BCRenal
Provincial Health Services Authority

Kidney Services - Infrastructure and Capacity Planning

A Resource for Health Authority Renal Programs

March 2025

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LAND ACKNOWLEDGEMENT

BC Renal plans and monitors the delivery of kidney care services to a diverse population living in various settings and communities across BC. As a provincial network, we operate on the unceded traditional and ancestral land of many Indigenous peoples, including First Nation, Métis and Inuit people. Our main office is located on the traditional and ancestral territories of the Coast Salish peoples – xʷməθkʷəy̓əm (Musqueam), Sḵwx̱wú7mesh (Squamish), and Sə̓lílwətaʔ/Selilwitulh (Tsleil-Waututh) Nations, and the Métis Chartered Community of the Lower Mainland Region.

We acknowledge the health inequities caused by the current and historical colonization of this territory, and we humbly listen and learn from the resilience and strength of Indigenous peoples. We will endeavor to provide culturally safe care and practice throughout our work.

IMPORTANT INFORMATION

This BC Renal guideline/resource was developed to support equitable, best practice care for patients with chronic kidney disease living in BC. The guideline/resource promotes standardized practices and is intended to assist renal programs in providing care that is reflected in quality patient outcome measurements. Based on the best information available at the time of publication, this guideline/resource relies on evidence and avoids opinion-based statements where possible; refer to www.bcrenal.ca for the most recent version.

For information about the use and referencing of BC Renal provincial guidelines/resources, refer to http://bit.ly/28SFr4n.

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This document serves as a practical guide for planning hemodialysis services, designed to assist health authority renal programs with capacity planning. It aligns with the provincial approach to ensure the equitable and sustainable distribution of high-quality care. Of note, comprehensive statistical methodology is used to calculate kidney care resource needs, based on population demographics and other factors. With increasing growth and emphasis on home-based therapies, it may be necessary to revisit previous assumptions regarding facility needs specifically. However, the importance of fully integrated programs with capacity to manage patients throughout the continuum of care remains a key principle.

Empowering patients to make informed decisions about their treatment modality—whether it's home-based hemodialysis (HD), peritoneal dialysis (PD), or facility-based hemodialysis—requires robust infrastructure to support these choices.

Introduction and Overview

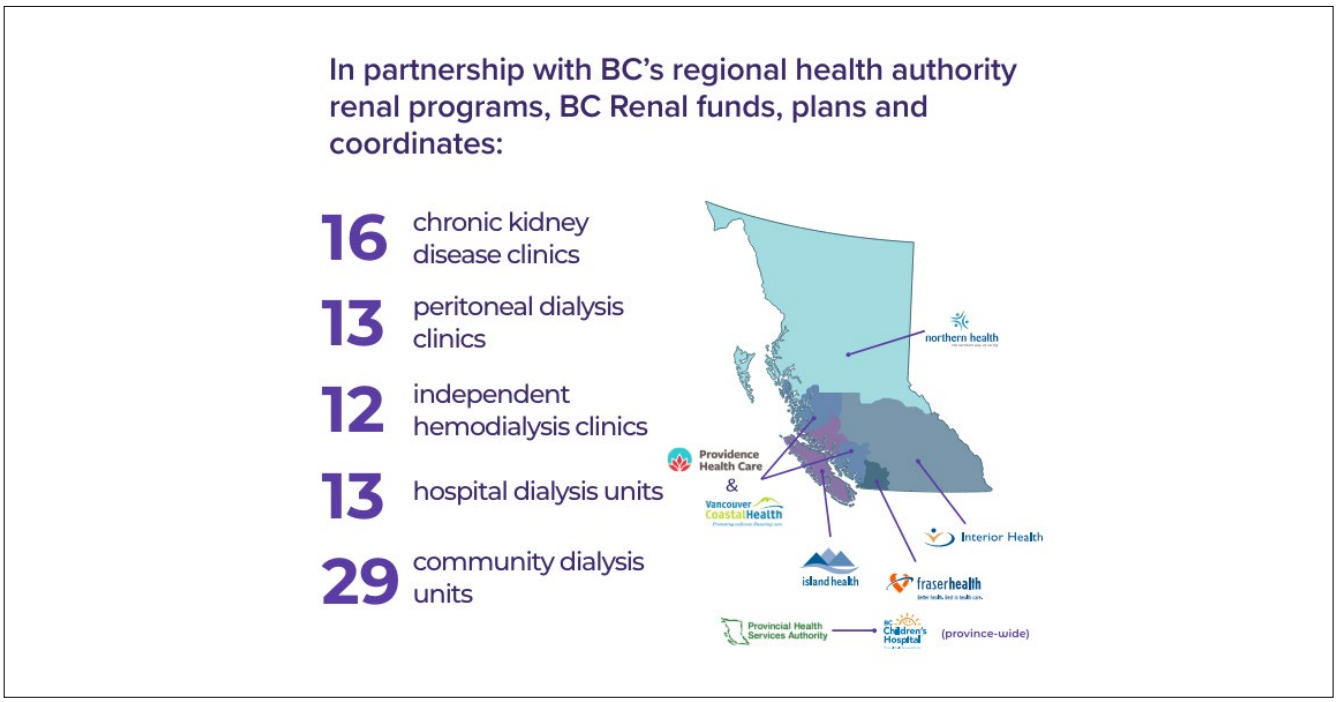
BC Renal (BCR) is part of the Provincial Health Services Authority (PHSA) and plays an important role in coordinating kidney healthcare services across British Columbia. Serving as a central resource for renal programs within regional health authorities, BCR oversees province-wide planning, funding, and monitoring of kidney services.

Each regional health authority operates its own Health Authority Renal Program (HARP), typically centered around one or more primary renal management centers located in acute care hospitals. These centres serve as the 'primary hub' or 'home base' for renal services within their designated geographic area, providing comprehensive care and support to referred patients.

Primary management centres include the following:

- In-centre hospital dialysis unit
- Independent dialysis services inclusive of peritoneal dialysis and home hemodialysis
- In-patient/acute care nephrology services
- Chronic kidney disease clinic
- Community-based hemodialysis services, or Community Dialysis Units, may also be provided but are not essential to the operation of the primary management centre.

An overview of the renal services in BC:



BC Renal and the HARPs across the province have developed a range of strategies to identify and care for patients earlier in the disease process, and to ensure patients benefit from best practices improvements in techniques and available medications. Although these widely lauded improvements have reduced growth in end stage renal disease, pressures in capacity will continue to grow, and capacity planning ensures the necessary infrastructure for kidney care is in place across the province.

Planning for kidney services involves assessing and managing the resources needed to meet the demand for services. Effective planning ensures that these services are available when needed, optimizing patient outcomes and resource utilization. To establish a comprehensive renal program, effective capacity planning is crucial at every stage of the patient journey.

Capacity Planning Process

The capacity planning process in BC is a collaborative effort involving BC Renal and the six-health authority renal programs. BC Renal serves as a central resource, overseeing province-wide planning, funding, and monitoring of kidney services.

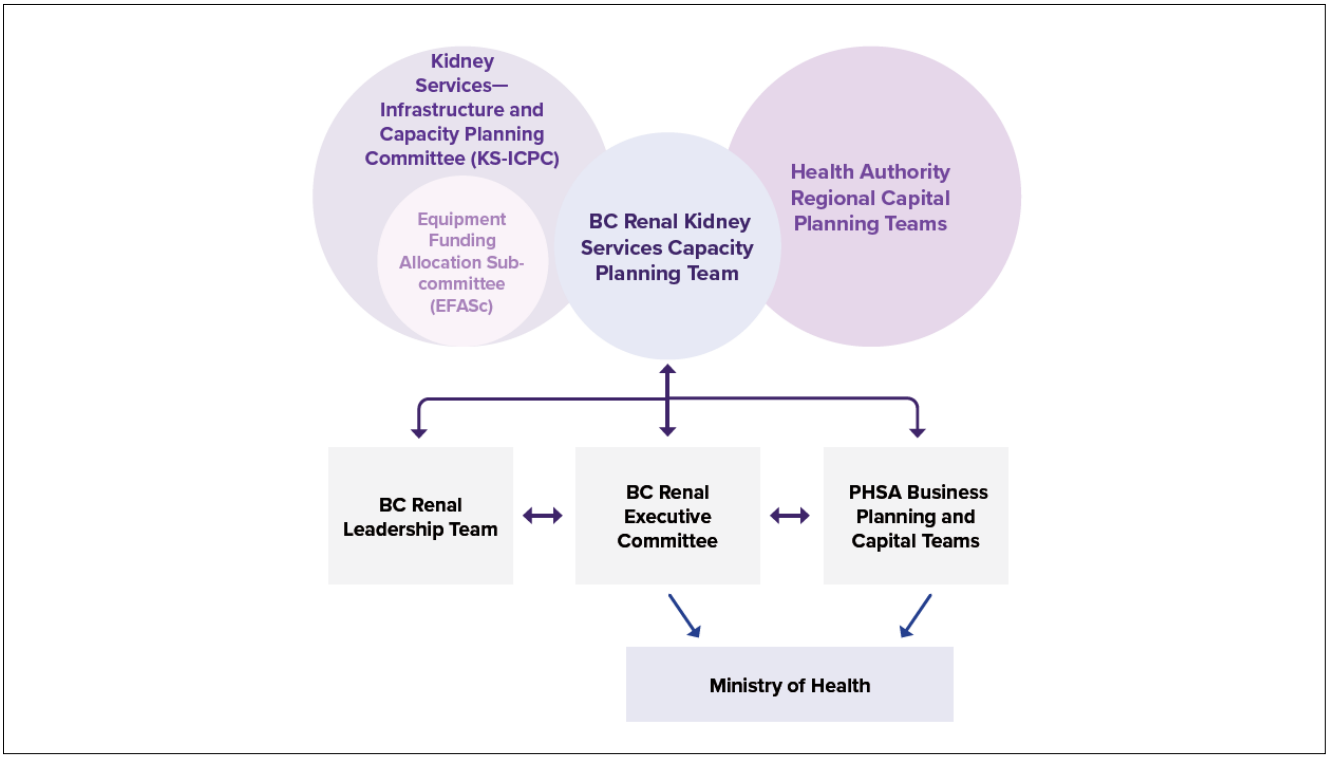
Two BC Renal (BCR) planning committees, alongside an internal capacity planning team, work together to ensure adequate infrastructure for kidney care. The Kidney Services - Infrastructure and Capacity Planning (KS-ICPC) Committee streamlines growth planning for renal facilities, while the Equipment Funding Allocation Subcommittee (EFAS) manages equipment planning, reviews funding requests, submits recommendations for approval, and efficiently manages equipment funding. Both committees prioritize enhancing provincial partnerships and fostering regional collaboration.

While BC Renal oversees the allocation of fixed annual capital funding for equipment, BCR does not manage or allocate funds for facility development. All funding for health authority facilities should be accessed through their respective health authority capital planning teams.

The Equipment Funding Allocation Subcommittee Manual: A Resource for Health Authority Renal Programs can be found here.

Image 1 describes the relationship between BC Renal and the health authorities and how information is shared between each group.

Image 1: Capacity Planning for Kidney Care in BC



Kidney Service-Infrastructure and Capacity Planning Committee

The purpose of the Kidney Service-Infrastructure and Capacity Planning Committee (KS- ICPC) is to serve as a provincial forum to facilitate and inform kidney care facility planning across health authority renal programs – supporting alignment and consistency in processes, advocacy for capital funding where appropriate, and ensuring the availability of services to meet patient needs.

The KS-ICPC consists of provincial renal leaders responsible for a range of activities aimed at ensuring that the kidney service infrastructure and capacity within a province is effectively managed and developed.

These activities include:

- **Assessment of Current Infrastructure:** Works with the health authorities to evaluate existing kidney services infrastructure, to identify strengths, weaknesses, and areas of improvement.

- **Forecasting and Planning:** Forecasts future kidney services needs based on patient projections for each Health Service District Areas (HSDA).
- **Collaboration and Coordination:** Collaborates with provincial partners to ensure planning efforts are coordinated and aligned with provincial kidney services goals and priorities.
- **Monitoring and Evaluation:** Monitors kidney services infrastructure projects, assesses their impact on capacity and service delivery, and evaluates their effectiveness in meeting the province's kidney service goals.
- **Emergency Preparedness:** Ensures kidney services infrastructure is resilient and capable of responding to emergencies and disasters.
- **Advocacy and Partner Engagement:** Advocates for additional resources and funding to support kidney service infrastructure development and capacity-building efforts.

The KS-ICPC plays central role in ensuring the kidney services resources are effectively managed, sustainable, and capable of meeting the needs of British Columbia's kidney population now and in the future. The Terms of Reference (TOR) can be found in Appendix 1.

Planning for Hemodialysis Services

Given the extensive resources involved in hemodialysis services, effective capacity planning is essential for ensuring seamless delivery, optimizing resource utilization, and meeting the evolving healthcare needs of renal care patients.

Capacity planning for hemodialysis involves:

- Understanding the supply of and demand for chronic in-centre hemodialysis services at the regional level
- Anticipating and planning for increased demand for hemodialysis
- Informing the decision-making process for capital projects related to kidney care.

Hemodialysis Services Planning Considerations:

- BC Renal has a set of provincial renal program guidelines endorsed by the Ministry of Health provides a methodology and set of principles for health authorities and institutions to follow in the management and ongoing development of care programs. The guideline supports equitable distribution of high-quality renal care to patients across BC. These guidelines are posted on the BC Renal website.
- A key strategy of BC Renal and all health authority renal programs is to help patients maintain kidney function early in the disease process. Patients who may eventually need dialysis are encouraged to explore independent, often home-based, dialysis options. Research indicates that independent dialysis can offer significant health and lifestyle benefits. In some areas, promoting independent care options may be more practical, and even patients living near a dialysis unit are increasingly opting for independent dialysis. Through BCR funding, home dialysis patients are supported with respect to training, on-call educators, technical support even plumbing upgrades if necessary.
- Currently, all patients receive timely hemodialysis care without waitlists. However, establishing a

dialysis unit in every community is not feasible due to limitations in available human and financial resources, as well as the need for specialized support services available in major centres. Additionally, opening a dialysis unit in a small community could destabilize existing health programs and disrupt the balance of the local healthcare ecosystem.

- It is important to note that not all dialysis patients are suitable for care in a community unit, just as not all patients are suitable for independent dialysis. Those with complex medical conditions require the specialized services of a in-centre hospital dialysis unit.
- For individuals with medical conditions that require proximity to specialized services, balancing the benefits of living in rural and remote areas with the need for specialized healthcare becomes critical. Health care goals should be discussed to support informed decision-making in these situations.
- If a community dialysis unit patient requires hospitalization, they may need to transfer to a hospital that has a in-centre dialysis unit to ensure access to the appropriate level of care. While every patient situation is unique, if a dialysis patient's condition warrants admission to a hospital, they are generally considered medically unsafe to be treated in a CDU environment as many non-kidney factors can impact how a patient reacts during dialysis treatment.

A map of hemodialysis services in BC can be found in Appendix 3.

The Capacity Planning Process for Hemodialysis Services

Optimizing capacity planning in a Health Service Distract Area (HSDA) is critical for meeting patient demand effectively while maintaining quality of care. This process involves a systematic approach to the assessment, predictions, and management of resources.

Activities and Steps	Key Factors to Consider	Health Authority Renal Program Roles and Communication Flow
1. Forecast anticipated growth in Health Service District Area (HSDA)	To effectively address the evolving dialysis needs, the HARP should conduct capacity planning semi-annually. This will involve utilizing the BC Renal capacity planning tool and collaborating with the Analytics and Methodology teams for the HSDA and region, as outlined in the Ministry of Health - Health Service District Area Map	The Health Authority Renal Program (HARP) leadership projects growth in the HSDA or region and communicates these forecasts, along with any potential capacity concerns, to the BC Renal Capacity Planning Team and to Health Authority (HA) leadership team

2. Evaluate current capacity in regional dialysis units Once the projection for the HSDA has been determined, evaluate the current capacity. Refer to page 13 for utilization targets details.	Current capacity evaluation may include: • What is the maximum capacity the dialysis unit can manage? • Does the capacity meet current demand? • Is the unit already at maximum capacity? • Will the unit capacity accommodate growth in the next 1-2 years? • What other dialysis units are nearby and what is their capacity?	Work with the HA leadership team works to evaluate capacity in all hemodialysis units within the region.
3. Identify solutions If future demand will outstrip supply, solutions to support growth should be identified.	Solutions may include: • ***Increase capacity within the Community Dialysis Units (CDUs)*** - CDUs have expanded their scope to include patients who have increased medical complexities and care requirements but are still safe to dialyze in a CDU setting • ***Independent Dialysis Options*** - Continue to implement increased independent dialysis options. • ***Optimize operations*** - Open evenings and weekends. • ***Transportation*** - Analyze other measures to increase utilization, particularly in areas with transportation or geographic limitations. • ***Nocturnal Dialysis*** - Optimize or add nocturnal dialysis units, which increase HD capacity with insignificant increase in resources. • ***Transplant First and Transplant Referrals*** - a joint BC Renal-BC Transplant initiative promotes pre-emptive transplants through living donation. • ***Goal setting*** to focus on what truly matters to the patient. This approach can help align treatment options more closely with preferences, potentially supporting home-based dialysis or conservative care choices. • ***Portable options*** - Consider portable options such as portable RO machines or NxStage machines if infrastructure is an issue.	Work on solutions with HA leadership to maximize capacity.

4. Assess sustainable solutions Once the projection for the HSDA has been determined, evaluate the current capacity.	Options analysis is integral to capacity planning in health regions as it guarantees a thorough review and consideration of all potential solutions before selecting the optimal one. This process ensures informed decision-making and maximizes the effectiveness of capacity planning efforts.	Work with HA leadership evaluate the most sustainable option and inform the BC Renal Capacity Planning team of this stage.
If no sustainable solution is found and renal services need to be expanded, proceed with steps 5 and 6.		
5. Engage health authority capital planning or facilities management team ***If no viable options are identified in step 3***, HA renal programs must involve the HA capital planning or facilities management team to initiate a project plan for the growing demand for hemodialysis resources. ** When it comes to **building new healthcare facilities**, the role of facilities management expands to encompass several key tasks before, during, and after the construction phase.	A project plan should include the following: • Feasibility study • Functional program • Business plan • Estimated costing/financial analysis. • Identifying funding sources • Cost-benefit analysis • Creating a timeline • Create a roadmap or step-by-step plan	Engage health authority leadership to ensure the renal facility project remains a strategic priority. Collaborate with HA leadership and the HA capital team or facilities management team to develop a project plan that includes identifying funding sources. *Update BCR Capacity Planning team when the HARP reaches step 5, as the project plan may require BCR endorsement at that stage.
6. Collaborate and discuss proposed project plan at Kidney Service -Infrastructure and Capacity Planning Committee (KS-ICPC) meeting The KS-ICPC meets (spring and fall) to align with the BC Renal Executive committee schedule.	The projected expansion of the regional HA's growth needs to be addressed on a provincial level within the Kidney Service-Infrastructure and Capacity Planning Committee. Collaborating provincially with all renal programs promotes: • Shared understanding and validation of patient projections across all HSDA • A collective understanding of current state.	With HA support, the HARP collaborates with the BC Renal Capacity Planning team and presents the HA's sustainable solution at the semi-annual BC Renal KS-ICPC meeting. *Advocacy will involve lobbying for increased resources, funding, and infrastructure to accommodate the growing demand for renal care services.

	• Incorporating local context and interdependencies into planning activities. • Advocating for dialysis capacity and facility needs that necessitate multiple sources of capital funding. * The KS-ICPC generates a report for the BC Renal Executive, urging advocacy efforts at every level. The Equipment Funding Allocation subcommittee (EFAS) will be notified about the expansion and the equipment needs related to the increase in demand for renal services.	Additionally, HA executive sponsors, HARPs and BC Renal will collaborate closely with partners to develop strategic plans that align and ensure that renal services remain at the forefront of healthcare priorities.

For more details on the roles and responsibilities of all partners involved, please refer to Appendix 2.

BC Renal Capacity Planning Tool

To enhance capacity planning in the region, the Health Authority Renal Programs (HARPs) should collaborate closely with BC Renal Analytics and Methodology when assessing potential dialysis facility locations. The Analytics and Methodology team can offer detailed insights into trends and patterns, facilitating more informed decision-making.

To support capacity planning/modeling across programs, BC Renal has developed a user-friendly tool that provides:

- Patient volume forecasts by site, Health Service District Area (HSDA), and Health Authority (HA).
- Patient volume forecasts for in-centre hemodialysis and community dialysis.
- Capacity utilization by site, HSDA, and HA.
- Impacts to capacity/utilization though potential capacity planning approaches.
- Staffing forecasts to ensure training and recruitment align with patient growth.

The BC Renal capacity planning tool enables:

- Facilitation of discussions among Health Authority Renal Programs, BC Renal, and the Ministry of Health.
- Determination of the necessary quantity and distribution of dialysis stations to meet demand.
- Establishment of a shared understanding of supply and demand dynamics within each HARP.
- Provision of guidance for decision-making on major dialysis capital projects.
- Conducting capacity assessments and forecasting demand for the 10-year plan submitted to the Ministry of Health.
- Setting utilization targets for in-center dialysis facilities at 80%, with a 20% flexibility reserve.
- Setting utilization targets for urban or mid-size community dialysis units at 90%, with a 10% flexibility reserve.

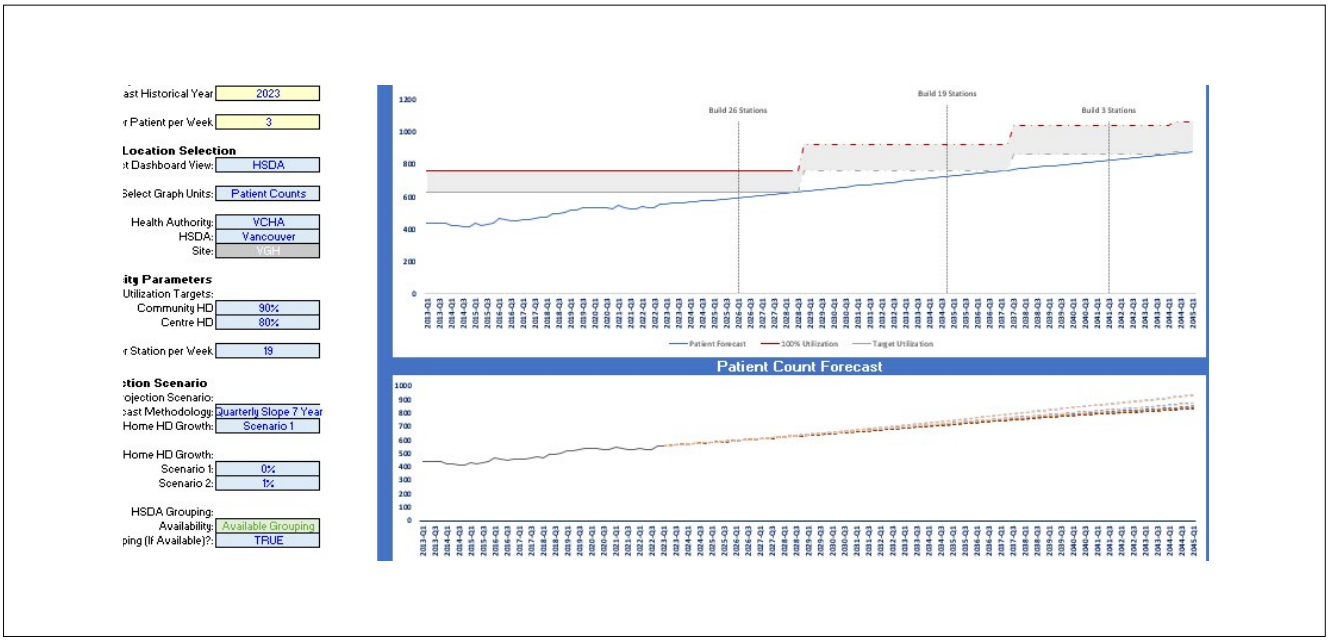
- Establishment of growth targets for home hemodialysis.

The BC Renal Capacity Planning tool is available on the BCR Capacity Planning SharePoint Site and will be updated annually as projection data changes. A user guide is also provided on the site to assist with tool usability.

To enhance capacity planning in the region, the Health Authority Renal Programs (HARPs) should collaborate closely with BC Renal Analytics and Methodology when assessing potential dialysis facility locations. The Analytics and Methodology team can offer detailed insights into trends and patterns, facilitating more informed decision-making. Image 2 provides an example of the Capacity Planning Tool.

Image 2 provides an example of the Capacity Planning Tool.

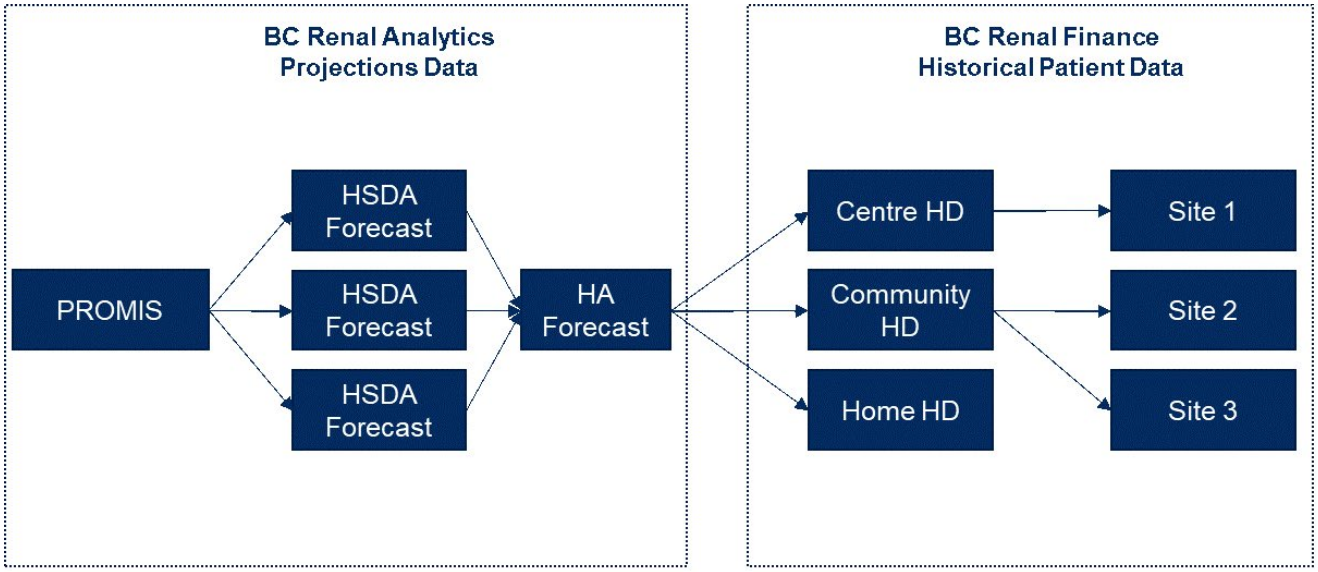
Image 2



The capacity planning tool accounts for all hemodialysis facility utilization factors including:

- Current and forecasted demand.
- Current and projected capacity
- Number of prevalent dialysis patients per facility by HSDA
- Target home rates
- Dialysis station utilization rates

The tool distributes forecasted patient volumes to dialysis facilities based on historical modality and patient distributions and presents these forecasts in a dashboard designed to aid in capital planning. Below is a high-level overview of the methodology.



To improve the capacity planning tool's effectiveness, the Health Authority Renal Programs (HARPs) should collaborate closely with BC Renal Analytics and Methodology when evaluating specific unit locations. The analytics team can provide valuable data on patient care locations within the health region, guiding more informed decisions.

Patient Growth Projection Methodology

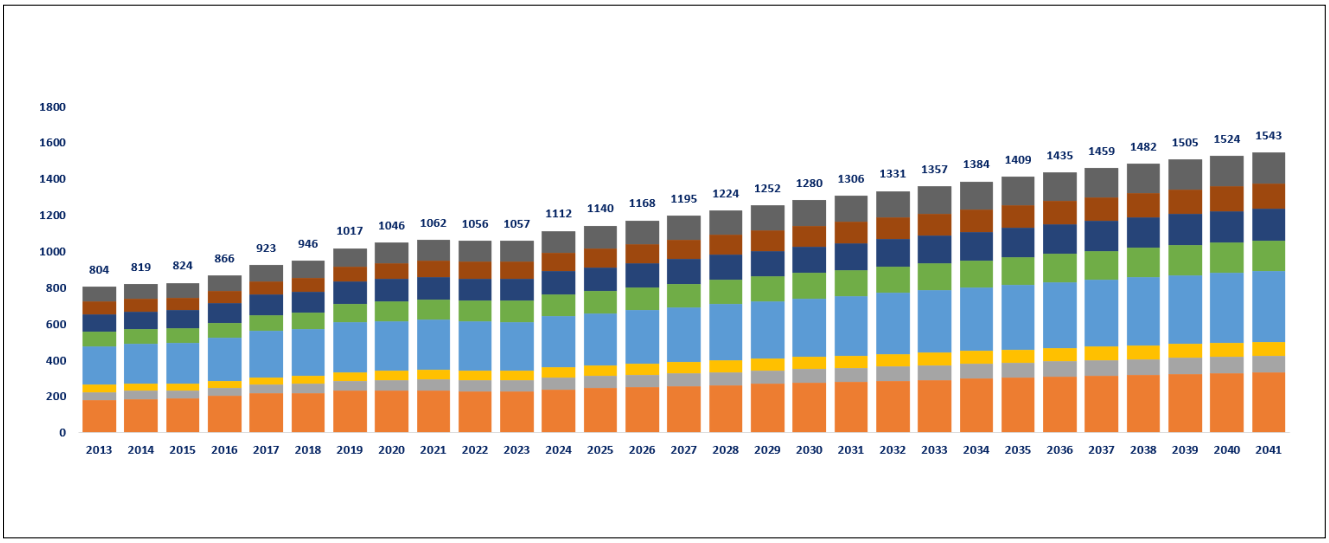
Patient volume is projected considering the actual growth trends over previous as obtained from the BCR Patient Record/Registration and Outcome Management Information System (PROMIS). Patient data includes age, gender, home address and treatment modality at the end of each quarter. Using the patient home address, patients are grouped by health authority of their residency. BC Renal uses cutoff-points standard for chronic kidney disease to group patients by age into five categories: 0-19, 20-44, 45-64, 65-74, 75+. PEOPLE35 population numbers are aggregated using the same classification. Treatment rate per million population, or prevalence, is calculated for each health authority, age, and gender group.

BCR uses regression analysis to analyze the trend in historical treatment rate per million population specific for each health authority, age, and gender group. Based on historical trends, the analytical team estimates future treatment rate per million population and then applies PEOPLE35 data to predict chronic dialysis patient numbers. The applied methodology is similar to other reported methodologies and has been consistently accurate when predicted and actual patient numbers have been compared over the last five years.

While it is recognized that several factors impact these trends, neither the impact of any single factor nor the relative contribution of these factors to the historical trends are quantifiable. Thus, the resulting historical trends in patient growth are considered to represent the sum effect of these factors and the most reliable basis for forecasting.

Image 3 provides an example of the growth rate in a health authority region.

Image 3



Recommended Utilization Targets for Hemodialysis Units

The recommendations below were developed by an interdisciplinary working group representing all BC health authorities. Feedback was provided and the recommendations approved by the committee formally known as BC Facilities, Planning and Equipment committee (FEPC) and the BC Renal Administrators. With limited literature to guide the discussions, the recommendations are primarily based on expert opinion as to what works and doesn't work in BC.

Capacity is defined as the maximum number of dialysis runs per week at each dialysis station within a facility. Average chronic dialysis treatments are four hours in duration. (Expanding capacity may be seen in emergency scenarios)

Occupancy refers to the percentage of available space that is currently occupied by patients. Often, this means a static number at a certain point in time.

*Maximum Occupancy = (# of Stations) * (Runs per Week per Station) * (52 weeks/yr)*

Maximum Occupancy = _____ Runs per Year

Utilization refers to how available space is being used over time and is defined as the percentage of the maximum number of dialysis runs that are utilized in a facility. Utilization describes what percentage of a facility is being occupied at any given time.

$$\frac{\textit{Actual Occupancy}}{\textit{Maximum Occupancy}} * \textit{100} = \textit{Utilization}$$

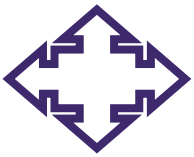
Flexibility reserve is a key element to efficiently organize critical capacity and adapts to the evolving hemodialysis environment.

Recommended utilization targets:

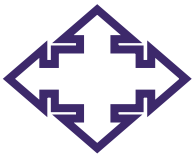
- In-centre dialysis units - 80% utilization to allow for a 20 % flexibility reserve
- Urban or mid-size community dialysis units - 90% utilization to allow for a 10% flexibility reserve

The ability of individual health authority programs to achieve these rates varies due to several limiting factors:

1. Workforce shortages at provincial and national levels restrict some regions from fully staffing facilities to maximum capacity.
2. Geographic challenges in specific health regions, where populations are spread across large areas with limited transportation options, also pose significant obstacles.
3. The aging population requiring dialysis increasingly presents with comorbidities such as cardiovascular disease. This trend limits the expansion of independent care options and heightens reliance on facility-based care.
4. All health authorities endorse patient modality choice as a guiding principle.

Dialysis Facility	Occupancy	Recommended Utilization Targets
In centre Hemodialysis Units	 In centre hemodialysis units should strive to maximize occupancy when feasible. Occupancy in larger/ urban units can be affected by factors impacting patient years[1] and the availability of nursing resources to deliver care. As a result, physical capacity only sometimes translates to actual capacity. Occupancy rates must be determined based on three key factors: patient population, dialysis stations, and human resources.	 Utilization targets for incentre dialysis facilities should be 80% to allow for 20 % flexibility reserve. This target enables flexibility and adapts to the evolving hemodialysis unit environment. Flexibility reserves allows for: • Fluctuation in patient volumes including transient patients. • Coverage for off-unit acute dialysis. • Acute dialysis runs within the in-centre hemodialysis unit. • On-site practical training and education • Patients who no longer meet the criteria for dialysis at home or in a community unit due to more complex care • Patients who need to be temporarily or reassigned to incentre due to more complex care

[1] One patient year is calculated based on three runs a week x 52 weeks = 156 hemodialysis treatments per year. For example, if a patient starts Apr 1 and continues past Mar 31, this is considered 1.0/PY (full patient-year). If a patient begins dialysis on Apr 1 but ends Sep 30, it is considered 0.5/PY (of a patient year).

Community Dialysis Units (CDUs)	 In centre hemodialysis units should strive to maximize occupancy when feasible. CDUs were set-up to provide an option for patients who were medically stable and independent in their care to receive HD treatments. In recent years, CDUs have expanded their scope to include patients who have increased medical complexities and care requirements but are still safe to dialyze in a CDU setting. This has enabled patients who would otherwise have had to relocate to be dialyzed in their home community. It also allows higher numbers of patients to dialyze in CDUs, thereby freeing up the more resource intensive in-centre spaces for patients with highly complex medical and care needs. Occupancy in small/rural units is drastically affected by the loss of 1-2 patients.	 Utilization targets for urban or mid-size community dialysis units should be 90% to allow for 10 % flexibility reserve. This target enables flexibility and adapts to the evolving community dialysis unit environment. Flexibility reserves allows for: • Transient visitors • Patient schedule changes • Patient transfer from hospital to support occupancy of in centre dialysis unit. • Isolation areas within the CDU • Small, rural units may not be able to optimize utilization rates. Transportation, geography, staffing, and patient preferences may limit these small rural units' utilization.

Funding Sources for Facility Development

While BC Renal oversees the allocation of fixed annual capital funding for equipment, BCR does not manage or allocate funds for facility development. All funding for health authority facilities should be accessed through the respective health authority capital planning teams. The Ministry of Health provides two funding sources to the health authorities for capital which includes:

Restricted Capital Grant (RCG) Debt Funding – Debt funding by the Ministry of Health. RCG funds are provided to health authorities by the MoH for their approved health capital projects over $100,000. These funds may include the costs of land acquisition, major construction of new facilities, improvements to existing facilities or purchase of equipment and information management/information technology (IM/IT) systems. Health authorities access RCG funds through the Certificate of Approval (COA) program.

Non-RCG Funding – Funding provided to health authorities from the Ministry's operating budget. These funds may be used for:

- Health capital investments between $10,000 and $100,000, including investments for minor construction or minor upgrades of health facilities.
- Non-capital repairs and maintenance of facilities classified as operating expenditures.

Discussions with health authority capital planning teams may include exploring alternative funding sources, such as:

- **Public Private Partnership (P3) Debt Funding** – A form of debt financing where health authorities contract a private sector partner to finance (in full or part), design, build and maintain new health care facility owned by health authorities. The debt (principal plus interest) owing to the private sector partner is repaid over the life of the service agreement (typically 30 years).
- **Regional Hospital District (RHD) Funding** – RHDs may contribute funding to health capital projects.
- **Foundations, Auxiliaries and Private Donor Funding** – May provide funding for health capital projects and have discretion regarding assignment of their funds.
- **Health Authority Internal Funding** – Health authorities may use their working capital to fund health capital projects. These funds include proceeds from the sale of surplus assets or surplus operating funds from prior years.

Funding for Leased Spaces

As mentioned previously, BC Renal operates within PHSA and is responsible for managing annual funding from the Ministry of Health for kidney care services partly on a per patient-year basis. This funding covers direct & indirect patient care costs for kidney services, including leased spaces for some Kidney Care Clinics and most Community Dialysis Units.

PHSA administers these funds, including distribution to regional health authorities on behalf of the Ministry. At times, PHSA will also provide a notional letter to regional health authorities with details of notionally approved funding for new or changes to existing leased spaces. Regional health authority typically requires a notional letter so they can secure a leased space. A notional letter indicates the notionally approved amount for the leased facility within the regional health authority and this amount is adjusted once the lease agreement is finalized.

Health Authorities are responsible for determining whether facilities are considered operating or a

capital lease, as they record expenses or assets accordingly. Leased facilities for some Kidney Care Clinics and most Community Dialysis Units receive funding through life support operating dollars, whereas owned facilities are funded using capital funds allocated from the health authority budget and/or other sources.

Energy and Environmental Sustainability (EES) Team

The Energy and Environmental Sustainability (EES) team, housed within Facilities Management, plays a crucial role in integrating low-carbon, climate-resilient, and environmentally sustainable practices across all phases of facility operations—from planning and design to construction, maintenance, and ongoing operations. The team works closely with stakeholders to ensure that sustainability goals are seamlessly incorporated into facility projects, ensuring both environmental responsibility and compliance with evolving sustainability standards and regulations.

Two documents listed here may support facility planning:

- Climate Resilience Guidelines for BC Health Facility Planning & Design
- Low Carbon Resilience and Environmental Sustainability Guidelines for Health Care New Construction,

Conclusion

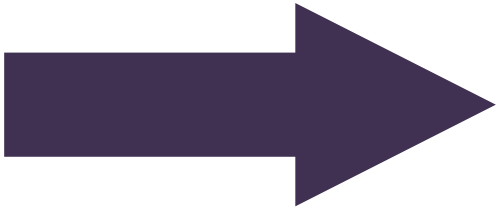
In conclusion, proactive capacity planning for hemodialysis is essential for meeting patient needs while preserving the integrity of the overall healthcare system. This involves careful assessment of current and future demand, balancing resource allocation, and integrating new services without destabilizing existing programs. By employing data-driven strategies and fostering collaboration among healthcare teams, we can optimize resource use, enhance patient outcomes, and maintain a sustainable healthcare ecosystem. As we continue to address the growing need for dialysis, ongoing evaluation and adjustment of capacity planning will be essential to meet evolving demands and support the well-being of patients across diverse communities.

BC Renal Infrastructure and Capacity Planning Committee (for Kidney Services) Terms of Reference

Category	Description
Purpose	The purpose of the Infrastructure and Capacity Planning Committee (ICPC) is to serve as a provincial forum to facilitate and inform kidney care facilities planning across health authority renal programs in collaboration with key health authority (HA) and government partners – supporting alignment and consistency in processes, advocacy for capital funding where appropriate, and ensuring the availability of services to meet patient needs.
Responsibilities	1. To establish "provincial guiding principles" upon which facility planning is based. 2. To regularly review and update these principles in accordance with overall directions and goals established by BC Renal, PHSA and the Ministry of Health. 3. To foster dialogue and mutual understanding regarding supply and demand for kidney services in each health authority renal program, as well as interdependencies and sustainability of services. 4. To have oversight on facilities planning activities across health authority renal programs to ensure alignment of plans within and between regions. 5. To compile recommend growth planning to the appropriate MoH division and the 10-year planning requirements. 6. Act as a forum to report to BC Renal, PHSA, and each health authority any issues or opportunities related to facility planning that may need to be addressed at the provincial level. 7. To validate and support advocacy efforts led by the health authority renal programs for capital funding requests. 8. To work with the Equipment Funding Allocation Sub-committee (EFASc) and other associated committees within BC Renal to ensure growth needs are identified. 9. To exercise, by delegation, the quality-of-care functions of the BC Renal Executive Committee – a regional Quality Committee approved and authorized by the Boards of the Provincial Health Services Authority and the BC Health Authorities and Providence Health Care – in respect of quality-of-care matters within the scope of the BCR Infrastructure and Capacity Planning Committee.

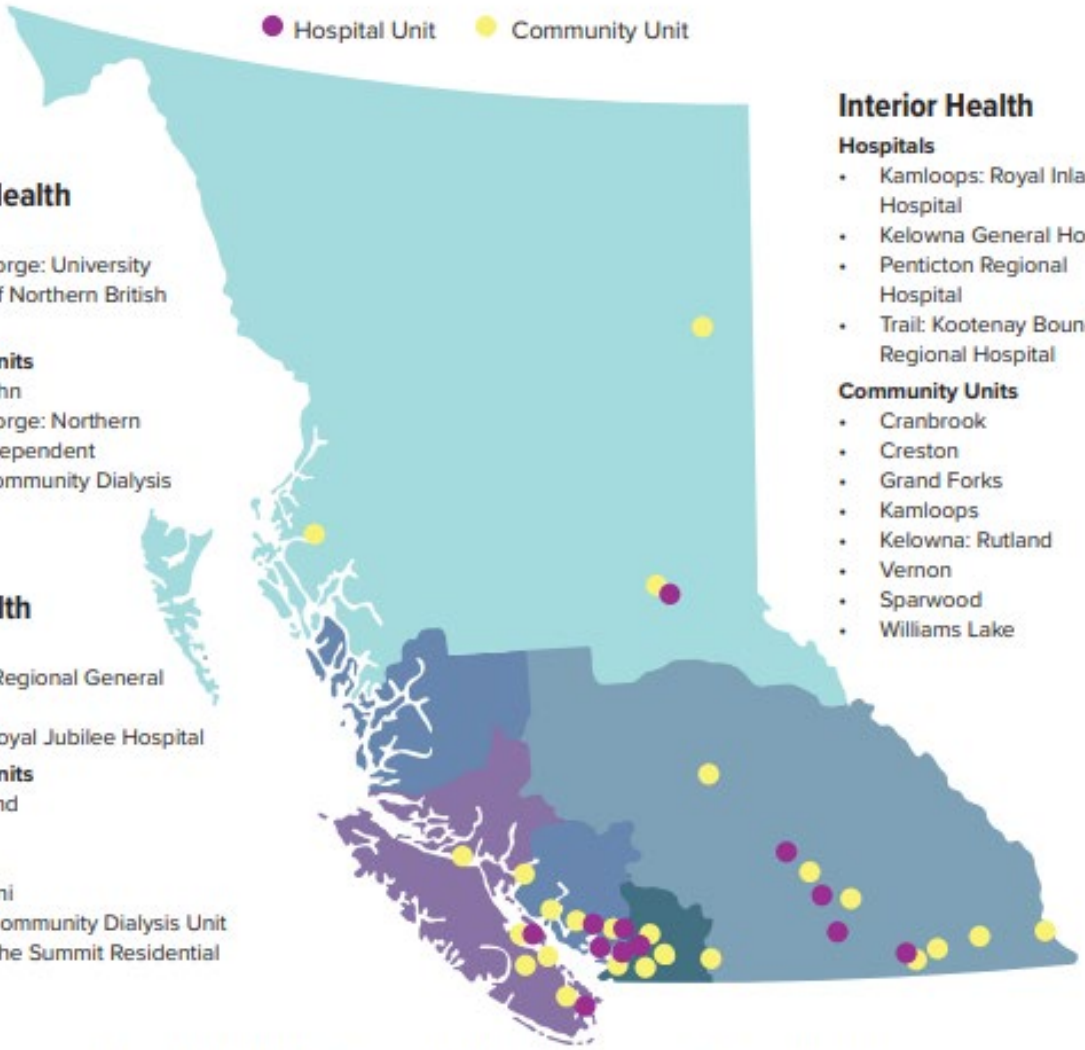
For details, please refer to Kidney Services— Infrastructure and Capacity Planning Committee's term of reference.

Capital Planning Process for Renal Facilities

	Pre-capital funding approval	Capital approval process	Post-capital funding approval
HARP Responsibilities	• Executive sponsor or Senior Executive Team (SET) confirmation that the project is a priority. • Confirm operational funding for consultants. • Provide input to prepare if possible, and confirm Clinical / Operational Services Plan (validate need; feasibility,operating considerations; staffing; etc.) • Review and confirm Functional Program (defines space requirement; adjacencies)		• Review & provide input to detailed design. • Justify any program-driven scope changes. • Confirm equipment with BCR Equipment Funding Allocation Subcommittee (EFAS) • Hire staff (if required) • Management assigned or hired (if required) • Operational readiness, training, & change management.
HA Facilities Management Responsibilities	• Prepare project Charter. • Prepare project plan & preliminary schedule. • Prepare preliminary capital project budget. • If leased space is required: • Market scan & operational budget impact • Program to review leasing options with FM to confirm preference. • Preliminary negotiations (if project is high priority and likely to proceed)	• Funding stream: – Routine Capital Investment (RCI) – Priority Investment (PI) – Foundation • Approval Documentation: – Impact Assessment Form (IAF) – Prioritization matrix – Business Plan (>$5M); TI template (>$2M)	• Lease space (if required) • Procure consultants. • Lead design development & contract documents. • Outline impact of scope change(s) (budget/ schedule); confirm if funding available. • Tender & contractor management • Project reporting • Commissioning
HA SET, BCR & MoH Responsibilities	• **Regional Health Authority (HA)** Services & Priorities • **Ministry of Health (MoH)** Service Plan & Priorities • **BC Renal (BCR)** Strategic Plan & Priorities	• **HA SET**: review and confirm projects & priorities(RCI & PI) Approve RCI & PI list & Business Plans • **BCR ICPC**: review, verify, and approve. • **BCR ICPC**: submit 10-year plan; advocate, share projections for region. • **BCR EFAS:** confirm equipment funding. • **MoH**: seek funding from Treasury for Priority Investment; approve all business plans	• **HA SET**: Confirm additional budget or scope changes if project budget is challenged.

Credit: PHSA Capital Planning November 2024

Appendix 3 – Kidney Care Services Across BC



Northern Health

Hospitals

- Prince George: University Hospital of Northern British Columbia

Community Units

- Fort St. John
- Prince George: Northern Health Independent
- Terrace Community Dialysis Unit

Interior Health

Hospitals

- Kamloops: Royal Inland Hospital
- Kelowna General Hospital
- Penticton Regional Hospital
- Trail: Kootenay Boundary Regional Hospital

Community Units

- Cranbrook
- Creston
- Grand Forks
- Kamloops
- Kelowna: Rutland
- Vernon
- Sparwood
- Williams Lake

Island Health

Hospitals

- Nanaimo Regional General Hospital
- Victoria: Royal Jubilee Hospital

Community Units

- Cumberland
- Duncan
- Nanaimo
- Port Alberni
- Victoria- Community Dialysis Unit
- Victoria- The Summit Residential Care

Vancouver Coastal Health/ Providence Health Care

Hospitals

- Vancouver General Hospital
- Vancouver: St. Paul's Hospital

Community Units

- East Vancouver
- North Vancouver: North Shore
- Powell River: qathet
- Richmond
- Sechelt
- Squamish
- Vancouver

Provincial Health Services Authority

Hospitals

- BC Children's Hospital

Fraser Health

Hospitals

- Abbotsford Regional Hospital and Cancer Centre
- New Westminster: Royal Columbian Hospital
- Surrey Memorial Hospital

Community Units

- Abbotsford
- Coquitlam: Tri-Cities
- New Westminster: Royal City
- Surrey: Newton
- Surrey: Panorama

Updated January 2023

Appendix 4 – Resources to Assist in Capacity Planning

Document/ Resource	Life-Sustaining
1. **Projections model**	The capacity planning tool supports planning and forecasting for renal programs.
2. **Equipment Funding Allocation Committee SharePoint (with permission only**	Includes equipment planning documents, guidelines, and updates.
3. Current Dialysis Locations in BC	Locates in-center and community dialysis units within the province. Each health authority operates a renal program for its region - this is known as a Health Authority Renal Program (HARP). The HARP may consist of one or more Primary Renal Management Centres. A Primary Renal Management Centre is based at an acute care hospital and offers a full spectrum of renal services for a specified geographic area within the HARP. The centre functions as the "home base" for patients referred to the centre within that geographic area.
4. Number of Chronic Kidney Patients by Modality in BC	Helps identify the number of patients in BC currently receiving care by modality. This table is updated each year.
5. Provincial Guidelines for Renal Program Development	Includes information to aid health authorities and institutions in the development of new renal facilities and programs in accordance with the provincial approach to ensure equitable and logical distribution of high-quality care.
6. BC Renal Website	Includes useful resources, including transplant first, home therapies, nocturnal dialysis, chronic disease management information for patients and health care providers.

References

1. Budget Transparency and Accountability Act
2. Balanced Budget and Ministerial Accountability Act
3. Capital Asset Management Framework Guidelines
4. Core Policy and Procedures Manual
5. Financial Administration Act
6. Guide to Cost Predictability in Construction, Joint Federal Government / Industry Cost Predictability Taskforce