is a challenge, especially since
	Greyhound, the provinces usual delivery method, will be ceasing operations.
Enablers	DMAR – dialysis, measurement, analysis and reporting system (http://www.dmarsystem.com/index.php)
	Peritoneal Dialysis Assist (in Calgary)
	Peritoneal Dialysis Rounds – systematic review of all patients to establish eligibility based on standard criteria
	Strong nephrologist leadership
	Telehealth clinics to reach rural patients
Additional	https://www.cann-net.ca/images/Patient_decsion_aid_for_treatment_of_kidney_disease_Canada-
Information	<u>Feb 6 2014.peritoneal dialysisf</u>
	https://www.kidney.ca/book-one-living-with-reduced-kidney-function
	https://www.kidney.ca/book-two-living-with-kidney-failure
	https://www.cann-net.ca/patient-information/educational-tools
	https://www.cann-net.ca/for-providers/educational-tools

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Jurisdiction	Saskatchewan
Named Strategies or	None
Programs	
Targeting Healthcare	Grand Round presentations on home based dialysis modalities.
professionals	• Lunch and learns given by clinical educators and/or industry about new technologies in peritoneal dialysis and home hemodialysis.
	Targeting hemodialysis nurses to improve their knowledge about home-based therapies.
	 Members of the Division give continuing medical education talks to family doctors, nurse practitioners about Chronic Kidney Disease (CKD) and treatment options every few years.
Targeting Patients	Re-designing the provinces modality education classes (ongoing).
	Trying to promote pre-emptive transplant in the CKD clinic.
	Working with the Ministry of Health to try to decrease cost of home hemodialysis – Ontario Renal Network has
	just established a good program.
Remuneration	For home hemodialysis and peritoneal dialysis there is a weekly fee code for supervision. The weekly fee code is
	less than the fee for an individual hemodialysis treatment in our in-center unit or in our satellite units. The
	physician remuneration policy does not affect whether the patient initiates a home-based therapy.
Barriers	Community or home care support for assisted peritoneal dialysis, although the province now has community
	Paramedicine offering peritoneal dialysis support but only in Saskatoon.
	Utility and water costs for home hemodialysis.
	Poor living conditions for both home hemodialysis and peritoneal dialysis.
	Peritoneal dialysis with no storage options.
	Patient and caregiver fear of being independent.
	Medicalizing the home.
	Water quality.
	Sometimes health literacy is a problem.
Enablers	Strong nephrologist support for home-based therapies.
	Increase in peritoneal dialysis staffing.
	Strong administrative support for home-based therapies including at the MOH level.

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Additional	• The province had a significant primary failure rate for our peritoneal dialysis catheters so they changed the method
Information	of insertion from 'blind" surgical insertion to fluoroscopy insertion by a dedicated interventional radiologist. For
	more difficult patients, they now have laparoscopy inserted peritoneal dialysis catheters by a skilled surgeon.

Jurisdiction	Manitoba
Named Strategies or	None
Programs	
Targeting Healthcare	At multi-disciplinary weekly patient rounds, the transition coordinator asks whether any new patients with stage
professionals	5 CKD or on in-centre hemodialysis are suitable for peritoneal dialysis or home hemodialysis.
	Transition coordinator goes through every chart to ensure nobody falls through the cracks. If the patient is not
	suitable for peritoneal dialysis or home hemodialysis, a valid reason must be provided.
	Nurses on the renal unit also participate in renal courses on home modalities, and workshops are provided for
	the staff.
Targeting Patients	Many education materials are provided to patients, including printed materials, a binder for new patients,
	brochures, posters, renal education classes. The transition coordinator meets with every new dialysis patient to
	provide dialysis modality education.
	Assisted peritoneal dialysis is provided in the community and now in multiple long term care facilities in
	Winnipeg. There is hope that this will be expanded to rural areas. This is for patients where there is no physical
	reason not to get peritoneal dialysis. Nurses provide them with assistance either for a few weeks or months as
	the patients become comfortable.
	A reimbursement program exists in partnership with the Kidney Foundation of Canada, to help home
	hemodialysis patients with additional costs.
	The province is using newer machines that can be used for patients on a septic tank, broadening the scope of
	care for home hemodialysis to rural and remote patients.
	Other new equipment provides remote communication via Sharesource software to a nurse in the peritoneal
	dialysis main unit, which relieves patient anxiety related to the cycler (Amia cycler by Baxter).
Remuneration	Physician remuneration for home modalities is competitive with in-centre hemodialysis.
Barriers	Peritoneal dialysis catheter-related procedures are very easily accessible except for when OR with general
	anesthesia is required. This barrier is progressively improving with the help of higher administration.

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	Incident peritoneal dialysis rates in MB are one of the highest nationally, prevalence rates are only average due
	to high attrition rate/technique failure.
	• There is a need for a better support system in the local community for rural patients (comprise ~ 45-50% of MB
	patients) that the province hopes to work towards in partnership with other stakeholders. Home hemodialysis
	rate continues to increase.
Enablers	CKD clinic nurses
	Transition coordinator.
	MDs who work in the hospitals that provide home dialysis modalities.
	New, better home dialysis equipment.
Additional	• http://www.kidneyhealth.ca/wp/wp-content/uploads/patients/HomeDialysisHandbook_web.peritoneal dialysisf
Information	• http://www.kidneyhealth.ca/wp/wp-content/uploads/patients/homedialysis_chart_11x17.peritoneal_dialysisf
	• http://www.kidneyhealth.ca/wp/wp-content/uploads/patients/homedialysis_2016_LR.peritoneal_dialysisf
	• http://www.kidneyhealth.ca/wp/patients-and-caregivers/dialysis-modalities/

Jurisdiction	Ontario
Named Strategies or	Modality Education
Programs	Assisted Peritoneal Dialysis
	Home First Strategy/Framework
	Centres of Practice for Vascular Access and Peritoneal Dialysis
Targeting Healthcare	Home dialysis therapy presentations have been given at nephrology nursing education days.
professionals	Nephrology grand rounds discuss home dialysis.
	Special presentations for the provinces Multicare Kidney Clinic (MCKC) team.
	Availability of a modality education specialist to help support staff.
	Home Dialysis Coordinator role at all regional renal programs funded by the province who works to promote
	independent modalities by increasing awareness of the various options and their benefits to health care
	providers and community partners, and leads the creation of a culture that acknowledges and acts on the
	benefits of home dialysis for all patients in the local renal Program.

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Home First Strategy/Framework - the objective is to create a culture of Home First and ensure infrastructure and services are in place for all suitable patients to receive safe, high quality dialysis in their place of residence. This will be done through enhancing regional accountability, committing to quality improvement, enabling infrastructure, supporting patient and provider education, and leveraging funding policy. Several quality improvement initiatives have been implemented and these include letters for under-performance in home dialysis and vascular access wait times, site visits to those underperforming, and recognition letters for programs who have met or exceeded their targets. **Targeting Patients** • The province has a New Start unit with care-mapping that includes modality selection. It helps to focus the education and discussion around home therapies. Shared decision-making approach is used for educating patients. Home first is the main approach, but if patients do not buy into home therapies, they will not last on home therapy. Therefore, education and shared decision making is key. • MCKC for patients with advanced CKD. Posters created in collaboration with Baxter to promote home modalities. Home Dialysis Coordinator role who ensures processes, resources and tools are in place so that patients and their families can receive consistent and high quality modality-related education, working collaboratively with the Body Access Coordinators. • Assisted peritoneal dialysis in Long Term Care Hospitals (LTCH) - There are a two options for the provision of peritoneal dialysis support in LTCH, both of which require a partnership between a peritoneal dialysis-approved LTCH and a Regional Renal Program (RRP). These are: • The peritoneal dialysis-approved LTCH staff develop the skills to provide daily dialysis assistance, or; The RRP directly, or through an external provider, enters the LTCH to provide assisted peritoneal dialysis support. o For all peritoneal dialysis in LTCH service delivery models, only approved LTCH can deliver assisted peritoneal dialysis. The approval is required to ensure that participating LTCH have met criteria relevant to the model of care. The Ontario Renal Network has created a library of educational resources that are culturally appropriate for Aboriginal communities. This includes materials on peritoneal dialysis, vascular access, and nutritional

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information for renal patients. Materials are available in English, French, Oji-Cree, and Inuktiut to meet the needs of different communities.
 Centres of Practice – The ORN established the Centres of Practice (COP) pilot project in 2015 in order to improve patients' access to kidney care. By 2019, patients will have timely access to vascular and peritoneal access services. The initiative was intended to enhance system capacity for optimal and timely vascular and peritoneal access. The minimum requirements to become a designated COP are a committed and available surgeon, nephrologist or interventional radiologist to perform additional access procedures; willingness to accept outside referrals for vascular access surgeries or peritoneal dialysis catheter insertions; available infrastructure and resources needed to perform additional procedures within designated timeframe; and provide pre-op and post follow-up care. Specifically, the objectives of the COP for Dialysis Access are to: Ensure patients have access to dialysis services that will allow them to dialyze safely and successfully on their intended dialysis modality. Establish regional expertise in dialysis-access related procedures that provide patients requiring dialysis with a functional access, including vascular access creations and revisions, and peritoneal dialysis catheter insertions and repositioning.
Ontario Renal Network website.
There used to be differences between in-centre hemodialysis and home dialysis – this was changed to increase home dialysis in Ontario.
Biggest barrier is the presence of satellite units – these units are good for patients, but not good for increasing home therapy numbers. The farther you are from a dialysis unit, the more likely you are to choose a home modality.
 Ability to have peritoneal dialysis catheters inserted acutely – there has been a push for acute peritoneal dialysis. There is strong support for catheter insertion in the province. The applicability of this will depend on local interest and expertise. Ontario has three dedicated surgeons very engaged in the nephrology program, who are also urologists. These surgeons are available to help with complications and insert catheters when patients are admitted acutely. Hospitals get funding transfer from Ontario Renal Network for peritoneal dialysis catheter insertion. It is an attractive procedure to book from a hospital perspective. Education in New Start Unit, MCKC and the modality education specialist.

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	Home hemodialysis utility grant available for those who wish to start home hemodialysis. Grant is used to offset
	utility costs associated with this particular modality.
Additional	http://www.renalnetwork.on.ca/#&panel1-1
Information	• http://www.renalnetwork.on.ca/info for patients/dialysis/HHD utility grant/#.Wx7AtNVKg4h
	http://www.renalnetwork.on.ca/hcpinfo/centres_of_practice/

Jurisdiction	New Brunswick
Named Strategies or	Home First Philosophy
Programs	
Targeting Healthcare	Home First Philosophy - the kidney program strongly believes that the best option for patients is the one that
professionals	keeps them at home. This has been the philosophy of the program since its inception in the 1970's, as the
	program started as a home dialysis program. The overall health care professional attitude is 'how can we get this
	patient home'. Province strives to eliminate barriers in order to facilitate this.
	Consulting format for home unit nurses and/or Advanced Kidney Care Clinic (AKCC) for discussion with patients
	about home therapies for consistency and expertise.
Targeting Patients	Repatriating AKCC patients whose choice was home therapy but have required hemodialysis to return to home
	therapy of choice.
	Initiated group classes in AKCC for patients.
Remuneration	Home Dialysis is remunerated at a small fraction of hospital hemodialysis, yet the provinces home dialysis rate is
	over 20%. Remuneration is not a barrier to home dialysis.
Barriers	Need staff education to support discussions held between AKCC Nurse and Home Unit Nurse within hemodialysis
	and satellites. The province can develop internal staff training but have yet to do so.
	Definition of home being inclusive of nursing homes, special care homes and support to maintain home therapy
	in these environments. Addressing these issues presently is difficult and time consuming.
Enablers	Small amount of success with transitioning rapid start peritoneal dialysis patients to home therapy with no visit
	to hemodialysis unit.
	Monitoring and advocating for timely peritoneal dialysis catheter insertion.
Additional	
Information	

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Jurisdiction	Nova Scotia
Named Strategies or	Home First Strategy
Programs	
Targeting Healthcare	Home Therapies are one of the three strategic directions in the NSHA Renal Program Strategic plan. The province
professionals	defines home therapies as including transplant, home dialysis and conservative care. The plan includes three objectives:
	1) To adopt a home first strategy and increase awareness of home therapies as a suitable choice for independent treatment
	2) To promote transplant as a preferred home therapy for appropriate individuals
	3) To identify and overcome factors influencing uptake, attrition and retention of home therapies. For specific details on planned activities see the Strategic Plan 2016-2019.
	• To date, the province has developed a provincial home first philosophy/approach, which they are in the process of rolling out to staff and patients (with their feedback).
	 One program has established a modality coordinator role, which has significantly impacted the home therapy rate in that Zone.
	Developed standardized contraindications to home therapies.
	Extensive work being done to identify patient and health system barriers.
	Education is planned to officially launch Home First with staff in the fall.
	Requesting feedback from staff on how to educate patients on home first strategy
	Scheduled education for CKD staff on assessing patient readiness to make a home therapy decision, values
	assessment, decision support, goals of care and self-management and will be incorporating a life planning approach into our CKD clinic.
	Standardizing the content and documentation of the home dialysis talk.
	• Staff in both CKD and home dialysis units have identified solutions that they use to overcome each of the patient barriers identified and CKD and Home Unit staff across the province are collaborating to discuss and share strategies to address these barriers.
	The province has prioritized the top 3-4 health system barriers and will be working on strategies to overcome or minimize these.

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Targeting Patients	Staff in both CKD and home dialysis units have identified solutions that they use to overcome each of the patient
	barriers identified and there will be a meeting with all CKD and Home Unit staff across the province to discuss
	and share strategies.
	Key messages are included in every renal program newsletter.
	Requesting feedback from patient advisors on how to educate patients on home first.
	More work to be done on transitions of care (identifying and planning for transitions: loss of transplant, change
	in vascular access, in-centre to satellite, failing peritoneal dialysis, urgent starts, family status, moving,
	employment in a manner that supports a home therapy)
Remuneration	Remuneration policies are being reviewed with the view to a blended fee code for all kidney care.
Barriers	Home care resources/support.
	Support for late referrals and transition from acute start
	Surgical barriers (OR, surgeon time).
Enablers	Defining Home First philosophy
	Leadership support
	Dedicated staff and processes to focus on acute starts, late referrals, transfers from hemodialysis and failing
	transplant
	Concerted province wide effort to identify and overcome barriers
	Quarterly reports on progress (provincial and by program)
Additional	http://www.cdha.nshealth.ca/system/files/sites/documents/nsha-renal-program-strategic-plan-2016-
Information	2019.peritoneal dialysisf

Jurisdiction	Prince Edward Island
Named Strategies or	None
Programs	
Targeting Healthcare	The province has had targeted information sessions for renal program staff regarding how to talk to patients
professionals	about home therapies in a non-biased manner. This was supported by Baxter and centered on peritoneal dialysis,
	as the province does not have a home-hemodialysis program at this time.
	Peritoneal dialysis home support nurses were hired through the renal program versus home care so that nurses
	with renal expertise are working with these patients.

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	The home peritoneal dialysis nurses are cross trained to hemodialysis in order to maintain their hemodialysis
	skills but also to be able to speak with the hemodialysis patients about peritoneal dialysis as an option. When the
	province moves to home hemodialysis in the future, these nurses will already have the necessary expertise.
	Working with the Atlantic Collaborative to create a common home therapies assessment tool (MATCH-D)
	Canadian version).
Targeting Patients	Peritoneal dialysis and hemodialysis home support nurses work within hemodialysis units to promote peritoneal
	dialysis.
	Renal replacement therapy treatment modalities are discussed early in the CKD treatment trajectory.
	Plan to work closer with Primary Care to promote treatment options.
Remuneration	No specific details, however physicians are better compensated for a hemodialysis patient than peritoneal
	dialysis.
Barriers	Staff/physician and patient bias
	Home supports to carry out home therapies- ongoing challenge with no real resolutions
	Additional costs associated with home therapies- supplies, electricity water etc. This is not significant for the
	province at this time as they do not have home hemodialysis; however, it will need to be addressed as the
	province moves towards this treatment modality.
	Home environments, literacy and financial issues within the home- ongoing support with Social workers to
	identify and work through these barriers if able.
Enablers	The renal staff and government are committed to growing peritoneal dialysis.
	The province can now insert their own peritoneal dialysis catheters at both of the Tertiary hospitals. They have
	the ability to embed catheters for future use, thereby decreasing the risk of potential peritoneal dialysis patients
	crashing onto in-centre hemodialysis.
Additional	https://www.cann-net.ca/images/Final Canadian Match D tool Aug 6 2014.peritoneal dialysisf
Information	

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8. Appendix B – International Jurisdictions

Australia and New Zealand

At the end of 2016, there were 12,706 people receiving dialysis in Australia, and 4,982 in New Zealand (ANZDATA, 2017). The proportion of patients dialyzing at home is lower in Australia than in New Zealand. In New Zealand, approximately 50% of patients on dialysis receive their treatment at home, as New Zealand has a dedicated home-first policy. Australia is working towards this goal as well, and incentivized activity-based funding models, technology innovations and new home dialysis training units are helping the country achieve this goal. As of 2016, 28% of Australians use a home modality.

In order to increase home dialysis rates, this jurisdiction has found that it is important to have home dialysis 'champions' who advocate for this modality, governmental policies and funding mechanisms to support home dialysis, and renal health teams who are highly educated in home dialysis and who can translate this information to patients in a non-biased manner. A multidisciplinary working group created the 'My Kidneys, My Choice' decision aid for patients, and there is now a structured pathway for education of late referrals or reeducation of patients who began in-centre, but who would like to change their modality to the home. Lastly, managers and renal unit leads need to ensure that the unit philosophy is 'home-first' (Fortnum & Ludlow, 2014).

Reported barriers that have influenced the uptake of home dialysis modalities in these jurisdictions are the age of the patients, geography and distance from health care services, patients being unwilling to change modality once initiated in-centre, out of pocket costs for the patient, caregiver exhaustion, as well as patient or physician biases towards in-centre treatment. (Fortnum & Ludlow, 2014).

United Kingdom

According to Kidney Care UK, nearly 30,000 people in the United Kingdom (UK) are on some form of dialysis, with most patients on hemodialysis. The UK is working towards increasing the number of patients who perform their dialysis treatment at home, as there have been some challenges with uptake in this jurisdiction as well.

In 2013, the All-Party Parliamentary Kidney Group hosted a Home Dialysis Summit, where evidence was heard from patients, clinicians, commissioners and regulators. This group put forth recommendations to remove barriers and highlight the clinical and financial advantages of home dialysis. Barriers discussed were clinical bias against home dialysis, lack of patient awareness of home modalities and their advantages, absence of a coordinated national approach, and patient fear of home dialysis. Some important recommendations highlighted were the creation of a national target for home dialysis uptake, incentives for home dialysis, clinical and patient champions of home dialysis, regular consultation with dialysis patients, and audits of dialysis rates by renal units. (National Kidney Foundation, 2013).

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Additional Resources

- www.kidney.org.au
- www.kidneys.co.nz
- www.homedialysis.org.au
- http://thehomenetwork.weebly.com/
- https://www.kidneys.co.nz/resources/file/mykidneymychoice_digital.peritoneal_dialysisf
- https://kidney.org.au/cms_uploads/docs/my-kidney_my-choice_health-professionals.peritoneal dialysisf
- https://www.kidney.org.uk/documentlibrary/Home Dialysis Report.peritoneal dialysisf
- https://www.kidneycareuk.org/

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