Improving peritoneal dialysis to home hemodialysis transition rates at a London, Ontario dialysis center

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Background

3 modalities exist to treat end-stage renal disease (ESRD):

- **Peritoneal dialysis (PD)**
- **Home hemodialysis (HHD)**
- In-center hemodialysis (ICHD)

There is evidence to suggest **home modalities** offer:

- ↑ patient quality of life^{1,2}
- ↑ physiological measures of kidney health^{1,2}
- ↓ mortality¹
- ↓ healthcare costs^{1,3,4}

• In 2013, total annual healthcare cost of treating ESRD was CAD \$95-107k (ICHD), \$71-90k (HHD), & \$56k (PD)⁴

• Canadian PD→HHD transition rates are low (averaging <1%)¹

• PD→HHD rates in the LHSC Westmount dialysis unit (**1/288 patients between 2013-2015**) were below the national average

• Most patients failing PD are directed to ICHD

Figure 1. Reason for PD failure for 88 patients in 2015 and eligibility for HHD.

Aim Statement

- This project aimed to **assess 50% of incident PD patients on high dose PD prescription** at the Westmount dialysis unit from May to August 2017 for the possibility of transitioning to HHD
- We aimed to achieve this through a **PD to HHD referral form**
- The goal was to **increase the number of high-dose PD patients on choosing to transition to HHD** instead of ICHD

Plan

Sept 2016	• Reviewed current PD & HHD literature • Identified WKCC's low PD→HHD transition rates as a key issue
Oct 2016	• Discussed root causes with nephrologists
Jan 2017	• Discussed form design & logistics of use with nursing staff • Generated 1st draft of referral form
Mar 2017	• Reviewed & revised form with staff input

Figure 2: Fishbone depiction of our root cause analysis, constructed following discussion with key stakeholders (PD/HHD nurses and physicians). Key factors are circled.

Do

May 2017	• Implemented paper copy of form • Uploaded form onto existing EMR • Sent out satisfaction surveys • Ongoing data collection
Aug 2017	• Performed final PDSA-1 data collection
Sept 2017	• Performed data analysis

Eligibility criteria for evaluation for PD→HHD transition:

- Patient shows signs of PD failure (high-dose PD prescription)
- Patient expresses interest in transitioning to HHD

Study

Figure 3. Results featuring process measure data collected at four-week intervals in our PDSA-1 (Plan-Do-Study-Act) cycle.

- Of 9 patients initially on high-dose PD:
 - 1 was assessed with the form and transferred to HHD
 - 8 did not have the form completed: 7 remain on high-dose PD and 1 was transferred to ICHD
- Surveys showed nearly 90% support for the form pre- and post-implementation

Lessons & Limitations

- **Face-to-face communication** with staff was the most effective way to receive input, collect data & convey information
- **The low event rate** made data analysis challenging—a 3 month cycle may have been too short for PDSA-1
- **CAD\$5-36k/yr will be saved** by our single PD-HHD transition⁴

Act

- Will **identify high-dose PD patients at weekly rounds** to stimulate discussion of possible transition to HHD
- **PDSA-2 will last 12 months** & will hopefully capture a larger sum of data for future analysis

References

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