

# Driving innovation through electronic PROMs in Radiation Oncology routine care

**RANZCR ASM 2021**

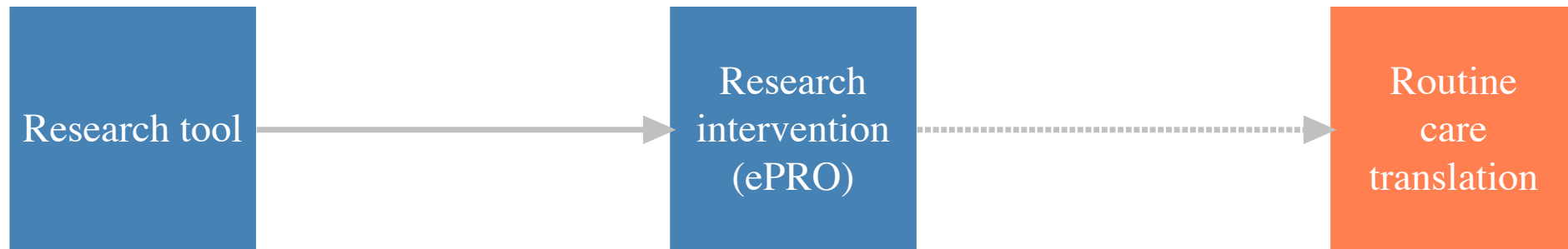
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**1. NSCC 2. AIHI 3. USyd 4. CBDRH**



# Patient-reported Outcome Measures

Patient-reported outcome measures capture a person's perception of their own health through questionnaires (ACSQHC).



# ePRO(M)s

## ePRO Benefits

- Better QoL (symptom control)
- Better communication
- Survival benefit (Basch et al, JCO 2016)

## ePRO Challenges

- Complex healthcare workflows
- Culture & Clinician Buy-in
- Technology (Integration)

## ePRO Opportunities


- A successful ePRO implementation enables innovative routine care approaches...

# ePRO Innovations

## Innovative care pathways

- Development of an **ePRO**-driven referral pathway to the community service Canteen demonstrating an **increase in referral rates by 350%**
- Slides and video here: <https://thiloschuler.me/project/e-pro-driven-crisp>

## Remote toxicity monitoring

- Trend for hypo# / SBRT with significant side effect peaks after the RT course  remote **ePROs** +/- alerts can capture them and trigger actions.

## Embedded, pragmatic real-world clinical trials

- Our ongoing in-house prostate cancer RCT (def. hypo# vs SBRT) has recruited n=188 pts in 2 years
- Without **ePROs** this wouldn't have been possible in a small 3 linac department.

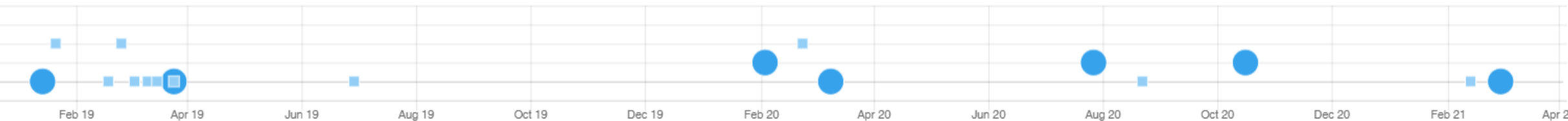
## Safe, risk-adapted remote follow-up

- Even before COVID-19 we had started to integrate **ePROs** into our phone follow-up program
- We are working on an **ePRO**-only approach under certain circumstances

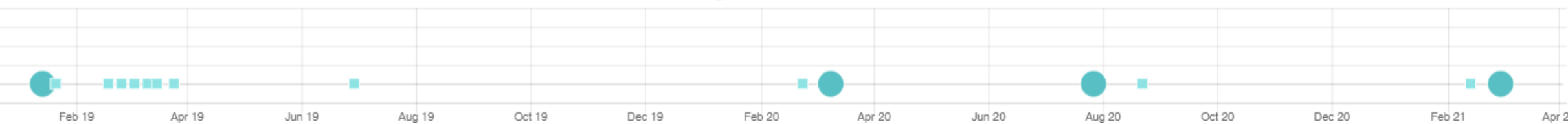
# Clinical GU ePRO team @ NSCC



xGU



xGI



up & Toxicity (show/hide) ePRO (show/hide) ePRO Management

Toxicity Questionnaire/s No new questionnaire data

of Assessment: 3/02/2020 Doctor Reviewing: J. Toby Current Follow-Up: ▼

Comments: GU - nocturia x1. Urgency occasionally, occasional leakage if unable to find toilet. PSA 5.1 in Dec. For PSMA in few weeks. Plan: F/u in 6 months with PSA. PSMA in 24/03/20 with phone f/u after.

1. Genitourinary Toxicity (MRTOG)

Item	Grade	ePro
All are grade 0   Not Applicable		
Nocturia Grade	0	29/6/19
Incontinence Grade	1	0
Urgency	1	0
Obstruction / Urinary Retention		0
Haematuria (Renal/GU other)		0
Frequency		0
MAX GU (MRTOG)	1	0

2. Gastrointestinal Toxicity (MRTOG)

Item	Grade	ePro
All are grade 0   Not Applicable		
Proctitis/Pain Grade		0
Discharge		0
Bleeding per rectum Grade		0
Stool Frequency		0
MAX GI (MRTOG)		0
Nocturia (times)	1	0
Alpha Blocker/ Anticholinergic		0

3. Other Toxicities

Fatigue	▼
Vertebral crush fracture	▼
Chest wall pain	▼
Other	▼
<input type="text"/>	

4. Erectile Function (Potency)

Status	▼
Using medication or device	No

Comment: The doctors and staff did an excellent job. A very dedicated team.Thanks so much.

## New Patient Survey - Radiotherapy

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### Medications

4. Do you take BLOOD THINNERS?  
(for instance Warfarin or Aspirin taken every day)

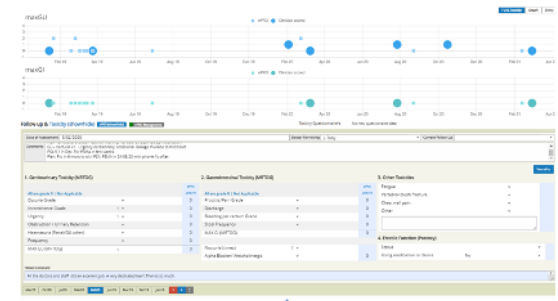
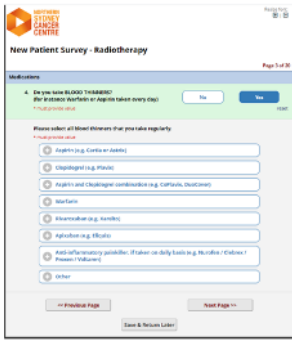
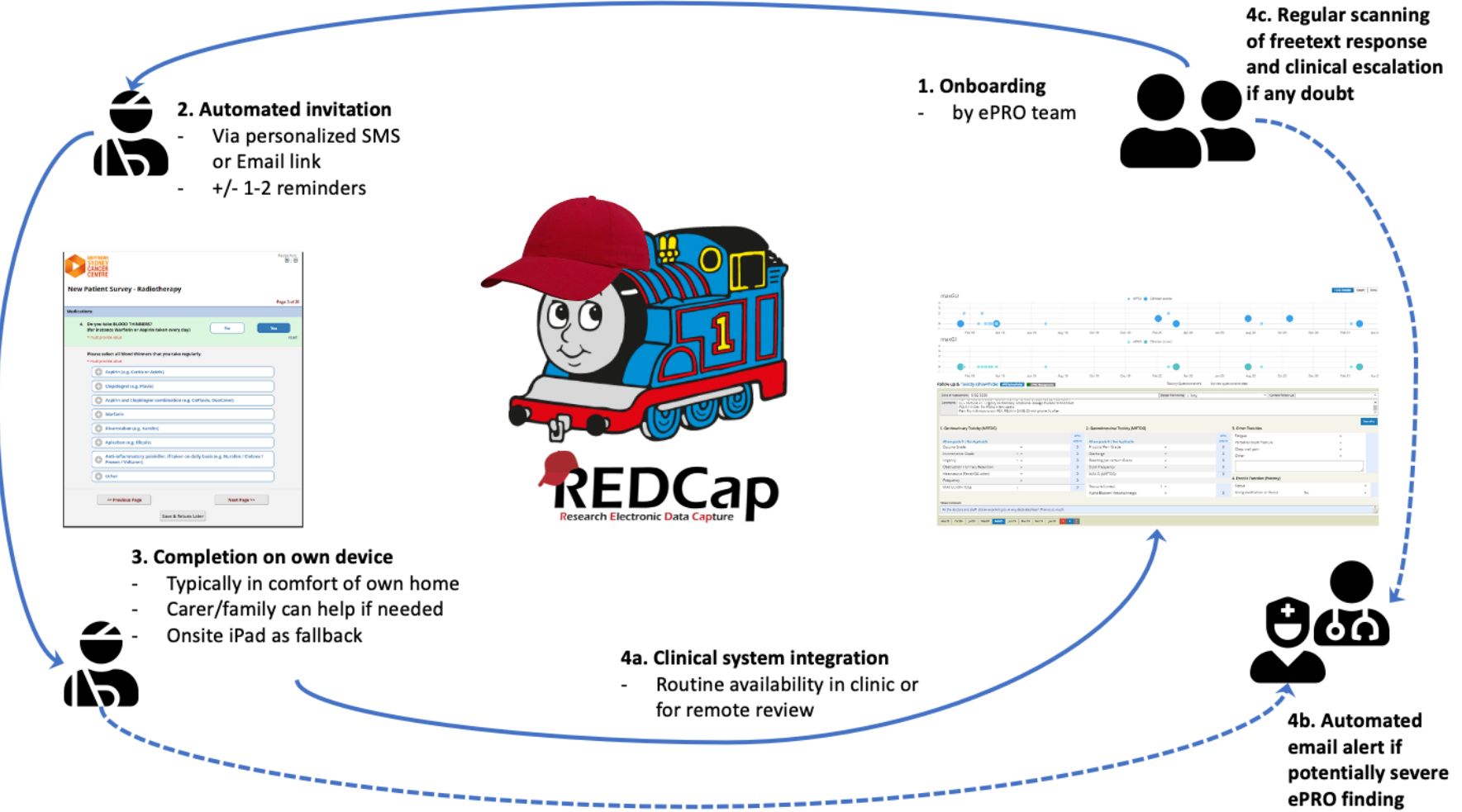
\* must provide value

Please select all blood thinners that you take regularly.

\* must provide value

 Aspirin (e.g. Cartia or Astrix) Clopidogrel (e.g. Plavix) Aspirin and Clopidogrel combination (e.g. CoPlavix, DuoCover) Warfarin Rivaroxaban (e.g. Xarelto) Apixaban (e.g. Eliquis) Anti-inflammatory painkiller, if taken on daily basis (e.g. Nurofen / Clebrex / Proxen / Voltaren) Other

# REDCap as ePRO Survey Engine





# Surveys and Frequencies in our GU Practice

Superset of international **REQUIRE** consortium's questionnaire:

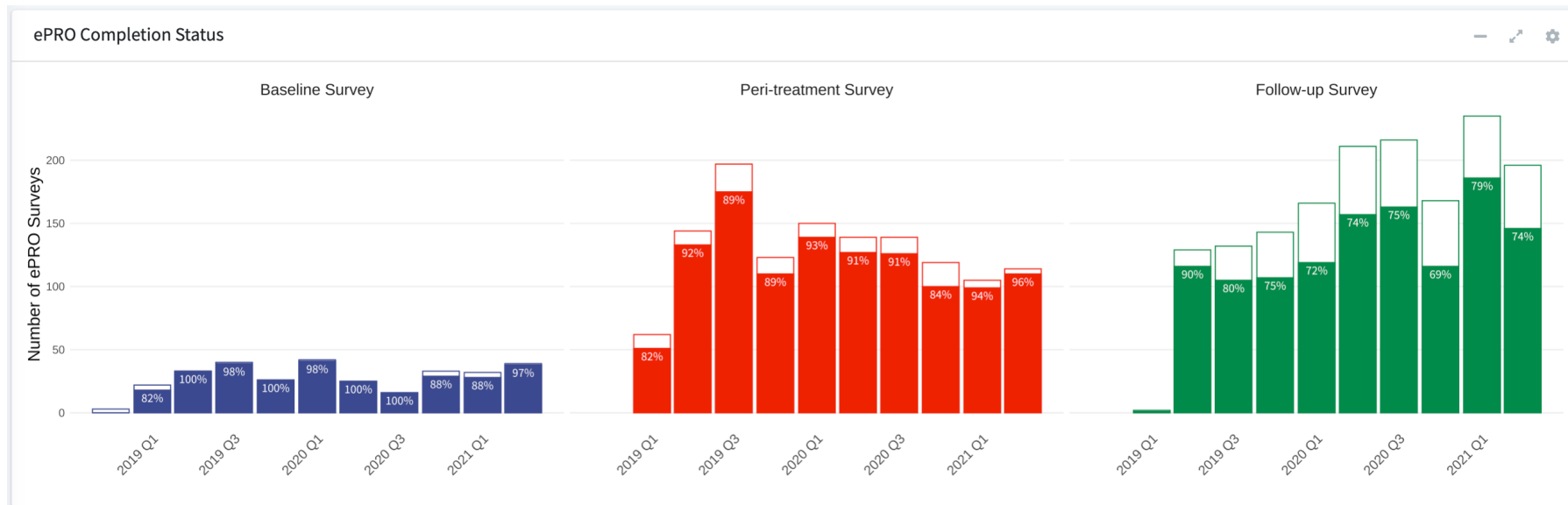
- **Baseline** (ePRO prior to new patient appointment)
- **Peri-treatment** (abridged; weekly ePRO during and in first month post RT)
- **Follow-up** (6 monthly ePRO)

**REQUIRE**

# ePRO Coverage & Completion

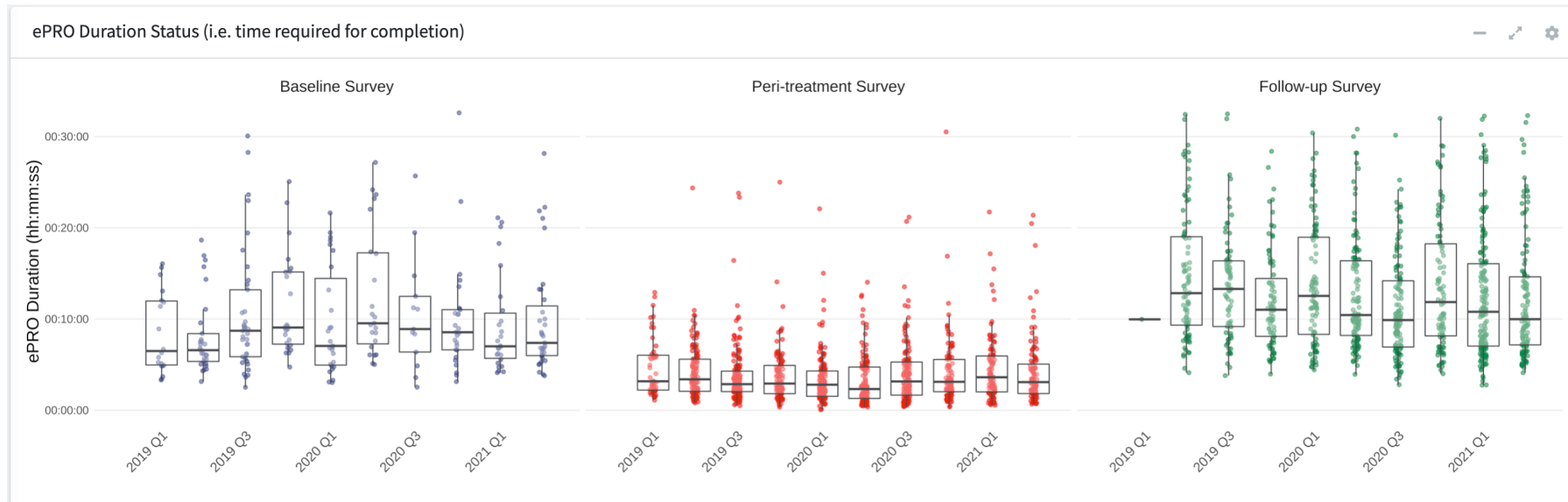
Between Jan 2019 - June 2021 (30mo) n=3201 invitations (+/- reminders) for separate ePROs were sent as part of NSCC prostate cancer clinic.

	Baseline	Peri-treatment	Follow-up
Coverage (only for 2019)	85%	-	-
Completion (Jan 2019 - Jun 2021)	94% (293/311)	91% (1170/1292)	76% (1216/1598)



# ePRO Duration

	<b>Baseline</b>	<b>Peri-treatment</b>	<b>Follow-up</b>
1st Quartile	6.0 min	1.8 min	7.7 min
Median	8.2 min	3.0 min	11.1 min
3rd Quartile	12.7 min	5.1 min	16.1 min



# Conclusion

Routine care ePROs are **challenging on multiple levels**, but definitely **feasible** and well worth the effort as they open **exciting opportunities** to improve the care for our patients.

Link to ePRO Dashboard:

<https://thiloschuler.shinyapps.io/prospector-asm21>

Link to ePRO-driven referral process incl VIDEO:

<https://thiloschuler.me/project/e-pro-driven-crisp>



Thank you

