Two Year Review of the Electronic Patient Reported Outcome (ePRO) System in the Prostate Clinic at the Vancouver Prostate Centre (VPC)

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Background

Patients with Prostate Cancer (PC) have 10-year survival rates approaching 100%. However, almost all treatments for PC can result in side effects that can impair subsequent quality of life. Patient Reported Outcomes (PRO) can be valuable for identifying and promoting the treatment of the physical and psychological outcomes in PC survivors and are also a valuable tool for research and teaching for various contexts - i.e. population of interest and research question[1,2].

Since April 2017, the Prostate Cancer Supportive Care (PCSC) Program implemented systematic collection of electronic Patient Reported Outcomes (ePRO) as part of the standard of care at the Vancouver Prostate Centre (VPC) Prostate Clinic at Vancouver General Hospital. ePRO were collected using an iPad system, adopted from the University Health Network in Toronto, to participate in a Canadian cancer registry (Prostate Cancer Survivorship 360º, approved by the UBC Research Ethics Board (H16-02631)).

The objective of this analysis was to review the successes and challenges related to the implementation of this system over the past 2 years of use.

Methods

- All PC patients at pre- and/or post-PC treatment appointments were approached between April 3rd 2017 and March 31st 2019.
- Eligible patients were identified using the clinic's electronic medical record.
- After checking in, patients were asked to complete the ePRO on an iPad (Figure 1).
- A coordinator provided assistance with their initial profile setup on the iPad and was available as required to troubleshoot any problems.

ePRO measures:

EPIC-26	WHODAS 2.0
EQ-5D-5L	EORTC QLQ=PR25*
Distress Thermometer	
Utilization of Sexual Medicine/Devices*	

**Collected as of Aug 3rd, 2017*

- Patients were asked to complete the ePRO questionnaires at their first appointment and then at all clinic appointments thereafter.
- Consent to be contacted about future PC research (Permission to Contact (PTC)) at the VPC was requested at the end of the first set of ePRO.

Results

Between April 3, 2017 and March 31, 2019:

- 1027 patients were identified as being eligible to complete ePRO.
- 85.5% (878/1027) of patients completed ePRO at least once.
- 1075 ePRO instances were expected in Year 1 (Apr 2017-Mar 2018) and 1258 ePRO instances expected in Year 2 (Apr 2018-Mar 2019).

Figure 1: iPad's set up with ePRO application for clinic use

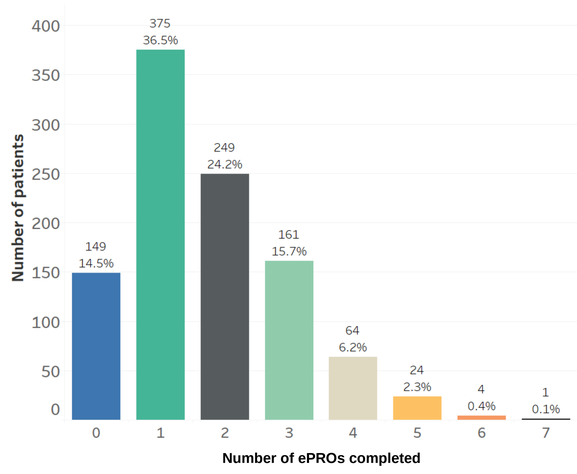

Figure 2: Number of patients who have completing 0-7 ePRO assessments

- 60.7% of patients completed 1 or 2 ePRO assessments (36.5% and 24.2%, respectively).

Permission to Contact for Research	Instances (n=878)	% of total
Yes	723	82.3%
No	123	14.0%
Pending (did not answer)	32	3.7%

Table 1: "Permission to Contact for Research" responses

- 723/878 (82.3%) patients responded "yes".
- Of those, 424/723 patients have been recruited to at least one registry study.
- 155/878 (17.7%) patients declined, did not fully complete the ePRO assessment, or were not approached by the coordinator.

Results, Cont

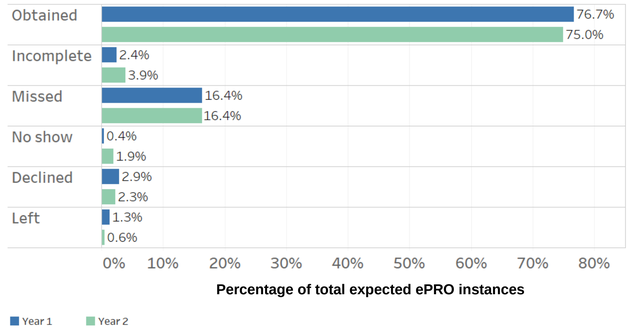

Figure 3: Comparison of completion rates and reasons for non-completion between Year 1 and 2

- Non-completion of ePRO includes:
  1. ePRO was not fully completed (incomplete)
  2. Coordinator missed contacting patient in clinic (missed)
  3. Patient was a "no show" for appointment
  4. Patient declined
  5. Patient left after appointment before finishing ePRO (left)
- Completion and non-completion rates:
  1. ePRO completion rate was high in years 1 and 2 (76.7% and 75.0%, respectively).
  2. Rates for completion and non-completion were comparable, with the exception of more "no-show" patients in year 2 (1.9%) compared to year 1 (0.4%)
  3. In year 2, the PCSC team attempted to lower the amount of "missed" ePRO by altering the strategies and timeframes of approaching patients in clinic. However, the percentage of missed ePRO did not change (16.4%).
- Reasons for Incomplete ePRO reports:
  1. WiFi connectivity issues
  2. Patients having to leave clinic.
  3. There were more incomplete ePRO reports in year 2 than year 1 (3.9% vs 2.4 %, respectively). This was likely due to the change in WiFi network in early 2018 which caused significant issues with WiFi stability for iPads.
- Eligible patients who were unable to complete ePRO:
  1. Limited English (n=47)
  2. Limiting disability (e.g. vision or mentally impaired (n=11)),
  3. Not returning to clinic after initial appointment (e.g. back to referring specialist, or seen at BC Cancer (n=15)).

Conclusions & Future Directions

- ePRO were successfully implemented into clinical practice in the PCSC program as evidenced by high completion and low refusal rates.
- Challenges encountered included:
  - Training clinic staff and coordinators to direct patients to the iPad system to minimize missing ePRO assessments
  - Technical difficulties with WiFi connectivity
  - The REB mandated need for staff to interact with each patient individually to ensure the ePRO assessments are completed
- ePRO is playing a growing role in high quality, patient-centred prostate cancer care, as well as in supporting important research[3].
- Next steps include:
  - To provide the results of ePRO to urologists in real-time
  - To provide alternatives for patients who are unable to complete ePRO on the current system due to language or other limitations
  - Continuing work on minimizing missed ePRO assessments

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