



**BC Renal Agency**

An agency of the Provincial Health Services Authority

**Evaluation of Risk:  
Enhanced Patient Self-Management in  
Structured Hemodialysis Settings**

**Report to the Steering Committee  
Innovative Approaches to the Management of Hemodialysis  
June 19, 2006**

**Submitted by: Systems Re-Design Working Group,  
IAMHD Operations Committee  
Lead: Angela Robinson  
BCPRA support: Donna Murphy-Burke**

**Background Information:**

In October 2004 the BCPRA, in partnership with the 5 health authority renal programs (HARPs), launched a province-wide independent hemodialysis program, inclusive of home-based alternatives and enhanced patient self management care within dialysis units.

The focus during the first 18 months of IAMHD program operation had been the training of individuals to conduct dialysis within their home settings, inclusive of nocturnal, short- daily, and conventional treatment regimes. The IAMHD Steering committee recognized that while the primary focus of the IAMHD program had been augmentation in numbers of home hemodialysis patients renewed efforts needed to be directed to expansion of self management alternatives in the structured dialysis settings (community or hospital based) as per the original goals of the IAMHD program.

When discussions related to enhanced patient self management in structure settings were taken to care providers and mid-management there appeared to be a re-occurring concern regarding "liability" and "risk". Given that the IAMHD is centrally administered and coordinated with standardized supporting documentation and local administration it appeared logical to confront the concerns of "risks and liabilities" from a broad provincial level, that would then allow for local implement as per the design of the program.

**System Redesign First Step:**

In January 2006 a brief submission was made to the provincial round table of the Health Authority Directors of Quality and Risk management. There was senior level representation from all Health Authorities as well as senior risk management consultants from the Health Care Protection Program (HCPP). The recommendation of this group was to work with the experts from the HCPP in applying accepted risk management methods to design both a structure and defensible process that would ultimately lead to positive program outcomes

throughout BC. The intent of using a risk management process was to encourage the renal community to continue its maturation in the area of independent dialysis options.

### **The Health Care Protection Program (HCPP):**

The Health Care Protection Program functions as part of the Risk Management Branch housed at the Ministry of Finance.

HCPP's core services can be described as the overall administration of the Health Care Protection Program or other similar risk, insurance or loss funding programs which may arise and can be broken down in to two distinct components:

#### Coverage Administration including Claims and Litigation Management:

The coverage agreements include the Health Care Comprehensive Liability Agreement, the Health Care Crime Agreement and the Health Care Property Agreement (collectively the Coverage Agreements) and describe the terms, conditions and limitations of protection afforded to members of the HCPP. In addition to providing claims and litigation management services relative to component coverages, HCPP also provides members with direct advisory services relating to questions or situations that arise relative to coverage under the Program.

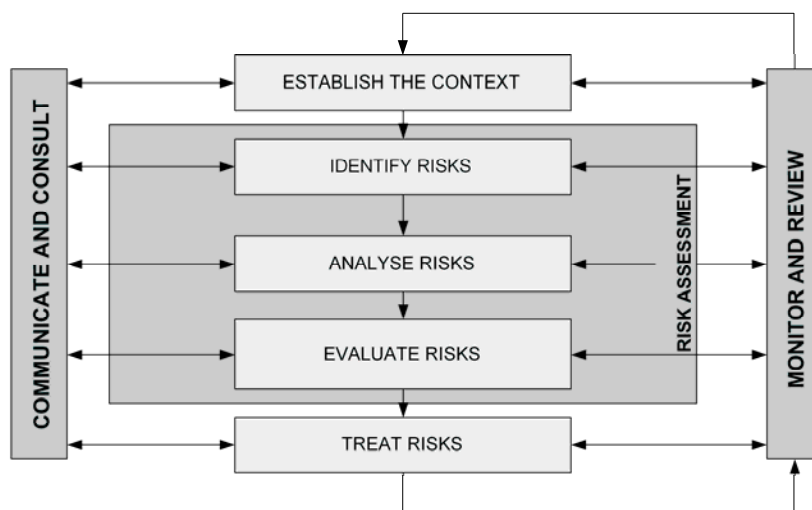
#### Risk Management Advisory and Education Services:

The purpose of the Program's risk management advisory service component is to assist in the identification, analysis, evaluation and management of risks. Advisory services are provided in a broad range of areas – as the direction of health organizations change as a result of the integration of health care and other initiatives, the Program's advisory services must also be adjusted and fine-tuned in order to draw on or bring in appropriate experience and expertise.

### **What is Risk Management?**

The word "risk" has unfortunate alarmist connotations. In reality risks of one sort or another will always be there, and often are dealt with either unknowingly or unsystematically. One aim of approaching the need to increase the independent options for hemodialysis patients in structured settings through the risk analysis was to address the reality that excessive risk aversion strategies can lead to the unneeded continuation of traditional approaches that do not encourage either innovation or critical thinking. It was felt that for the renal community to accept non-traditional approaches to care, a thorough systematic review of the current mode of care delivery would be the most powerful avenue. The more risks that the IAMHD program can identify, analyze, and prepare for the more secure the program will become.

The application of the risk management process is presented in a schematic fashion below.



Key to success is the emphasis on communication and involvement of stakeholders who understand the current situation, are able to articulate the risks, and can work collaboratively. Through the establishment of context the basic parameters within which the risk must be managed are defined, thus setting the scope for the remainder of the risk management process. It is necessary to distinguish between events (the possible risks) and objective constraints or conditions. The process of identifying risks demands the ability to articulate how certain sets of circumstances can result in both routine and extraordinary outcomes

**SUBJECT OF RISK ANALYSIS:** Increased independence and self management of hemodialysis patients in a structure setting with wide spread provincial implementation within 1-2 years

**GOALS OF PROGRAM:** As per the strategic plan of the BCPRA to use new methods of independent care that deliver more dialysis therapy for similar or less cost overall than conventional methods.

**OPERATIONG PRINCIPLES OF PROGRAM:** To enhance the opportunities for hemodialysis patients throughout BC to actively participate in the self management of their chronic treatments, and receive more dialysis than the conventional delivery of care allows

**STAKEHOLDERS:** a cross representation of disciplines from all HARP with variation in knowledge of specific issues, scope of influence. We were able to convene a group with a diverse range of expertise, lending itself to rigorous discussion and a better overall outcome. (See appendix 1)

The risk categories that were considered:

- Patient/Client expectations/records/privacy
- Staff/labour relations
- Equipment
- Administration
- Regulatory/legislative

- Facilities
- Financial
- Program Failure

### **System Redesign – First Steps:**

The steps of the system redesign process were planned out as follows:

1. Consultation with stakeholders to arrive at a common understanding of priorities for risk analysis
2. Coordination of initial risk identification and analysis sessions to
  - a. Facilitate risk identification and analysis
  - b. Design a risk register with appropriate categories of analysis
  - c. Capture and report results

During February, March and April of 2006 the stakeholder group meet in person for 2 full day sessions, one afternoon session, and a smaller group held one teleconference. Facilitation for the sessions were provided by Senior Risk Management Consultants from the Health Care Protection Program.

Working with risk identification and analysis is a progressive, iterative process. Consequently the group, after the initial meeting, decided that given the well rounded professional representation and the nature of the work involved only those individuals that attended the first full day session would continue in the working group. This perspective was supported by the senior consultants from the Health Protection Branch.

**DELIVERABLES FOR THIS WORKING GROUP:** The group agreed to deliver a comprehensive list of risks, in several categories of analysis, with rankings and summary treatments arrived at by consensus.

In identifying the risks the group focused upon how a particular set of circumstances could cause either routine or extraordinary accidental losses. The facilitators assisted the group in defining the distinct risk that would limit achievement of the objectives by stating issues in "cause and effect" format.

Using HCPP Risk Analysis Matrix (PEAK) levels of likelihood or probability that each risk would actually occur and the degree of severity of the occurrence were ranked. Descriptors of the likelihood and consequence, the ranking, and the matrix can be found in Appendix 2. Risks were first ranked by considering each one without controls or mitigating strategies (known as the inherent risk). Each risk was then re-evaluated after applying the mitigating strategies to assess and score a second time (or the residual risk). This approach allows for the identification of either inadequate strategies or for excessive plans for mitigating the risk.

Once the residual risk was established the group evaluated whether the proposed controls are feasible and if the level of tolerance for the particular risk in question is acceptable. Having “high” risks does not necessarily mean the program would not move forward but rather it provides areas where close ongoing monitoring and review are needed.

### **Review of Identified Risks:**

Appendix 3 is the completed risk register, listing the 20 risk descriptors, the existing controls, the inherent risk, the level of risk tolerance, the mitigation strategies and finally the residual risks. After applying this process four areas continue to have a high inherent risk, which would mean additional attention would be given to these four areas during the next phase of the system redesign.

1. Patients self-scheduling may lead to scheduling conflicts
2. Increasing number of independent patients without corresponding increase in health care team resources will limit growth
3. Lack of physical layout and availability of space in existing facilities creates inefficiencies in delivery of dialysis services
4. Failure to implement without planning for sufficient capacity in in-center units results in lack of dialysis availability and strain on renal systems as well as the larger health care system:

### **Agreed Context for Enhanced Patient Self-Management in Structured Hemodialysis Settings:**

The working group began the risk assessment process by first considering an environment where no paid staff, of any description, were on site. The risk matrix process quickly illustrated that the risks to the organization of this approach were extreme – and hence this there was agreement that some level of staffing would be needed. It was not the mandate of this working group to define the expertise of this particular staff member, however has had thoughtful conversations and developed this preliminary analysis of the professional capacity:

Registered Nurse	
Pro	Con
Reinforcement of education	Patients may be overly dependant
Better monitoring of non urgent issues	Lack of resources, staffing is already difficult
Builds confidence of patients	Is a redundancy, as are followed by primary patient educator
	High salary
	Hinders patients self managing

Licensed Practicing Nurse	
Pro	Con
Current scope of practice does not allow LPN to needle, encouraging self-management	High salary
Trained in infection control	Unsure of numbers available for work
Competent in basic assessment of patient	May not be able to work unsupervised

Nurse's Aide	
Pro	Con
Can follow direction, but not practice judgment	Require supervision (remote or on-site) - unknown
	Many available
	Less expensive

Renal Technician	
Pro	Con
Certified in CPR	Machine focused
	Patients may rely on tech to set up machines
	High salary

Volunteer Hospital Auxiliary	
Pro	Con
No salary	Union issues
Can provide support as a secondary person	Not obligated to attend or stay

Medical Office Assistant	
Pro	Con
Scheduling	Union?
Data entry	
Managing PR	
Understanding of chart maintenance	
Cost effective	
Understanding of medical terminology	

Security Guard	
Pro	Con
Cost effective	Negative connotation
Able to provide first aid	Unsure of ability to help with disinfection, etc
Many available	
Prevents unlawful entry	
Responsible for locking and unlocking facility	

Creating new "Room Monitor" position	
Pro	Con
Ability to tailor job description and duties	
May be able to use precedence of having two different positions i.e. 0.5 FTE "Job Description A" and 0.5 FTE "Job Description B"	

The group worked with the understanding that individuals participating in the enhanced access to hemodialysis in structured settings would undergo the same rigorous training that all home hemodialysis patients receive. The patients would be trained to follow the same emergency and trouble shooting protocols as patients dialyzing in their private homes. The risk management specialists involved in the process indicated that there is no "higher" level of responsibility to the Health Authority because of individuals receiving "independent" care within their facilities. They did recommend that this aspect should be drawn to the attention of the patient/family, and would be part of the written agreement around receipt of care.

Additionally these "independent" patients receiving care in a structure setting would follow the same process around clinic visits, blood work, re-certification.

#### **Next Steps:**

The working group felt that much had been accomplished, and given the direction provided by the Steering Committee are willing to continue the system redesign work. The working groups suggestions around next steps include further analysis of the staffing needs, identification of a pilot site, working to develop relevant guidelines and policies around the enhancement of of patient self-management in structure settings.

## Appendix 1

NAME	PROFESSIONAL BACKGROUND	AFFILIATION
Angela Robinson	RN – Home Hemo Educator	Lead- System Redisgn Working Group
Sharon White	Senior Risk Management Consultant	Health Care Protection Program
Melissa McCabe	Senior Risk Management Consultant	Health Care Protection Program
Kathy Thompson	Senior Risk Management Consultant	Health Care Protection Program
Scott McLaren	Biomed	Member IAMHD Operations NHA
Joanne Cozac	Renal Manager	Member IAMHD Operating Committee - NHA
Judy Vivic *	Renal Manager	Member IAMHD Steering Committee - IHA
Dr Susan Cooper *	Nephrologist	Member of IAMHD Steering Committee - IHA
Dr Geraldo Carpenito *	Nephrologist	Member of IAMHD Operations Committee FHA
Janet Silver	Social Work	Member IAMHD Operations Committee VCH/PHC
Kate Sullivan	Renal Manager	Member of IAMHD Operations Committee VCH/PHC
Laddie Frank	CNL – Acute Hemodialysis unit – St Paul’s Hospital	VCH/PHC
Carol Dalziel	CNL – Community Hemodialysis Unit	VCH/PHC
Evangline Carbezon	RN – Home hemo educator	Member of IAMHD Operations Committee VCH/PHC
Sarah Thomas	RN – Home Hemo educator	VCH/PHC
Mary Van Der Hoek	Renal Manager	Member of IHAMHD Operations VCH/PHC
Dr Caroline Stigant *	Nephrologist	Member IAMHD Steering Committee - VIHA
Camille Ciarniello	Leader Risk Management and Patient Safety	Providence Health Care
Donna Murphy-Burke	Coordinator Clinical Networks and Special Projects	BCPRA
Meganne Sholdice	Administrative Support	BCPRA

\* Indicates that because of time commitment needed by the working group unable to provide full dedication, however expressed interest in being involved in advisory capacities.

## Appendix 2

LIKELIHOOD = Probability of the risk event actually occurring.

Score:		Descriptor:		Approximate probabilities:
1	-	Improbable; Rare	-	.00 - .04
2	-	Unlikely	-	.05 - .24
3	-	Possible	-	.25 - .54
4	-	Likely	-	.55 - .89
5	-	Certain	-	.90 - 1.00

CONSEQUENCE = Degree of severity.

Score:		Descriptor:		
1		Insignificant	-	negligible effects.
2		Minor	-	normal administrative difficulties;
3		Significant	-	delay in accomplishing program or project objectives;
4		Major	-	program or project re-design, re-approval and re-do; required: fundamental rework before objective can be met;
5		Catastrophic	-	project or program irrevocably finished; objective will not be met.

RANKING (As automatically calculated in PEAK)

**L x C**

Score 0-5	=	Low
Score 6-10	=	Medium
Score 12-16	=	High
Score 20-25	=	Extreme

## MATRIX

5	LOW	MEDIUM	HIGH	EXTREME	EXTREME
4	LOW	MEDIUM	HIGH	HIGH	EXTREME
3	LOW	MEDIUM	MEDIUM	HIGH	HIGH
2	LOW	LOW	MEDIUM	MEDIUM	MEDIUM
1	LOW	LOW	LOW	LOW	LOW
LIKELIHOOD	1	2	3	4	5

CONSEQUENCE

#	Description of Risk	Existing Controls	L 1 - 5	C 1 - 5	Inherent Risk Rating	Mitigation Strategy	L 1 - 5	C 1 - 5	Residual Risk Rating
1	Patients self-scheduling may lead to scheduling conflicts	Currently have a scheduling co-ordinators, with little patient input	5	4	<b>EXTREME</b>	Scheduling facilitator, on-line scheduling, scheduling matrix, start with facilitator and adapt system as it matures, expectations regarding participation, potential for group sessions, communication network/tools for participants	4	3	<b>HIGH</b>
2	Scheduling confusion / lack of coordination leads to scheduling conflict	Scheduling controlled by each facility	3.5	2	<b>MEDIUM</b>	Designated staff responsible for overseeing scheduling process; involve patients in scheduling process - encourage patient responsibility for schedule (e.g.. trading shifts, travel considerations, work schedules, etc.)	2	2	<b>LOW</b>
3	Alternative supervision of patients may compromise their ongoing health. may lead to improper self monitoring of health	Current IAMHD program has on average 6 week orientation period, follow-up clinics, resource nurses, manual, competency requirements. patient agreement (acknowledgement of certain hours may not have supports), screening criteria, patient education, monthly contact for blood work & other testing, 24 hr supports, physician monitoring, annual certification, ongoing multidisciplinary team contact & prn, machine recertification annually, ongoing maintenance for machines	2.5	4	<b>MEDIUM</b>	Ensuring consistent clinic visits, blood work, self-reporting, signed agreement, re-assessment, close monitoring of results, ongoing education, recertification, log monitoring, intervention, access to run logs/ information is available if needed. Where 24 hour supports are not already available, they will need to be put into place.	2	4	<b>MEDIUM</b>
4	Sharing of machines leads to increased chance of infection to other patients/ bacteria forming due to lack of or improper cleaning	Existing controls are that the machines are only being used by one person in home setting. In clinical settings standards and protocols for disinfection by staff, checklist, proper disposal of set	3	5	<b>HIGH</b>	Maintain existing standards and controls by staffing and educating patients, identifying appropriate people, daily disinfection by staff, routine preventative maintenance, proper education as well as education of consequences. surface clean between patients/ heat clean once per 24 hour period. Research disinfecting products to see which are least intrusive to the user. Clear contract and understanding. Education will emphasize responsibility of cleaning. Surface clean both pre and post. Outcome indicators re program success to include infection rates. Consult infection control	1	5	<b>LOW</b>

5	Poorly executed/maintained communication plan among staff, patients and health authorities limits success for program growth and opportunities for shared learning. Patients lose the opportunity to participate because of lack of widespread health care professional understanding of program.	Patient safety, financial, operational issues-operation committee. IAMHD steering committee. BCPR Exec committee. Educators maintain communication monthly,	3	3	<b>MEDIUM</b>	Increase # of face to face meetings. IAMHD Sys Redesign group continues on some level. Formalized communication strategy. Communications consultant. Press conference and successful program campaign. Regular monitoring and follow-up strategies. Internet based communication tool among staff and patients. Encourage peer support.	2	3	<b>MEDIUM</b>
6	Unclear Identification of emergency responses leads to negative impact on patient outcomes	Using long-term care facilities as an example, even RNs just call 9-1-1. Policies and procedure standards, location of unit	1	5	<b>LOW</b>	Ensure that policies and procedures are in place for each site, specifically. Outline guidelines such as "we will call 9-1-1 but cannot ..." in contract. Clear documentation on part of Health care professionals that these issues have been discussed. Patient stability is considered in screening process. Patient education regarding emergency procedures.	2	5	<b>MEDIUM</b>
7	Unclear identification of non-urgent medical issues leads to negative impact on patient outcomes	Patients are taught to troubleshoot. 24 hour supports are available.	3	2	<b>MEDIUM</b>	Room monitor must be someone with understanding of clear boundaries. Will not assist patients with their dialysis. Identify roles and responsibilities. Patient education is intensive and ongoing. Maturation of program will provide patients with skills and knowledge for handling issues. as well as polices and strategies to cope.	3	2	<b>MEDIUM</b>
8	Perception of unequal treatment of patients leads to dissatisfaction & complaints against program	Priority levels for inclusion, assessment tool, established criteria, patient choice of application to program, assessment process by multidisciplinary team, education	1.5	2	<b>LOW</b>	Education sweep at time of roll out; monitor & revise selection criteria as needed. Communication plan is essential. Patient satisfaction survey.	1	2	<b>LOW</b>
9	Lack of staff resources (qualifications, quantity, union, etc) leads to program failure	Decrease staffing qualifications, pay overtime, run short, stretch resources, move staff from less integral programs, flexibility in staffing model, aggressive recruitment	3	5	<b>HIGH</b>	Flexible staffing model, resources for staff education, positive/ physically pleasant and supportive workplace environment, comfortable surroundings, innovative program draws interested individuals, high functioning patients is appealing to healthcare professionals, available to students. Adapt schedule to accommodate for breaks, lunch	2	5	<b>MEDIUM</b>
10	Professional organization's regulatory issues results in delay / hindrance of program growth	Scope of practice, Health Professionals Act. Good structures and job descriptions. College outlines.	4	2	<b>MEDIUM</b>	Communication strategy to include conversation regarding qualifications of room monitor emphasizing that there will be no clinical judgement or patient responsibility. Clinical role will be detrimental to patient independence.	3	1	<b>LOW</b>
11	Increased number of independent patients without corresponding increase of health care team resources will limit program growth.	Funding model. Currently increasing amount of patient educators for province. Ministry of Health is in favour of program	3.5	4	<b>HIGH</b>	Ongoing monitoring of funding model, create desirable working environment, explore alternate care delivery models, solid communication, ongoing program evaluation and monitoring	3.5	4	<b>HIGH</b>

12	Movement from self care to Home hemo may create an increase of resources needed to retrain.	Identifying patients most suitable for home hemo in order to only train once. Theory is consistent, regardless of machine so any additional training would be shortened	1	2	<b>LOW</b>	Monitor need. Monitor time needed for secondary training. Identification of appropriate patients	1	2	<b>LOW</b>
13	Insufficient documentation may result in negative patient outcomes.	Education so that patients can self chart, patients responsible for self charting, monthly review of logs, health care team documents interaction with patients	2	3	<b>MEDIUM</b>	Ongoing review of documentation, retraining as needed, optimizing use of technology to assist process of documentation	2	3	<b>MEDIUM</b>
14	Start up costs of program exceeds proposed budget creating financial pressure on all renal programs	Include start up costs in budget as per project charter. Planning for start up has been consistently done in the past.	1	4	<b>LOW</b>	Innovative approach will attract funding and high level support.	1	4	<b>LOW</b>
15	Lack of physical layout & available space in existing facilities creates inefficiency in delivery of dialysis services	Current process for ranking requests, awareness and support for new approaches. Space is expensive	4	4	<b>HIGH</b>	Extensive planning. Encouragement for home hemo. Explore off-site opportunities for space i.e. mall. Consider offering nocturnal program in existing spaces. Long term solution is needed	4	4	<b>HIGH</b>
16	Lack of ongoing financial support leads to program failure	Funding model	1.5	4	<b>MEDIUM</b>	Marketing, sustainability. Communication and outcome measurement to validate importance of program.	1.5	2.5	<b>LOW</b>
17	Lack of data management resources will hinder program growth.	PROMIS, enhancement of PROMIS module for home hemo, clinical evidence available, funding model provides support for data management, HA can request reports to provide commentary	4	3	<b>HIGH</b>	Identify outcome measures. Include data management costs into project charter. Demand for data results will most likely encourage funding for data management.	3	3	<b>MEDIUM</b>
18	Failure to implement program without planning for sufficient capacity in incentre units results in lack of dialysis availability - strain on renal systems, health care system	There has been recognition of gap in resources. Data is currently being evaluated regarding number of home hemo patients returning to incentre. Current patient educators have flexibility to absorb some of the impact on incentre units.	5	4	<b>EXTREME</b>	Evaluation of outcomes. As program matures, data is being collected regarding high needs patients for ongoing resource planning providing more confident projections and predictions in patient trends. Awareness of need to evaluate and plan for whole system. Incorporate people from incentre units in planning and awareness for this module of planning.	3	4	<b>HIGH</b>
19	Failure to implement program injures reputation of PHSA, BC Renal & renal community, jeopardizing other programs	Extensive planning and utilization of pilot projects before broader expansion. More experience with home hemo. Reasonable data management tool in PROMIS. Commitment to PDSA model.	2	4	<b>MEDIUM</b>	Pilot project, interdisciplinary and interregional planning, consulting with project management/ change initiatives. Reporting structure back to steering and executive committees.	2	4	<b>MEDIUM</b>