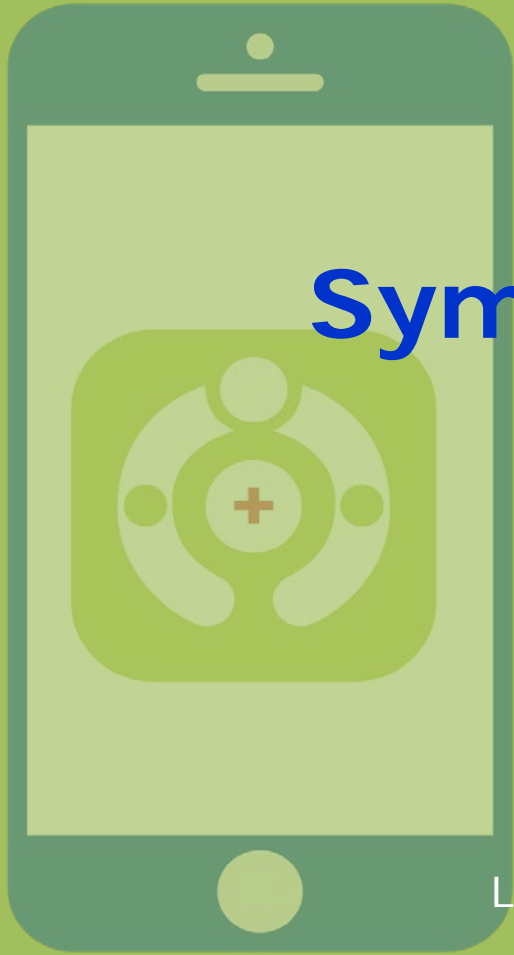


Implementation and Evaluation of Patient and Caregiver Reported Outcomes to Improve Real Time Symptom Management in Cancer Care Across Quebec with Mobile Technology: The e-IMPAQc Project



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e-IMPAQc





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Key Points

1. Patient-centred Care and Patient-Reported Outcomes
2. Patients and clinicians can learn to use technology
3. Improving the patient experience through clearer communication
4. Changing the conversation



Réseau de
cancérologie
Rossy

Rossy
Cancer
Network

Improving Patient Experience and Health Outcomes Collaborative (iPEHOC)

RCN iPEHOC Investigators Group
May 18, 2017



Centre universitaire
de santé McGill



McGill University
Health Centre



Hôpital général juif
Jewish General Hospital



Centre hospitalier de St. Mary
St. Mary's Hospital Center

iPEHOC Conceptual Framework



SYMPTOMS REPORT

SYMPTOM MONITORING

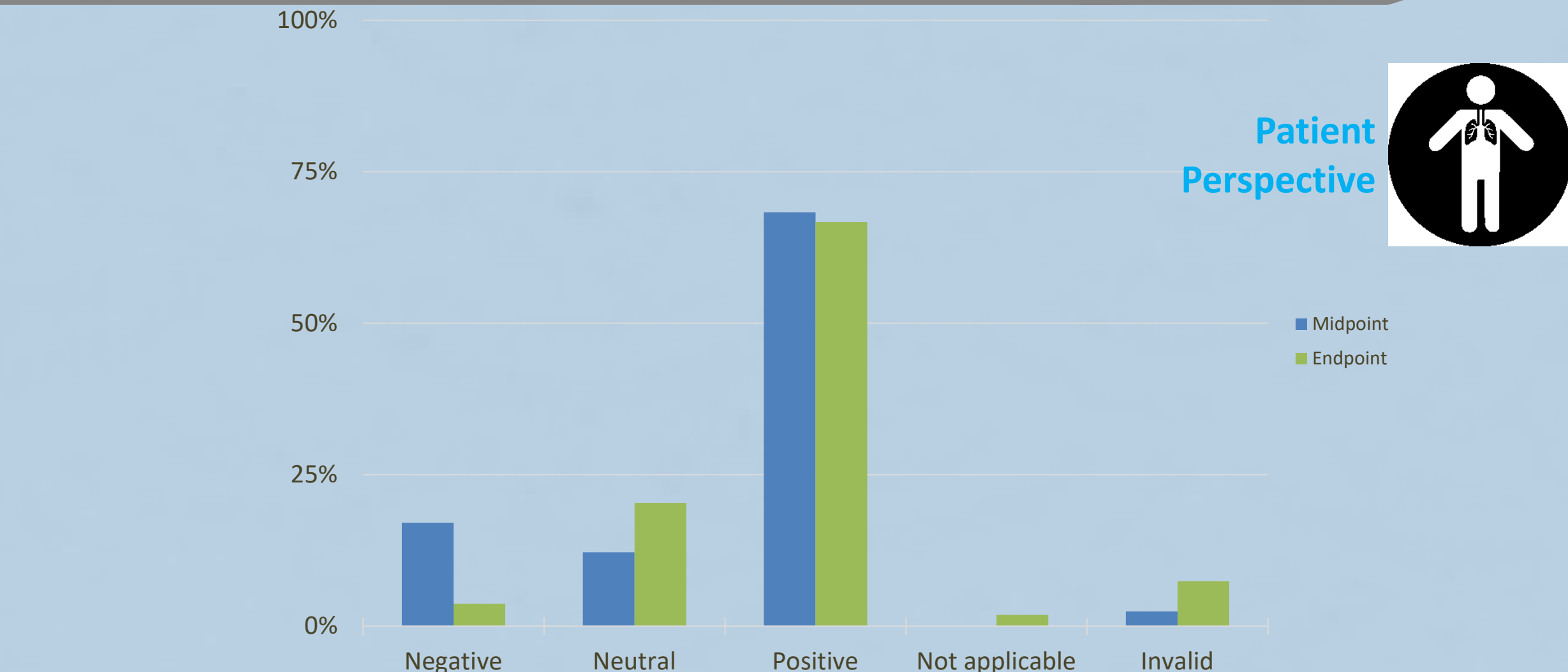
APPROACH:

- 1) Screening (ESAS-r)
- 2) Assessment via PROMs (pain, fatigue, anxiety, depression)
Using DART technology

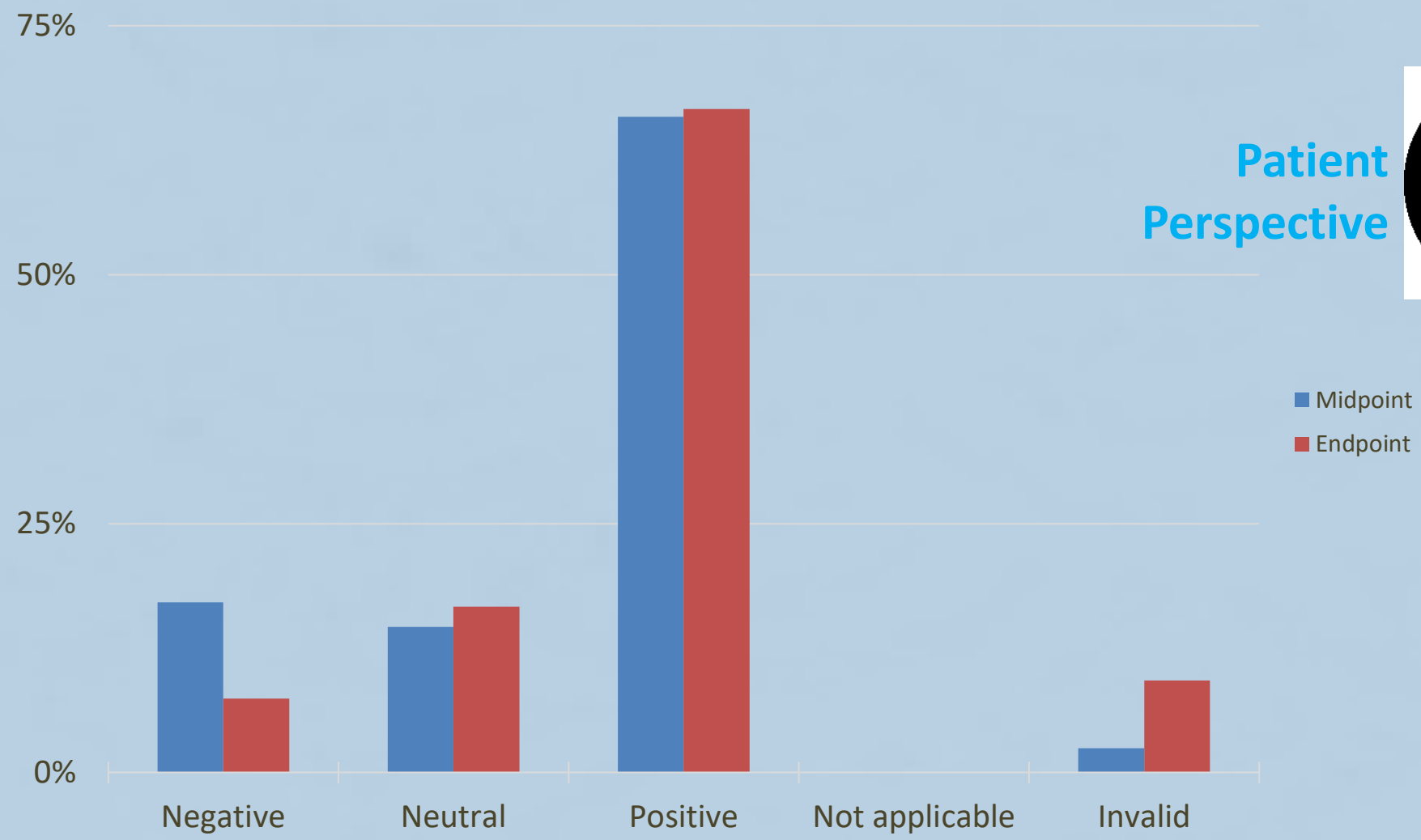


PROMs INFORMED POINT OF CARE PATH

Q: The questionnaires made it easier for me to describe how I am feeling physically.



Q: The questionnaires made it easier for me to describe how I am feeling emotionally.



Patient Perspective



iPEHOC – RCN chart reviews (n=60)

RCN Site	Symptom Report Assessed by Clinicians	Assessed Symptom Reports with documented interventions*
JGH	80%	94%
MUHC	55%	45%
SMHC	88%	93%
RCN Total	74%	81%

*Clinical interventions may have also be taken in response to symptoms reported to HCP at the time of visits

iPEHOC- Health Care Utilization (ESAS only vs. ESAS + PROMs)

Ontario data only

RCN data not available, as baseline group could not be identified without baseline ESAS data

Utilization Outcome	ESAS only			ESAS + PROMs			p (χ^2)
	%	Num.	Den.	%	Num.	Den.	
ED visits	14.8%	359	2429	12.8%	205	1598	0.081
In-patient admissions	12.3%	299	2429	10.1%	162	1598	0.034



e-IMPAQc

Project overview

e-IMPAQc : *Implementation and evaluation of an e-health application for the systematic assessment of patient and caregiver reported outcomes in Quebec across the cancer continuum*





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Project overview - Objectives

Implement

- a direct patient entry electronic platform (OPAL)

Establish

- supplementary PROs; stepped-care referral and clinical care pathways

Enable

- patients' access to self-management and educational resources

Examine

- feasibility of caregiver-reported outcomes (CROs)

Evaluate

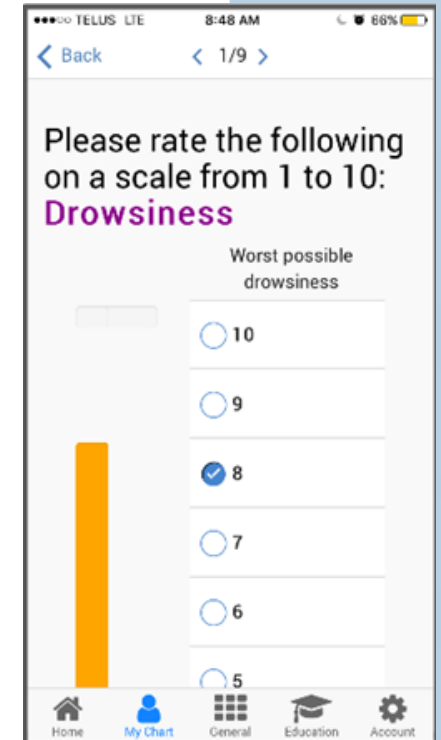
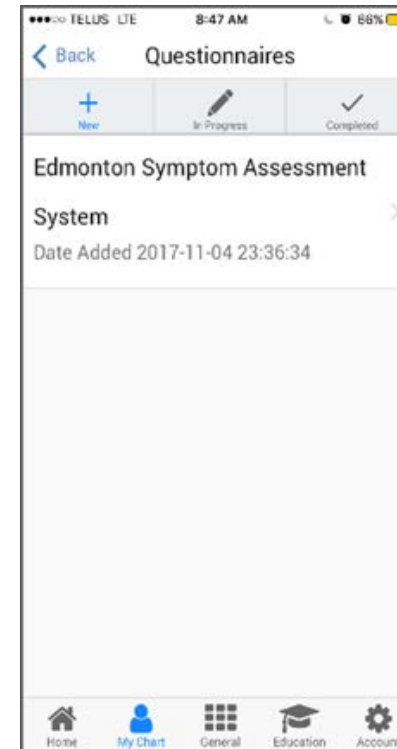
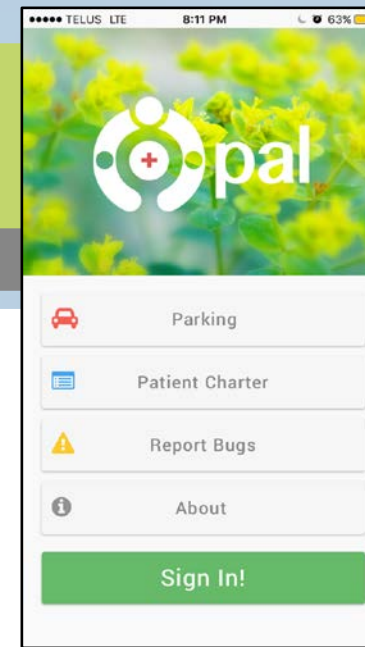
- effect on patient and caregiver outcomes of the systematic electronic assessment of PROs in real-time



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Opal technology

- Develop the questionnaire and educational modules of the patient portal Opal
- Systematically detect and evaluate distress in real time and then trigger the trajectory of care and services
- Link results to electronic medical records (EMRs) of patients and providers in real time





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Project overview - Outcomes

Process of Implementation



- ☐ Satisfaction with Opal
- ☐ Adoption/Uptake
- ☐ Penetration of Opal
- ☐ ↑ use of PRO data
- ☐ ↑ ID of clinical action

Patient and caregiver



- ☐ ↓ symptom severity
- ☐ Improve experience
- ☐ ↑ quality of life
- ☐ ↑ communication
- ☐ ↑ self-efficacy

Knowledge Transfer

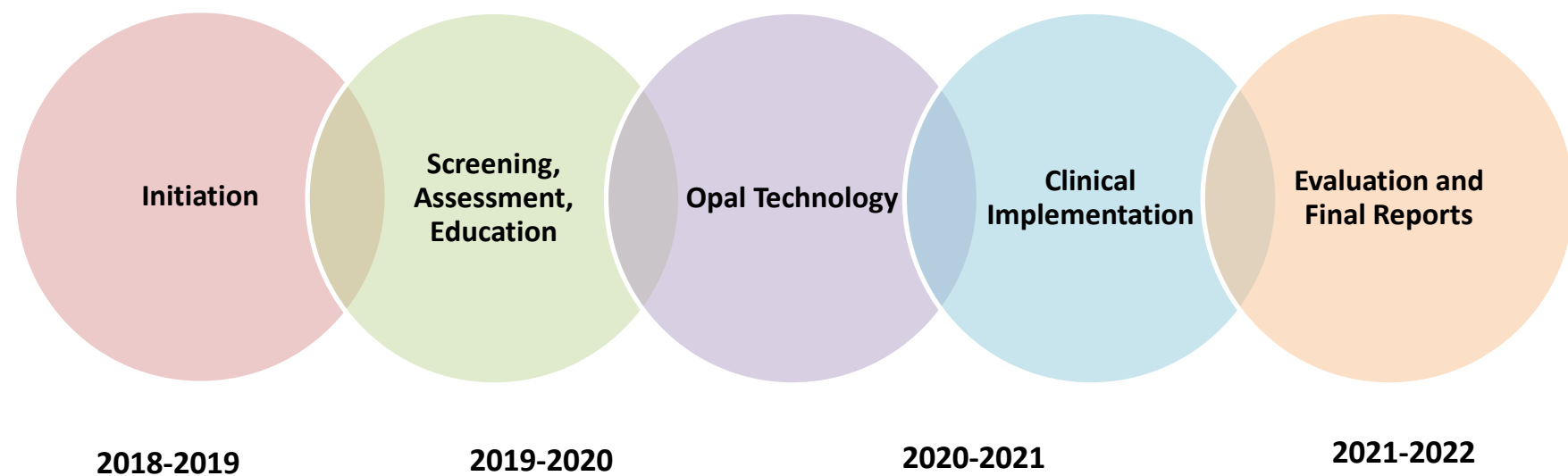


- ☐ HCP education and training
- ☐ Patient education
- ☐ Uptake and spread



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Project overview - High-level deliverables



- State of readiness
- Planning for change

- Link PROs with EMRs
- Supplementary PROs, CROs
- PRO/CRO summary/ feedback
- Self-management material
- Educational material
- KM strategies
- Ethics approval
- Pilot SMHC, Cité, MUHC 08/19

- Stepped-care referral
- Clinical action/alerts protocol/coding
- Encoding PROs/ CROs and feedback features
- Rollout 04/20

- Evaluation of process and impact
- KT
- Final reports



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Performance Indicators

**Prevalence of
symptom burden**

**Severity of
symptom burden**

**State of Patient
Reported Outcome
Implementation**

**Access to Patient
Reported Outcome
Reporting Tools**

Staff Training

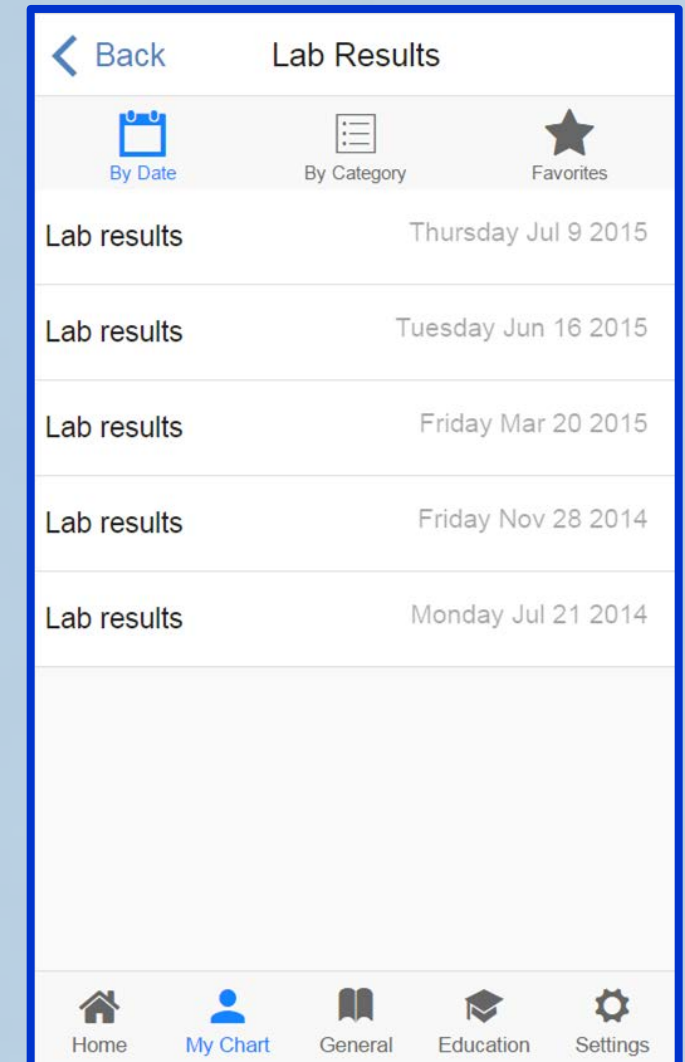
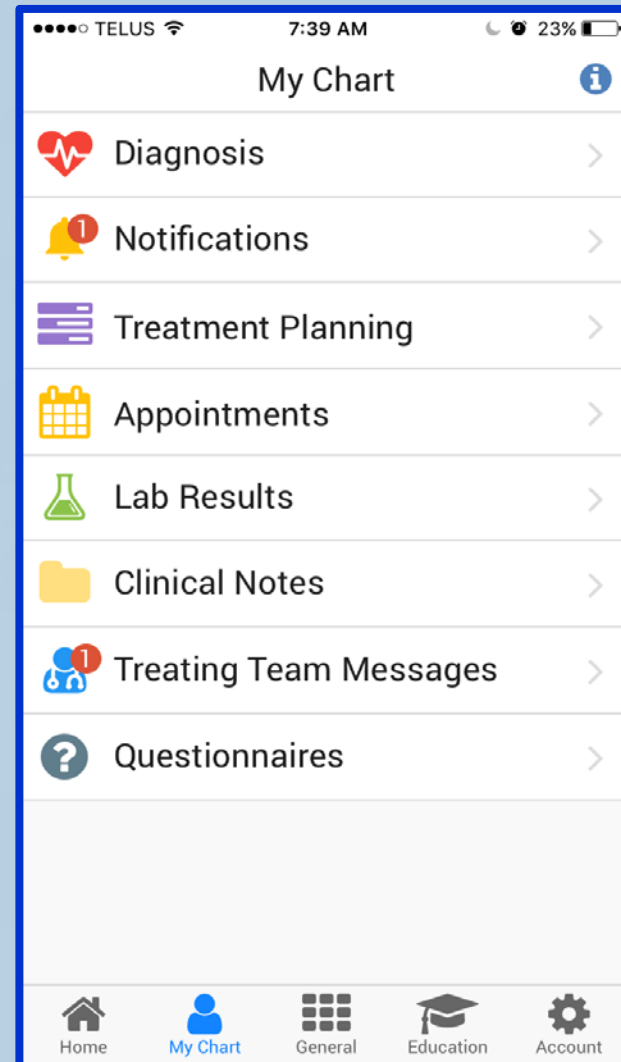
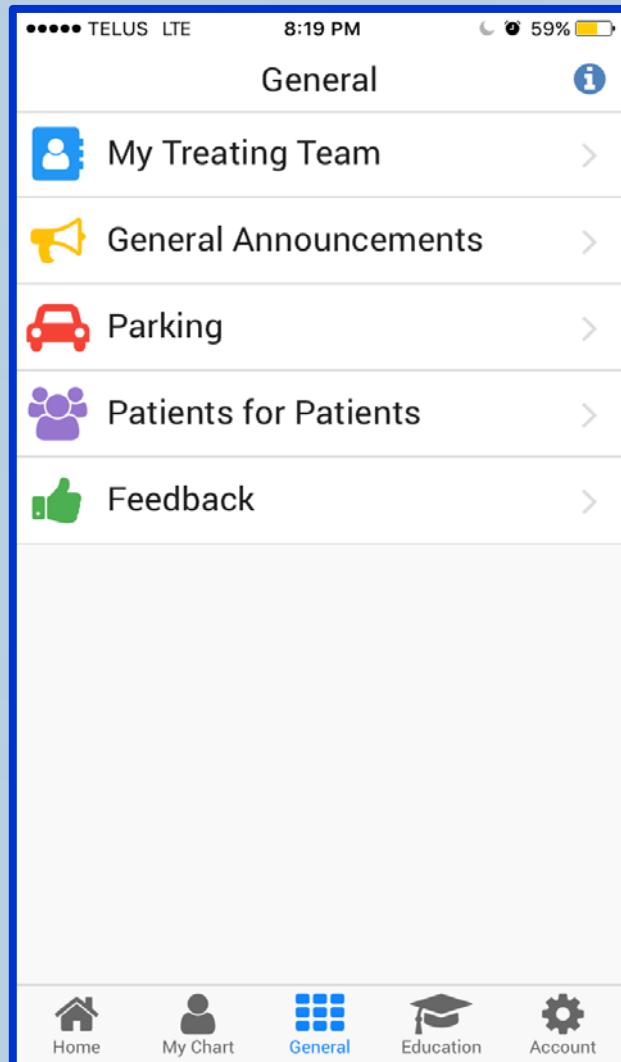
Patient Experience

**Identification to
Clinical Action**

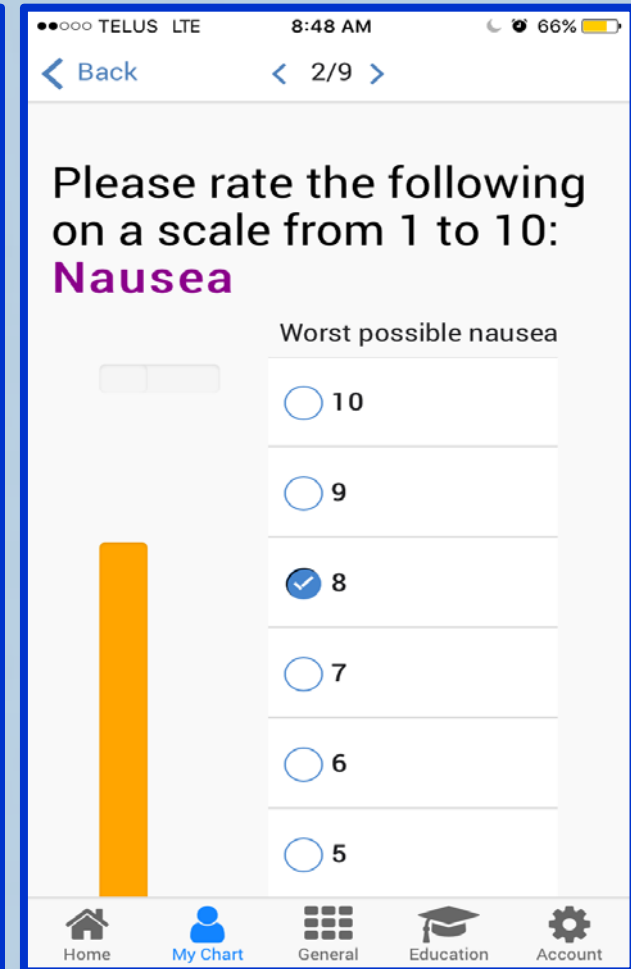
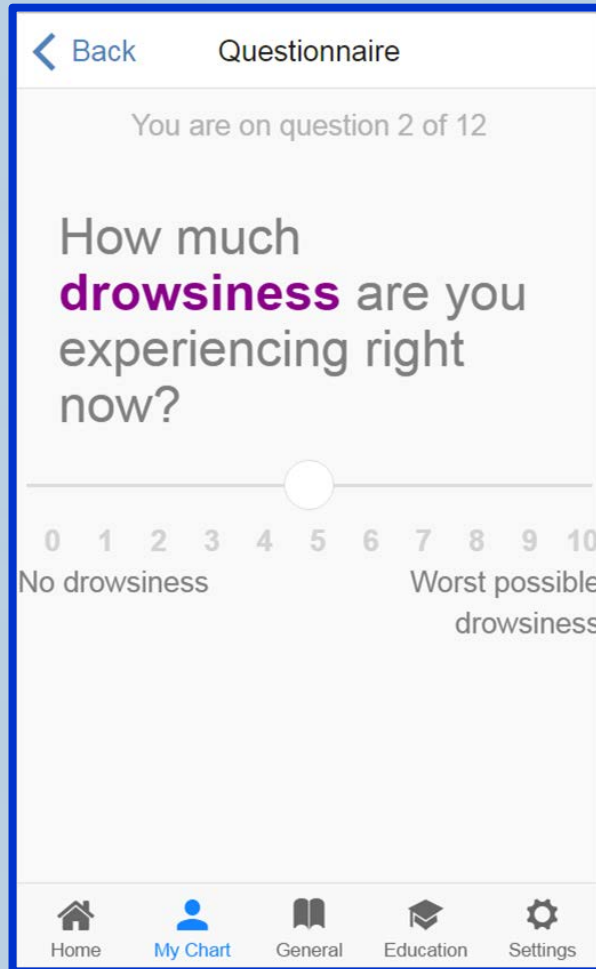
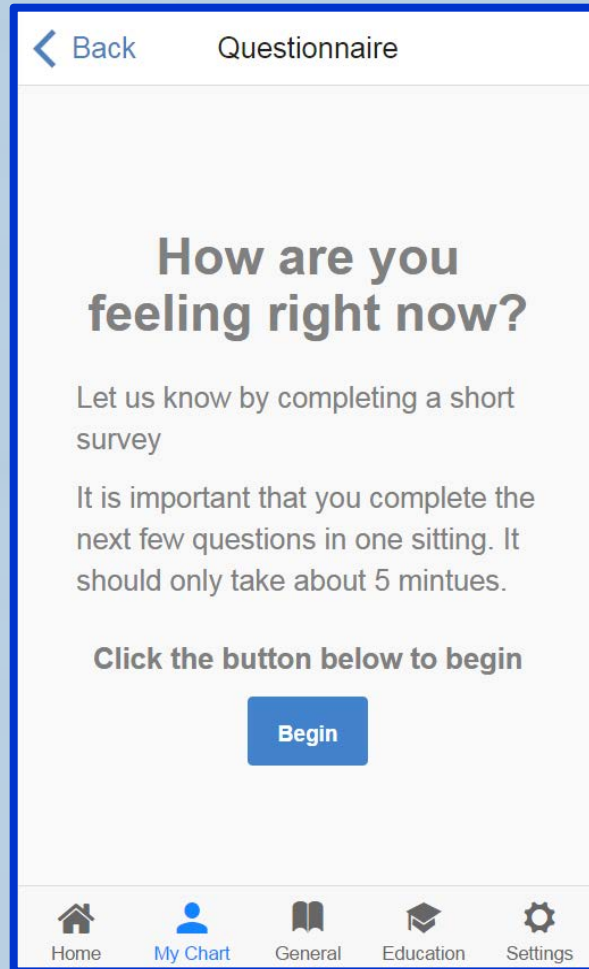
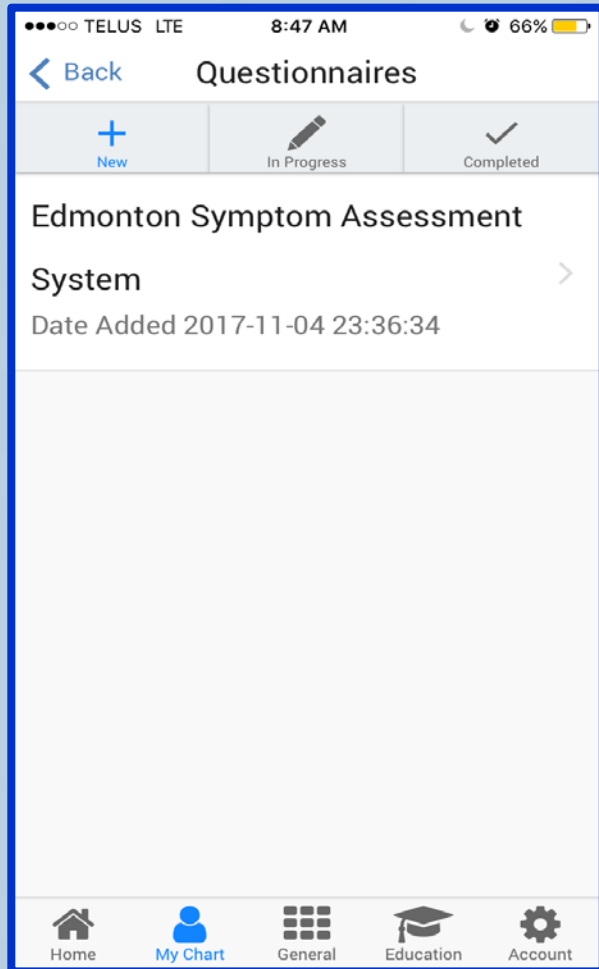
**Secondary PRO
Tools**

Quality of Life

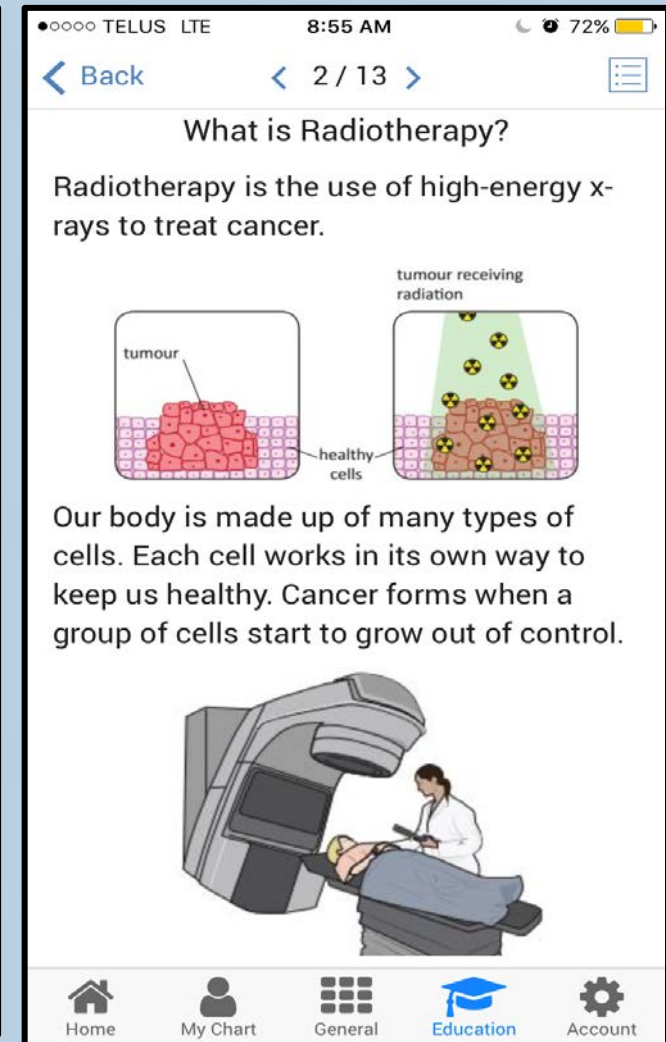
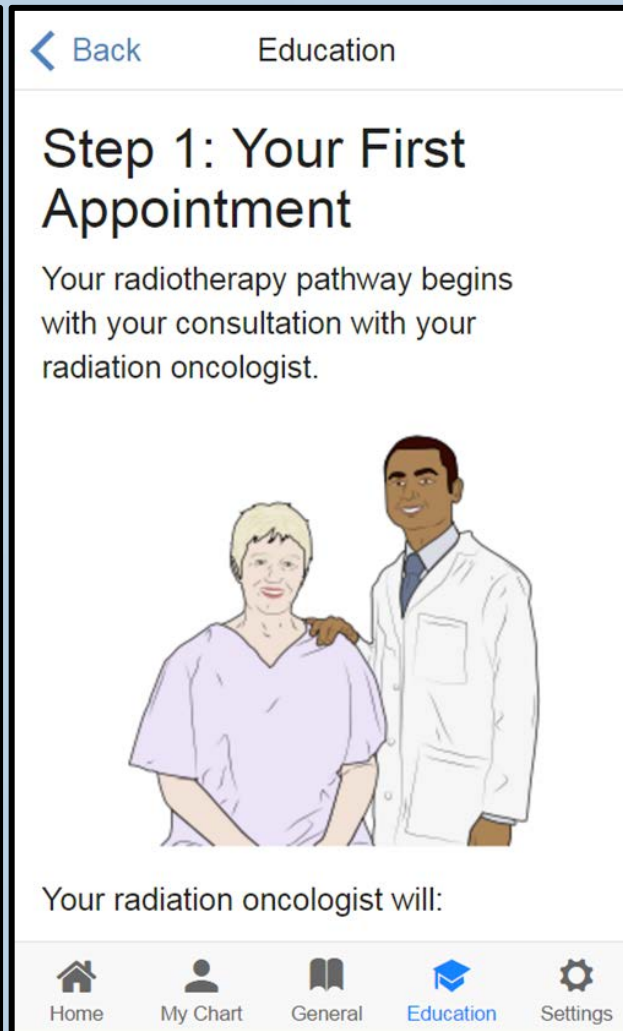
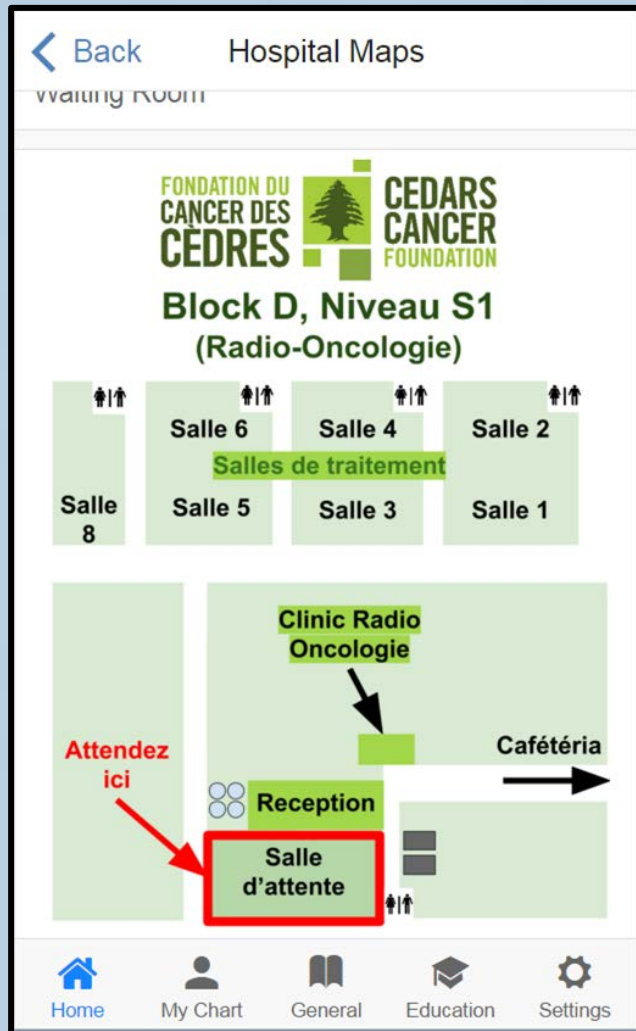
Opal Smartphone Screens



Opal - Patient-Reported Outcome Questionnaires



Opal - Maps and Educational Material





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What are the e-IMPAQc project implications?

e-IMPAQc & OPAL

In line with the Quebec Ministry of Health's action plan aiming to **promote a large-scale change** in practice with respect to the standardization/normalization of comprehensive and integrated tools and services for the detection and surveillance of cancer symptoms in cancer patients across the province

Bring together health professionals from a **wide range of health disciplines** (clinicians, nurses, radiologists, etc.), patients, information and communication technology experts, administrators, etc.

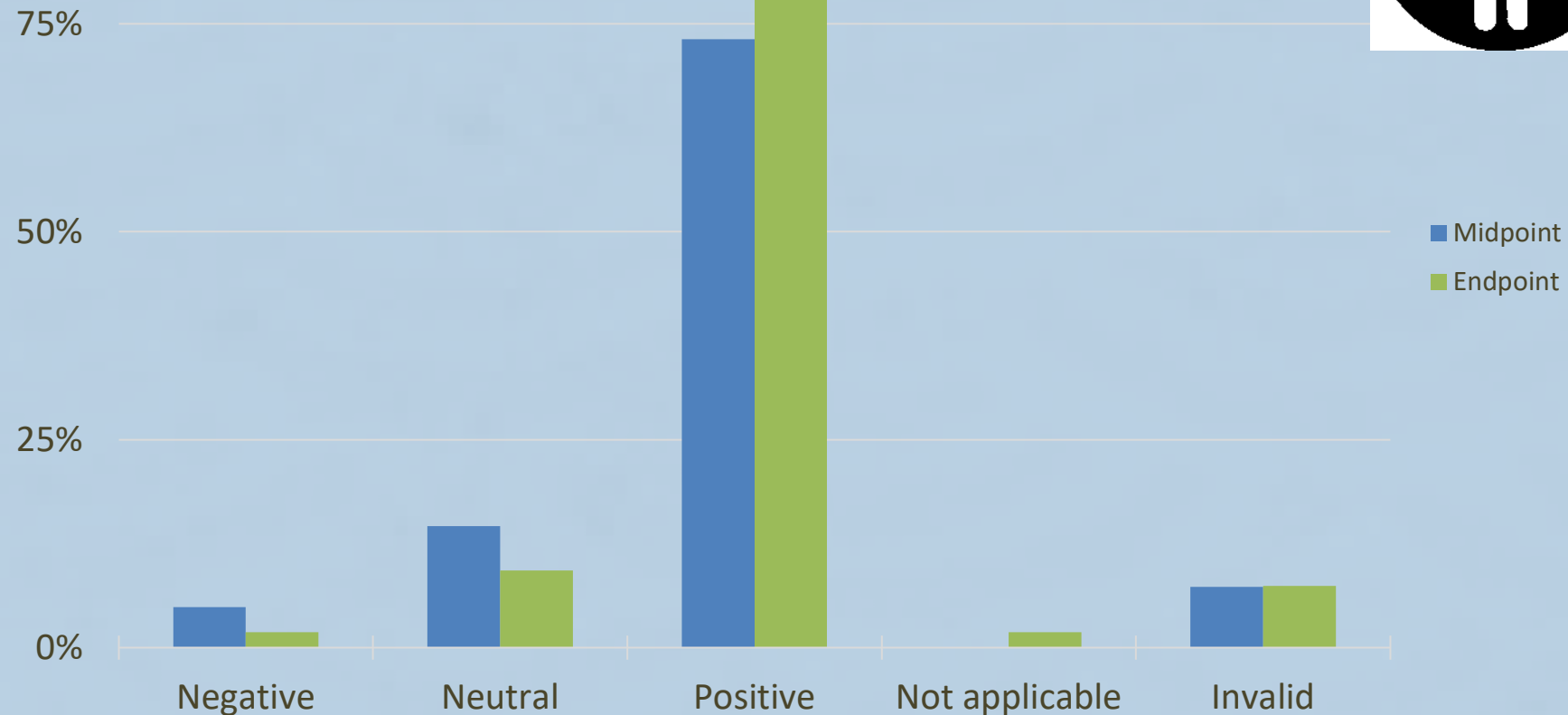
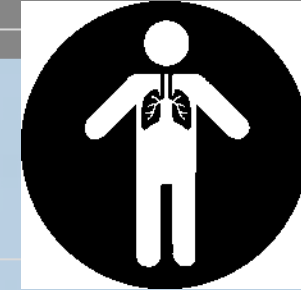
Aims to share, exchange knowledge and expertise between partners, **standardize clinical practices**, make common decisions, **optimize care processes and the use of resources**

Promotes the integration of care and better management of the changes experienced by the majority of health institutions.

Q: The questionnaires I was asked to complete are important because they help my health care team know what symptoms I am having and how severe they are.

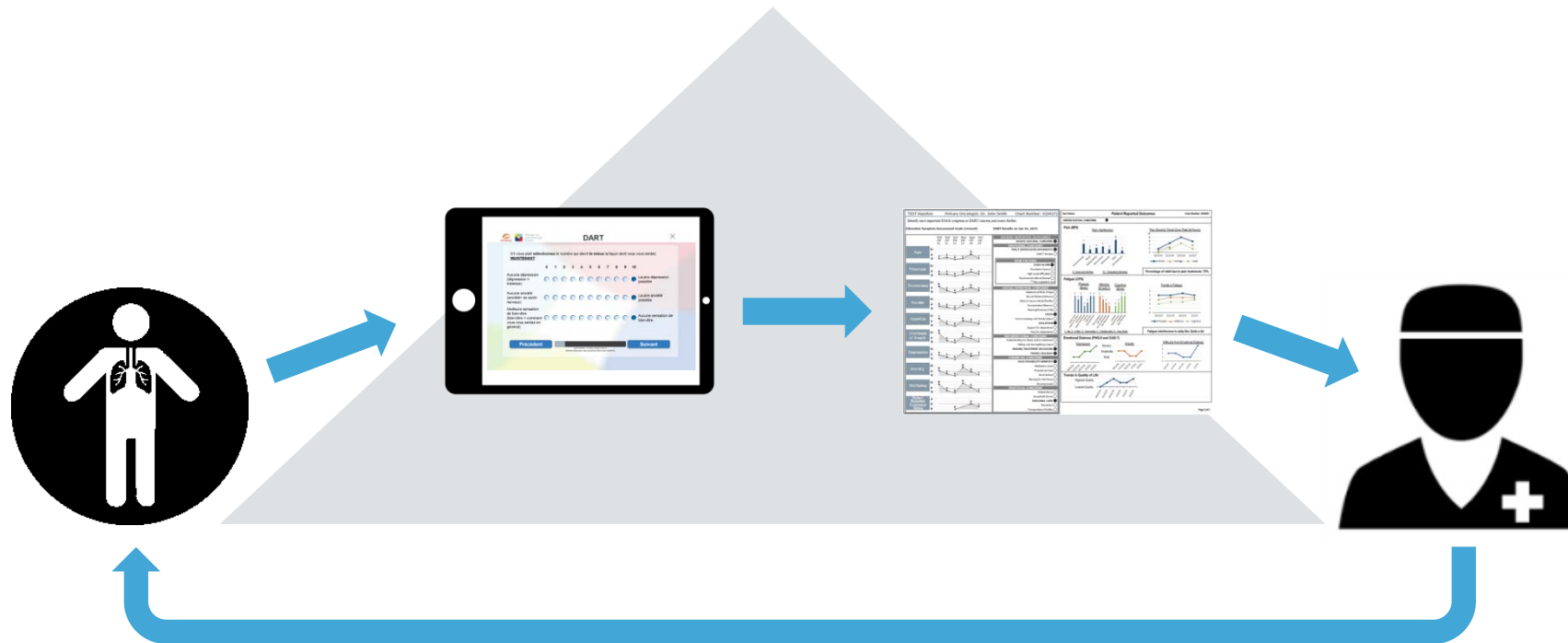
100%

**Patient
Perspective**



CHANGING THE CONVERSATION

Person-centred care





e-IMPAQc

Project overview – Vision and Mission

Vision: Work together to create an optimal system to address distress related to physical, emotional, spiritual and practical concerns of cancer patients and their caregivers in Quebec

Mission: Acquire, apply, evaluate and sustain new knowledge and technology for the integration of patient and caregiver reported outcomes to optimize clinical practice and improve the quality of life and experience of cancer patients and their caregivers

Percent of ESAS screens indicating symptom severity above the threshold level (by age group)

Age Group	% GAD7 (anxiety)	% PHQ9 (depression)	% CFS (fatigue)	% BPI (pain)
18-39	32%	33%	41%	24%
40-59	32%	34%	28%	16%
60+	23%	24%	31%	16%
All age groups	26%	28%	30%	17%

Evidence-based cut-off scores on ESAS-r for pain (≥ 4), fatigue (≥ 4), anxiety (≥ 3), or depression (≥ 2) determined triggering of additional PROMS.





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Project overview – Outcomes

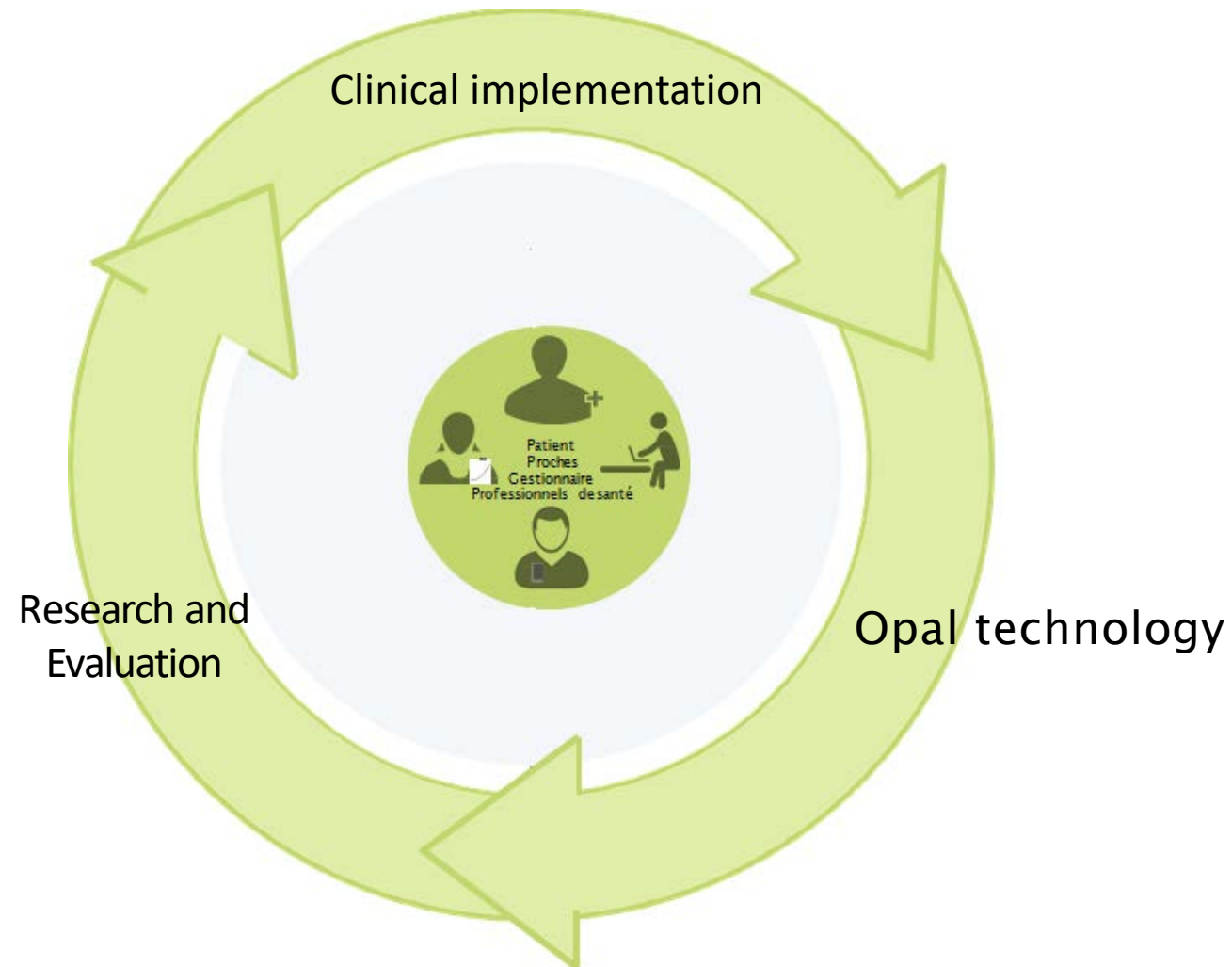
Additional Outcomes:

- ❖ Sustainability of project at participating sites; **project provides template for ministerial cancer control strategic plan**
- ❖ Teamwork and collaboration: enhanced inter-professional practice, inter-center communication
- ❖ Potential to map the patient and caregiver experience and accumulate PRO and CRO data to inform population-level needs and identify potential gaps in care
- ❖ Engagement of Indigenous stakeholders, improving patient experience of care



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Project overview - Components





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Clinical implementation

- Optimize the trajectory of care and services:
 - Raise awareness and transfer knowledge about electronic screening for distress to health professionals and cancer patients
 - Ensure that an appropriate response is generated based on the needs of the patient/caregiver and the capacities of each facility
 - Improve the experience of patients and their families (accessibility, fluidity, quality, equity, efficiency of care).





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Research

- **Academic and experiential study aimed at:**
 - Identify pertinent supplementary questionnaires to identify and assess symptoms of distress
 - Identify caregiver-reported outcomes
 - Develop education and self-management tools

Patient Health Questionnaire—PHQ-9

Name: _____ Date of Birth: _____ Today's Date: _____

Fill in the boxes with pen or pencil to mark your answers.

A. Over the last 2 weeks, how often have you been bothered by any of the following problems?

	Not at all 0	Several days 1	More than half the days 2	Nearly every day 3
1. Little interest or pleasure in doing things	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
2. Feeling down, depressed, or hopeless	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
3. Trouble falling/staying asleep, sleeping too much	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
4. Feeling tired or having little energy	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
5. Poor appetite or overeating	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
6. Feeling bad about yourself -- or that you are a failure or have let yourself or your family down.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
7. Trouble concentrating on things, such as reading the newspaper or watching television.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
8. Moving or speaking so slowly that other people could have noticed. Or the opposite -- being so fidgety or restless that you have been moving around a lot more than usual.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
9. Thoughts that you would be better off dead or of hurting yourself in some way.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Total Score	_____	_____	_____	_____

B. If you have been bothered by any of the 9 problems listed above, please answer the following:

How difficult have these problems made it for you to do your work, take care of things at home, or get along with other people?

Not difficult at all Somewhat Difficult Very Difficult Extremely Difficult

☐ ☐ ☐ ☐

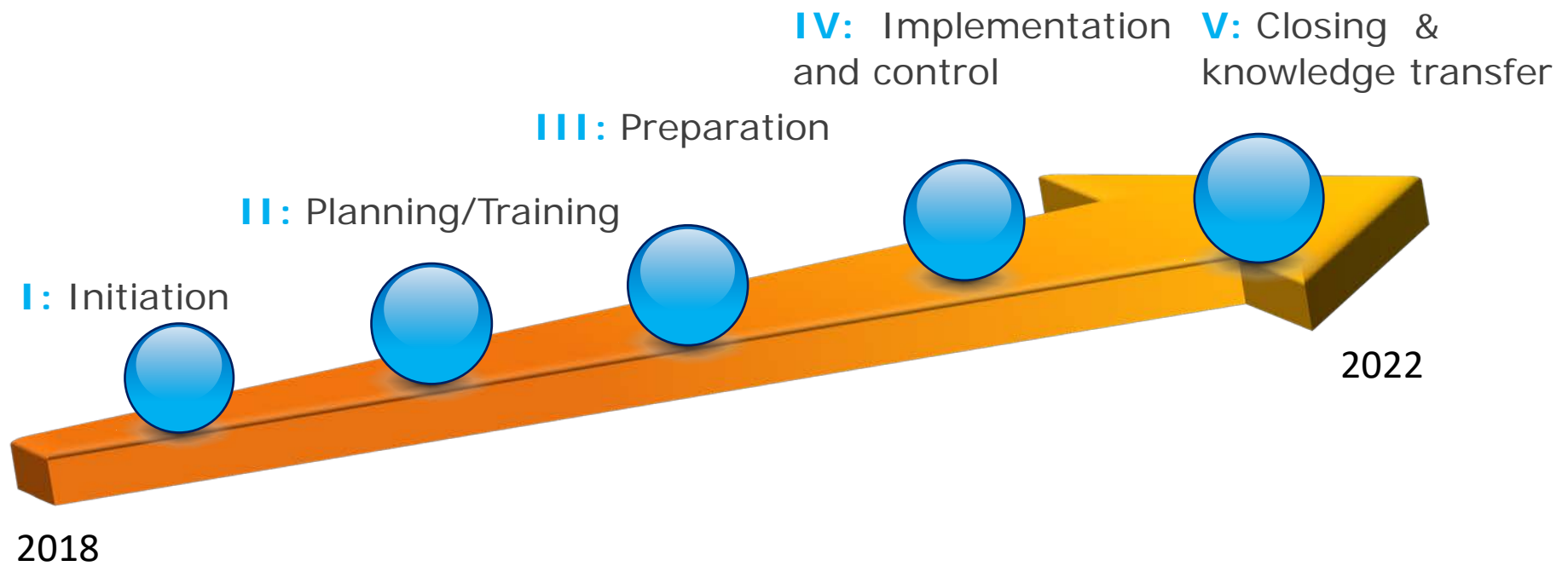
This health survey was adapted from the PROMIS® Patient Health Questionnaire © 1999, Pfizer Inc. Reproduced with permission. For research information, contact Dr. Robert L. Spitzer at rls@rockefeller.edu.

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Project phases



e-IMPAC Project (4 years)

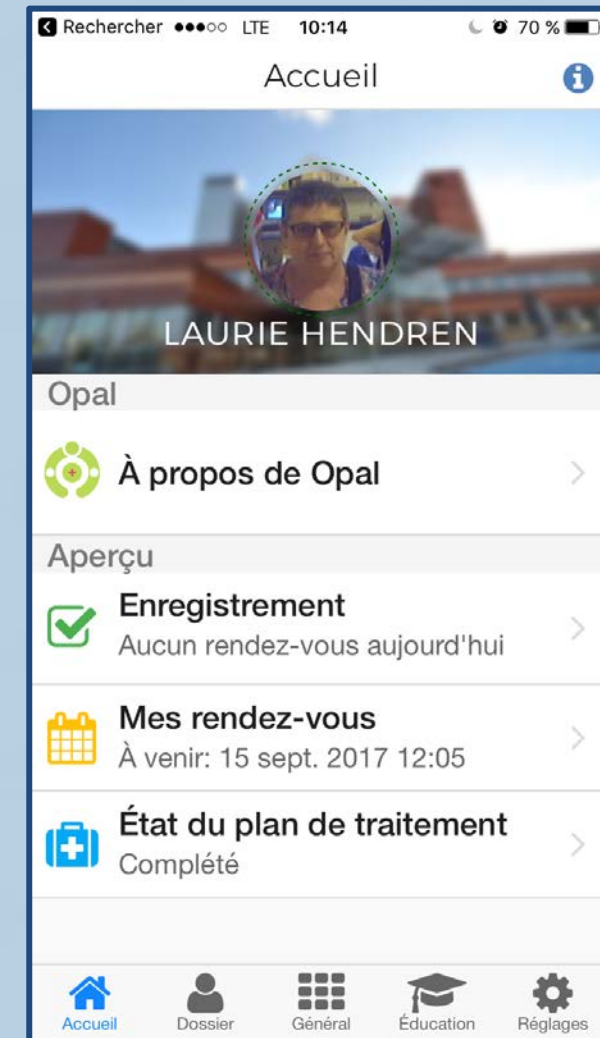
Implementation and evaluation of Opal for the systematic assessment of patient and caregiver reported outcomes in Quebec across the cancer continuum.

Scientific lead: Dr. Sylvie Lambert, St-Mary's Research Centre, Montreal

Clinical lead: Rosana Faria, St-Mary's Hospital Centre, Montreal

Funding: Canadian Partnership Against Cancer

Electronic platform: Opal (Kildea, Hijal, Hendren)



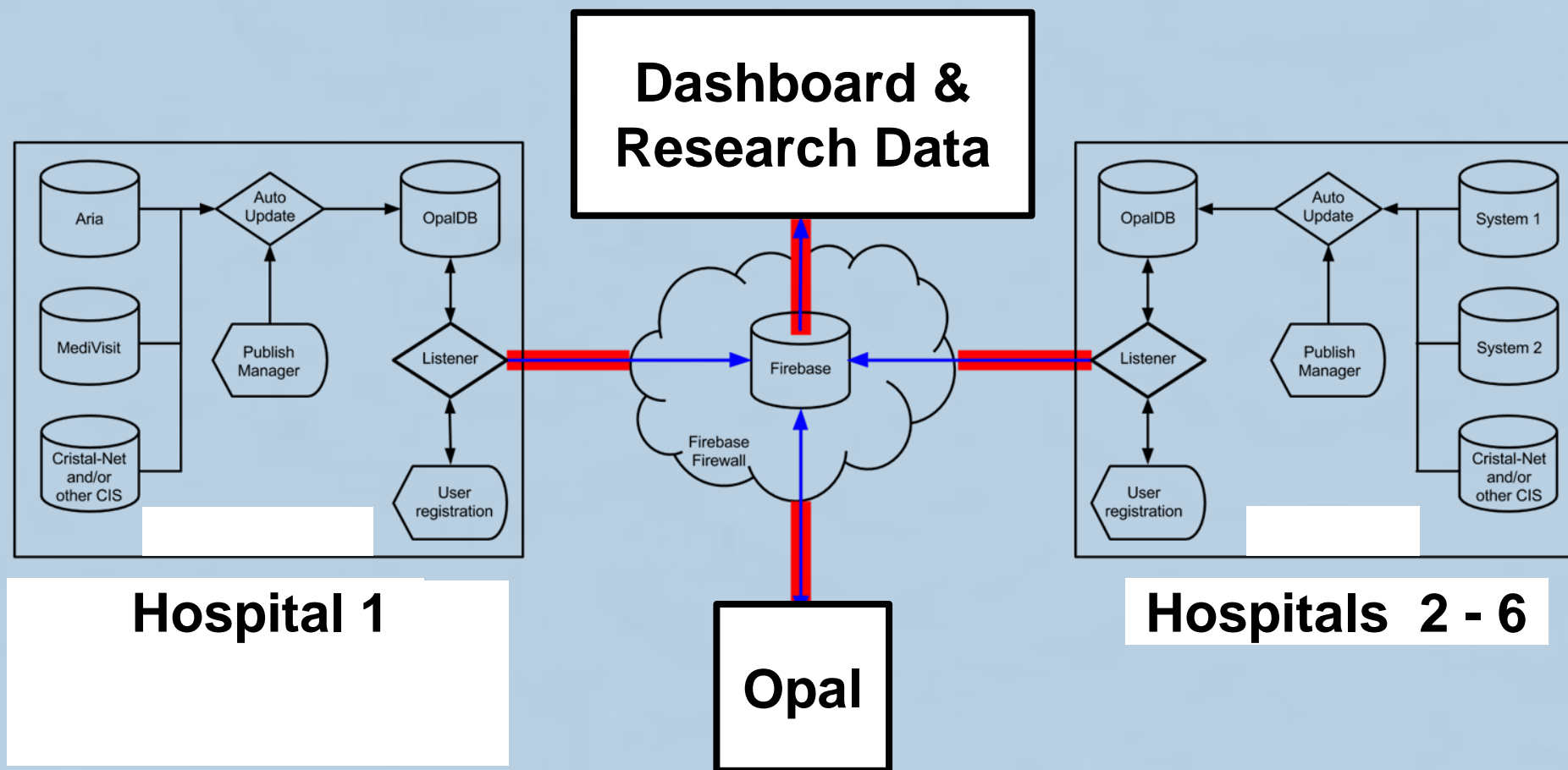


e-IMPAC Partners - 6 hospitals

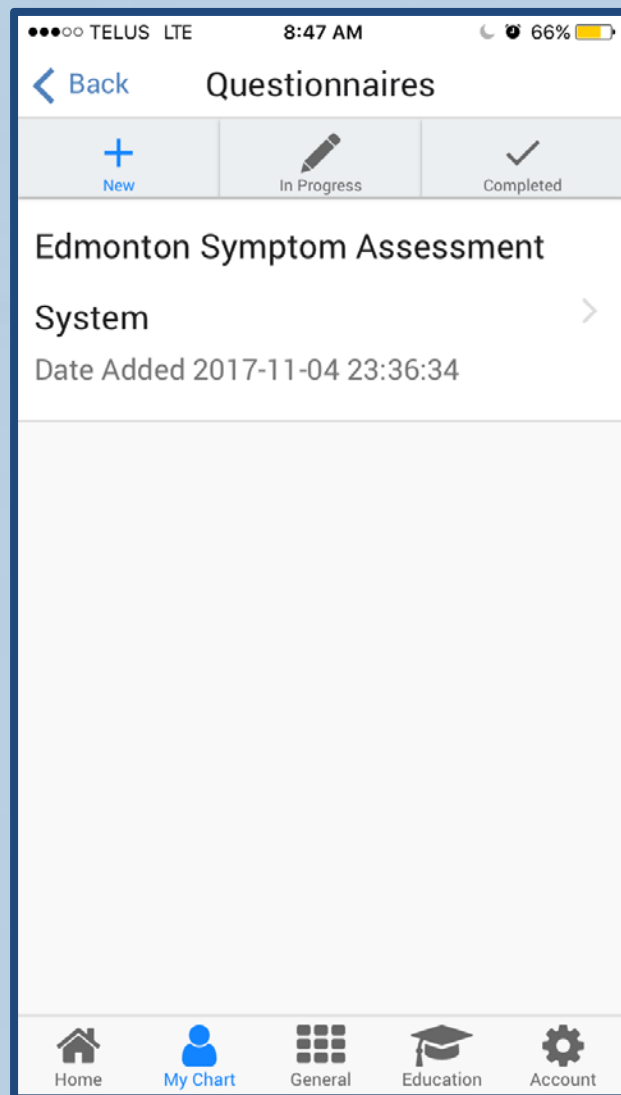
1. St. Mary's Hospital Centre (clinical lead)
2. McGill University Health Centre (informatics lead)
3. CHU - Sainte-Justine (pediatric centre)
4. CHUM - Hôpital Notre Dame
5. Hôpital Maisonneuve-Rosemont
6. Hôpital de la Cité-de-la-Santé



e-IMPAC Partners - 6 hospitals



Opal



Opal

TELUS LTE 8:48 AM 66%

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Please rate the following on a scale from 1 to 10:
Nausea

Worst possible nausea

☐ 10

☐ 9

☒ 8

☐ 7

☐ 6

☐ 5

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TELUS LTE 8:48 AM 66%

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Please rate the following on a scale from 1 to 10:
Drowsiness

Worst possible drowsiness

☐ 10

☐ 9

☒ 8

☐ 7

☐ 6

☐ 5

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