

# Evolving Care Systems

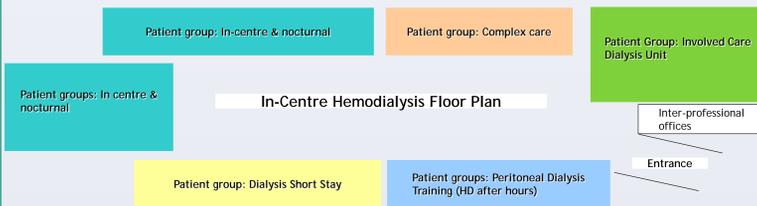
## A co-location model for change

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### Project Goals

Using the philosophy of family and patient centered care as well as lean thinking, the project goal was to design and implement a new patient care model comprised of sub-components (Pods); complex care, in-centre, nocturnal, short stay and involved care co-locating patients with like care needs in the in-centre hemodialysis unit to achieve:

- A more responsive and safe patient care experience
- Success within the existing infrastructure and resources
- Enhanced efficiency
- A match for our funding model and expenditures
- Increased patient independence
- Improved staff engagement and morale



### Description of the Context

St. Paul's Hospital, a large, urban teaching facility in Providence Health Care (PHC), in Vancouver, British Columbia (BC) houses a 43-station in-centre hemodialysis (HD) unit. Over 320 patients come to the centre on average three times per week to receive their hemodialysis treatments which usually last four hours per session. Staffing to support these patients include: nephrologists, specialty trained registered nurses, technicians, porter/ward-aides, nutritionists, pharmacists, social workers, clerical staff and other services as required.

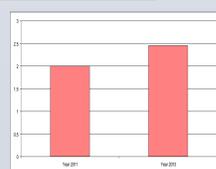
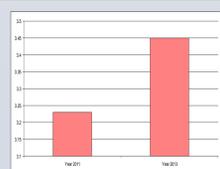
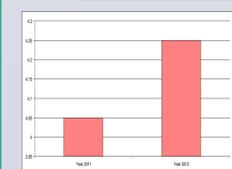
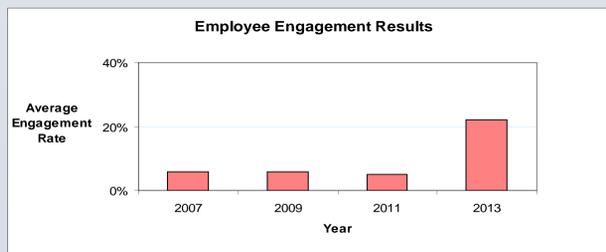
### Description of the Problem

Our traditional model of care consisted of 3 patients to one nurse (3:1) regardless of patient needs or acuity. This model rendered it difficult to balance workload due to the vast variability of patient acuity. Additional issues included on-going fiscal pressures, difficulty in assisting patients to transition to a more independent modality of renal replacement therapy and poor staff morale. In addition, due to the scheduling of the hemodialysis unit into four hour blocks, flexibility for patients was limited. This resulted in over 300 patients per year receiving care in sub-optimal conditions.

### Measurements

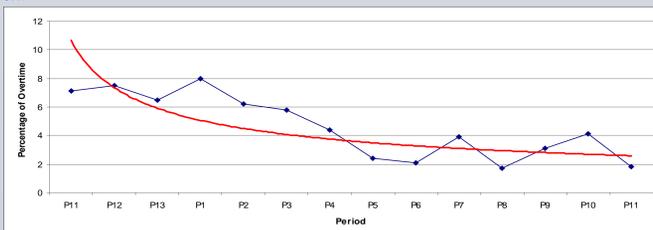
#### Gallup Results

Prior to the change project (2012), our HD unit had extremely low morale as evidenced by the results of the Gallup Employee Engagement Survey. A sample of some of the specific items is included below. We believe that the changes in the care delivery design had a positive impact on these results.



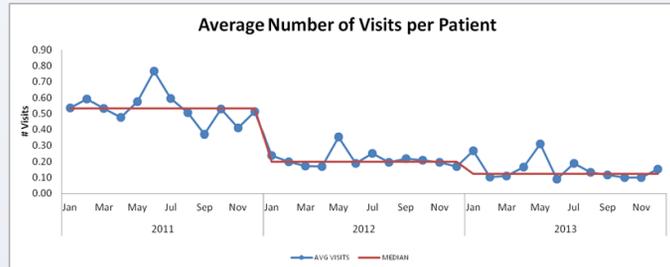
#### Overtime Reduction

Changes to the staff rotations required by the care delivery re-design had a significant improvement on reducing over time. The graph below is based on overtime as a percentage of productive hours from each period during the past fiscal year beginning period 11(12/13) to period 11(13/14). This represents a saving of \$378K.



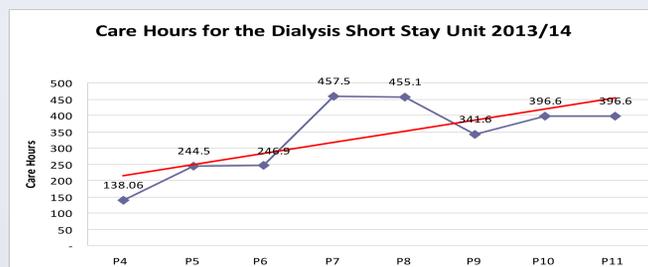
### Visit Rate Per Patient in the Involved Care Unit

Following the improvements, which now includes an orientation and training for patients in the Involved Care Unit, patients are experiencing fewer hospital admissions and emergency room visits. These encounters were combined to create a visit rate which was tracked per patient in the Involved Care Unit.



### Short Stay Unit Utilization

Our Dialysis Short Stay Unit is staffed by one full time Registered Nurse (RN), Monday to Friday. Typically, one full time RN can deliver 150 hours of care per fiscal period. The graph below illustrates the total hours of care per fiscal period delivered by the Dialysis Short Stay RN. This information is extracted from the tracking of each procedure that takes place in the unit.



### Patient Feedback

"Post angioplasty, I like coming back up to the HD unit the nurses know me and I know them. I don't feel as anxious." (Patient is referring to the Dialysis Short Stay Unit)

"Short stay is a huge bonus for patients that have no IV access. I can get blood work drawn without multiple pokes and infiltrations."

"I think for most people, the longer they're into this, the more they're going to learn and the more they're going to want to learn." (Patient is referring to the Involved Care Dialysis Unit)

"I put myself on the machine, like I hook myself right up to the machine now." (Patient is referring to the Involved Care Dialysis Unit)



### Staff Feedback on Complex Care Unit

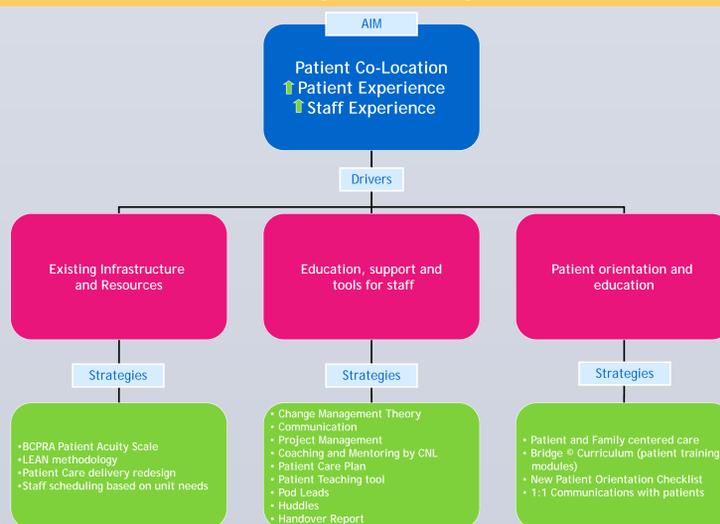
"Patients seem to be getting the care they need, 1:2 ratio in the complex care area seems to provide that. Nurses are not overwhelmed with acuity of care. Orders are written for the majority of runs ahead of the run. This is the best location for this type of patient." (RN)

"With two patients [it's] easier to focus and provide comprehensive care. The location is perfect, easy for porters, RNs unit coordinators, etc. to communicate." (RN)

"Patients that require more care are identified. RNs are given the chance to anticipate work load. (RNs are not caught unaware of patient's condition)." (RN)

"The HD Care model redesign has helped facilitate rounding on the patients, allowing me as a clinician to focus on the patients receiving the right care at the right time and in the right place. I have to thank the amazing team I work with who put their energy behind this initiative to make it the success it is. Bravo team!" (Nurse Practitioner)

### Strategies for Change



Nurses ready the Involved Care Dialysis Unit for the evening patients



Dialysis Short Stay RN draws blood from the patient's dialysis access in our short stay area

### Effects of Change

#### Examples of Lean Tools Used to Facilitate Change:

#### Time in Motion Studies:



#### Phone Tree:



#### Kanban:



#### Bed Assignment:



**Time in Motion Studies:** Were completed by each staff group: renal technician, unit coordinator (UC), social worker and RN. This tool used by the UC's lead to the development of the other strategies depicted.

**Phone Tree:** The number of phone calls interrupting the UC work, lead to inefficiency and risk for error. It was noted that many calls to HD needed to be redirected. A phone tree was developed, leading to an improved patient experience thereby increasing efficiency and decreasing error.

**Kanban:** This tool is a reminder for staff to do something. In this case, the kanban reminds staff to bring the red card to the UC so that more cross match kits can be made when stock is low but not empty; allowing the UCs to better prioritize this task.

**Bed Assignment list:** Frequent phone calls were made to the UC from units trying to ascertain time and location for their patients' dialysis. These interruptions were reduced once this form was created. A copy was also sent to the lab so that they could call the patient's nurse directly.

### Sustaining our Culture of Continuous Improvement

#### Huddles:

- Informal sessions to share information, identify issues and potential resolutions
- Morning huddles with UCs, Renal Techs and Clinical Nurse Leader (CNL)
- Safety Huddles, lead by Clinical Nurse Educator

#### Patient Advocacy Group:

- Patient led partnership with hemodialysis care team
- Identify common issues
- Work collaboratively towards sustainable solutions

#### Pods:

- Formally identified leads act as a resource for staff to coordinate activities
- Scheduled handover reports
- Peer support for patients and staff

#### Evaluation plan:

- Regular follow-up on measurements to ensure desired outcomes are sustained

### Lessons Learned

- Engaging patients in their care delivery had positive outcomes, increasing independence and overall satisfaction with healthcare.
- System impact achieved through initiative included, decreased emergency department visits, decreased hospitalizations and overall wellbeing for patients.
- Overall clinical care satisfaction was greatly improved by care model redesign as care delivery was organized to facilitate timely, appropriate and quality care.
- Never underestimate the potential of your team and patients, engage them, lead them, and help facilitate change for the better.

### References and Acknowledgements

- PROMIS (provincial database), British Columbia Provincial Renal Agency (BCPRA)
- BCPRA Patient Acuity Scale
- Providence Health Care (PHC) Balanced Score Card
- 2013 Gallup, Inc
- Ruth Lavergne and Joseph Puyat
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