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People's Choice Voting Selection: Celebrating Quality Improvement (CQI) at PHC (rev.1)

June 12-20, 2024

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How to Vote

QUALITY-FORWARD



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- View the featured projects in this booklet (bookmarks are in the side menu of the PDF).
- Voting is open until 12:45 PM on Thursday, June 20th.
- Visit the poll at www.Slido.com and enter code #: **cqi24vote**
OR use the QR code below to access the poll.



- Choose ONE project as your favourite for the People's Choice Award.
- The winner will be announced at the end of the CQI rapid-fire presentations on June 20th.

Celebrating Quality Improvement 2024 People's Choice Award – List of Candidates

- (#1) Optimizing Value-Based Outcome Measurement in Chronic Inflammatory Neuropathy Through Quality Improvement and Rapid PDSA Cycles
- (#4) Quantifying the opportunity cost of neurology IVIG appointments in St Paul's Hospital's Medical Short Stay Unit
- (#5) Secure Patient Texting Streamlines Medication Counselling at The St. Paul's Ambulatory Pharmacy
- (#6) Revising the PHC Health History Questionnaire (PHHQ)
- (#8) Improving access and flow to Holy Family Hospital Rehabilitation - Thwarting myths and accelerating efficiency
- (#9) Lupus Anticoagulant (LA) Assay Quality Improvement Project
- (#10) RACE - Rapid Access to Consultative Expertise
- (#11) Evaluating Hospital at Home Pharmacy Services in the Immediate Post-Implementation Period
- (#12) Value-Based Health Care
- (#14) A Delirium reduction strategy for the Surgical High Acuity Unit (sHAU): A quality improvement project
- (#15) Food as Medicine for Healing: Balancing Patient Eating Habits with Planetary Health
- (#16) St Paul's Emergency Department Low Risk Pulmonary Embolism Pathway
- (#17) Neurology mobile point-of-care workstation at St. Paul's Hospital - Neurology on Wheels (NOW)
- (#18) Off-label use of dalbavancin to improve treatment outcomes and reduce healthcare costs: a single-center quality improvement initiative
- (#19) The St. Paul's Hospital Advanced Endoscopic Resection Center (SPARC)
- (#20) Near-Patient Crossmatch Collection in Community
- (#22) Glove Smart
- (#23) ED-Medicine Handover Project
- (#25) Reduction of staff musculoskeletal injuries in the Post Anesthetic Care Unit at SPH
- (#26) Physiotherapy following breast cancer surgery at PHC
- (#28) NEWS project at MSJ

Optimizing Value-Based Outcome Measurement in Inflammatory Neuropathy Through Quality Improvement and Rapid PDSA Cycles

Kristine M. Chapman, Chelsea Smith, Michelle Garabb, Angela Carr, Stacey Cave, Shannon Jackson, Katie Beadon



Background

- Chronic Inflammatory Neuropathies (CIN) are disabling autoimmune disorders that impact quality of life and daily activities.
- Outcome measures are important for tracking disease progression and response to treatment over time.
- VBHC framework focuses on measures that evaluate patient priorities: “Capability, Comfort, and Calm”.

The Problem

Outcome measures are not routinely used in neuromuscular clinics. The new SPIN clinic aimed to implement a measure set, but didn't know the impact on the clinic flow, or which measures were most important to patients.

Methods

- 25 patients with CIN tested the panel in the SPIN clinic over 12 months. Outcome measures were done q 3 months.
- Patients completed online questionnaires regarding the impact of the measure set.
- Two virtual focus groups were conducted with 9 participants using a semi-structured guide to assess which outcomes were most meaningful to patients.

Project Goal

To optimize the outcome measurement using rapid PDSA cycle and include measures most meaningful to patients.

Results: Outcome Measures

Table 1: Neuropathy outcome measures panel.

OUTCOME MEASURE	TOOL
Activities of daily living	Inflammatory-RODS or MMN-RODS (Rasch-built Overall Disability Scale)
Quality of life	EQ-5D-5L
Pain	11-point numeric pain rating scale (NPRS)
Fatigue	Rasch-built 7-item modified fatigue severity scale
Grip strength	Martin Vigorimeter
Hand dexterity	9-hole peg test
Mobility	10 meter walk
Muscle strength	Medical Research Council (MRC) sum score
Sensation	Modified Inflammatory Neuropathy Cause and Treatment sensory scale (mISS) -light touch, pinprick, vibration, joint position, 2-point discrimination

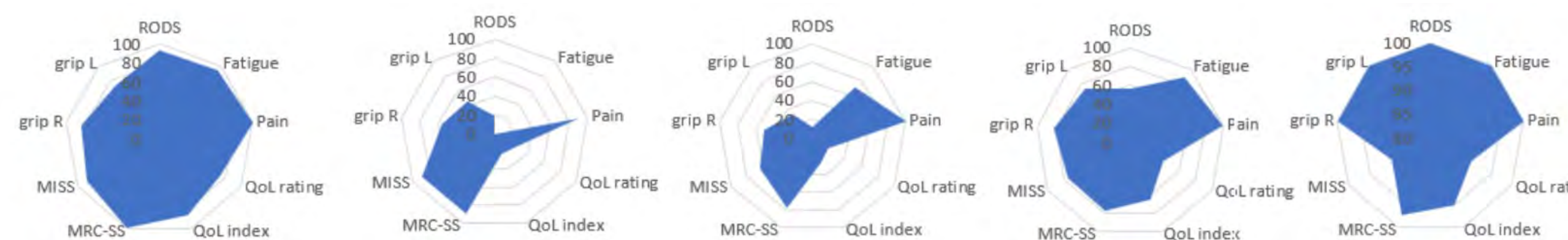


Figure 1: Radar graph of outcome measure set at different time points. 100% normal represented on outside of circle. Shows clinical worsening and then improvement following increase in IVIg treatment.

Results: Questionnaire



*The components of MRC and mISS are already part of standard neurological exams.

Figure 2: Summary of time requirements and participant feedback.

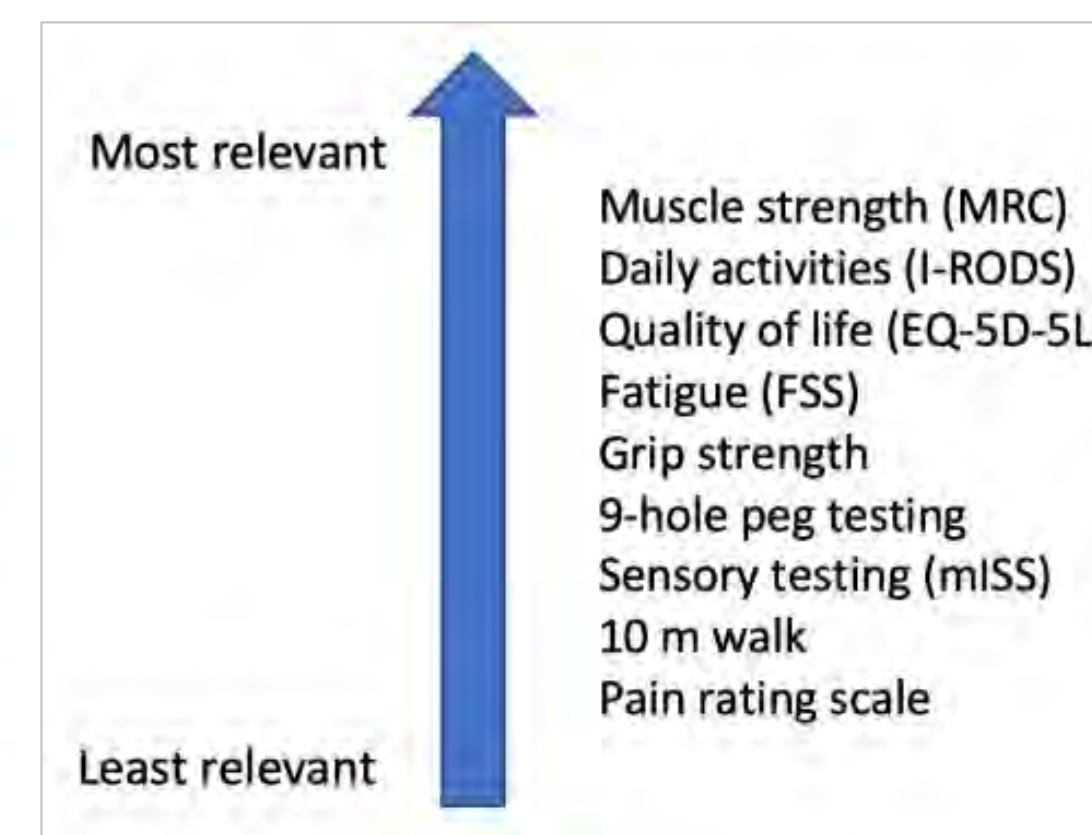


Figure 3: Patient rating of relevance of measures.

Results: Focus groups:

Patients' suggestions of alternative measures

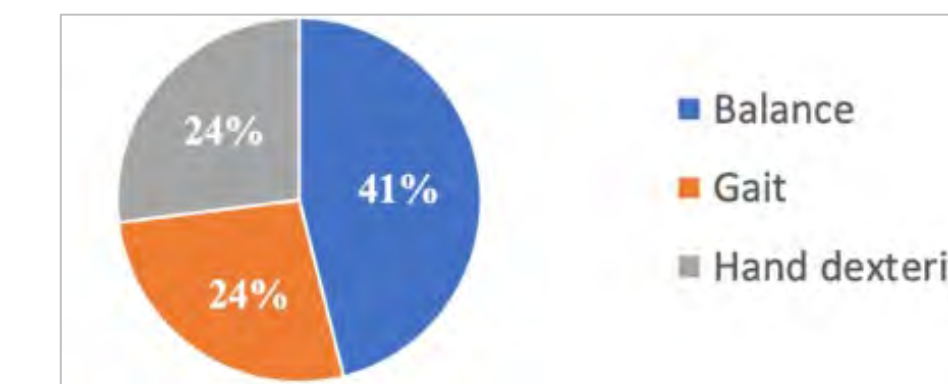


Figure 4: Participants suggested balance, gait, and hand dexterity would be additional measures

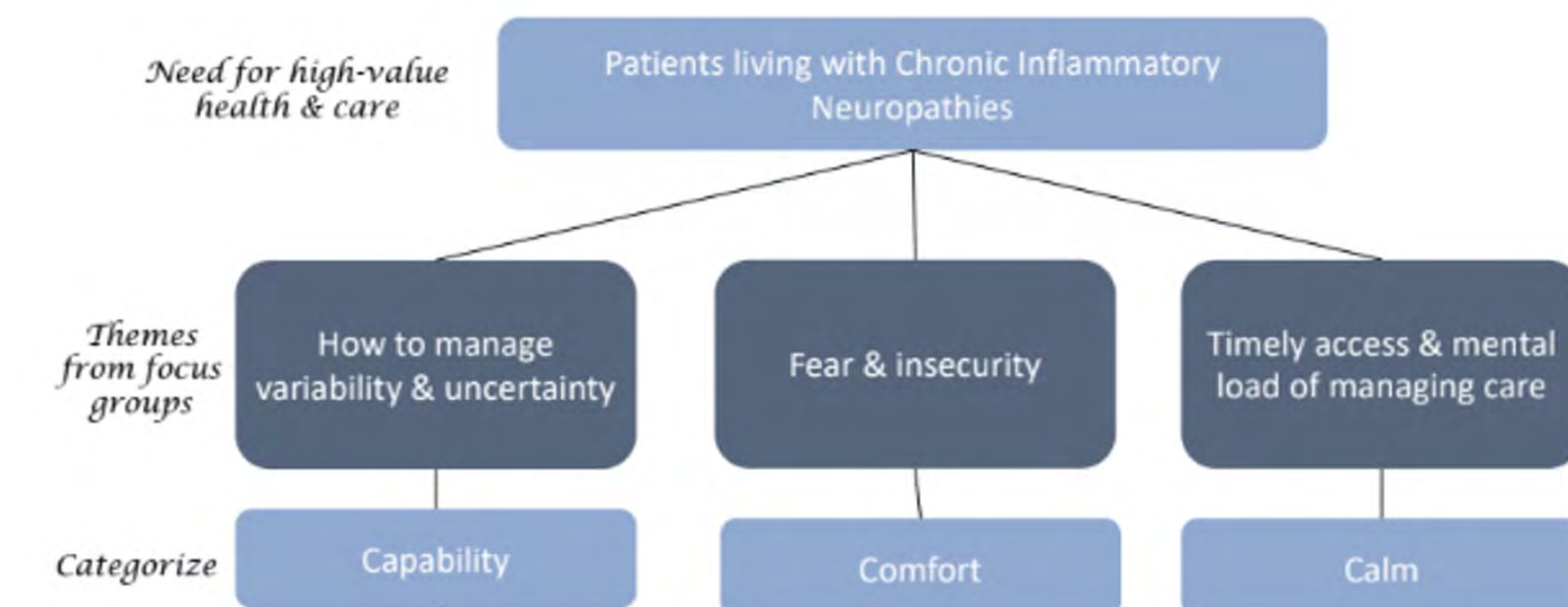


Figure 5: Focus group themes mapped onto measures of “Capability, Comfort, and Calm”.

Lessons Learned

- Measuring what matters to patients, in addition to process measures or biometrics, allows the team to understand if patients are achieving better outcomes.
- The outcome measures added value and can be incorporated into a clinical practice setting but require 15 minutes of additional time.
- PDSA cycles were key to streamlining the assessment pathway and improving the way the data is shared with patients to enhance shared decision-making.

Acknowledgement

Supported by PHC Dept of Medicine Innovation & Mahon Family Foundation. With thanks to the PHC Value Team.

Quantifying the Opportunity Cost of Inpatient Neurology IVIg Treatment at St. Paul's Hospital's Medical Short Stay Unit

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¹University of British Columbia, Division of Neurology, Vancouver BC, ²Department of Medicine, Providence Health Care, Vancouver BC, ³Value Team, Providence Health Care, Vancouver BC, ⁴Financial Planning, Providence Health Care, Vancouver BC



Background

Autoimmune neurologic conditions are treated with chronic, monthly IVIg in the medical short stay unit (MSSU) which takes 4-8 hours per treatment, per patient.

Home treatment is now available with Subcutaneous Ig.

The SPIN clinic (SPH Immunotherapy in Neurology) team collaborated with the Value Team using a VBHC framework to implement and evaluate a pilot home treatment program.

Methods

Electronic health record data from 2021 was analyzed for the number and duration of all appointment types in the MSSU, including IVIg appointments for SPIN patients.

Financial statements were cross referenced, and results validated with patient care manager and clinical nurse leader.

Cost estimation is based on the annual budget in the MSSU (labour and non-labour line items) with RN, CNL, and UCs as majority of cost.

Outcome measures done pre and post transition to home SCIg to ensure clinical stability.

Results

A total of 19 patients received IVIg in MSSU in 2021.

- Required **210 appointments**
- Totaled **72,045 minutes (1201 hours)**
- Cost approximately **\$107,347** (excluding physician time and IVIg cost)

The cost per patient per year was \$5,649 (excluding physician time and IVIg product).

Measuring PROMs and functional outcomes enabled team to gauge success of transition.

Discussion

2023 Patients Receiving Immunoglobulin for Neurologic Conditions			
VGH	133	If transition 80%	106
SPH	32	If transition 80%	25
Elsewhere in VCH	78	If transition 80%	62
Total VCH	243	If transition 80%	194

A home SCIg program for VCH (194 potentially transitioned) results in an estimated regional savings of \$1,095,906 annually.

Similar cost savings have been demonstrated in Alberta after transition to home based SCIg¹.

Conclusions

We quantified the opportunity to treat other patients in MSSU, highlighting the value of home based SCIg program in the absence of direct cost savings to the medical unit.

This creates improved access and opportunity for reallocation of resources in MSSU.

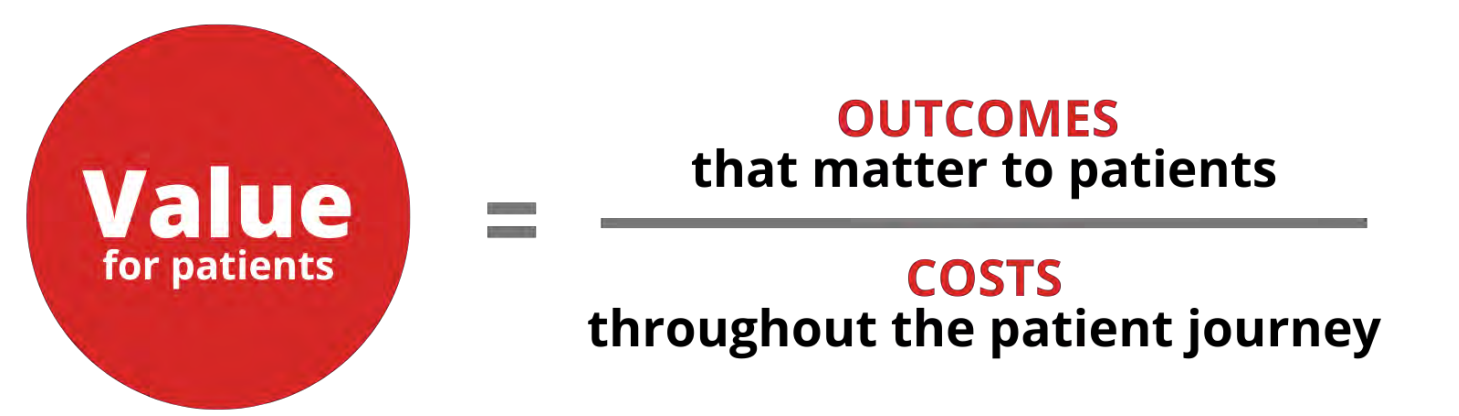
Long term funding has been committed for 2025 for a regional home SCIg treatment for Neurology.

Opportunity costing highlights the denominator of the "value equation" as we continue to redesign health care for all patients.

1. Ritchie, et al. *Allergy, Asthma & Clinical Immunology* (2022) 18:99 <https://doi.org/10.1186/s13223-022-00735-6>

Acknowledgement

SPIN Clinic acknowledges the Mahon Family Foundation and PHC Dept of Medicine Innovation for their support. Thanks to the Value Team for collaboration.

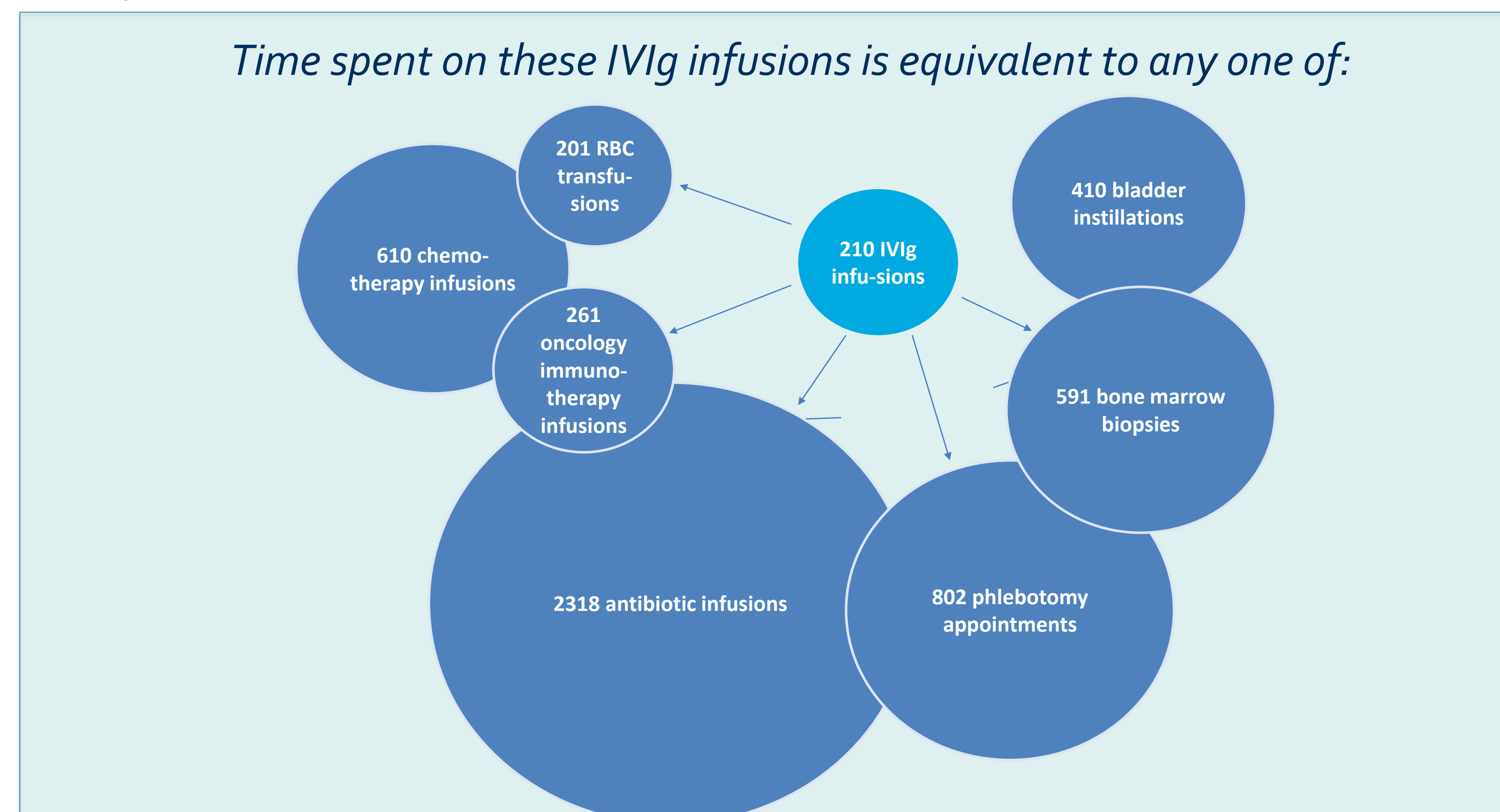


Problem:

To secure funding for ongoing home SCIg program, we needed to demonstrate impact despite there being no direct cost savings for the MSSU, as the time/beds saved is used for other outpatient treatments.

Aim:

To understand and measure the opportunity cost (workload unit and time) of IVIg appointments and impact for other patients.



Secure Patient Texting Streamlines Medication Counselling at The St. Paul's Ambulatory Pharmacy

Miranda Defer, Isabel Angwah, Osric Sin, Linda Akagi, Margot Wilson
Digital Health Solutions & St. Paul's Hospital Ambulatory Pharmacy Department

BACKGROUND

- Clinical digital messaging is a virtual health solution that allows health care providers to connect with patients in a low-barrier manner to address clinical needs.
- Short Message Service (SMS) or text-messaging, is a mode of communication that can improve the more traditional modes of communication between health care providers and patients.
- Memora Health offers a secure patient texting platform that allows the St. Paul's Hospital (SPH) Ambulatory Pharmacy to offer medication counselling to people at risk of acquiring Human Immunodeficiency Virus (HIV) or living with HIV across British Columbia.
- The Ambulatory Pharmacy is contracted by the BC Centre for Excellence in HIV/AIDS to provide province-wide, centralized dispensing service for HIV treatment and prevention.

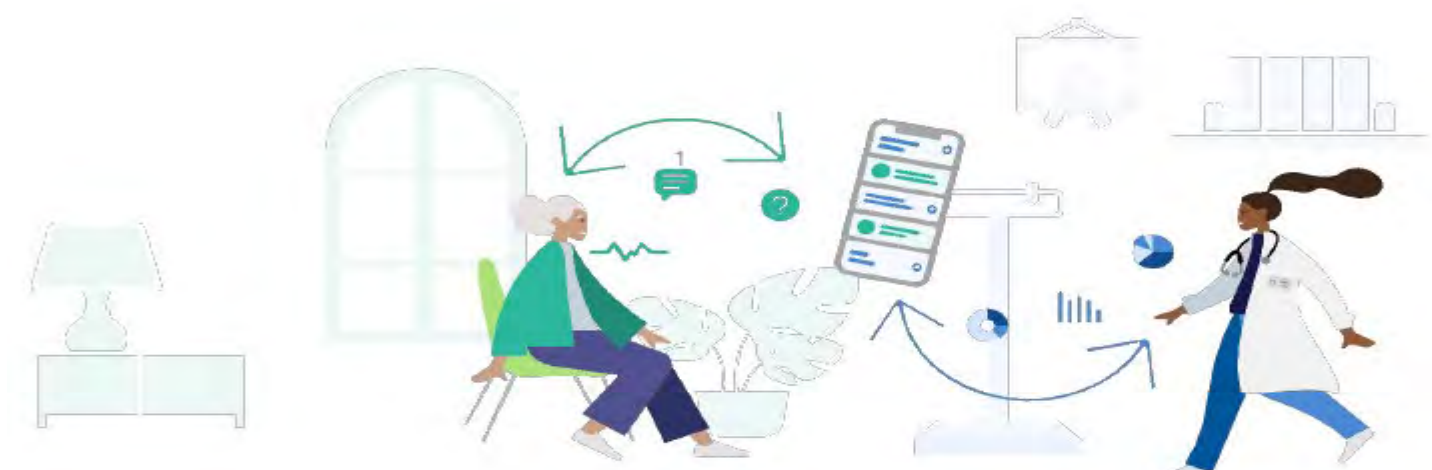
PROBLEM

- Prior to this initiative, pharmacists had to cold-call patients to offer medication counselling when dispensing their medication:
 - These calls were often missed by patients.
 - If calls were missed, pharmacists had to leave non-descript voicemail messages to ensure patient confidentiality was maintained and limit the risk of inadvertent disclosure.
 - Patients often did not return phone calls.



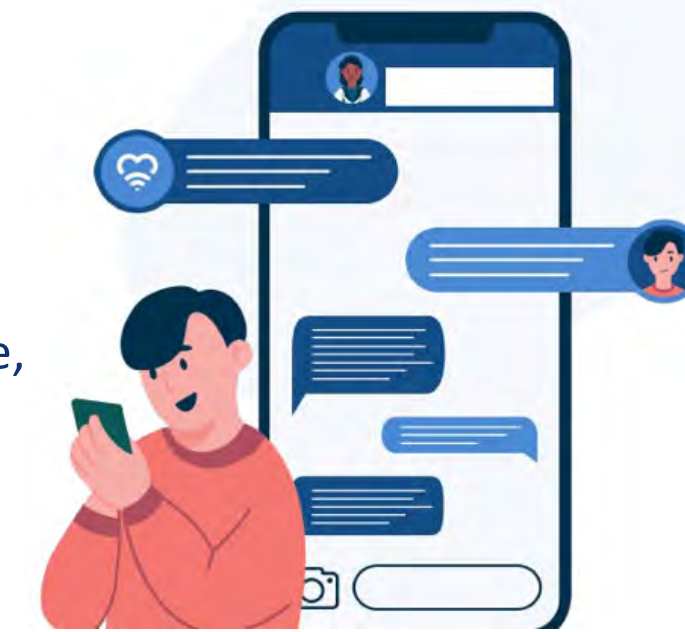
OBJECTIVES

- The purpose of the project is to become compliant with the College of Pharmacists of B.C. mandate to:
 - Offer consultation to every patient receiving medication dispensed by SPH Ambulatory Pharmacy.
 - Document and track the status of all offers of medication counseling including whether a patient would or would not like to receive counselling.
- The initiative aimed to automate outreach to patients across the province:
 - Engage with patients without needing a significant increase in additional staffing.
 - Standardize and automate routine communication to patients to alleviate the workforce burden of calling each patient individually to offer medication counselling.
 - Respond to patient's request to receive communication via SMS versus traditional phone calls.

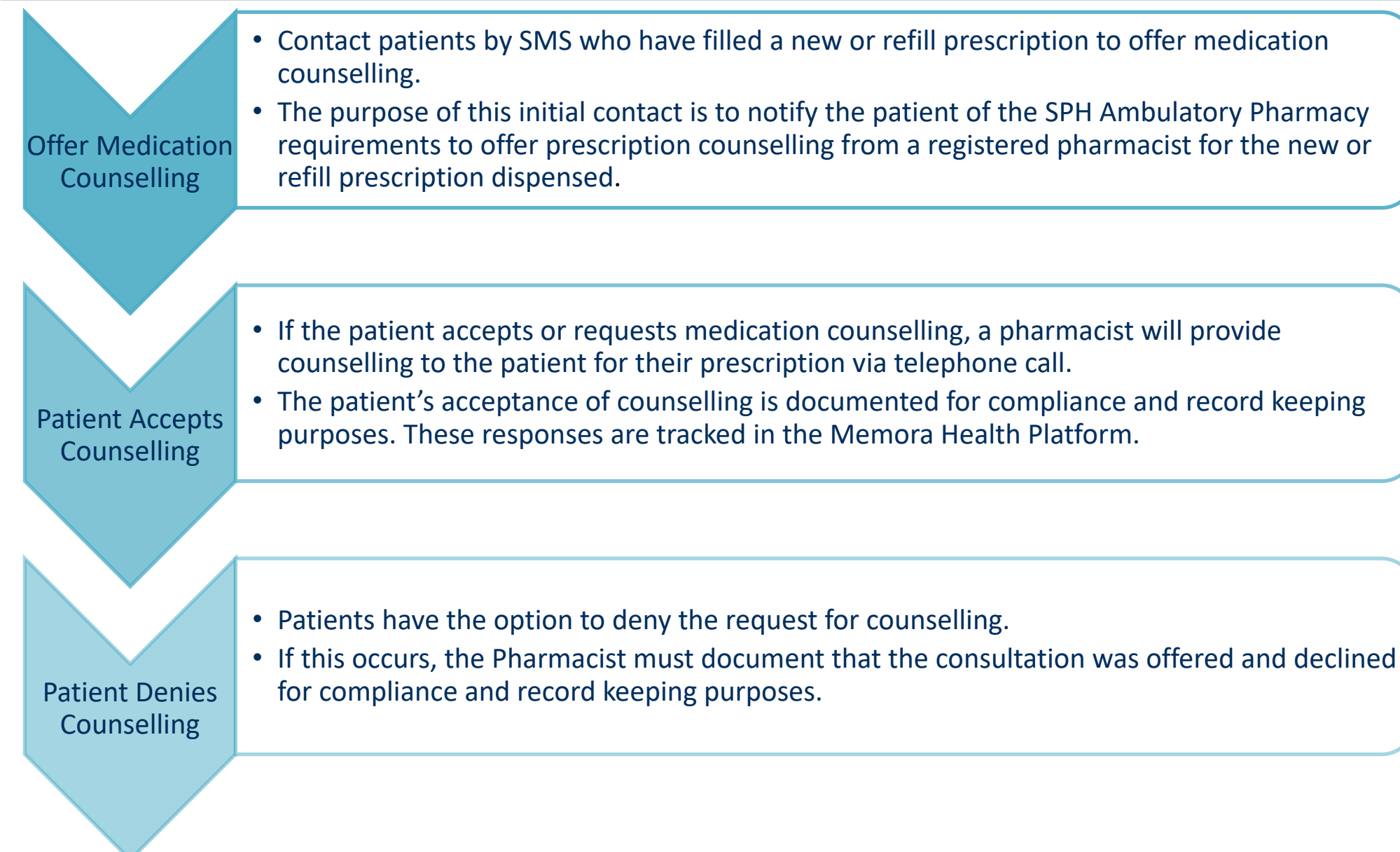


SECURE PATIENT TEXTING

- The Memora platform:
 - Offers a streamlined way to send, document and track text-messages to patients.
 - Sends SMS messages directly to patients, discreetly, conveniently and from a unique phone number.
 - Prevents siloed or personalized texts by creating visible, standardized patient messaging for the pharmacy program.
 - Allows open two-way text communication through a collaborative messaging interface.

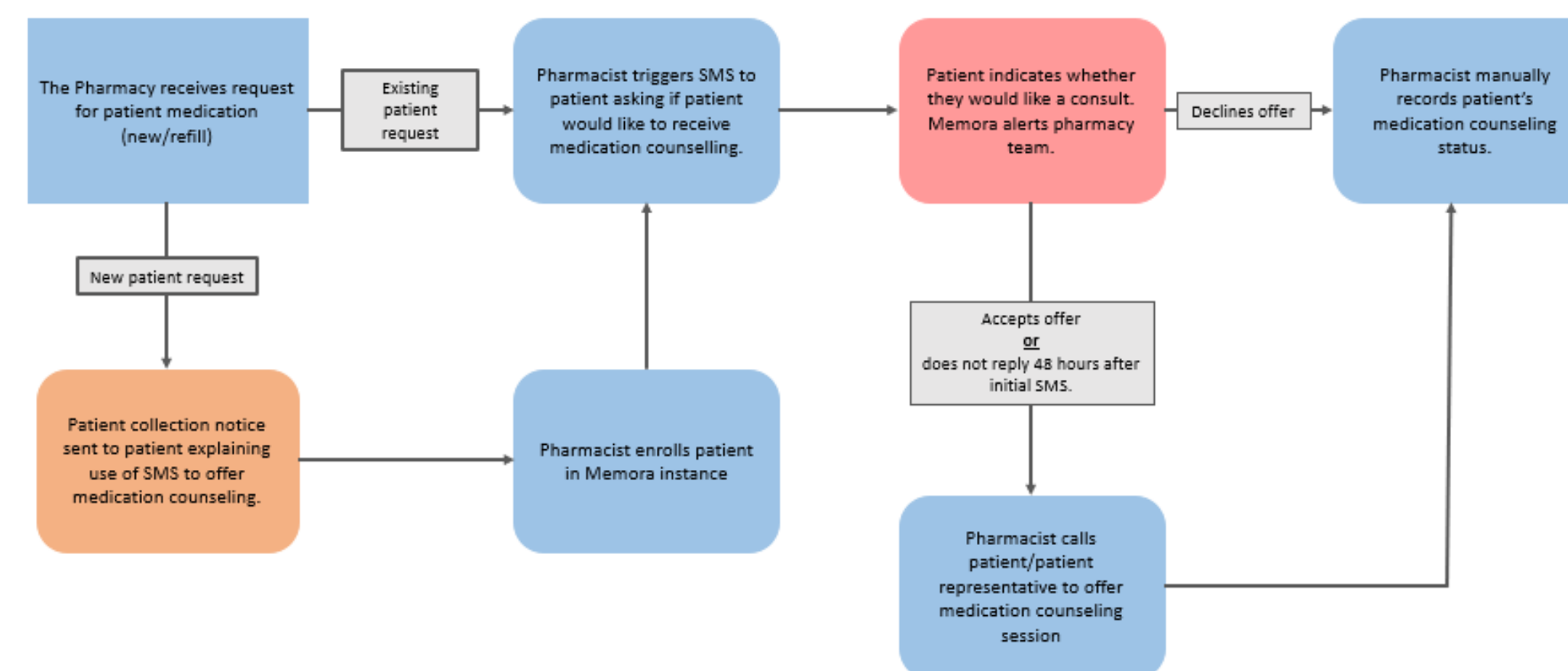


SCOPE



WORKFLOW

St. Paul's Hospital Ambulatory Pharmacy Workflow – With Memora



RESULTS

- Statuses of the text messages are actively tracked in the platform for the St. Paul's Ambulatory Pharmacy program.

Most Created Action Items by Category		
Category	Created Count	Percent Completed
1 Patient Consented	2479	100%
2 Pharmacy Consult declined	2390	100%
3 Incoming Message	986	100%
4 Incomplete Survey	860	100%
5 Pharmacy Consult Follow up	369	100%
6 Pharmacy Consult	201	100%
7 Message Not Delivered	43	100%
8 Consent Response Invalid	38	100%
9 Pharmacy Consult Wrong Number	20	100%
10 Stopped Texts	9	100%

- Since implementing the platform in March 2023 to communicate with patients at risk of acquiring HIV :
 - 99% of patients have consented to receiving text messages.
 - There has been a 70% completion rate for refill consultation surveys that have been sent through the platform.

CONCLUSION

- Implementing this platform has allowed the St. Paul's Ambulatory Pharmacy program to automate contacting patients to offer medication counselling.
- By texting patients through the Memora Platform it ensures that all patients are aware that their pharmacists are available to answer questions about their medication with each new prescription or refill, as per the B.C. College of Pharmacists mandate.

NEXT STEPS

- Scale up using the Memora platform for all SPH Ambulatory pharmacy patients across the province
 - This is required for compliance with the B.C. College of Pharmacists.
 - Create a dedicated survey on the platform, so the most appropriate pharmacy team can contact patients to offer medication counselling.

ACKNOWLEDGEMENTS

- The authors would like to thank the patient partners from the Patient Voices Network, clinical staff including pharmacists, pharmacy technicians and clerical staff who contributed to this initiative. In addition, the authors would also like to acknowledge the contributions of the PHC Privacy and Virtual Health teams.

STUDY

ACT

PLAN

DO

Revising the Providence Health Care Health History Questionnaire (PHHQ)

Miranda Defer, Isabel Angwah, Lourdyn Okoronkwo, Margot Wilson
Digital Health Solutions & Quality Improvement & Accreditation

BACKGROUND

- Since 2017, the Providence Health Care (PHC) Pre-Admission Clinic (PAC) has been using the PHC Health History Questionnaire (PHHQ).
- The PHHQ is used to help assess surgical and anesthetic risk factors for patients who have been referred for surgery.
- All PHC pre-surgical patients are asked to complete the PHHQ via an online survey platform, Thrive Health, or on paper.
- Over thirty surgical clinics currently send out the PHHQ to patients.

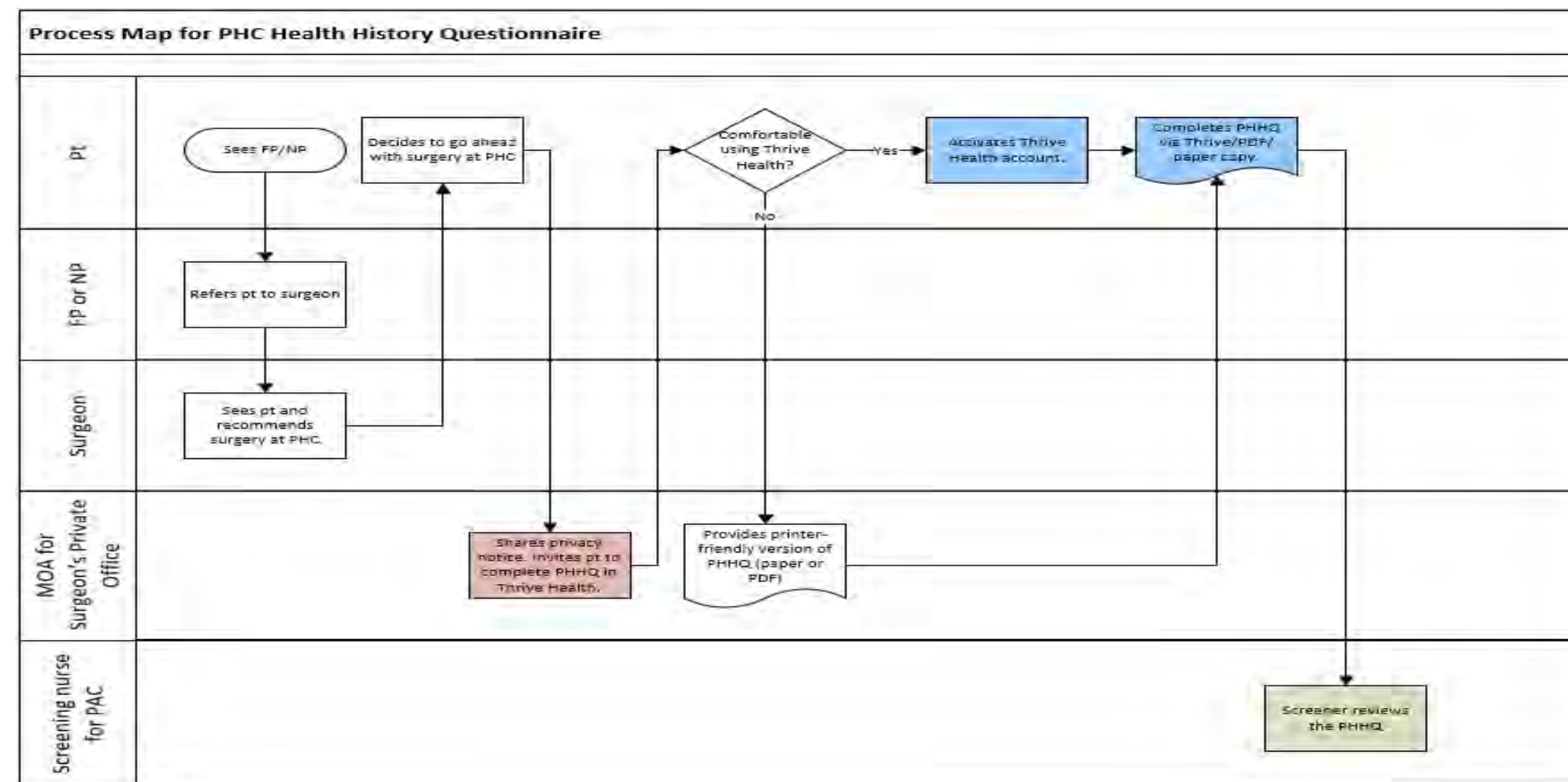


Figure 1: Process Map for the PHC PHHQ

PROBLEM

- In 2023, several challenges were identified with the PHHQ including:
 - Issues with the questionnaire's length as it can be time-consuming to complete.
 - Some information collected in the PHHQ is collected in other systems.
 - Unclear explanations as to why patients are being asked certain questions.

AIM

- This project aims to improve user experience, increase patient satisfaction and completion rates of the PHHQ.
- This work will also ensure that the survey is a reasonable length for patients and aims to increase the overall understanding of the questionnaire.
- The goal of revising the PHHQ is to help clinics only collect information that is needed and relevant for patient care.

ENGAGEMENT

- Multidisciplinary teams have identified opportunities for additional improvements to the PHHQ including:
 - Patients
 - Privacy Officers
 - PAC Nurses
 - Professional Practice
 - Surgeons & Anesthesiologists
 - Surgeons' Office Staff
 - Virtual Health
 - Quality Improvement
- Feedback and revisions on the PHHQ are currently being collected from these various teams to inform how it should be updated.



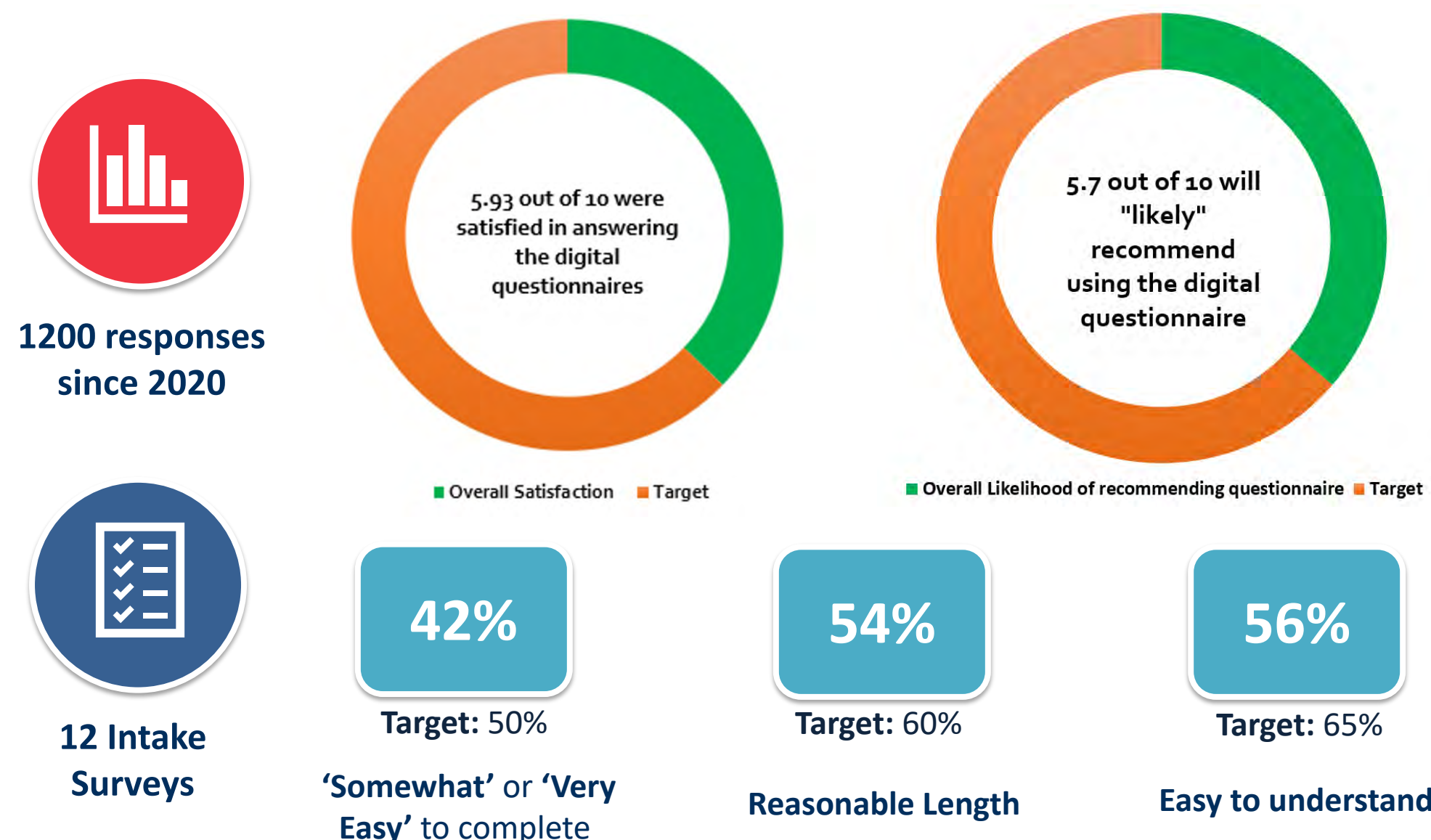
CONTENT

Figure 2: Online Version of the PHHQ

Figure 3: Paper Version of the PHHQ

PATIENT SATISFACTION RESULTS

- Prior to this initiative patient satisfaction was captured through an online survey:



DO

KEY FEEDBACK

- Patients liked that the form covered various aspects of medical history in one place.
- Several survey respondents liked that you could complete the form in multiple sessions at home.
- Many patients found the questionnaire easy to use, with a clear and straightforward layout.



STUDY

AREAS FOR IMPROVEMENT

- This initiative identified several areas to improve the PHHQ such as:
 - Add a prefer "not to say", "unknown", and/or "does not apply" option to questions.
 - Include more definitions, reference text, hints and tool tips to help explain questions.
 - Add more options to save responses including save and continue, save and close and automatic saving.
 - Improve the ability to edit question responses and include instructions on how to edit responses.

CONCLUSION

- Patients valued the benefits and convenience of the online health history questionnaire.
- Technical and usability issues highlighted the need for improvement in the questionnaire design, communication, and functionality.
- After revising the PHHQ, patient surveys will show if overall satisfaction, recommendation rates, and the ease of completion improved.

NEXT STEPS

- Finish collecting feedback from anesthesiologists and surgeons on proposed edits to the PHHQ.
- Engage and collect feedback on the PHHQ from the patient partners.
- Consolidate input and review proposed edits with the PHC Forms Committee.
- Implement approved edits and deletions to both versions of the PHHQ.

ACT

ACKNOWLEDGEMENTS

- The authors would like to thank the patient partners from the Patient Voices Network, clinical staff including surgeons, anesthesiologist, clerks, and nurses. In addition, the authors would also like to acknowledge the contributions of the PHC Privacy, Professional Practice, Virtual Health and Quality Improvement Accreditation Departments.



Improving Access and Flow to Holy Family Hospital Rehabilitation:

Thwarting Myths and Accelerating Efficiency

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¹HFH Rehab Medical Site Lead; ²HFH Rehab Patient Care Manager; ³Performance Improvement Consultant; ⁴HFH Rehab Program Director



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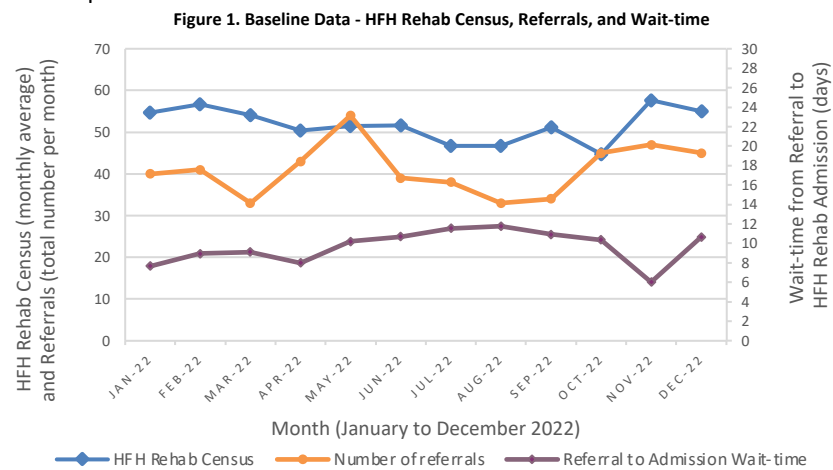
PQI PHYSICIAN QUALITY IMPROVEMENT
Specialist Services Committee

BACKGROUND

- Following an acute medical and/or surgical event, patients may stabilize medically but have ongoing functional needs that impact their ability to live more independently
- Holy Family Hospital (HFH) Rehab at Providence Health Care (PHC) is one of the largest specialized inpatient rehabilitation centres in BC, with 65 inpatient beds (35 neurological rehab, 16 orthopedic rehab, 14 amputee rehab)
- It is important to improve the bed occupancy at HFH Rehab, while simultaneously providing specialized inpatient rehabilitation care to the right patient at the right time and optimize patient flow across the continuum of care

HYPOTHESIS

The HFH Rehab census is associated with the number of referrals and the efficiency of the admissions process



Aim Statement: To improve the weekly average HFH Rehab bed occupancy to ≥ 62 (95%) by December 31st, 2023 (data analyzed to March 2024)

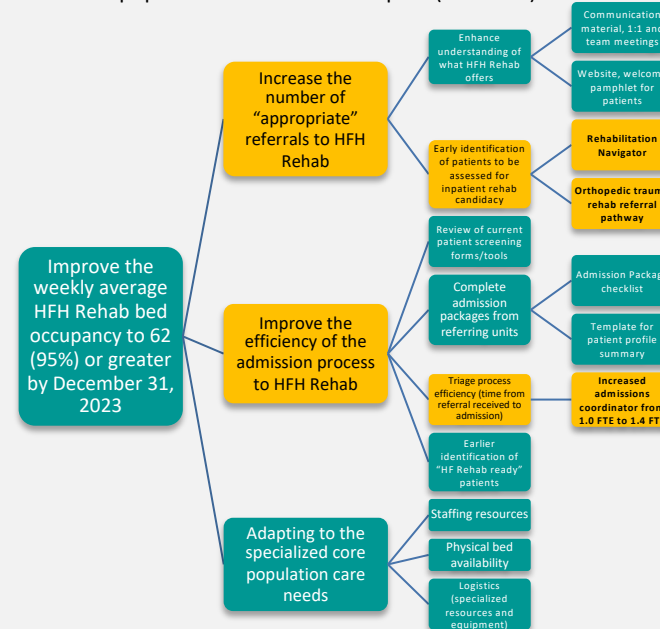
Design/Methods

“QI as imagined” (adapted from Work as imagined, [Resilient Health Care](#))

Model of Improvement

The model of improvement was used, incorporating real-world operational changes, evaluated as PDSA cycles using formal control charts (Microsoft Excel using QI Macros software add-on)

- Retrospective:** Informal processes of finding cases (Sep 2022)
- PDSA #1:** Increase in admission coordinator from 1.0 FTE to 1.4 FTE (Jan 2023)
- PDSA #2:** Trial of a Rehabilitation Navigator and focus on traumatic ortho rehabilitation population at St. Paul’s Hospital (Oct 2023)

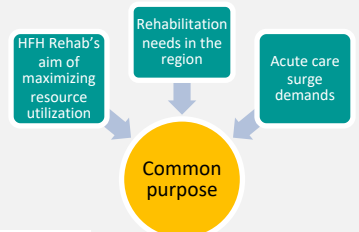


“QI as done” (adapted from Work as done, [Resilient Health Care](#))

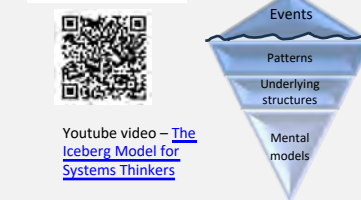
Leadership Triad Team



Alignment



Iceberg Model



Visualization



Figure 5. Wait-time from Referral to HFH Rehab Admission for ALL (median number of days)

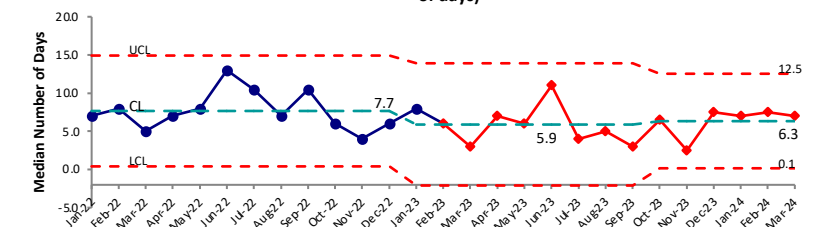
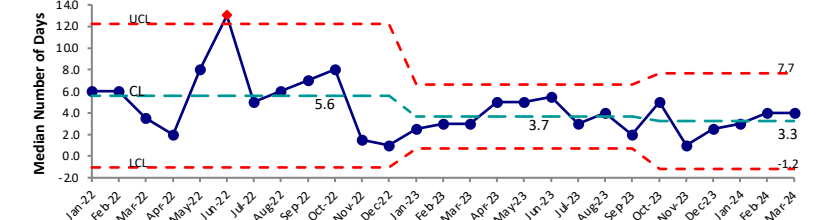


Figure 6. Wait-time from Referral to HFH Rehab Admission for PHC sites only (median number of days)



Secondary Measures (Figures 3 & 4): The number of referrals to HFH Rehab from all sites increased at each of the PDSA start months. The number of monthly referrals from PHC also increased from median of 8 to 12, then to 15.

Balancing Measures (Figures 5 & 6): The wait-time to admission from all sites decreased, but with unexplained instability since Feb 2023. At PHC sites, the wait-time to admission decreased from PDSA #1 onwards and remained a more stable process

RESULTS

Baseline Data (Jan to Sep 2022): Median weekly occupancy 52/65 (80%)

PDSA #1 (Jan-Apr 2023): Median weekly occupancy \uparrow to 59/65 (91%), and when decreased back to 1.0 FTE, median weekly occupancy \downarrow to 54/65 (83%)

PDSA #2: (Oct 2023) Median weekly occupancy \uparrow to 60/65 (92%); more stable process with range of 55-62

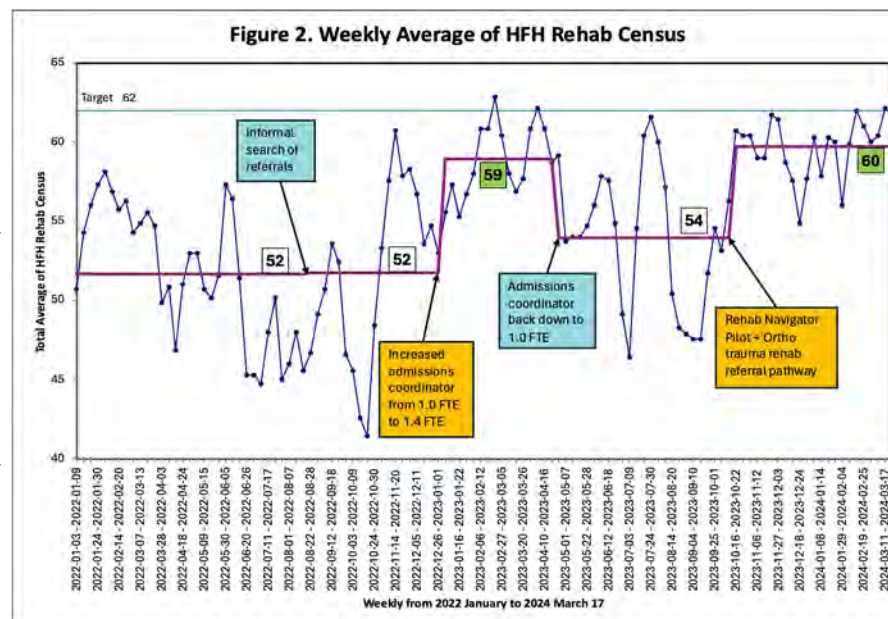


Figure 3. Referrals to HFH Rehab from ALL sites (number of referrals per month)

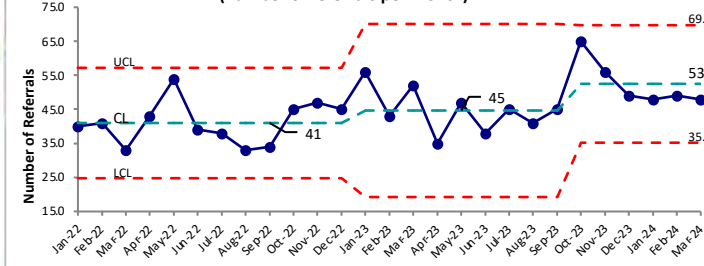
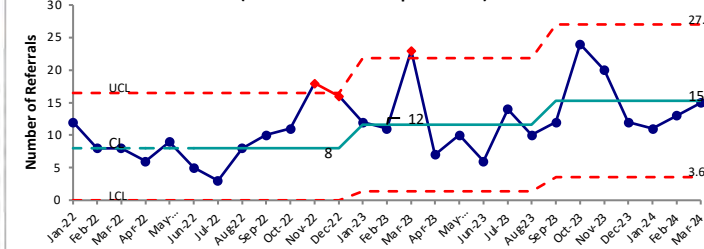


Figure 4. Referrals to HFH Rehab from PHC sites only (number of referrals per month)



Acknowledgements: This QI project was supported by the Specialist Services Committee through the VCH/PHC Physician Quality Improvement & Spread initiative. Also thank you to: HFH Inpatient Rehabilitation Program, Rehabilitation Navigator, Admissions Coordinators, Ashish Chauhan for access to the Census Data Cubes, Allison Chiu from VCH/PHC PQI

Lessons Learned

- With two formal PDSA cycles, average weekly HFH Rehab bed occupancy increased from 52/65 (80%) to 60/65 (92%), with less variability
- Number of referrals to HFH Rehab increased
- Wait-time from HFH Rehab referral to admission improved
- Data-informed approach with a collaborative multidisciplinary team helps generate and implement change initiatives for success and sustainability
- Next steps:** a) Sustainability plan for the implemented changes; b) Visual representation of the flow to the different waitlists (neuro/stroke, ortho, amputee) to identify further improvement opportunities; and c) Lean methodology to optimize the efficiency of the admissions process

Lupus Anticoagulant (LA) Assay Quality Improvement Project at Providence Health Care (PHC)

H. Nicolson, MBChB, FRCPC. Steven Wong, Special Hematology Technical Coordinator. Mahdi Mobini. R. Onell, MD, FRCPC. M. Bahmanyar, MD, FRCPC.

Background

Antiphospholipid syndrome (APS) is an acquired autoimmune disease characterized by a combination of clinical manifestations (e.g., thrombosis, pregnancy morbidity, livedo reticularis, cardiac valve disease, thrombocytopenia) and persistent laboratory evidence of antiphospholipid antibodies (aPL) [1] directed against phospholipids (PL) and PL-binding proteins [2].

Fig. 1: Clinical manifestations of APS

Patient with APS with livedo reticularis (reddish-cyanotic, reticular skin rash), resulting in ulcer formation (arrows). Image from UpToDate article [11].



Lupus anticoagulant (LA) is one of three laboratory criteria for diagnosis of APS [3] and is the best-established risk factor for APS-related clinical manifestations [4]. Therefore, accurate identification of LA is critical for APS diagnosis and management.

Laboratory identification of LA is based on indirect detection of various aPL through their nonspecific interference in phospholipid-dependent coagulation assays (analytical tests) which are also susceptible to interference by anticoagulant therapy and acute phase proteins [5].

Inter-laboratory variation in the performance and interpretation of LA analysis [6] further complicates LA identification and high rates of false-positive and false-negative results are reported in external proficiency testing [7]. LA detection is therefore complex, with many pitfalls and challenges in the analytical procedure and interpretation.

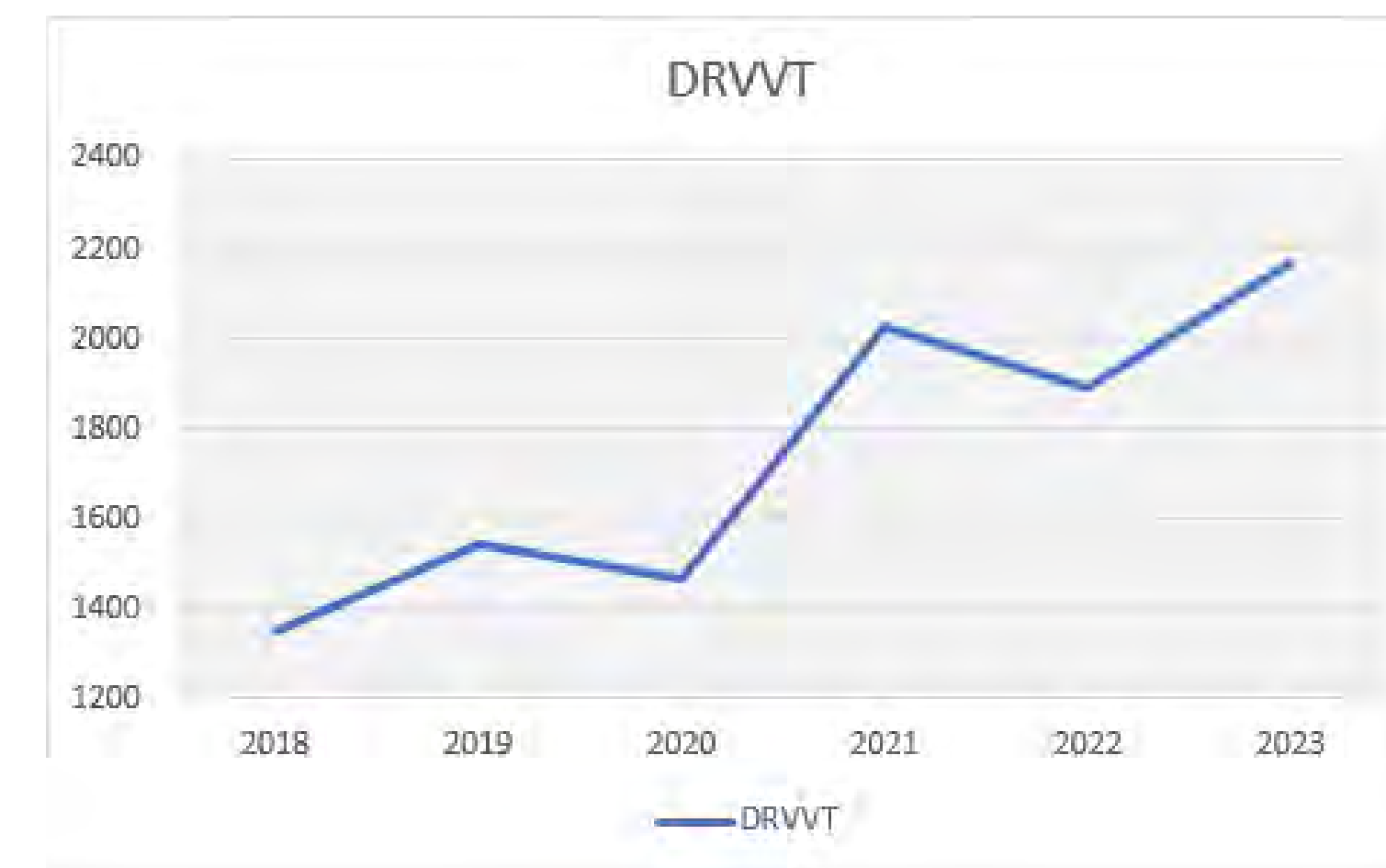
Saint Paul's Hospital (SPH) is the provincial referral center for special coagulation testing in British Columbia (BC). Over the last 6 years our annual LA test volume has steadily increased and in 2023 we performed 2168 tests; an average of 180 tests per month (Fig. 2).

Objectives

We performed a quality improvement (QI) project to improve the accuracy and specificity of LA testing at SPH laboratory and redesigned our testing algorithm for preanalytical, analytical and post analytical phases of testing.

Fig. 2: Annual LA test volume at SPH

2018	2019	2020	2021	2022	2023
1348	1544	1467	2028	1894	2168



Methods

200 normal control plasma specimens were used to validate a second assay for LA detection (Silica Clotting Time [SCT]) and establish local reference intervals and cutoffs for abnormal results for our existing Dilute Russel Viper Venom Time (DRVVT) and new SCT assays. Cutoffs were derived using the 99th centile [7] and two decimal places to improve assay specificity.

Recommendations from published international guidelines [8-10] were used to redesign our LA testing algorithm and create standardized interpretive comments. We documented assay interference (e.g., false positive results) by anticoagulants (apixaban, rivaroxaban and heparin) and validated use of commercial adsorbent agents to remove the anticoagulants and reverse interference.

Results

Improved assay specificity reduces unnecessary and repeat testing and generates fewer weak positive, ambiguous results. This produces cost savings for the laboratory, avoids mislabeling patients as having LA, and minimizes waste. Validation of adsorbent reagents to remove anticoagulant interference further improves the specificity of our testing and provides a useful tool for testing in anticoagulated patients.

Based on our experience with this QI project, our lab submitted recommendations to the Provincial Hematopathology Advisory Committee (PHAC) for the post-analytical phase of LA testing with respect to how numerical results are reported and interpreted by pathologists across BC. In this way, our work contributes to efforts to help standardize LA testing in our province.

Conclusion

This QI project aligns LA investigations at SPH with international guidelines and improves specificity of our testing to benefit patient care in BC.

References

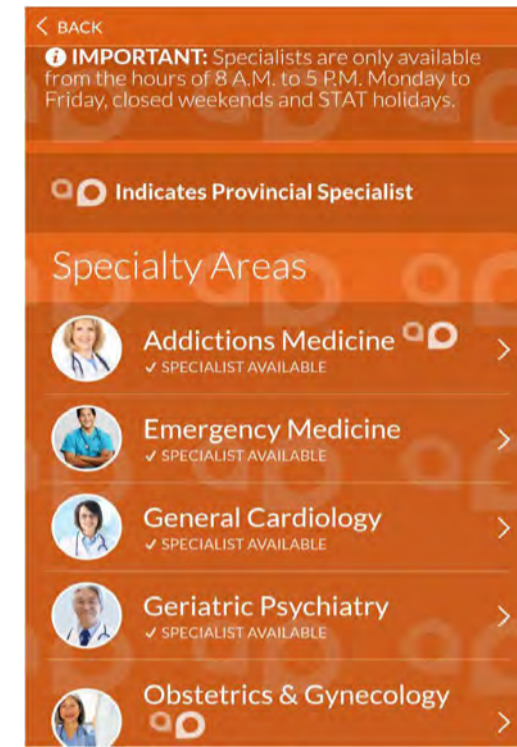
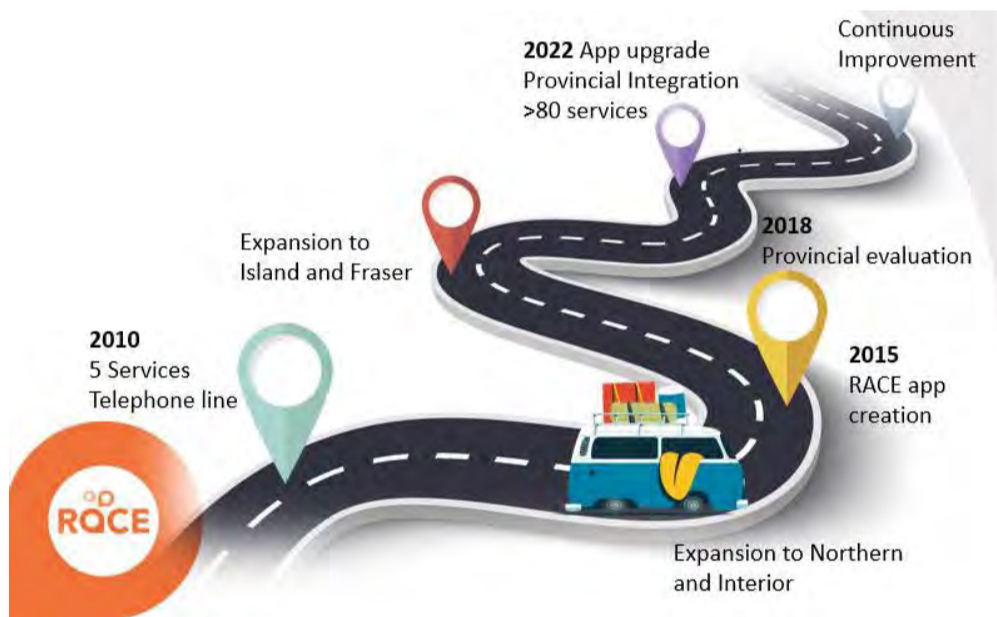
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Rapid Access to Consultative Expertise

What is RACE?

- RACE advice line was launched by Providence Health Care (PHC) in June 2010
- Created as a solution for a gap in care
- Connecting physicians, medical residents, nurse practitioners and midwives through an the RACEApp+ to speak directly to a specialist for advice

Our Amazing RACE Journey



RACEApp+2.0- 2022

- The RACEApp was developed in 2015 and it allowed users to include important information such as notes during the advice call or billing information
- In 2022, we implemented app upgrades to account for various enhancements, such as
- Using a two-factor authentication code
- Incomplete alert text message to requesting providers
- Ability to link with a local specialist first
- Ability to designate specialists to more than on site
- Consistent date of birth
- Shift reminders
- Evaluation survey

RACE Check-in Results October 2023

- Survey conducted in October 2023 among 727 RACE users, primarily Family Physicians, revealed:
- Majority of Primary Care Physicians use RACE every few months; Specialists respond to RACE requests almost every on-call.
 - 49% of users were referred by colleagues, with 62% using RACE for over 3 years.
 - 73% initiate or take 1-5 RACE calls monthly.
 - 92% prefer the RACE app over telephone tree line.
 - 43% desire a feature for attaching patient-related pictures.
 - Majority find value in connecting with local specialists.



2018 Evaluation Results

- Close to home—Provide access to both local and provincial specialists
- Rapid advice – Maintain the focus on rapid advice not full consultations
- Single point of access – Integrate the RACE services to provide a single point of access for all PCPs regardless of where they are located in the province
- Maintain phone, App
- Integration – Move away from five “stand alone” services to an integrated BC RACE service

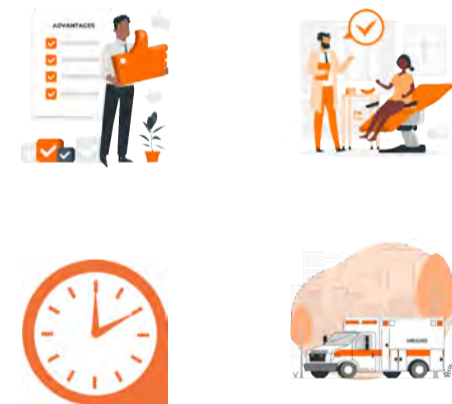


RACE Metrics

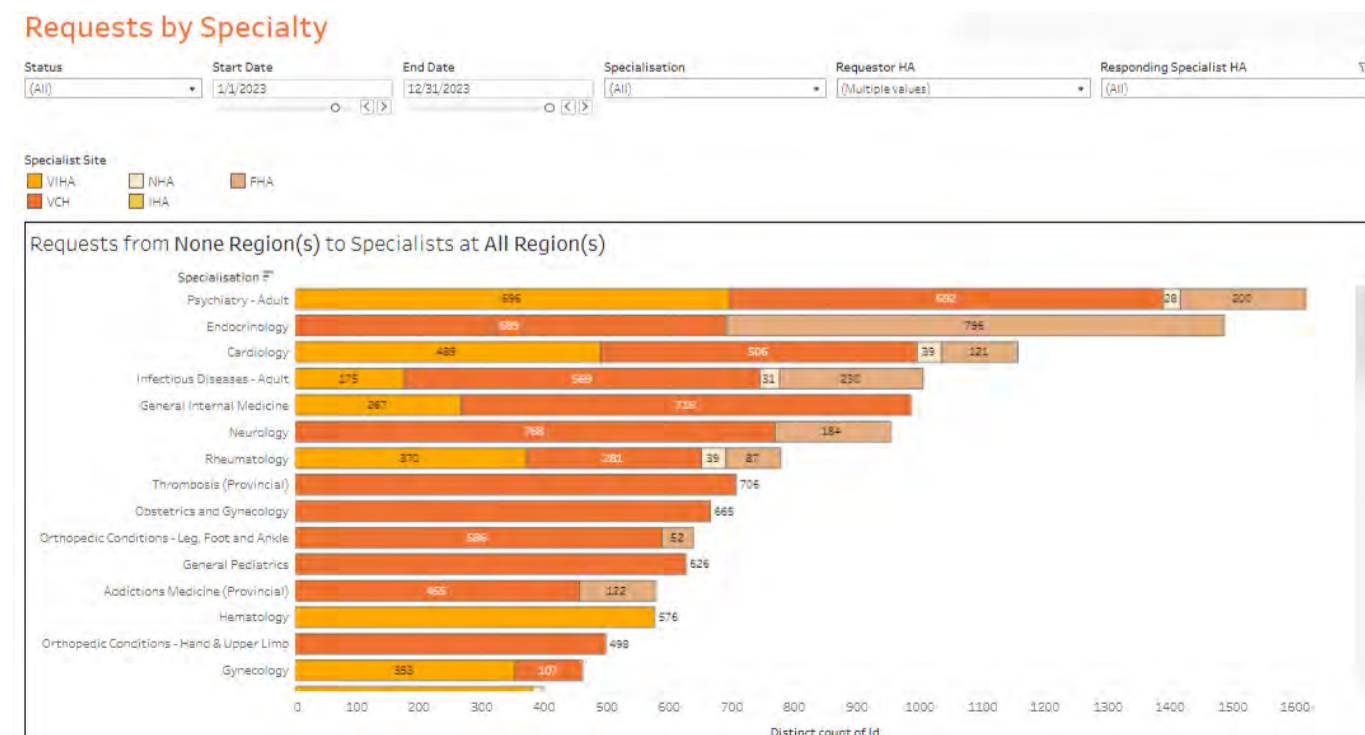
- >6000 primary care users
- ~1700 specialists
- ~1750 calls per month
- ~19,500/year
- >80 specialty services
- ~90% of calls are answered within 2 hours
- >100,000 calls to date

Post-Call Survey Results (2014-2023)

- 99% of RACE users said they were **satisfied** with RACE
- 75% of RACE users said the call **avoided a patient referral to a specialist**
- 76% of RACE users said the call **avoided an emergency department visit**
- 94% of RACE users said their calls **are answered within 2 hours**



RACE Dashboard



Integrated Provincial Approach

- In January 2022, PHC took on Central Administration of the RACE app, with upgrades going live in July
- The RACE team now monitors progress daily and a new Administrative Assistant role supports RACE operations during RACE hours, manages the inbox, and tracks monthly metrics
- A Provincial RACE Steering Committee was also established.

RACE

- Improves the patient care experience by providing in time educational advice for the FP
- Enhances the patient experience as they receive information while at their appointment instead of having to wait to see a specialist
- Improves the provider experience improving access to specialist advice
- At least controls per capita cost of health care through avoiding unnecessary consults or emergency visits.

Acknowledgement

Funded by Shared Care, a joint collaborative committee representing a partnership between Doctors of BC and the Government of BC

Evaluating Hospital-At-Home Pharmacy Services in the Immediate Post-Implementation Period

Victoria Su, Doson Chua, Brittney Mathers, Jeff Jeong, Felisha Haak, Stephen Shalansky, Winnie Ma

Background

- Hospital-at-Home (HaH) is an innovative care delivery model where patients are treated for acute medical conditions at home.
- Patients are cared for by an interdisciplinary hospital-based team including physicians, nurses, pharmacists, pharmacy assistants, social worker and other allied health.
- The HaH program launched at St. Paul's Hospital on January 8, 2024. Eligible patients from the Medicine Program are considered for HaH
- The HaH program is supported by a clinical pharmacist and pharmacy assistant 7 days a week. Medications are provided by the hospital inpatient pharmacy.

Objective

- Evaluate HaH pharmacy distribution and clinical services during the immediate post-implementation period.

Methods

Post-implementation Evaluation Period

- January 8th to March 15th, 2024 (convenience sample)

Data Collection and Analysis

- Retrospective review of clinical pharmacy key performance indicators captured electronically in Cerner.
- Time-and-motion studies for clinical and distribution duties.
- Data are analyzed using descriptive statistics.

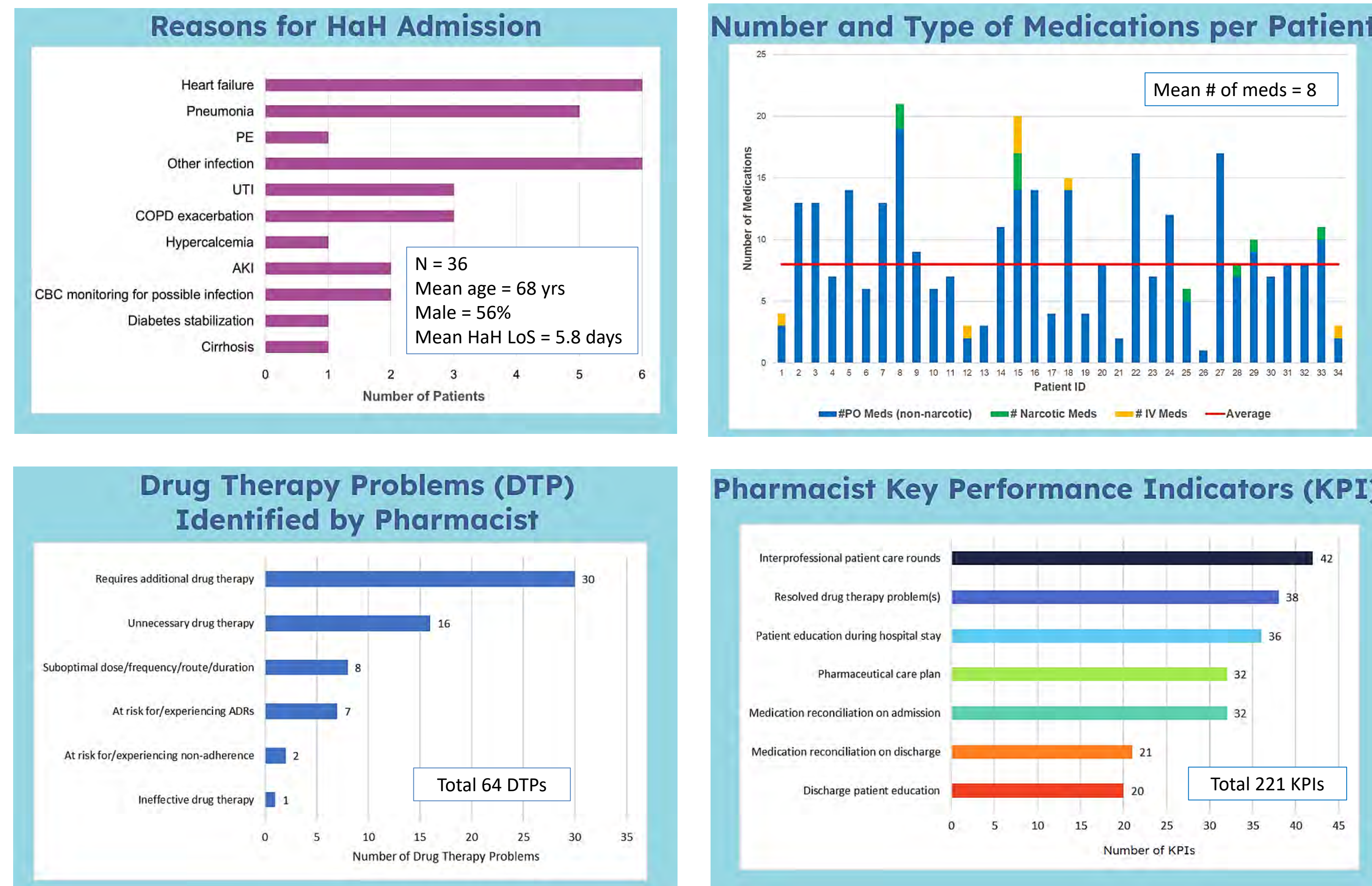
Clinical Duties (time-and-motion)

- Includes initial clinical review, medication regimen assessment, and patient education.
- Excludes rounds, screening patients, discharge planning, patient monitoring, note documentation.

Distribution Duties (time-and-motion)

- Includes verifying medication orders, product preparation and checking.
- Excludes filling intravenous medications, and returning/crediting medications.

Results



Discussion

- Heart failure, pneumonia and other infections are the most common reasons for HaH admission.
- Identifying patients requiring additional drug therapy and unnecessary drug therapy were the two most common DTPs identified by the pharmacist.
- On average, the pharmacist identified 2 DTPs per patient, most commonly optimizing medications.
- Attending interprofessional rounds and providing medication education were also common pharmacist KPI.
- HaH admission is a lengthy process and takes an average of 1.5 hours for a patient on 10 medications.

Conclusions & Future Opportunities

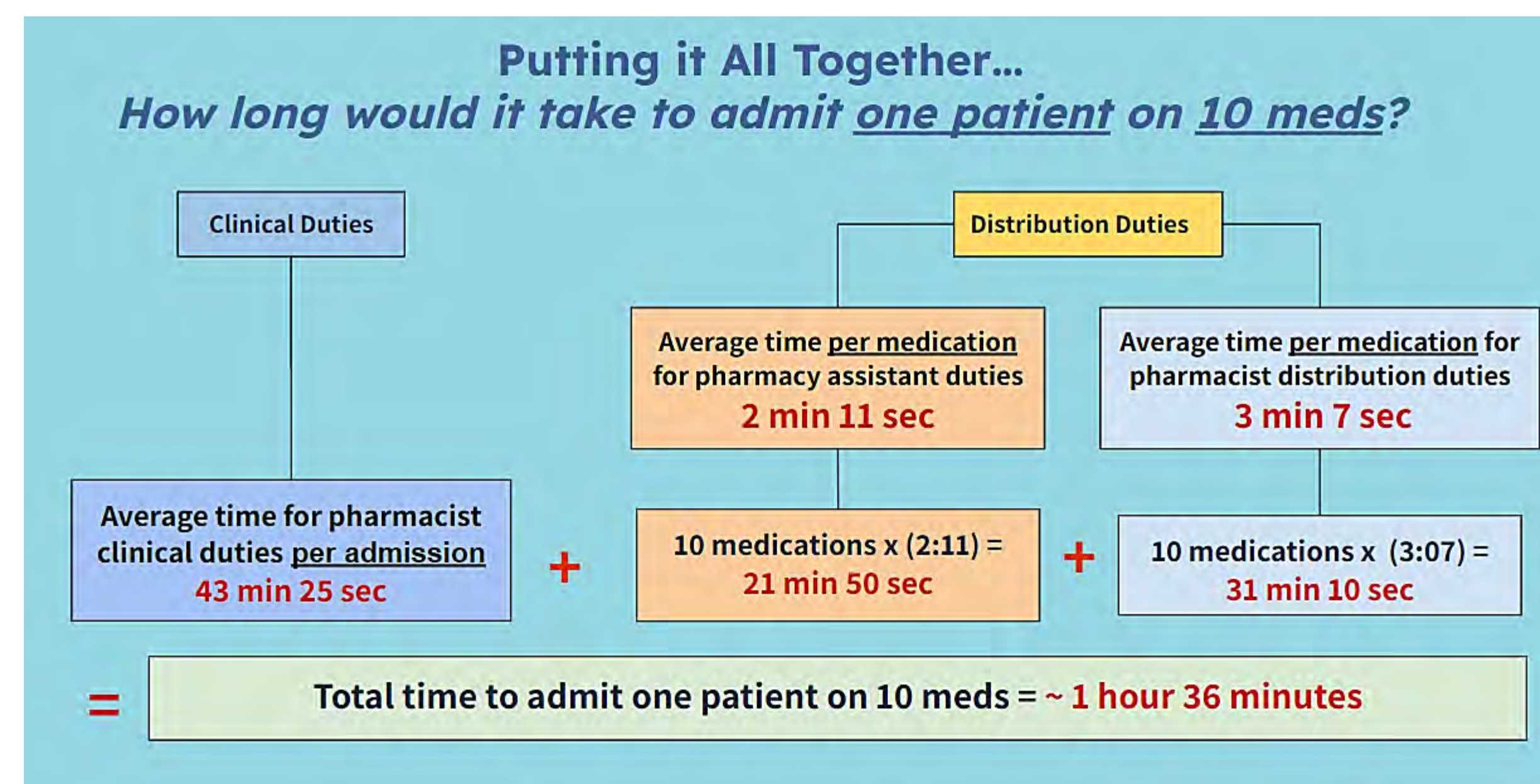
- Early results demonstrate key contributions of pharmacy services towards safe and effective medication management in the HaH program.
- Routine medication workflows have been established and set the stage for future program expansion.
- Utilization of innovative technology, including automation and elastomeric pumps, may improve the efficiency of medication preparation and patient experience.
- Opportunities to optimize pharmacist's role in patient discharge.

Acknowledgements

The authors would like to thank Winson Lo and Caitlin Rispler for assisting with data collection, Hospital At Home pharmacists and pharmacy assistants for documenting interventions.

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Supporting the Development of a Carpal Tunnel Syndrome+ (CTS+) Integrated Practice Unit: Year 1 of the Shared Care Value-Based Health Care Initiative

Dr. Kristine Chapman (Specialist Lead), Dr. Matt Kula, Dr. Sean Bristol, Angela Carr, Brian Portner, Garbo Lam,, Dr. Bradley Little (Family Practice Lead)

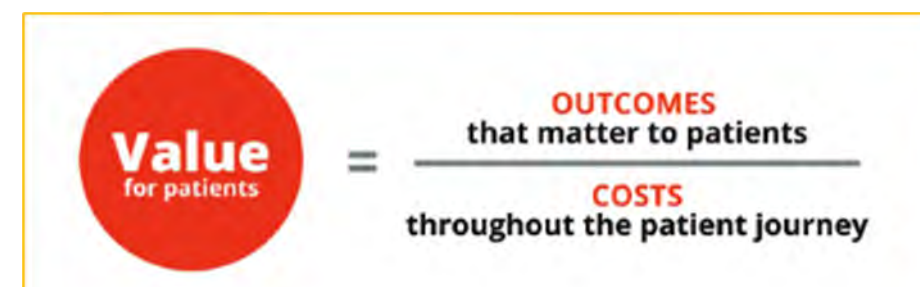


Acknowledgements to all participants involved in this initiative
Patient Partner, MOAs, Physicians, Allied Health, Evaluators and our Shared Care Partners

Initial support from PHC Dept of Medicine Innovation
Funded by Shared Care, a joint collaborative committee representing a partnership between Doctors of BC and the Government of BC.

Background

- One of Providence Health Care's (PHC) strategic goals is to incorporate VBHC for patient centered care
- Shared Care improves links between family doctors and specialists. The VBHC framework aims to improve outcomes over the costs throughout this entire patient journey
- The **Shared Care VBHC initiative** aims to align with the organization's mission through a collaboration with primary and specialty care to develop Integrated Practice Units (IPUs) across the care continuum



Problem

- Often, care is centered around a specialty, and not well coordinated.
- An IPU organizes care around the patient, bringing all specialties and family practice together to better coordinate their care, improving value for patients in the process.
- VBHC involves measuring outcomes that matter most to patients, to ensure that care is patient centered

5 Year AIM of VBHC Shared Care Initiative

- Building capacity for VBHC through individualized workshop series in 3 clinical areas per year (examples: women's endocrine, cardiology, and complex medical obstetrics)
- Support development of one Integrated Practice Unit (IPU) per year

We provide groups with training and tools to learn about VBHC, devise outcome measures and develop the IPU, the IPU then takes on operational responsibility. Continuous quality improvement through the 5 years.

Year One CTS+ Workshop Series

Carpal Tunnel Syndrome+ (CTS+): Value-Based Health Care (VBHC) Workshop Series

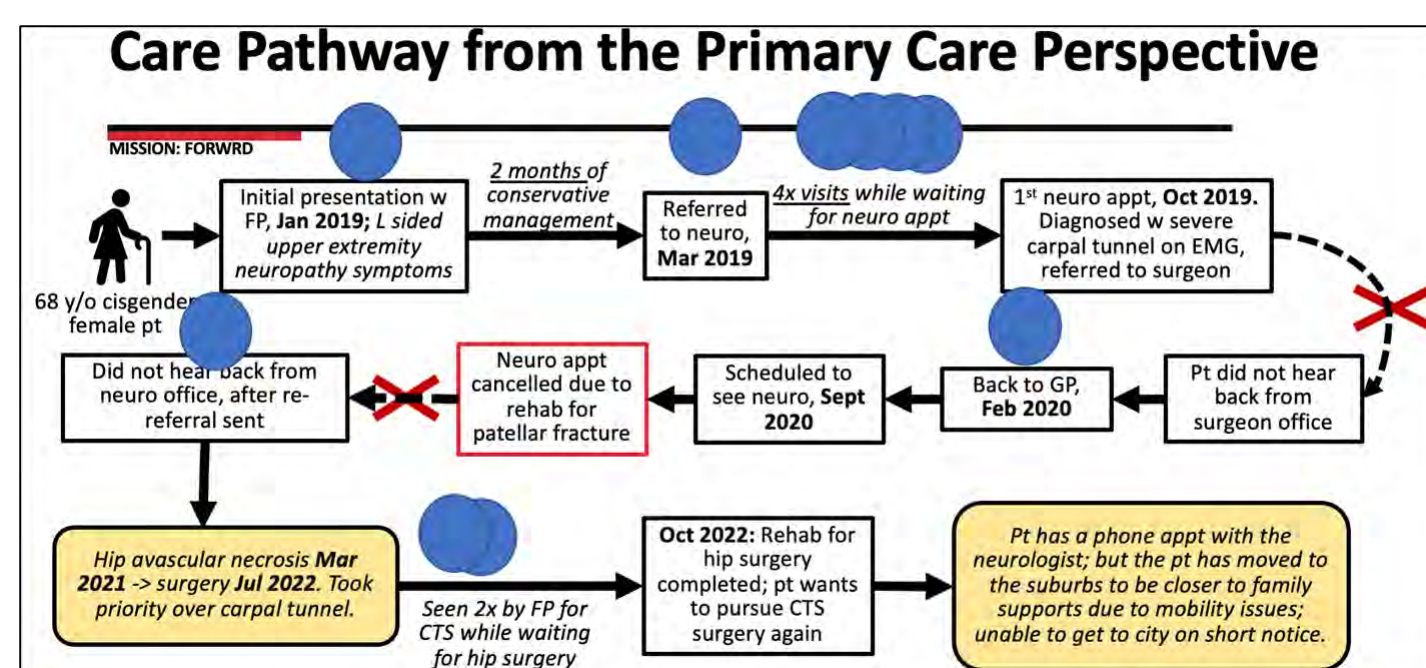


AN INTERACTIVE SERIES OF 3 WORKSHOPS WAS ORGANIZED AND PARTICIPANTS ACROSS THE FULL CYCLE OF CARPAL TUNNEL CARE WERE ENGAGED

THE GOAL OF THE WORKSHOP SERIES IS TO IMPROVE PARTICIPANTS' KNOWLEDGE AND UNDERSTANDING OF VBHC

PARTICIPANTS ARE THEN ENCOURAGED TO START THINKING ABOUT HOW VBHC COULD BE APPLIED IN THEIR SPECIFIC CLINICAL SETTING

Year One - CTS+ IPU Mapping the Problem



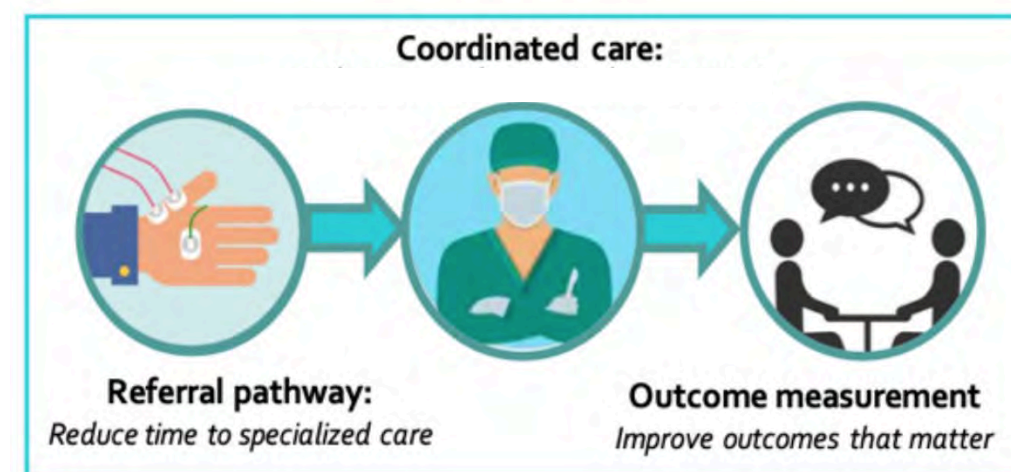
Patient journey example, with an 18-month, fragmented pathway

● = Visits or actions by Family Physician

Year One – CTS+ IPU Development

Devising a Solution: The Carpal Tunnel Syndrome+ Integrated Practice Unit (CTS+ IPU)

- Aim: To create a multidisciplinary IPU, covering the full cycle of care from family practice to specialists



Outcome Measures

PROMS measured at initial specialist visit, and q3months X 1 year

Pain Scale

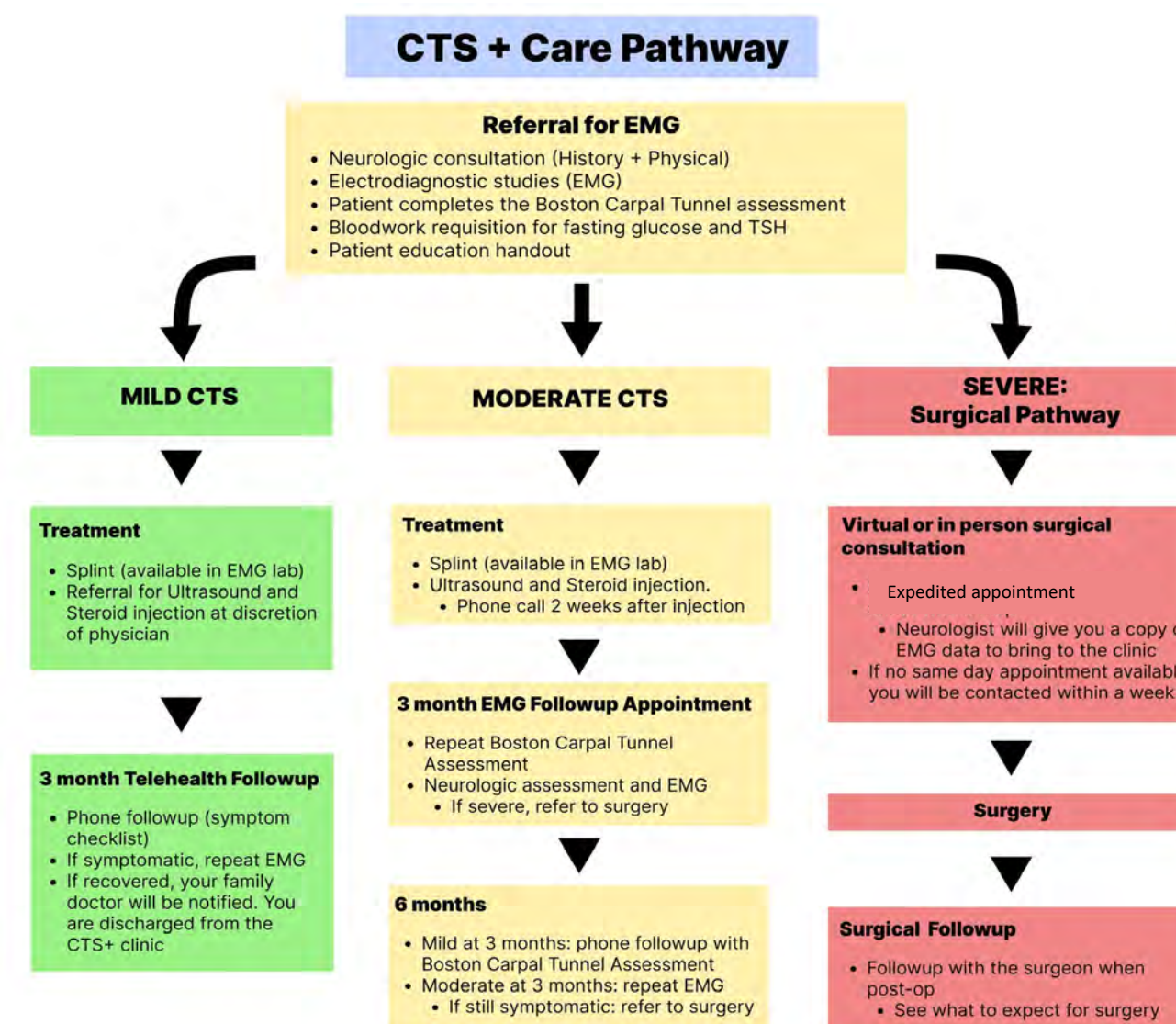


Boston CTS Questionnaire



Improved Care Pathway

Care pathway is based on individual patient outcomes



Process Improvements

“One Stop Shopping”

- Splints available at initial appointment
- Steroid injection under ultrasound guidance
- Surgical candidate → Expedited consultation → Expedited surgery

Webpage for CTS+ IPU

- vancouverneuromuscular.ca/carpal-tunnel-plus-clinic

Updated Referral, Pathways

Incorporating PROMS

CTS+ Pathways “Soft Launch”

66 patients Dec 2023 - Feb 2024

- Vancouver General Hospital (VGH) = 48
- St. Paul's Hospital (SPH) = 18

	VGH	SPH
Mild CTS	10	8
Moderate CTS	15	4
Severe CTS	11	1
Not CTS	9	7
Ulnar	3	0

Evaluation & Quality Improvement

Using the “3Cs” of VBHC

CALM:

- Analysis of 6-month period pre / post implementation
- The hope is to achieve a **faster time** and fewer steps between referral → EMG → surgery (aim = reduce “chaos” in patient journey)

COMFORT:

- Pain scale
- Sensory scale
- Patient experience

CAPABILITY:

- Boston Carpal Tunnel Questionnaire
- Patient experience

A pre and post-workshop survey showed an increase in understanding of VBHC from 21% to 7! The overall evaluation plan includes:

- Time between pathway steps pre and post implementation
- Interviews with key members of the project and clinical teams

Conclusion

A dedicated process to build capacity for VBHC and support development of a patient centred IPU can enhance and coordinated care for patients with carpal tunnel syndrome.

STUDY

ACT

PLAN

DO

St. Paul's Hospital

A Delirium Reduction Strategy for the Surgical High Acuity Unit (sHAU):

A Quality Improvement Project

Project Team:

- Dr. Alana Flexman
- Rn. Calla McCord
- Dr. Martha Spencer
- Dr. Su-Yin MacDonell

Presented by:

- Dr. Javiera Errázuriz

BACKGROUND

DELIRIUM is a serious neurocognitive disorder characterised by an acute, fluctuating disturbance in attention, perception and cognition.

Postoperative Delirium (POD) is one of the most severe complications after surgery:

- Commonly occurs between postoperative day 2-5
- Variable incidence:
 - General surgical population → 2-3%
 - High risk patient groups → 50-70%



Associated with:

- **Morbidity:**
 - Progression to dementia and functional decline
 - 2-3 times more risk of needing a care facility after discharge
 - Increased hospital stay by 2-3 days
- **30 Day Mortality** → 7 to 10% with POD vs 1% without POD
- **Expenditure** → Additional \$4,000 to \$16,000 per case

Treatment options for established delirium are limited and do not decrease risk of mortality and morbidity

Perioperative risk reduction strategy is the most vital part of postoperative delirium management

GOALS

PRIMARY OUTCOME:

To implement and measure adherence to:

- Routine assessment of delirium
- A bundle of the best practices for delirium reduction after surgery
- We expect over 80% of adherence

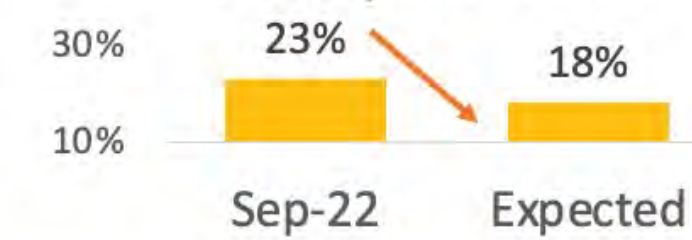
SECONDARY AIM:

Measure and reduce the incidence of delirium from 23% to 18% after the implementation of the strategy

QUALITATIVE OUTCOME:

- Evaluate feasibility of each subcomponent of the bundle
- Identify barriers and solutions to successful implementation

Incidence of Postoperative...



CONTEXT

sHAU:

- 4-bed unit (adjacent to the post-anesthesia recovery unit)
- Overseen by a team of Perioperative Anesthesiologists
- 30-40 patients per month

Patient profile:

- Patients at high risk of postoperative complications
- Patients requiring:
 - Invasive hemodynamic monitoring
 - Vasopressors or inotropes
 - Advanced ventilatory support

The incidence of POD in sHAU was **23%** (Sept-2022 audit)

Currently, the sHAU **does not routinely perform delirium assessments** or have a delirium reduction strategy

IMPLEMENTATION STRATEGY

EDUCATION

- Learning Hub modules and Delirium Policy review for staff
- Delirium educational event for perioperative staff
- Regular in-service educational sessions for nurses

IDENTIFICATION

- Detect high risk patients in pre-admission clinic visit by Anesthesia
- Confusion Assessment Method (CAM) twice a day
- Include "Evidence of Delirium" in team rounds checklist
- Mounted quick reference guides and lanyard cards for staff

PREVENTION

- Information handout to patients and families (in pre-admission and sHAU)
- **HELP bundle** to be initiated

HELP BUNDLE

Non-pharmacologic interventions designed to **prevent delirium**.

The **Hospital Elder Life Program (HELP) Bundle** has been studied in the surgical setting showing reduction of:

- Postoperative delirium
- Cognitive dysfunction
- Frailty
- Length of stay

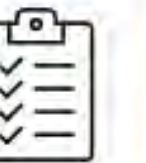
PROMOTION

- Designated RN Delirium Prevention Champion (modelling)
- Patient partner feedback
- Photo submission competition for the visual content of our "fake windows"
- Gift cards for the learning hub module completion and CAM Assessment performance



EVALUATION PLAN

- **CST Cerner chart audit** (every 3 months):
 - CAM performed by nurses twice per shift
 - Mobilization in sHAU following surgery
- Attendance records for the educational event/sessions
- Audit of the learning hub module completion
- Follow-up surveys to assess attitudes, skills and changes to practice
- Tracking the use of iPad/Tablets



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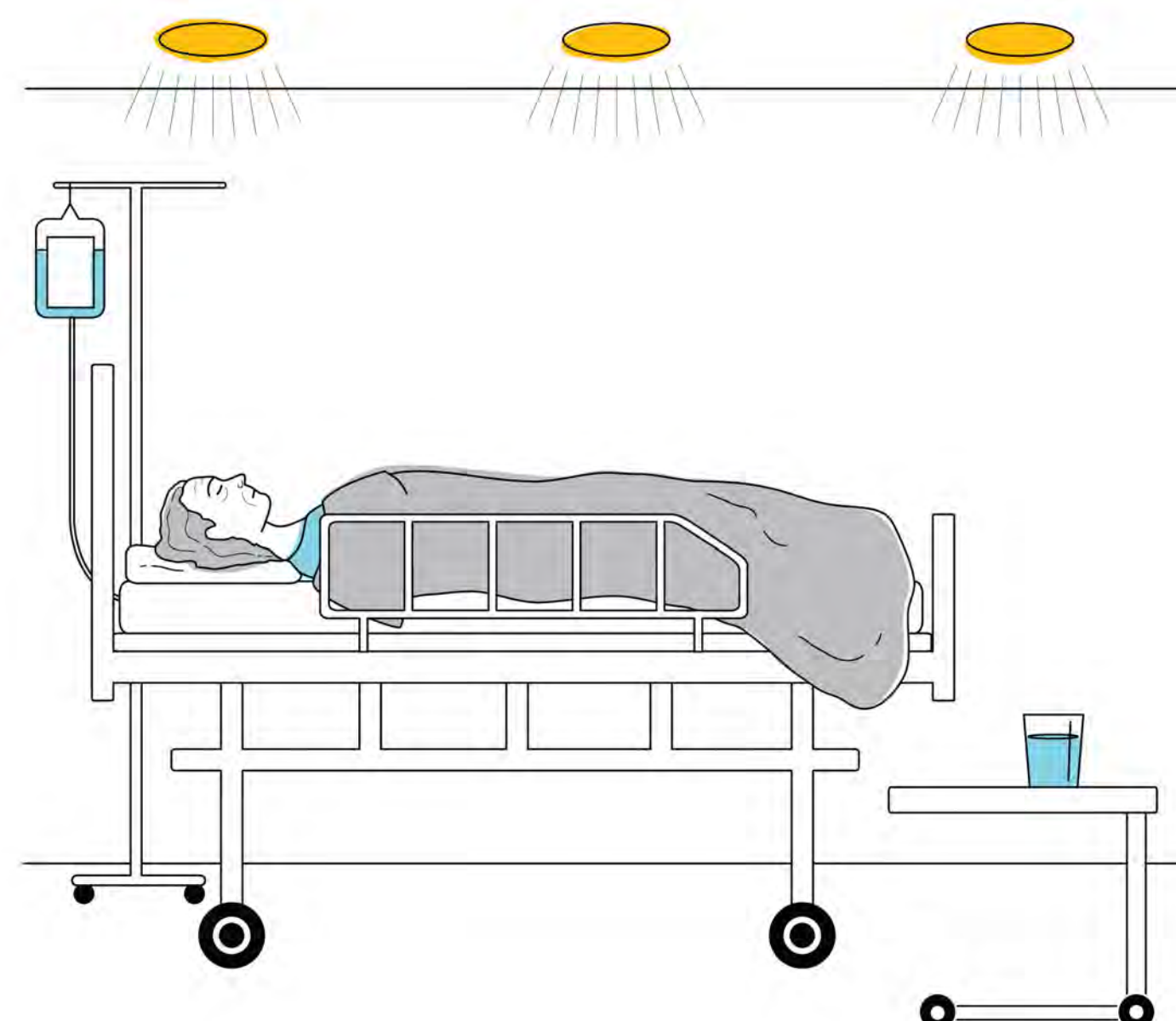
BUNDLE IMPLEMENTATION

The Hospital Elder Life Program (HELP) Bundle:

- Dementia clocks / calendar
- Pocket talkers
- iPad / Tablet (cognitive stimulation)
- Noise reduction
- Avoidance of precipitating pharmacology
- Early mobilization
- Early return of sensory aids
- Cue circadian rhythms (fake windows, lights On/Off times)
- Sleeping logs



Illustrations by Isabel Guerrero
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Food as Medicine for Patient Healing: Balancing Patient Eating Habits and Planetary Health

Eileen M. Wong MD and Stephanie Maclean RD

Acknowledgements

Health Quality BC Student Intern: Celia Zhou, Dietitians: Stephanie Maclean, Ariel Seah, Holy Family Hospital Rehab patients and staff including RNs, LPNs, CNLs, Food Services, Executive Sponsor: Jeffrey Chan (Operations Leader), PHC Food Services Director: Sophie Chan, Amy Chang (VCH Project Advisor, SQI Lead), Socorro Laurel (Patient Partner), Ashish Chauhan (PHC Data Analytics), Allison Chiu, Enrique Ruiz-Fernandez (VCH Project Advisors)

PROBLEM

Food not consumed (**food waste**) → **patient malnutrition**

- **waste** (materials, resources, energy, manpower)
- worsening **planetary health**

How can patient eating habits be balanced with planetary health?

Could vegetarian entrees improve patient intake and reduce food waste?



Examples of vegetarian meals served to patients (pre-PDSA)

INTERVENTION OR STRATEGY FOR CHANGE

Vegetarian lunch entrée – first option (patient can choose second option if preferred)



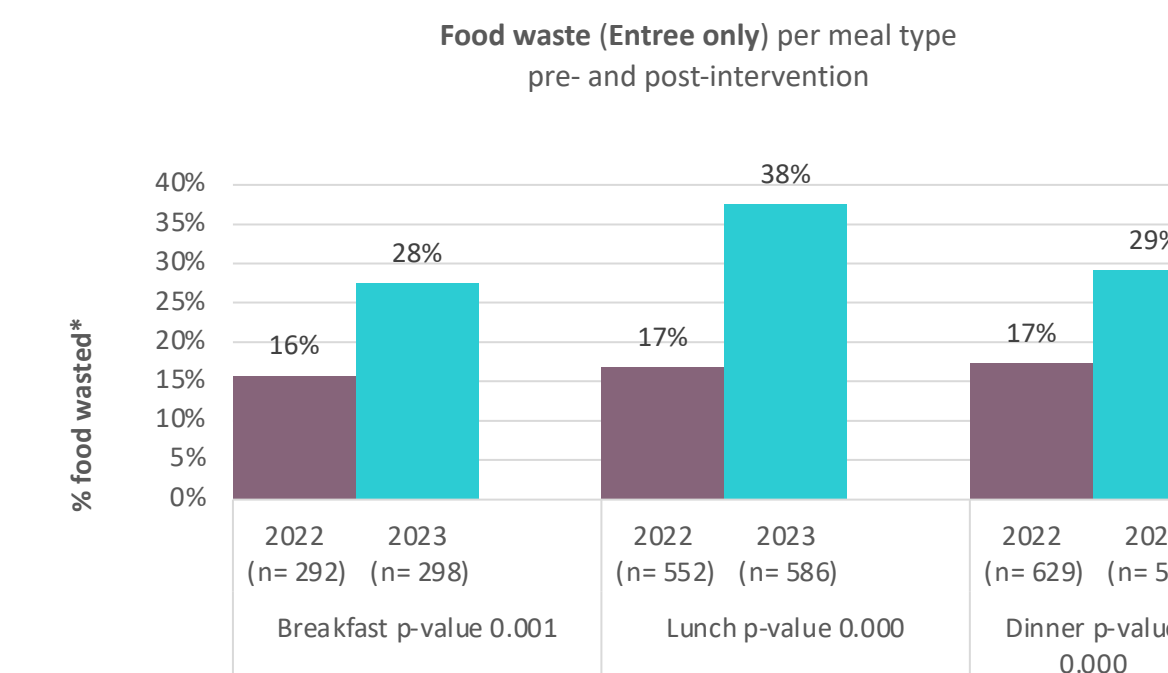
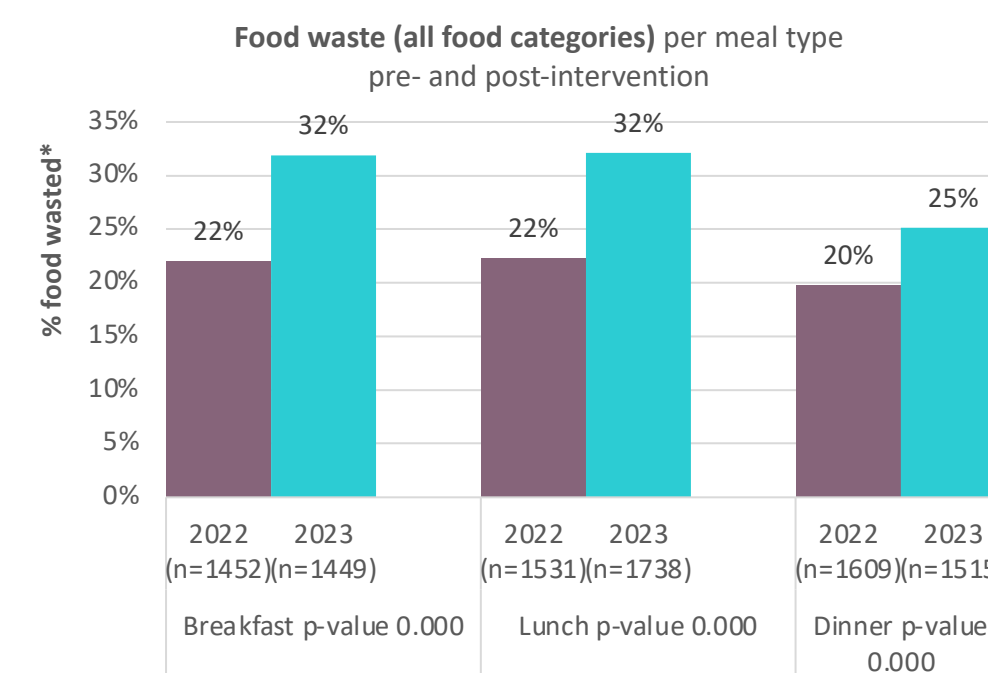
AIM STATEMENT: Reduce food waste by 10% within 6 months of PDSA

CONTEXT

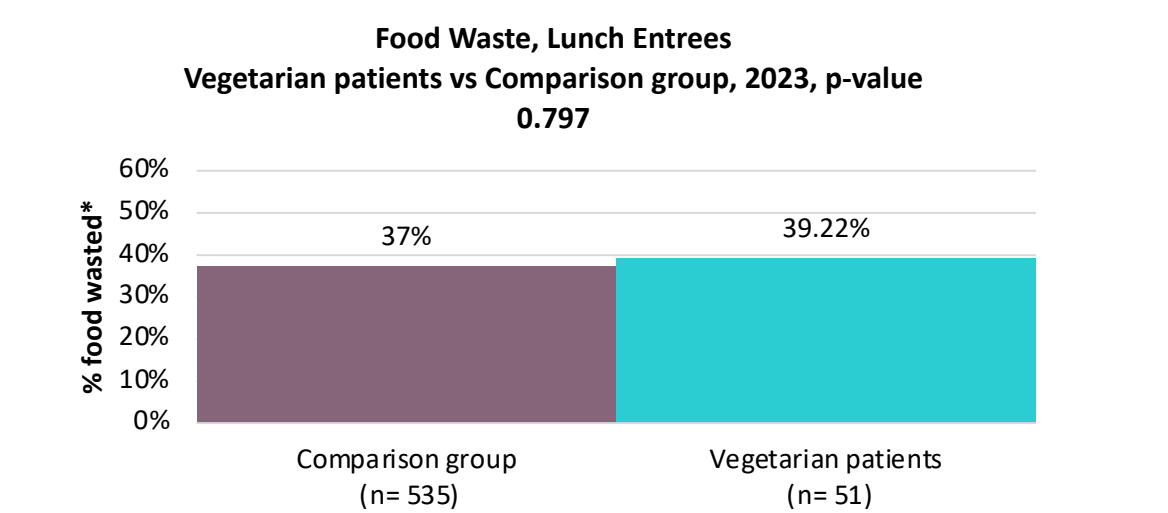
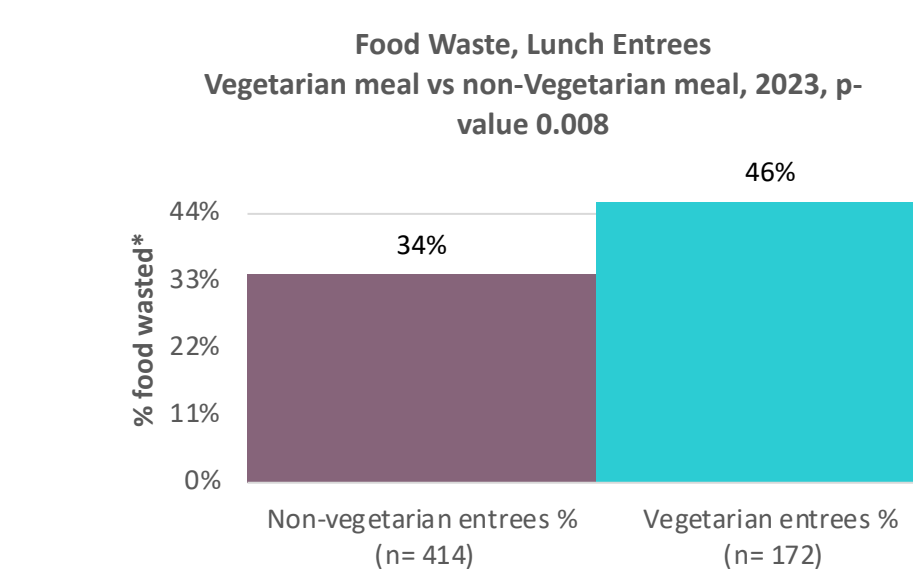
- Providence Health Care (PHC) Vancouver, BC
- Average age –74 ; mostly male (63%); community dwelling older adults
- Holy Family Hospital Rehabilitation (HFH Rehab) in-patient unit
- ~ 66 beds
- Food Services repatriated back into hospital June 2022 from private provider

Demographics	2022 (baseline)	2023 (intervention)
Gender	n= 34 (63%) Male n= 20 (37%) Female total=54	n=40 (62%) M n= 25 (38%) F total = 65
Age (average)	74 years M 72 years F	73 years M 79 years F
LOS length of stay (average)	39 days M 22 days F	35 days M 36 days F
Diet types	8	7

Food Waste Pre-2022 and Post-2023 Intervention
n = number of food items



Food Waste 2023 Intervention: Vegetarian Meal, Patient



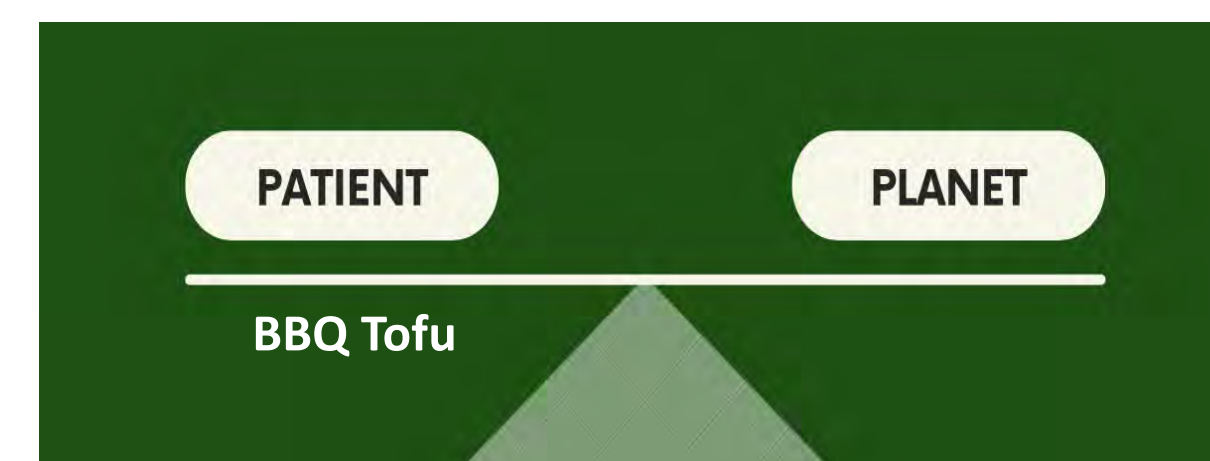
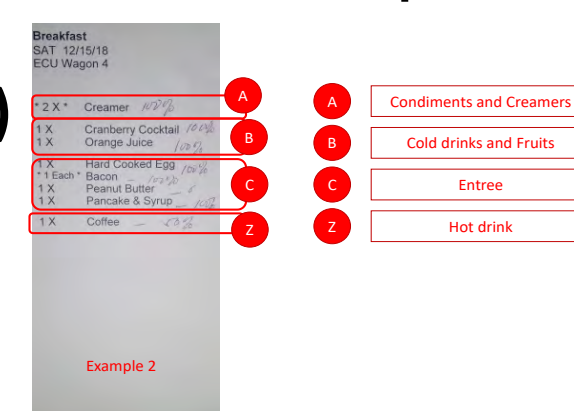
MEASURES OF IMPROVEMENT

Patient Survey: gather patients' attitudes, knowledge about vegetarian food and planetary health

Food Waste Audit – VEM (visual estimation method)

- record amount eaten of all food items on food slips
- all three meals for one week for all patients
- *food wastage is 0-50% quartiles

Food slips



Balancing Patients' Eating Habits with Planetary Health is not easy

SUSTAINABILITY

- Food Services + **patients** + dietitians = more **patient-centred plant-rich menus**
- **Environmental Stewardship Team (PHC) + Nourish Leadership Cohort 3 = address food waste** as a part of Planetary Health
- Automate + operationalize food consumption measurements = **less labour-intensive methodology** e.g. AI technology or apps
- Healthcare leaders + resources (for QI) to measure change = **prioritize food** as part of **Planetary Health**

EFFECTS OF CHANGE

1. **Aim Statement** not achieved - food wastage increased

2. **Patient Survey results:**

- 78.6% ate omnivore diets
- 62.1% had tried vegetarian dishes before
- 58.6% aware of benefits of vegetarian diets on personal and planetary health but did not always choose vegetarian menu items during the PDSA

3. **Food Waste Measurements (entrées):**

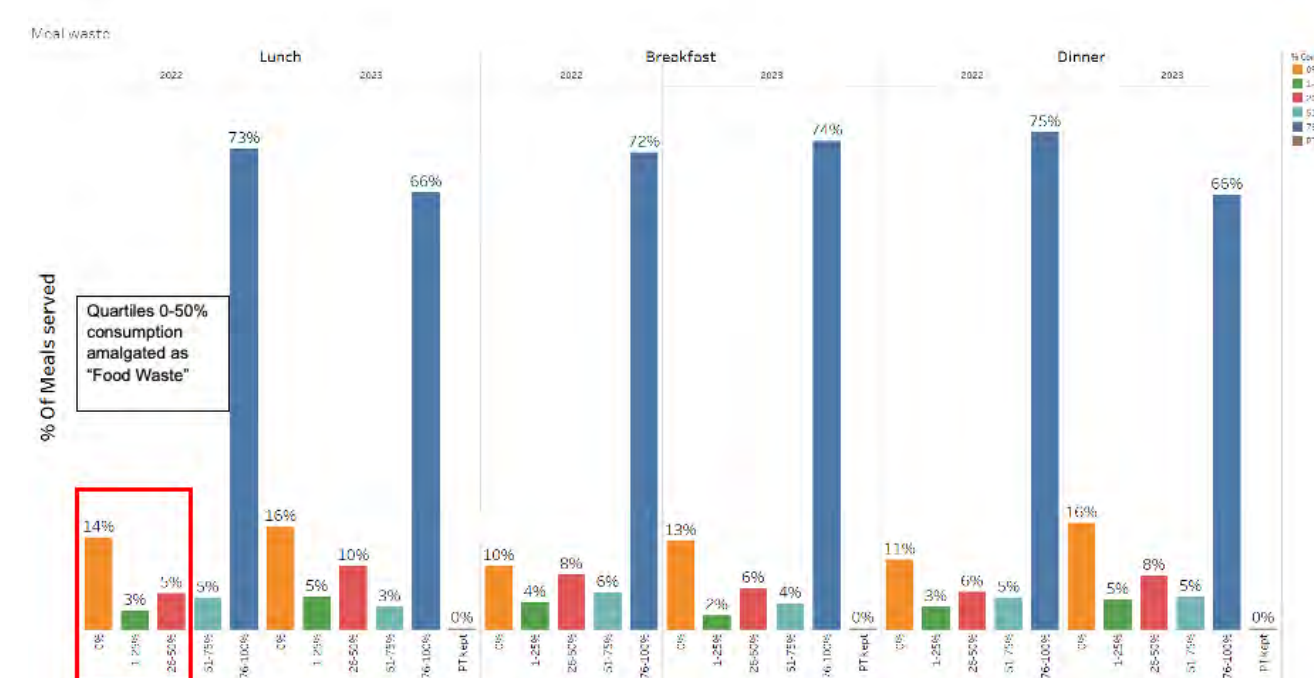
- lunch entrees most wasted (17% to 38%)
- vegetarian entrees more wasted (46%) vs. non-vegetarian (34%)
- vegetarian patients wasted just as much as non-vegetarians (39% vs. 37%) as perhaps they are more familiar with vegetarian food

DISCUSSION Why did food waste increase?

- Lunch entrée items - unfamiliar to patients or not to their taste
- Concurrent illness, medical comorbidities may decrease appetite
- Limited accessibility of non-hospital provided food during baseline (done during COVID-19); versus improved availability of outside food during intervention period
- Older adults may not be as receptive to changes in diet: comments from survey

LESSONS LEARNED – DATA INFORMS!

- **QI Principle:** How do you know a change is a change without measuring?
 - **Need to measure food experience!**
 - **Patient Surveys + VEM (visual estimation method)**
- **Patients need to be at the centre of food changes** - improve acceptability and palatability
- **Food production - complex system** (leadership support and resources needed to change)
- **Education re:** food production system complexity; **advocacy** for patients
- **For patients, food experience is a quality of life issue**
- **Change Food to be true Medicine!**



St Paul's Hospital (SPH) Emergency Department (ED) Low Risk Pulmonary Embolism Pathway

C. Taylor Drury, Ryan Koo, Allison Chiu, Andrew Kestler, Tony Wan, Anna Rahmani, Alejandro Dau, John Doering



BACKGROUND

- Acute pulmonary embolism (PE) is a potentially life-threatening condition characterized by the sudden blockage of one or more pulmonary arteries by blood clots that requires immediate treatment, primarily with anticoagulation.
- International guidelines recommend that all patients with acute PE undergo formal risk stratification into "low" and "non-low" risk categories. The Hestia criteria and sPESI score (see infographic) are two examples of well validated risk stratification tools for acute PE patients that are safe and easy to use, with a "negative" score indicating a "low risk" patient suitable for home treatment

PROBLEM

Rate of PE admission: **50%** at SPH vs. **35-38%** at other large academic sites = **Room for improvement**

AIM STATEMENT

- To reduce hospital admission at SPH for patients with acute PE by 20%

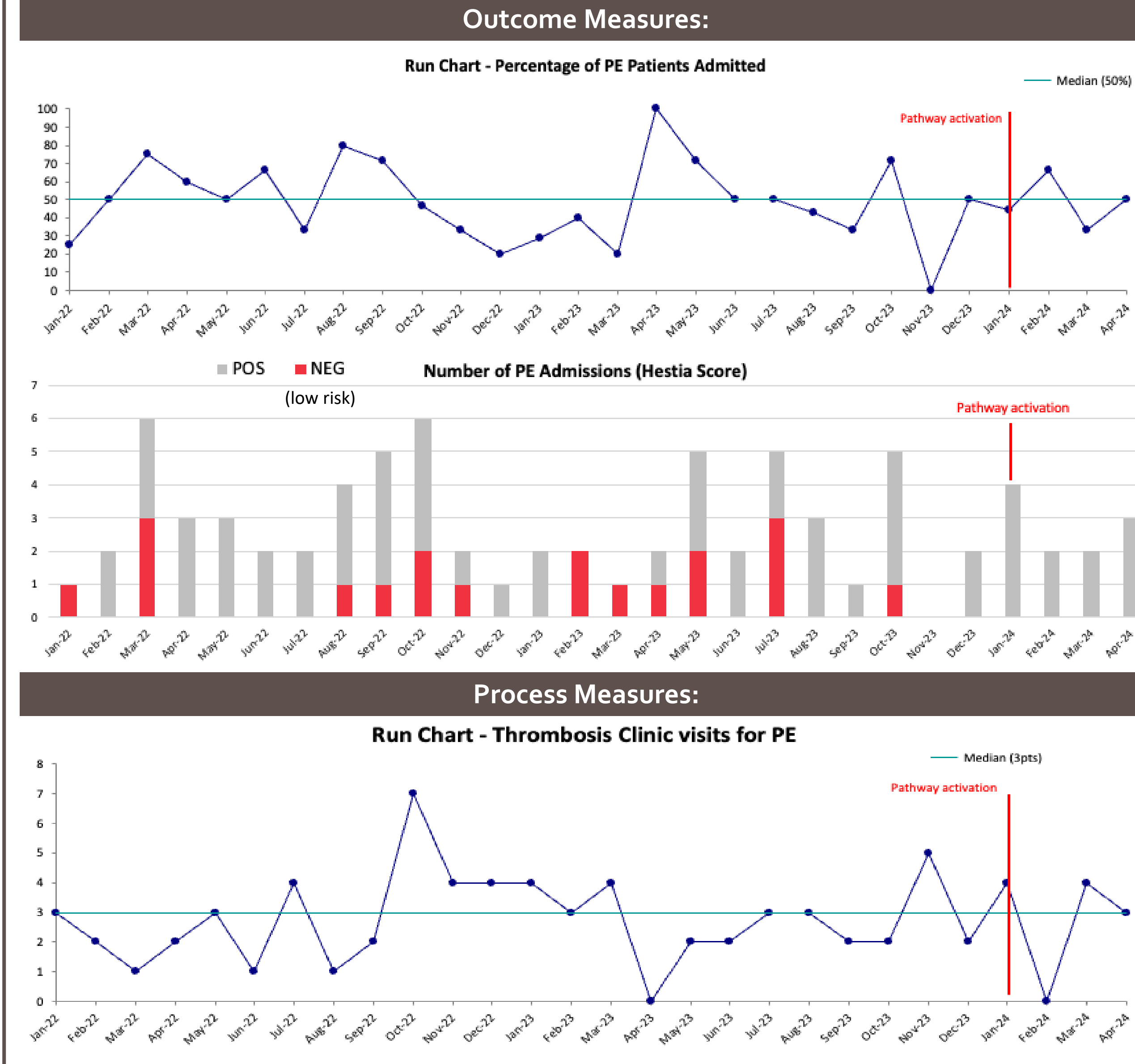
ADDED VALUE

Reducing unnecessary hospital admission for acute PE leads to:

Patient Experience	Healthcare System	Planetary Health
↑ Quality of Life ↑ Satisfaction of care ↓ Anxiety	↓ Costs ↓ Healthcare utilization	↓ Carbon emissions

MEASURES OF IMPROVEMENT

Outcome Measures	<ul style="list-style-type: none"> Rate of hospital admission for acute PE
Process Measures	<ul style="list-style-type: none"> Number of referrals to Thrombosis Clinic for acute PE
Balancing Measures	<ul style="list-style-type: none"> Rate of repeat ED visits for PE symptoms within 30 days of diagnosis for non-admitted patients Rate of "no-show" to Thrombosis Clinic



Change Idea – Pathway Infographic

A Quality Improvement (QI) Project

SPH ED Low Risk Pulmonary Embolism Pathway

This QI project aims to reduce hospital admission for PE by systemic risk stratification and early outpatient follow-up in SPH Thrombosis Clinic

Between 2021 – 2023, 50% of PE patients seen in ED were admitted. This is ~20% higher than at other large academic centers.

Appropriate home treatment of PE leads to:

- Patient experience: Anxiety, Quality of Life, Satisfaction
- Healthcare Costs: Reduced use of the inpatient system
- Environment: Carbon emissions

Who is low risk? All "NO" = low risk

Hestia Criteria

- Hemodynamically unstable
- Thrombolysis or embolectomy needed
- Active bleeding or high risk of bleeding
- Requiring oxygen to maintain SaO₂ >90%
- PE diagnosed while on anticoagulation
- Severe pain needing IV pain medications
- Medical or social reason for admission
- Creatinine clearance <30
- Severe liver impairment
- Pregnant
- Documented history of HIT

sPESI

- Age >80
- History of cancer
- History of chronic cardiorespiratory disease
- HR >110 bpm
- Systolic BP <100 mmHg
- SaO₂ <90%

Confirm PE in ED

Risk stratify = low risk (Hestia or sPESI negative)

If unsure, call Thrombosis MD on-call

Corner order: Referral to Thrombosis Clinic Reason: "PE PATHWAY"

Anticoagulate (suggest apixaban 10mg BID x 7 days)

Sunday - Thursday

Instruct patient to come to SPH Thrombosis Clinic **NEXT DAY** between 9:00-10:00am

Friday - Saturday

Instruct patient to come to SPH Thrombosis Clinic **MONDAY** between 9:00-10:00am

SPH Thrombosis Clinics is located in St. Paul's Hospital on the 5th Floor of the Burrard Building (Room 5900)

Questions? Email Dr. C. Taylor Drury at cdrury@providencehealth.bc.ca

Balancing Measures:

No change in rate of repeat ED visits for PE symptoms, and no change in rate of "no-show" to Thrombosis Clinic

RESULT SUMMARY

- Rate of PE admission at SPH remains unchanged around 50% in first 3 months since PE pathway activation
- No documented "inappropriate admission" (i.e. low risk/negative per Hestia score since November 2023)
- No evidence of increased adverse events (balancing measures)

Take Home Message:

- PE Pathway appears to reduce incidence of hospital admissions for low risk PE patients
- Effect of pathway on overall PE admission rate remains unclear, in part due to relatively low number of patients in ED with PE per month (median 5.5)

SUSTAINABILITY + SPREAD

The SPH Low Risk PE Pathway is highly sustainable given the following:

- Low barrier initiative for Emergency Physicians
- Infrastructure (i.e. SPH Thrombosis Clinic) already in place
- High level monitoring data (i.e. PE admission rate) easily captured through existing data tools (i.e. Tableau)

Plan to spread to Mount Saint Joseph's ED in Fall of 2024

The Neurology on Wheels (NoW) Mobile Workstation

Dr. Adam Book¹, Dr. Danielle Murray¹, Young Hong², Keely-Shay Maki², Bruno Jaggi², Dr. Kristine Chapman¹, Dr. Dean Johnston¹

Background

- Neurology at St. Paul's Hospital (SPH) provides consultation in the Emergency Department, ICU, and inpatient wards without a dedicated workspace.
- The lack of dedicated space results in an inconsistent ability to:
 - Access medical records and imaging for the care team.
 - Access clinical tools for the most complete and efficient consultation.
 - Share medical information with patients and families, providing opportunity to become more involved in care.
 - Provide effective education to residents and students on Neurology rotations.

Objectives

Through collaboration between the SPH Neurology team and UBC School of Biomedical Engineering, the aims of this project are:

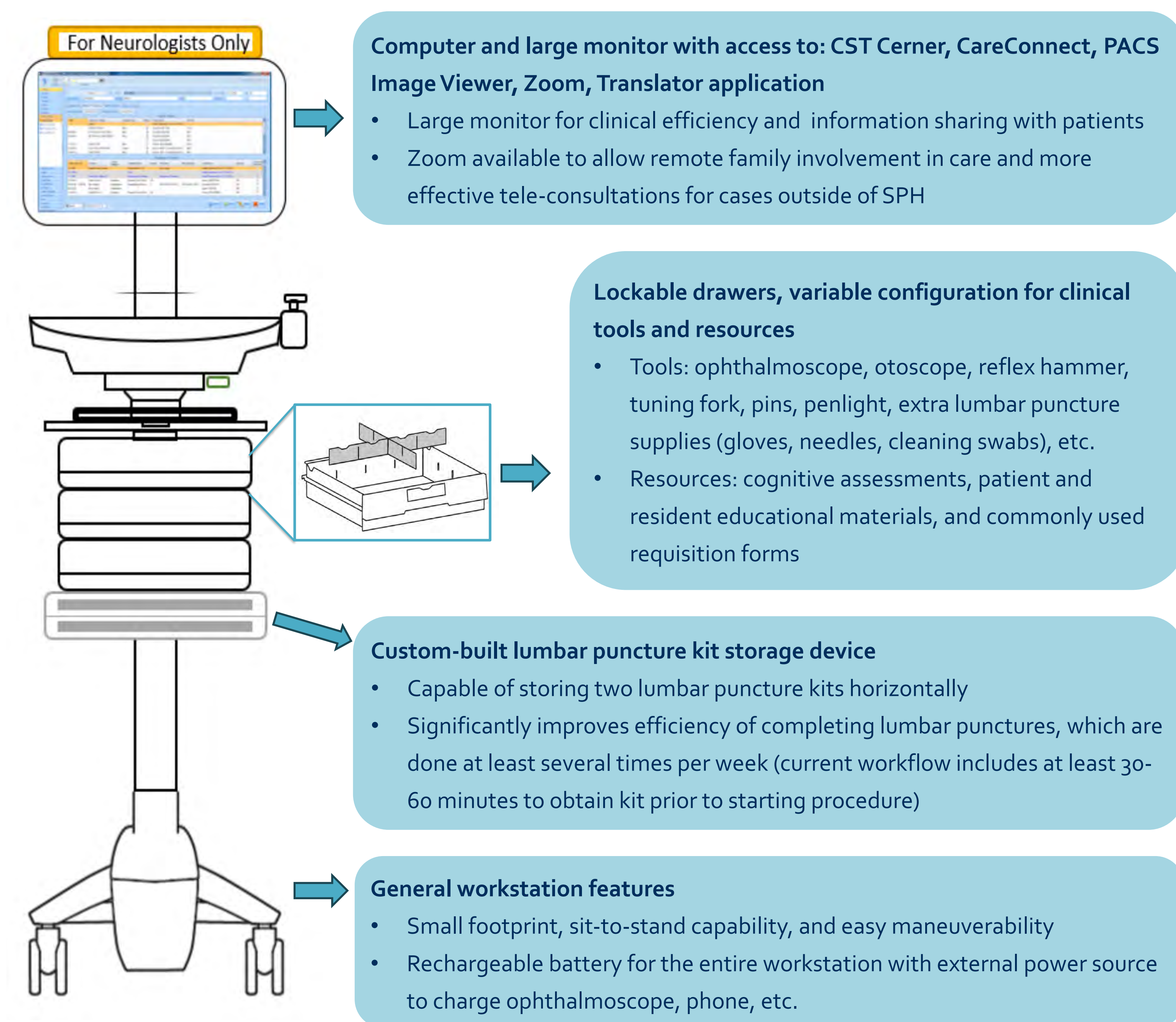
1) To improve the quality and efficiency of care provided by the Neurology team at SPH

2) To improve sharing of medical information with patients and families, encouraging active participation in care.

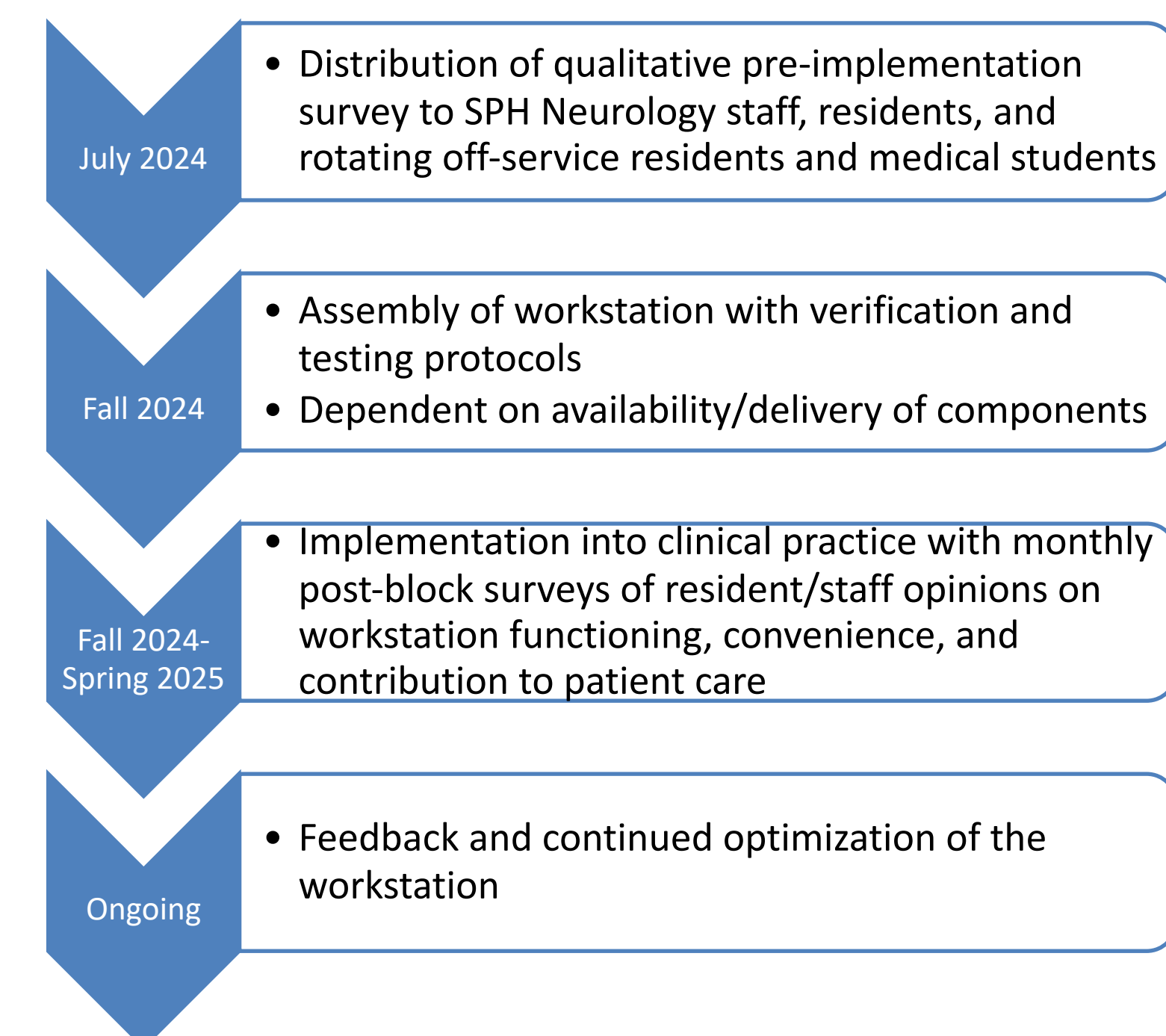
3) To improve educational opportunities for junior and off-service residents on Neurology.

Methods: Device Design

- Extensive clinical observation of the Neurology team in all relevant hospital settings by the Biomedical Engineering team
- Needs statement development with Biomedical Engineering team to guide development of multiple design concepts for a potential Neurology-specific workstation
- Confirmation of final design, ordering of components and assembly of workstation with subsequent verification and test protocols



Next Steps: Implementation and Optimization



In the future, this concept of a service or specialty-specific mobile workstation may be scaled and spread to non-Neurology teams within the hospital setting to further improve clinical care more broadly. A quality improvement model (PDSA cycle) will be applied to improving this prototype model, once in use by the Neurology team.

Acknowledgements

This project is supported by the Resident Doctors of British Columbia Resident Innovation Fund, the PHC Department of Medical Innovation Platform, as well as generous support from Mr. Rene Carrier.



Off-label use of dalbavancin to improve treatment outcomes and reduce healthcare costs: a single-center quality improvement initiative

Adrianna Gunton¹, Mara Pava², Victor Leung³, William Connors¹

¹ Division of Infectious Diseases, Department of Medicine, University of British Columbia, Vancouver BC; ² Pharmacy Department, St. Paul's Hospital, Vancouver BC; ³ Department of Laboratory and Pathology Medicine, University of British Columbia, Vancouver BC

BACKGROUND

Dalbavancin, a long-acting lipoglycopeptide antibiotic, is approved for use in Canada for the treatment of acute bacterial skin and soft tissue infections, but currently inaccessible in British Columbia



Off-label use has been shown to be effective in treating serious gram-positive infections, such as bone and joint and blood stream infections, and pharmacokinetic studies show 2 doses of 1500mg each one week apart provides sustained tissue exposure above the dalbavancin MIC (minimum inhibitory concentration) of 0.12 µg/mL for Staphylococcus aureus for up to 8 weeks

Additional effective antimicrobial options are needed for socially marginalized patients to improve treatment adherence and infection outcomes



Objectives

- Provide dalbavancin to socially marginalized patients with serious gram-positive infections to improve treatment outcomes and gain experience with dalbavancin use
- Advocate for pharmacare coverage of dalbavancin in British Columbia

METHODS

- We administered a single-center quality improvement initiative to allow access to a novel but inaccessible antimicrobial for use in patients with highest need
- We describe a case-series of patients receiving off-label use of dalbavancin to treat serious gram positive infections

Compassionate access to dalbavancin was obtained from Palladin Labs Inc. for use of dalbavancin allowing for multiple treatment doses to be onsite for unconditional use by Infectious Diseases physicians

Inclusion criteria:

- ✓ Patients with serious gram positive infections with confirmed susceptibility to dalbavancin, tested using the E-test method
- ✓ Socially marginalized patients, for example with unstable housing, substance use disorders, whom outpatient intravenous antibiotic therapy or prolonged oral therapy may not be feasible

From September 2022 to September 2023, 7 patients were considered for dalbavancin use and 6 patients provided consent and received 1 or 2 doses of dalbavancin



were retrospectively reviewed to determine clinical rationale for use, number of doses received, adverse effects, and clinical outcome after 3 months

A cost analysis was conducted using a cost calculator initially designed by Paladin Labs Inc. with clinician input. We obtained Providence Health Care and BC Formulary cost estimates for health and drug costs to determine cost savings with use of dalbavancin compared to standard of care using the cost calculator



RESULTS

Baseline patient characteristics, n=6

Mean age, years (range)	50.5 (33-61)
Males, n (%)	6 (100)
Substance use disorder, n (%)	6 (100)
Experiencing homelessness, n (%)	2 (33.3)*

*all other patients resided in single-room occupancy (SRO) accommodation

Most common clinical indications for use of dalbavancin:

Allow early discharge from hospital

Allow early removal of vascular access

Treatment adherence concern or consideration

Case series clinical information and cost savings:

Infection type (BSI, MSK, both)	Organism	# of doses (1500mg/dose)	Benefit with dalbavancin	Hospital stay, weeks Dalbavancin Planned*	Total Savings (CAD)* Cost of dalbavancin vs. alternate SOC IV antibiotic Hospital or OPAT daily cost
1	MRSA	1	Used as terminal therapy to allow discharge 7 days early	3 4	13,305 2,872 vs. 207* 2179/day
2	MSSA GAS GOS	2	Allowed discharge 2 weeks early	4 6	25,603 5,743 vs. 414* 2179/day
3	MRSA GAS	1 (incomplete)	Allowed for enhanced treatment due to frequent behavior-related discharges	4 6	28,359 2,871 vs. 103* 2179/day
4	MRSA	1	Ensured enhanced adherence in context of poor adherence to daily IV regimen	5 6	14,801 2,871 vs. 1,915* 2179/day
5	MRSA	1	Allowed treatment completion with frequent missed IV doses and adherence concerns to once daily OPAT	3 3*	5,709 2,817 vs. 958* 361/day
6	MRSA	1	Allowed treatment completion for behaviour related concerns leading to repeated discharges, missed IV doses	2 6	57,689 5,743 vs. 1,915* 2179/day

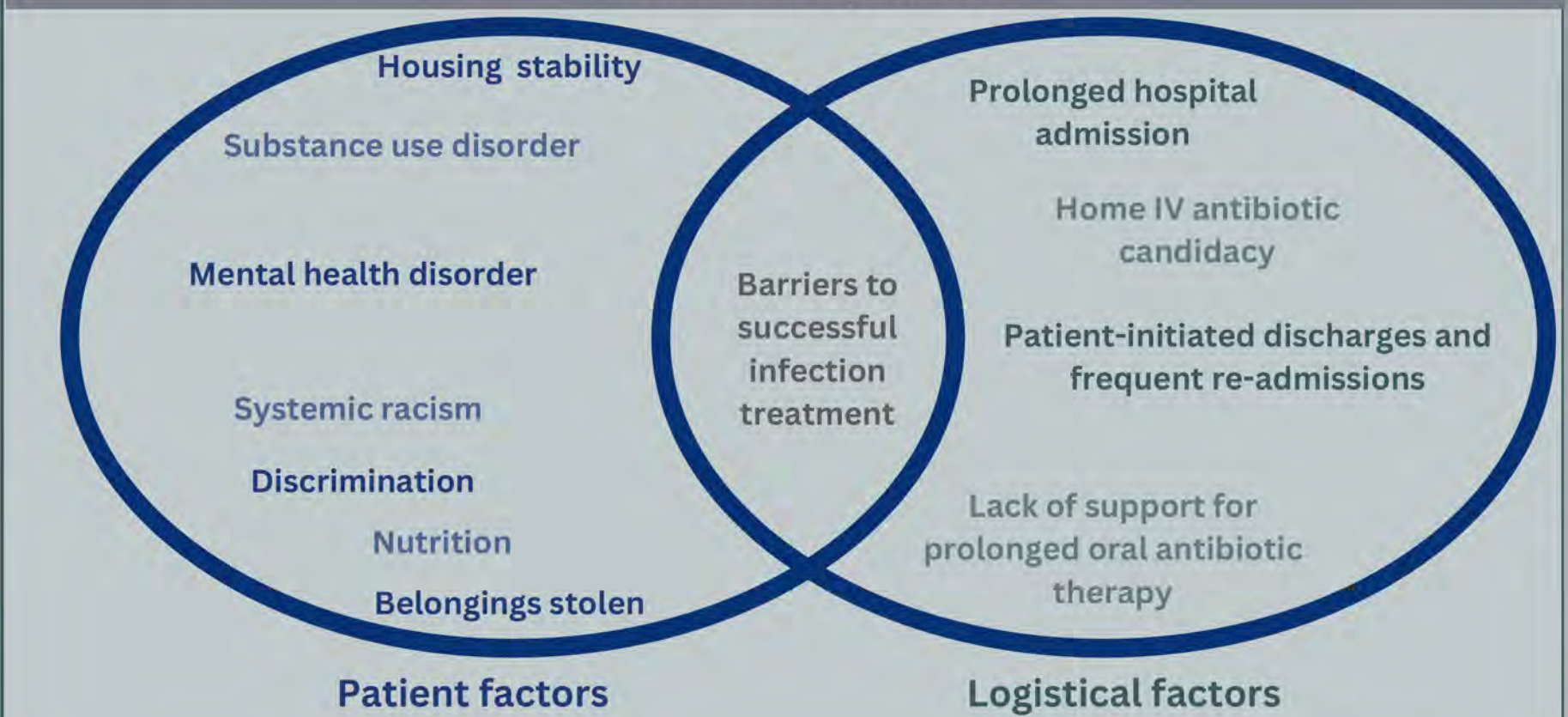
Clinical outcomes, 3 months post-treatment:

- 2 Patients were considered to have infection cure at the end of planned therapy with dalbavancin, as determined by chart review of the treating team's impression of treatment success at last follow-up
- 3 Patients were thought to have infection cure, but were lost to follow-up. Of these, 1 patient who missed his 2nd dose of dalbavancin presented to the ED for his next dose and was prescribed TMP-SMX (isolate was resistant)
- 1 Patient died, unrelated to the dalbavancin-treated condition
- 0 Adverse reactions reported

DISCUSSION

- Standard of care therapy for serious bacterial infections traditionally involves prolonged intravenous (IV) antibiotic therapy or short course IV therapy followed by oral switch requiring daily or multiple-daily dosing, for durations up to 6 weeks
- Socially marginalized patients, such as those with substance use disorders, unstable housing, or mental health disorders are often not considered candidates for outpatient parenteral antimicrobial therapy (OPAT), and concerns exist regarding lack of follow-up and treatment adherence to oral regimens
- These patients therefore remain in hospital, at significant cost to the healthcare system, to complete antibiotic therapy, where patient-initiated discharges are common and result in poor treatment outcomes and frequent re-admissions
- By providing up to 8 weeks of effective antibiotic therapy with 2 doses of dalbavancin, this represents an alternative option to treat susceptible gram-positive infections in this population to improve treatment outcomes and save costs

Factors affecting successful treatment of serious bacterial infections in vulnerable patients



Conclusions

- Our experience suggests that dalbavancin could be successfully used for the off-label indications of serious, susceptible gram-positive infections in socially marginalized patients in whom treatment of these infections often requires prolonged inpatient intravenous antibiotics
- We showed significant health systems savings with dalbavancin use in our cohort, which can be used to advocate for improved access to this novel antimicrobial



Link to cost calculator

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1. Rappo U, Puttagunta S, Shevchenko V et al. Dalbavancin for the Treatment of Osteomyelitis in Adult Patients: A Randomized Clinical Trial of Efficacy and Safety. *Open Forum Infect Dis.* 2019;6(1)
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3. Evins C, Lancaster H, Schnee AE. Successful use of dalbavancin in the treatment of gram positive blood stream infections: a case series. *Ann Clin Microbiol Antimicrob.* 2022;21(16).
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Acknowledgements

We thank Paladin Labs Inc. for providing dalbavancin and developing the cost calculator used in this study



THE UNIVERSITY OF BRITISH COLUMBIA



St. Paul's Hospital Advanced Endoscopic Resection Centre

Eric Lam^{1,2}, Jennifer Telford^{1,2}, Douglas Motomura^{1,2}, Rob Enns^{1,2}, Angad Walia^{1,2}, Neal Shahidi^{1,2}

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What is SPARC?

The St. Paul's Hospital Advanced Endoscopic Resection Centre (SPARC) is a tertiary referral center focusing on organ-sparing minimally invasive endoscopic resection techniques for early gastrointestinal cancers and their precursors.

A proven alternative to surgery

Cancer is a leading cause of death amongst Canadians. This includes cancers of the GI tract, which includes esophageal, gastric, colon, and rectal cancers. Together, they represent the most frequent type of cancer and most common cause of cancer-related deaths worldwide.

CANCER SITE	NO. OF NEW CASES (% OF ALL SITES)	NO. OF NEW DEATHS (% OF ALL SITES)
Female Breast	2,261,419 (11.7)	684,996 (6.9)
Lung	2,206,771 (11.4)	1,796,144 (18.0)
Prostate	1,414,259 (7.3)	375,304 (3.8)
Nonmelanoma of skin	1,198,073 (6.2)	63,731 (0.6)
Colon	1,148,515 (6.0)	576,858 (5.8)
Stomach	1,089,103 (5.6)	768,793 (7.7)
Liver	905,677 (4.7)	830,180 (8.3)
Rectum	732,210 (3.8)	339,022 (3.4)
Cervix Uteri	604,127 (3.1)	341,831 (3.4)
Esophagus	604,100 (3.1)	544,076 (5.5)

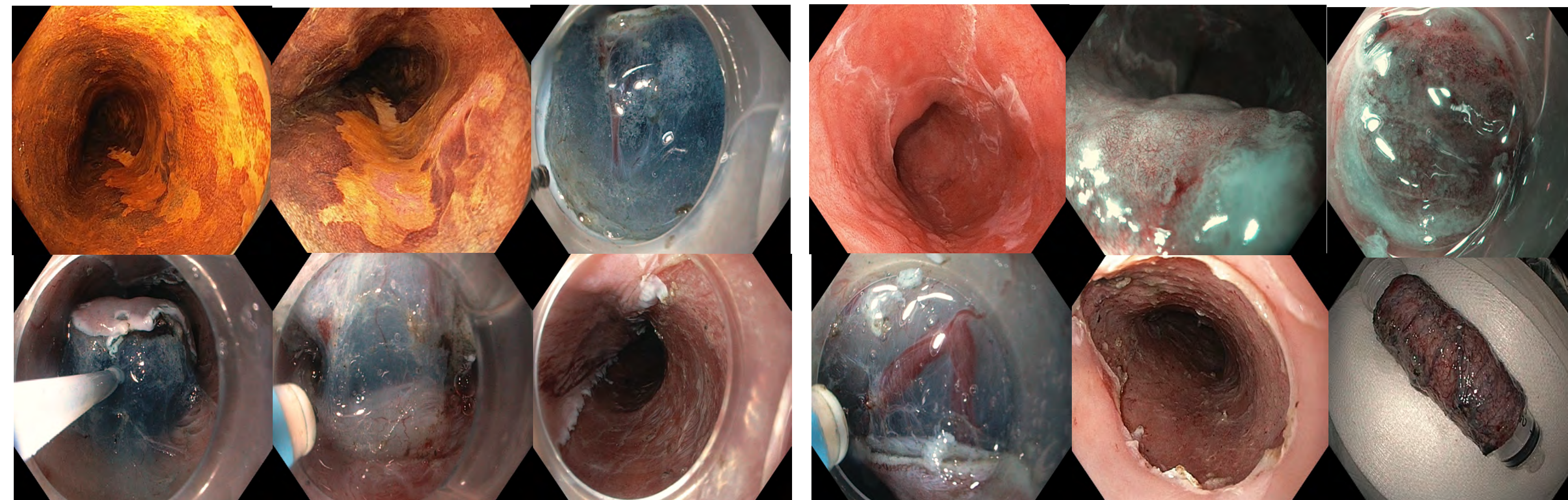
Cumulative cases of cancers in the GI Tract:
3,573,928 (18.5%) = 1st

Cumulative deaths by cancers in the GI Tract:
2,228,749 (22.4%) = 1st

Minimally-Invasive Endoscopic Resection Techniques

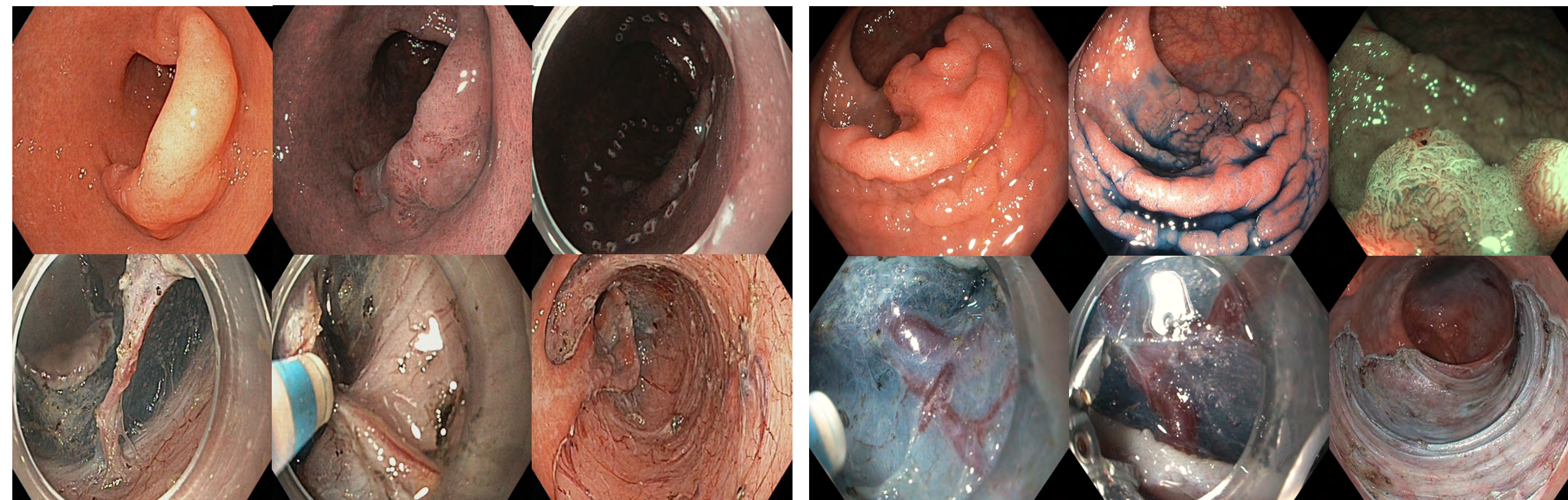
Historically, GI cancers, and the pre-cancerous polyps or lesions that give rise to them, have been managed by surgery, such as the removal of the esophagus, the stomach, the colon, and the rectum and/or anus.

Minimally invasive endoscopic resection techniques provide an alternative treatment; pre-cancerous lesions and early cancers are removed by a flexible camera called an endoscope or colonoscope without creating an incision. These techniques are a critical advance in the management of GI cancers as they provide an **organ-sparing alternative** that is a **proven first-line treatment modality** due to its **efficacy, efficiency, safety and cost-effectiveness** compared to surgery. SPARC utilizes minimally-invasive, organ-sparing endoscopic resection techniques including:



Early Esophageal Squamous Cancer – Status post ESD

Early Barrett's Cancer – Status post circumferential ESD



Early Gastric Cancer – Status post ESD

Early Colorectal Cancer – Status post ESD

Patient Outcomes

In 3 years, SPARC has become a tertiary referral site for early gastrointestinal lesions; not only for British Columbia but Western Canada including the Yukon and Alberta.

This includes treatment of over 1000 patients with early gastrointestinal cancers, and their precursor lesions; leading to improved health outcomes and resource utilization.

Conclusions

Minimally invasive endoscopic resection techniques should be considered first line treatment strategies for early gastrointestinal cancers and their precursors; given their comparative efficacy but improved safety and cost-effectiveness compared to surgery

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Near-Patient Community Crossmatch Sample Collection

Tina Jacobucci, MLT; Soojee Sim, RN, MN-HSLA; Nina Sandhu, RN, BScN; Allan Nalica, RN, BScN; Rodrigo Onell, MD, FRCPC; Hayley Merkeley, MD, MSc, FRCPC

Introduction

The Adult Red Cell Disorders Program (RCDP) at St. Paul's Hospital (SPH) treats transfusion dependent thalassemia (TDT) patients in the province.

TDT patients receive red blood cell (RBC) transfusions every 3-6 weeks at SPH, despite geographic distance from their homes. Crossmatch samples are required within 72 hours of transfusion using SPH Medical Record Numbers (MRNs) as the primary identifier for safety accreditation.

Historically, patients have been required to travel to SPH for crossmatch either a few days prior to their transfusion or on the same day, with the latter creating a major stress point as the Transfusion Medicine Laboratory (TML) must process these requests within 1 hour. Extra travel time is burdensome to patients and STAT sample processing is inefficient for TML and the Medical Short Stay Unit (MSSU). The RCDP, TML and MSSU successfully implemented an innovative pilot program to collect pre-transfusion crossmatch samples near patients' homes.

Problem Statement & Aims

Problem: TDT patients must travel to SPH for pre-transfusion sample collection which is burdensome to patients and inefficient for TML and MSSU.

Aims:

- To collect pre-transfusion crossmatch samples at hospital or private community labs near patients' homes with a less than 5% rejection rate.
- SPH TML to receive crossmatch samples collected in the community 1-2 days prior to TDT transfusion appointments, instead of same-day STAT processing.
- To reduce overall time for TDT transfusion appointments (check-in to check-out) in MSSU compared to baseline.
- To assess patient and stakeholder feedback post implementation and adjust our process accordingly.

Methods

Plan

We assembled key stakeholders including PHC TML and MSSU, Provincial Health Services Authority (PHSA), LifeLabs BC, and Fraser Health Authority (FHA) to implement community based cross-match collection using Plan-Do-Study-Act cycles with the following steps:

- Partnership Development
- Site Selection
- Collection Sites Education & Training
- Patient Education
- Sample Collection
- Sample Transport
- Communication & Feedback Loop

Do

- TDT patients transfused at MSSU are invited to opt-in to the project.
- 3 community hospitals and 2 LifeLabs sites are identified based on proximity to patients' home postal codes.
- Patients are provided with ID cards using SPH MRNs to be used at community collection sites (Figure 1) and encouraged to pre-book appointments.
- Pre-transfusion samples are collected in the community and couriered to SPH.
- Samples received greater than 48 hours prior to transfusion are rejected.
- If samples are rejected, then patients are informed, and samples are recollected at time of transfusion.

Study

- 30% of TDT patients transfused at SPH (N=13) participated starting in November 2023 and 87 transfusions were captured until data cut-off on March 30, 2024.
- 97% of samples were processed within 48 hours of collection with a sample rejection rate of 2.9% (Figure 2).
- Laboratory technologists had adequate time from the time of pre-transfusion sample receipt to crossmatching and allocating RBC units (Figure 3).
- Average time from MSSU check-in to transfusion start dropped from >60 to <20 minutes as demonstrated in Figure 4.
- Average time from transfusion end to MSSU checkout increased from ~90 to ~140 minutes (Figure 5) and overall MSSU time was unchanged.
- Patient identified areas for improvement include efficiency refinements at specific laboratories and expansion to more sites.
- Patients and stakeholders reported a high degree of satisfaction:

"From door to door, including parking, walking to the lab and lab collection take no more than 45 mins to less than an hour. I park further to get free parking. It usually takes me about 3 hours commuting to and from, parking, lab collection at St. Paul's."

"I'm happy we have this option and overall, it's been a positive experience. Decreased time spent on my crossmatch day and X is good with their booking system. I had to change an appointment and was able to get one within an hour."

"Thank you for this pilot program. I hope it will continue. It's made it so much easier on crossmatch days."

Act

- Analysis of the first PDSA cycle indicated that overall length of stay in the MSSU was not significantly improved pre and post intervention despite reduced time to transfusion start.
- We are exploring reasons for this increase and discussing strategies to improve the efficiency of the MSSU checkout process.



Figure 1. Community Cross Match Program identification card.

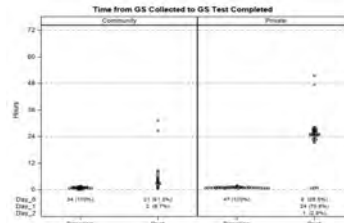


Figure 2. Pre-transfusion collection sample turnaround time at SPH TML.

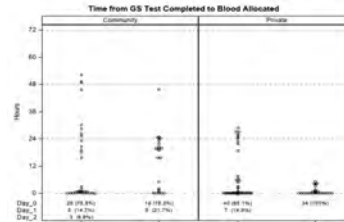


Figure 3. Availability of crossmatched RBCs prior to transfusion

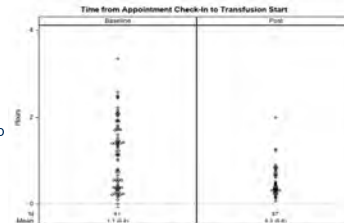


Figure 4. Average time from MSSU check-in (hours) to transfusion initiation.

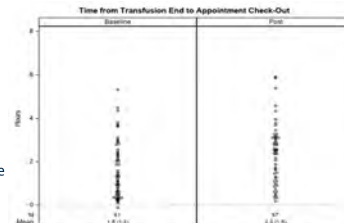


Figure 5. Average time from transfusion completion to MSSU checkout.

Discussion

Collection of outpatient crossmatch samples for transfusions at SPH has historically been limited. Through developing partnerships with community hospitals and LifeLabs collection sites we were able to successfully collect crossmatch samples with only a 2.9% rejection rate and improve the patient experience.

Relocation of outpatient crossmatch collection to the community increased efficiency in TML as testing could be performed electively in advance, allowing prioritization of other workflows such as STAT collections from the emergency room, operating theatres and intensive care units.

Unexpectedly, although this process reduced time from patient check-in to transfusion start, the overall time spent in the MSSU did not decrease. A notable increase in time from transfusion completion to patient checkout emerged as a bottleneck counterbalancing the earlier efficiency gains. Thus, it is imperative to address the post-transfusion checkout delay for optimal efficiency.

Hypothesized reasons for delays include patient behaviors and appointment scheduling and checkout process challenges. Failure to accurately track and record patient departure times can lead to delayed or erroneous system entries. Moreover, appointment scheduling inconsistencies between planned and actual treatment times hinder efficient resource allocation and contribute to delays in patient turnover. Addressing these underlying causes is essential for optimizing MSSU turnaround time. Optimization will increase appointment scheduling for priority patient groups, such as chemotherapy recipients, and further enhance overall efficiency within the MSSU and patient care delivery.

Conclusion

The successful completion of this pilot program highlights tangible benefits and sets the stage for broader implementation and potential scalability. These advancements stand to benefit diverse patient populations, including outpatient cancer and pre-surgical patients amongst others, thereby enhancing care delivery across the system. Our next scale-up initiative will focus on sickle cell disease patients receiving red cell exchange at Vancouver General Hospital (VGH).

Acknowledgements

We extend our sincere gratitude to our community partners, including LifeLabs BC, Fraser Health, and Providence Health Care, as well as our patients. Special thanks to the dedicated TML and MSSU staff, along with support from Innovarium, the Ministry of Health, and the Centre for Advancing Health Outcomes.



Glove Smart Project

Chandell Kelly, Sherly Boddu, Marianne Lesage and CSICU Team, Andrew Mendes, Ramses Prado, Waste Working Group, Evaluation Working Group, Communications & Education Working Group

Starting point...

While working as a RN at the CSICU in SPH, Chandell Kelly, member of the Waste Working Group (part of the ESTeam) observed that staff often wore non-surgical gloves when the task performed did not require it.

Understanding the current state

During the COVID-19 pandemic clinical staff across the health care system was forced to increase the use of Personal Protective Equipment (PPE) – non-surgical gloves included.¹

A quantitative analysis showed that the use of non-surgical gloves in the CSICU had increased in a 5% since the COVID-19 pandemic.

Simultaneously, in collaboration with IPAC a review of PHC's policies around the appropriate use of PPE, specifically non-surgical gloves provided four standards for necessary and appropriate use of non-surgical gloves.

1. When performing direct care with patients on Contact Precautions
2. When at risk of coming in contact with blood/bodily fluids, including open membranes (e.g., IV insertions, removal, foley emptying, etc.)
3. When handling soiled items (e.g., bedpans, pads/diapers, linen, etc.)
4. For patients on cytotoxic or hazardous drug precautions

What did we try to accomplish?

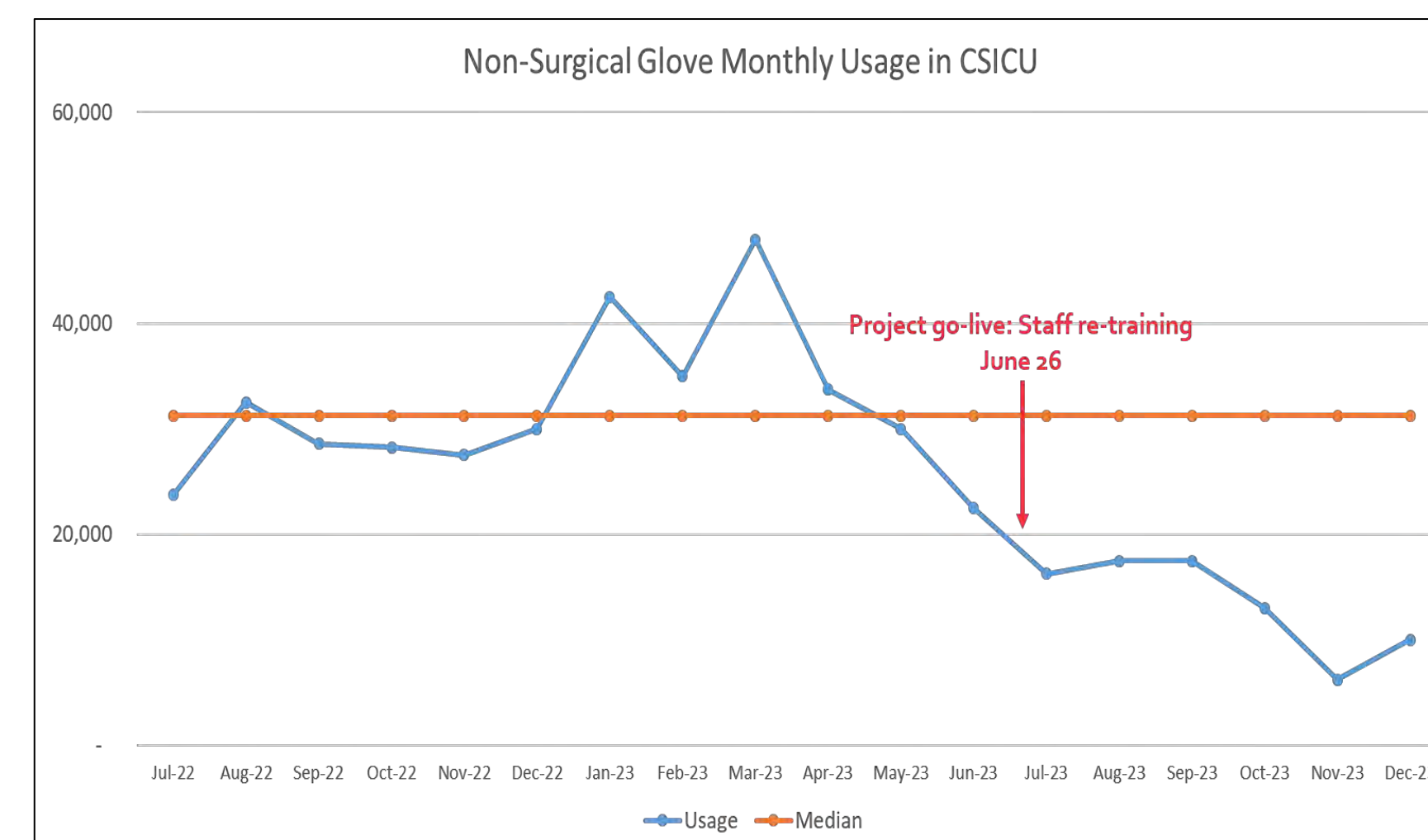
AIM to "Reduce the inappropriate use of non-surgical gloves by 10% by December 31st, 2023, at the CSICU"

Measuring improvements:

- Outcome measures: Use of non-surgical gloves in the CSICU
- Process measures: CSICU staff compliance rate with appropriate use of non-surgical gloves
- Balancing measures: CSICU Hand Hygiene rates

Use of non-surgical gloves in CSICU

There was a reduction of 53% in the use of non-surgical gloves. From the project's start to end, CSICU saved 90,100 (single) non-surgical gloves, equivalent to 2,342.6 Kg of CO₂e or 998 liters of gas², enough to drive to Tampa Florida and back!

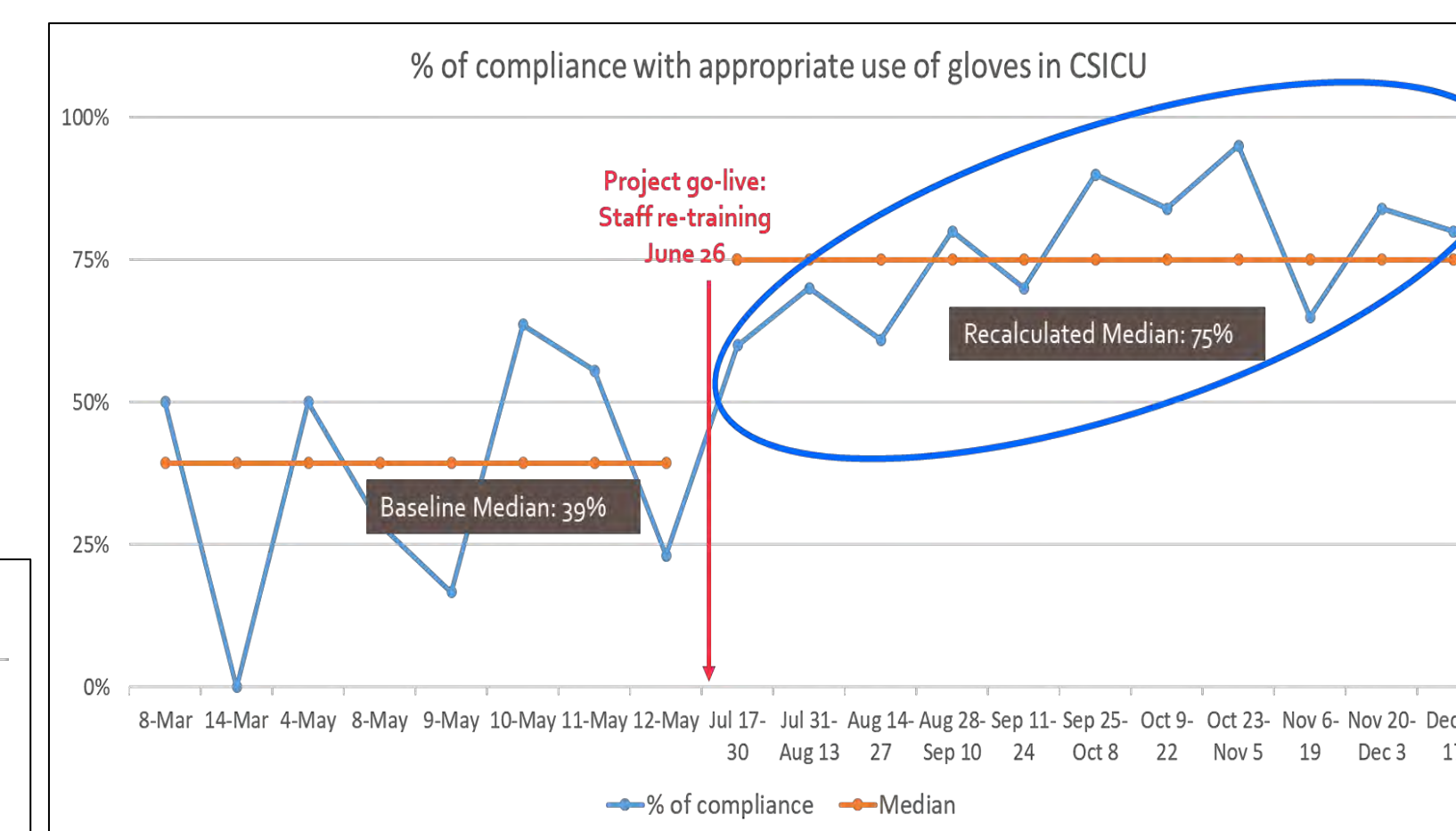


What change ideas were tested?

- Re-educating (short slideshow) staff on the appropriate use of non-surgical gloves (four standards)
- Visual audits to evaluate compliance of appropriate use of non-surgical gloves
- Posting visual cues (poster "Are you Glove Smart?")
- Providing real-time feedback to staff using a curiosity driven approach to understand their actions.

Staff Compliance with appropriate use of non-surgical gloves in CSICU

The baseline compliance rate among staff using non-surgical gloves was 39%. After the implementation of change ideas, there was a shift and currently median is 75%!



CSICU Team



Providence Health Care
Mission: Forward
Strategic Plan 2019–26

What are we doing to sustain this improvement?

- Keep monitoring the use of non-surgical gloves in the CSICU as well as the staff compliance rate
- Include the education slideshow around the appropriate use of non-surgical in the CSICU new staff orientation process
- Try to spread the initiative to units/programs interested in it

Reference / Bibliography

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2. https://oee.nrcan.gc.ca/corporate/statistics/neud/dpa/calculator/ghg-calculator.cfm?_gl=1*io07gc*_ga*MTQwNj11Njc2MS4xNjc1ODAwMDg5*_ga_C2N57Y7DX5*MTY3NTgwMDA4Mi4xLjEuMTY3NTgwMDEwNy4wLjAuMA..#results

Acknowledgments:

- Great Ormond Street Hospital for Children NHS Foundation Trust: Helen & Nicola Wilson
- Providence Health Care Environmental Stewardship Team (ESTeam) & Waste Working Group
- GreenCare Network & Green+Leaders
- CASCADES
- CSICU Team & Glove Smart Project Working Group



Sustainability
Proactive financial and environmental stewardship



QUALITY-FORWARD
Exceptional Quality, Safety & Value

ED-Medicine Handover Project

Ahmed Soltan, Andrew Yan, Beena Parappilly, Chandell Kelly, Gillian Parlane, Hannah Tighe, Julia Santucci, Kathy Le, Kelli Lightburn, Mirjana Besir, Monica Li, Moses Li, Sandra Lee, Zoe Mulvenna

Background

Transferring patients between ED and Medicine can often be delayed by challenges with communication between the sending and receiving nurses. This issue was highlighted in the last accreditation survey.

The Ed-Medicine Handover project aims to improve the nursing handover process .

Methodology

Tools used prior to PDSA to understand the current state of the handover process and best practices.

1. Process Mapping
2. Environmental Scan
3. Literature Review
4. Staff Feedback survey

Measures

Outcome Measures

- Time to transfer
- Handover completion Quality

Process Measures

- Handover Completion Rate
- Nursing Reminder Orders

Balancing Measures

- Staff Satisfaction Survey
- PSLs

Changes Tested

1. ED Nurse writes a handover note using an auto-text template.
2. ED Nurse sends a nursing reminder order once the handover note is complete.
3. Medicine nurse receives the reminder order.
4. Medicine Nurse reviews the handover note (no phone call needed).
5. Ward Nurse has 15 minutes to call the ED Nurse with any questions before the patient is sent.

This process eliminates the need for two busy nurses to coordinate via phone.

PDSAs

PDSA #1: Sept 15th, 2023 for patients transferred to 7AB on day shift. Total of 8 patient transfers.

PDSA #2: Nov 28th-30th, 2023 for patients transferred to 7AB and 7CD. Total of 20 patient transfers.

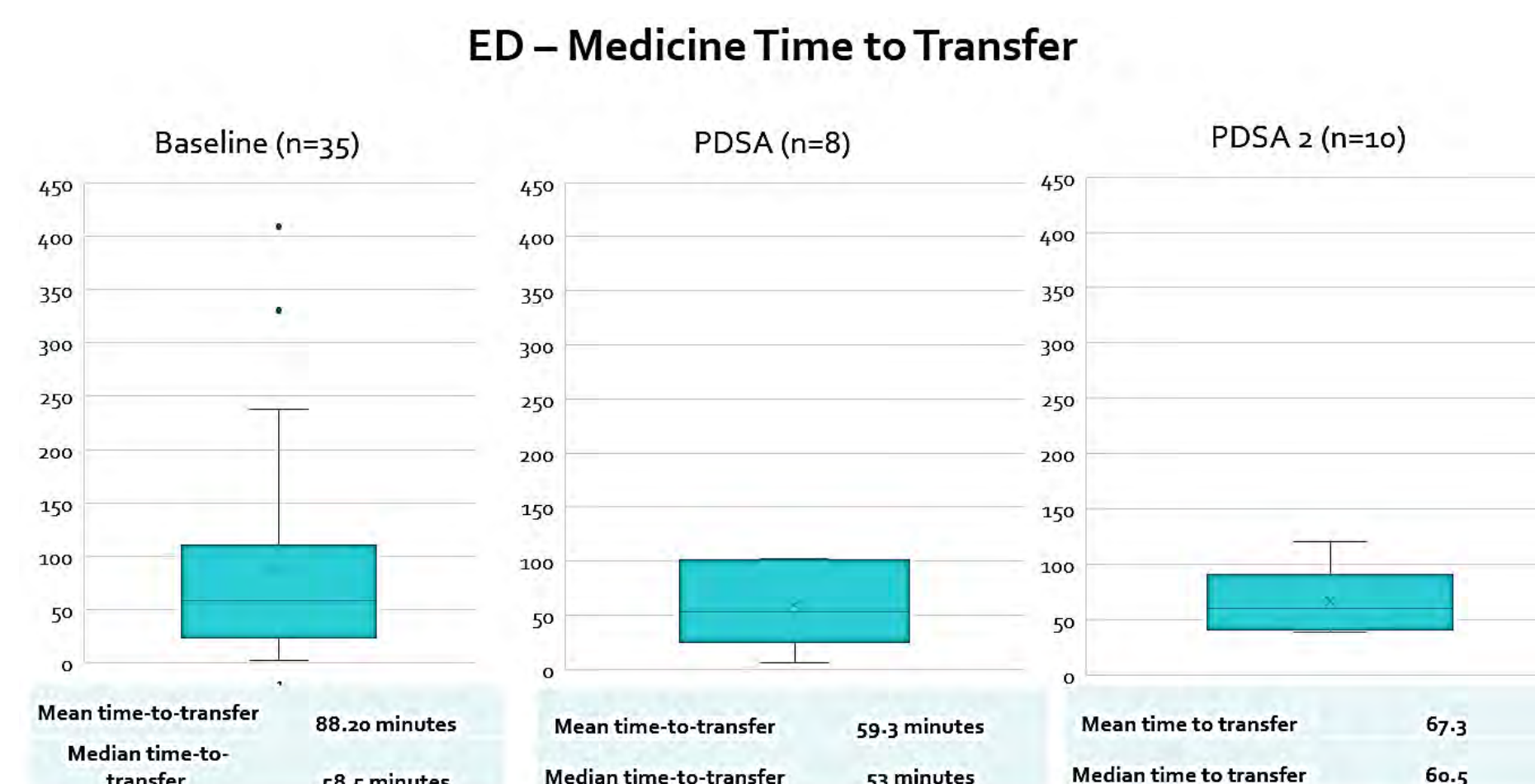
Results

Handover Completion Rate	
PDSA 1	PDSA 2
100 %	85%

Nursing Reminder Order Completion Rate	
PDSA 1	PDSA 2
87.5%	70%

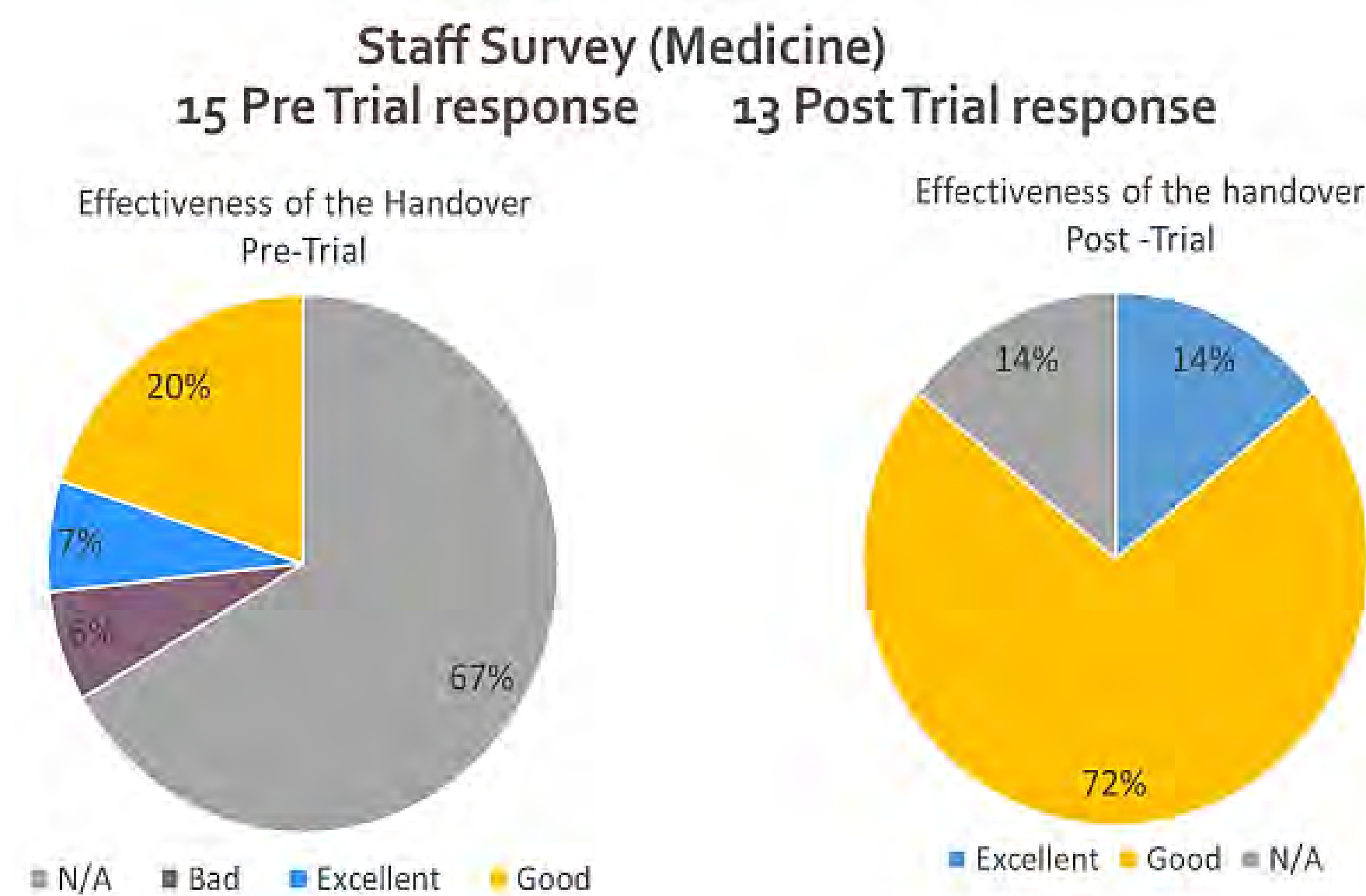
Results

Reduced time to transfer :Average of 25 minutes



Overall, staff had positive feedback with the transfer process:

- The new handover process was smooth and much more clear
- Info was there in the handover note



Next Steps

- CST to add Auto-Text Template Handover Tool to Global Auto-text list
- Trial cellphones with Charge nurses for evening and weekend for future communication possibility
- Spread handover process to MSJ and standardize across all programs admitting patients from the ED
- Share learnings with other Health Authorities

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Acknowledgement

ED and Medicine Nursing
 Unit Coordinator Staff
 ED and Medicine Leadership Team
 Data Analytics Team
 VCH - EVS Team
 PHC - CST Team
 VCH - Professional Practice

Reduction of Staff Musculoskeletal Injuries in the PACU at SPH

Christine Roy, Carla Graham, Gerald Guerrero, Sunny Lau, Carey Merriman, Terry Wong, Virginia Carlton, Susie Jones, Julie Werry

Aim

To reduce the number of musculoskeletal (MSK) injuries among perioperative staff at St. Paul's Hospital from >1 incident/month to <1 incident/quarter by Summer 2024

Background

Post-Anesthetic Care Unit (PACU)

14 recovery bays

- 6 bays fitted with ceiling lifts
- limited supply of positioning slings
- 1 bariatric stretcher & 1 bariatric bed (shared by all critical care areas)

2022: 10 incidents of staff musculoskeletal (MSK) injuries

2023 (Jan - May): 5 incidents

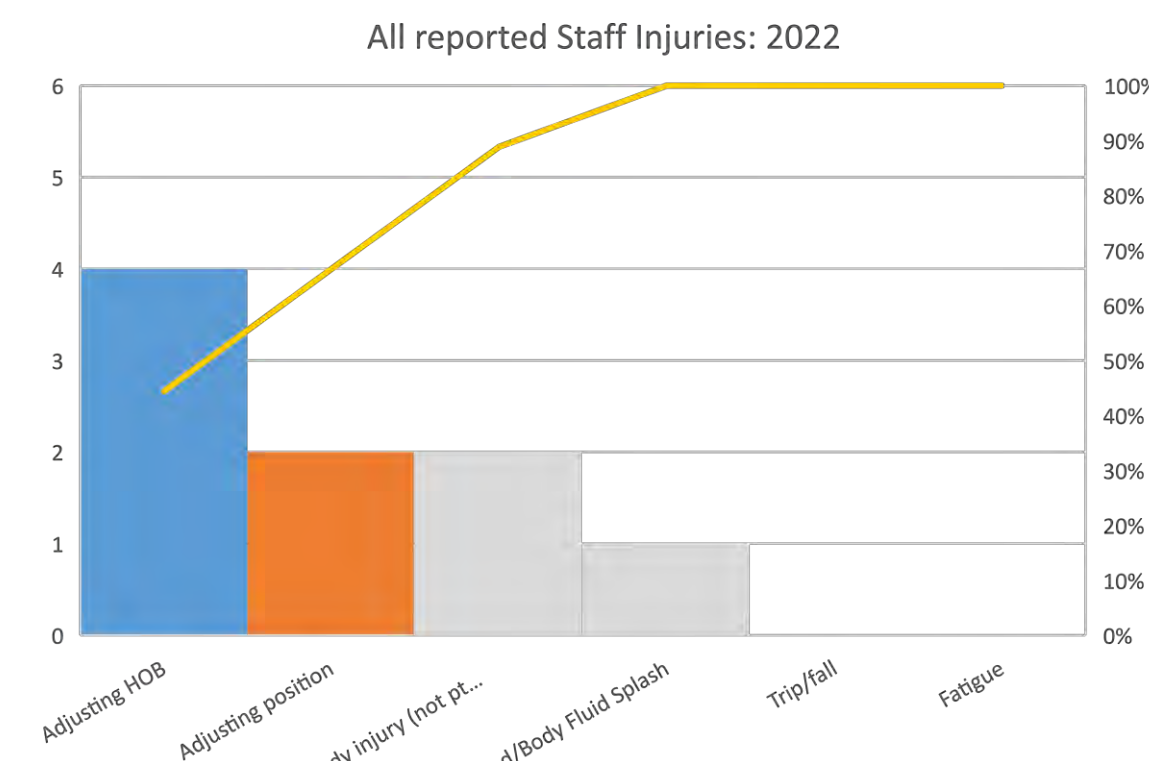
• Source: MSI Advisor, PHC Occupation Health & Safety

Resulted in:

- Extensive period off work + Graduated Return to Work (GRTW)
- Increased risk of repeat injury/reduced quality of life
- Short staffed
- Stigmatisation of being off injured/leaving colleagues working short

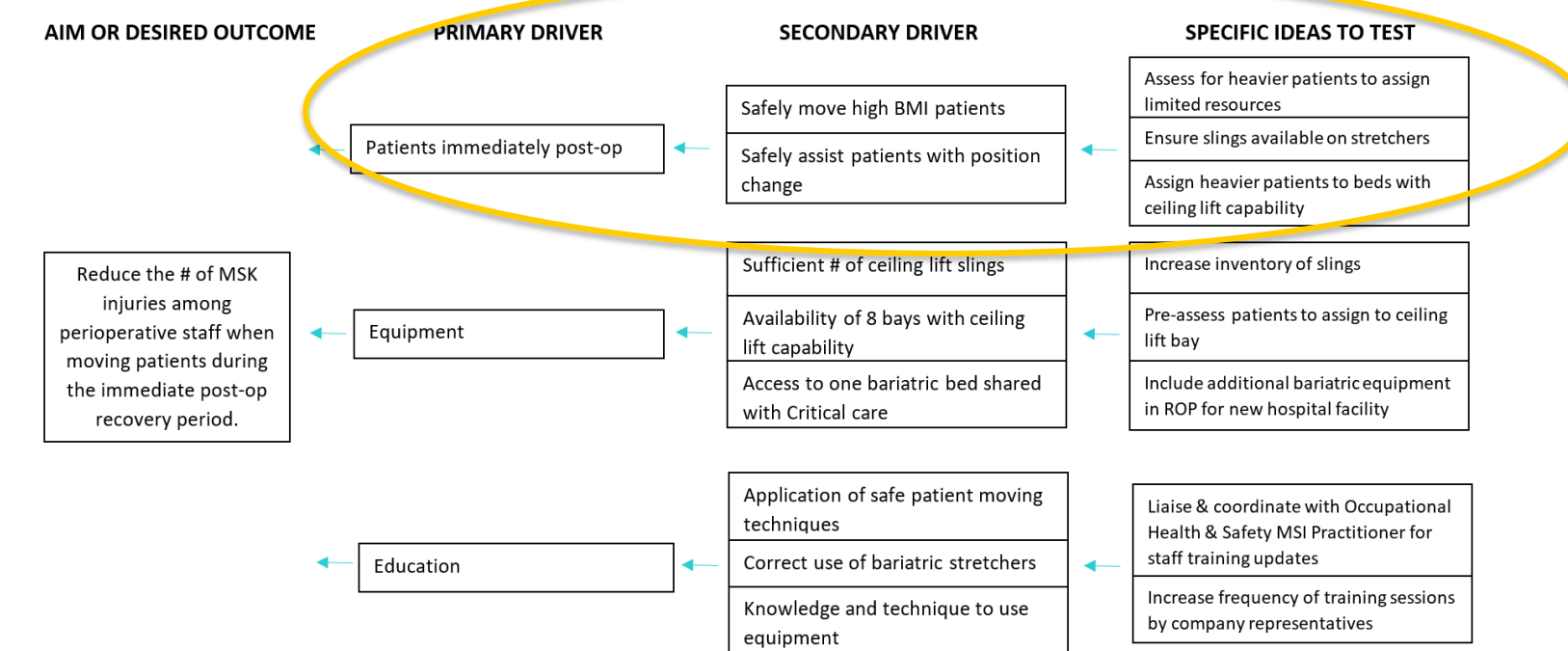
Initial Data

Pareto Distribution Curve of Contributing Causes



Driver Diagram

Contributing Factors



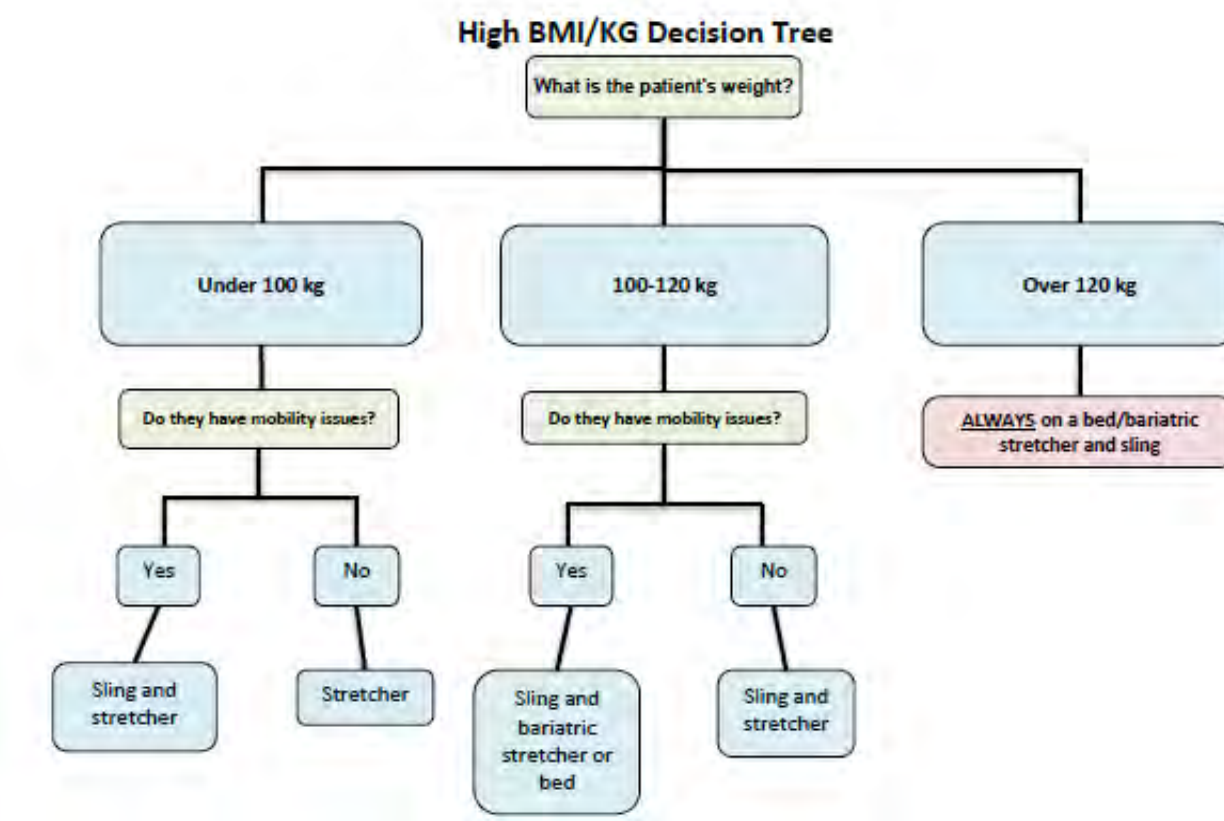
Plan

To create a "Point of Care" patient assessment tool **pre-operatively** to assign equipment for Phase I **post-operative** care

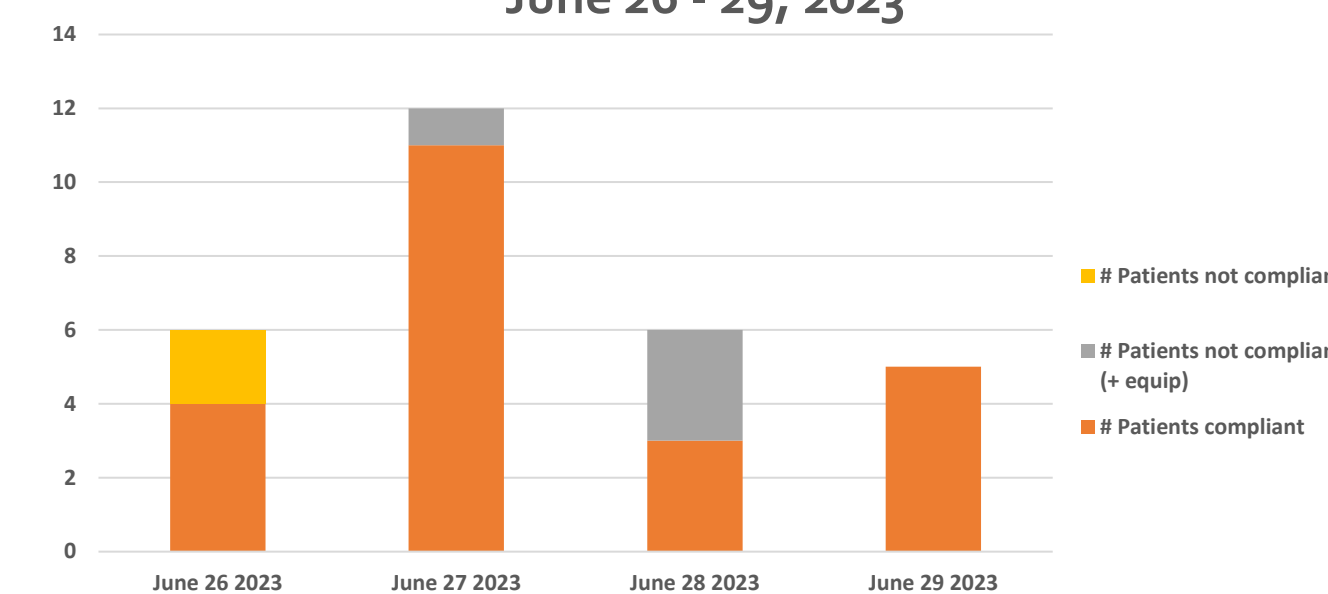
Measures

Outcome:	# of staff injuries/month
	# of staff injuries/quarter
Process:	# of assessment compliance
Balancing:	# of inappropriate use of sling/stretcher/bed

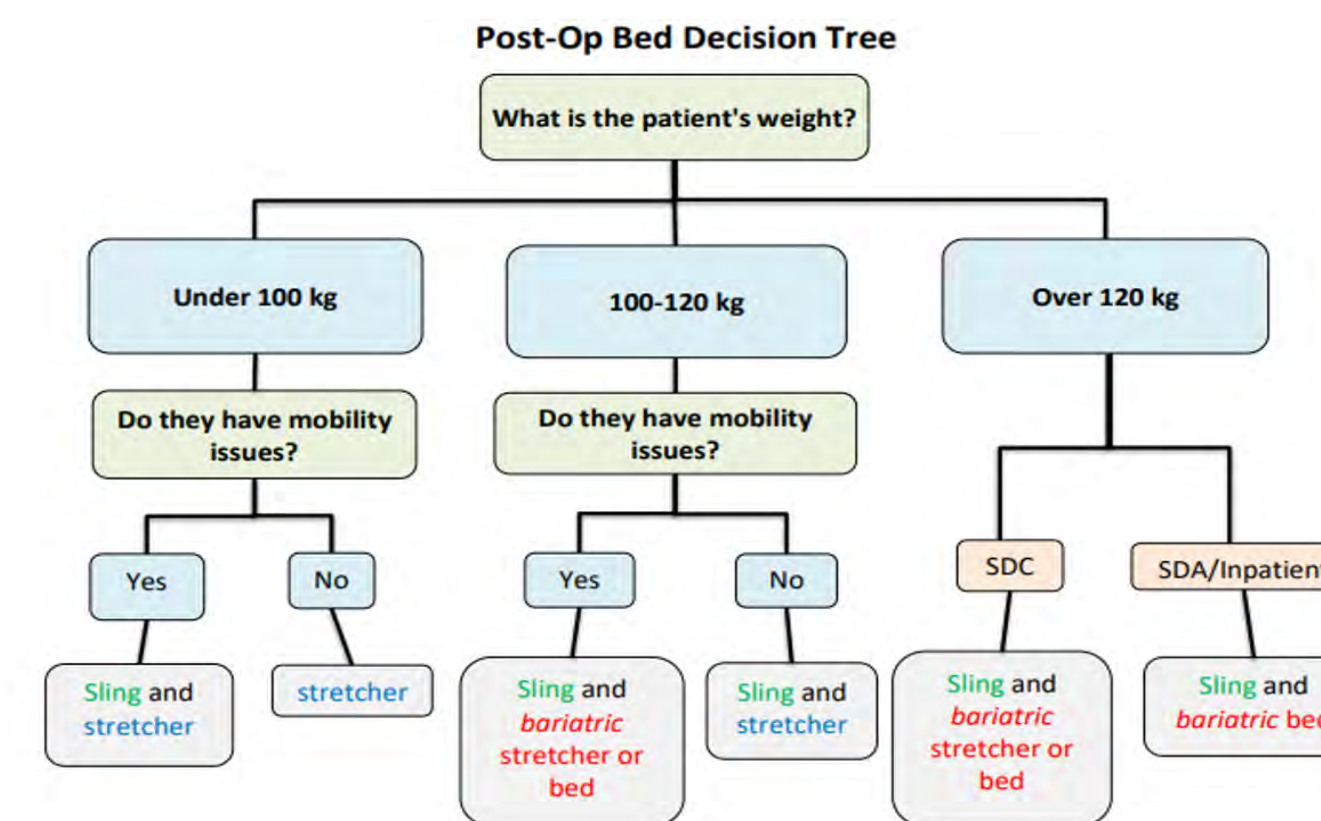
PDSA #1 - POC Assessment V1.



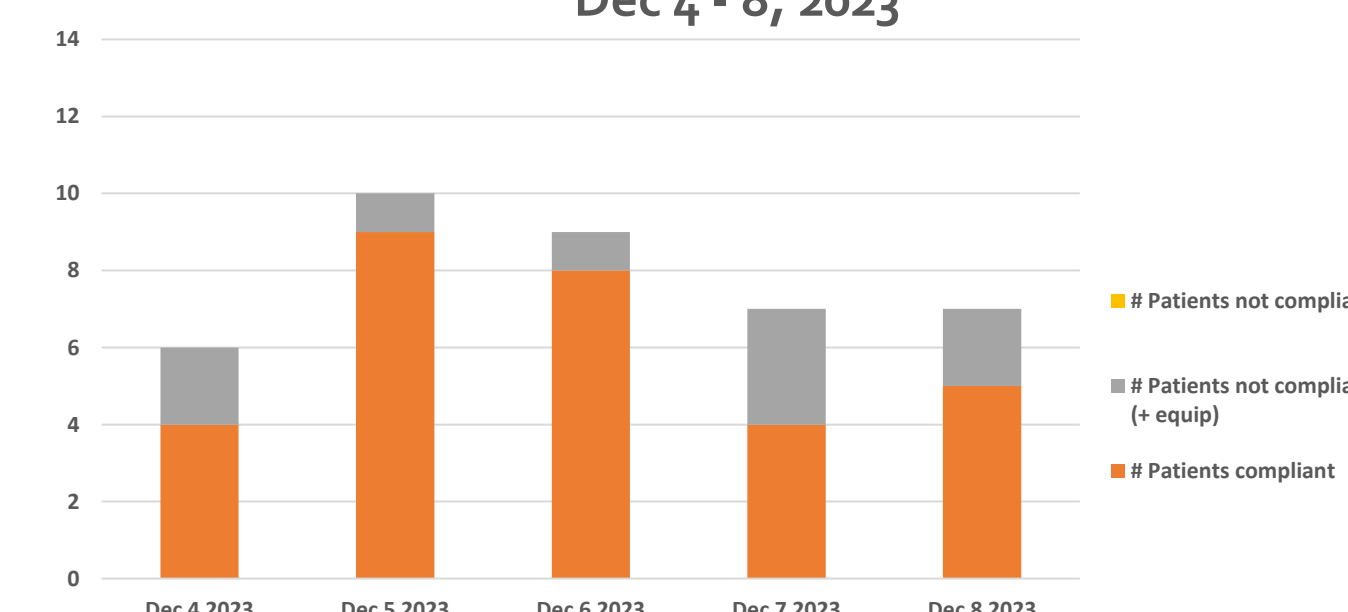
Assessment Compliance Audit v1. June 26 - 29, 2023



PDSA #2 - POC Assessment V2.

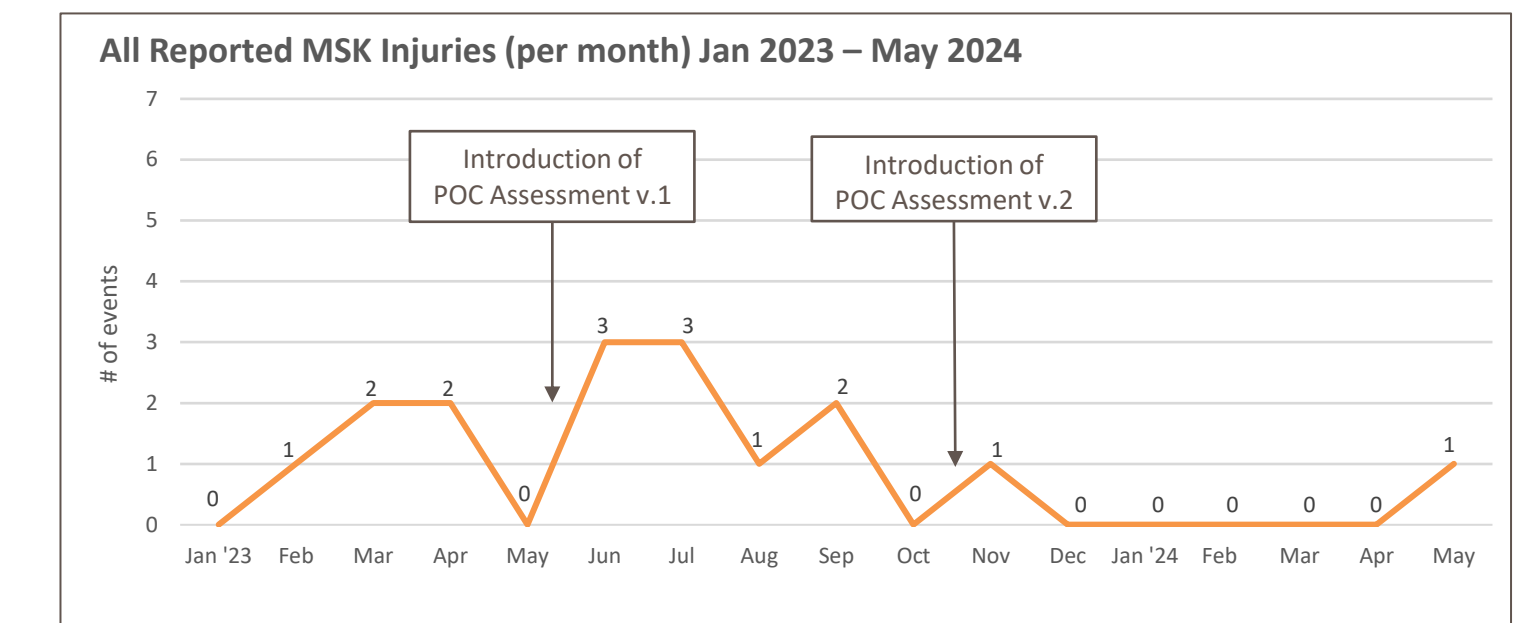


Assessment Compliance Audit v2. Dec 4 - 8, 2023

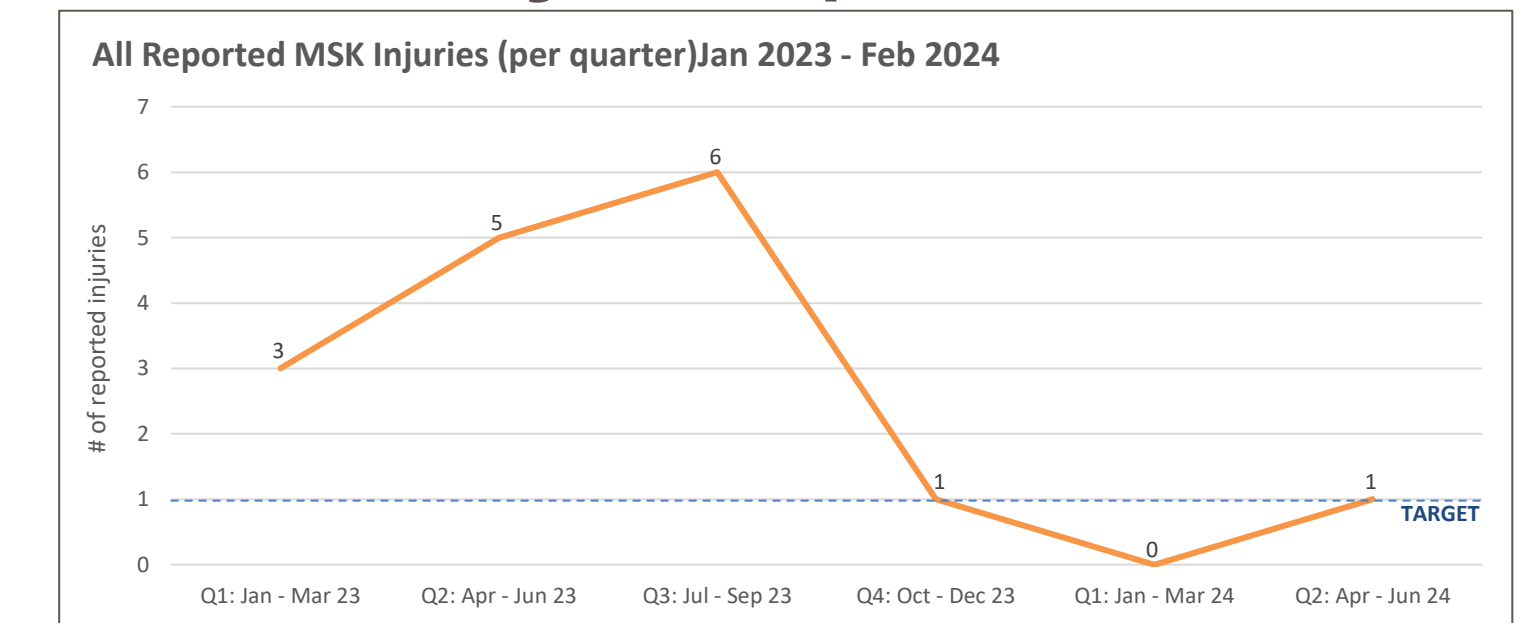


Results

of staff injuries/month



of staff injuries/quarter



Source: MSI Advisor, PHC Occupation Health & Safety 2023-2024

Sustainability

- Adhoc compliance audits
- Include assessment tool in Unit Based New Employee Orientation
- Liaise with OHS for MSK injury data
- Regular MSK injury prevention training
- Regular frequency of equipment use training

Acknowledgement

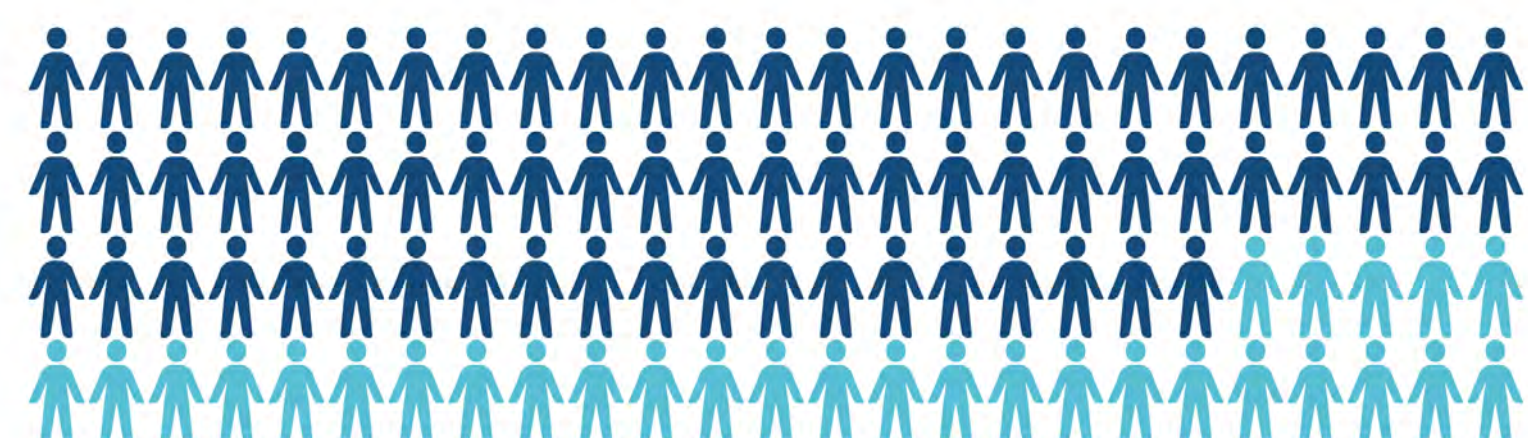
Thank you to Karen Chow MSIP/OHS for providing support and data.

Physiotherapy Following Breast Cancer Surgery at PHC

Sherryann Chung, Marcela Botero, Jo Moorhen, Karen Tugwell

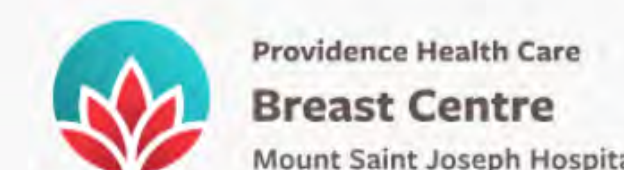
Background

- Last year, Providence Breast Centre (PBC) performed 864 breast surgeries for cancer.
- 60 -70 % of patients experience arm and shoulder pain, and mobility issues post breast cancer surgery⁵ and physiotherapy interventions have been shown to be effective for treating these issues post breast surgery.^{2,3}



- A focus group study of breast cancer survivors in BC found that many felt they did not receive adequate education on how to manage upper body issues after surgery and expressed “worry and uncertainty in the solo management of their rehabilitation.”¹ Multimodal self-management resources were preferred.¹
- Proactive physiotherapy regimes such as ROM exercises/home exercise programs, education and pain management, improve quality of life, reduce healthcare utilization and costs, and increase patient productivity.^{2,3}
- ACSM guidelines include supervised exercise for recovery of surgery for cancer related impairments and improved physical functioning and quality of life.⁴
- Currently PBC Physiotherapy Preoperative Education sessions occur via Zoom.

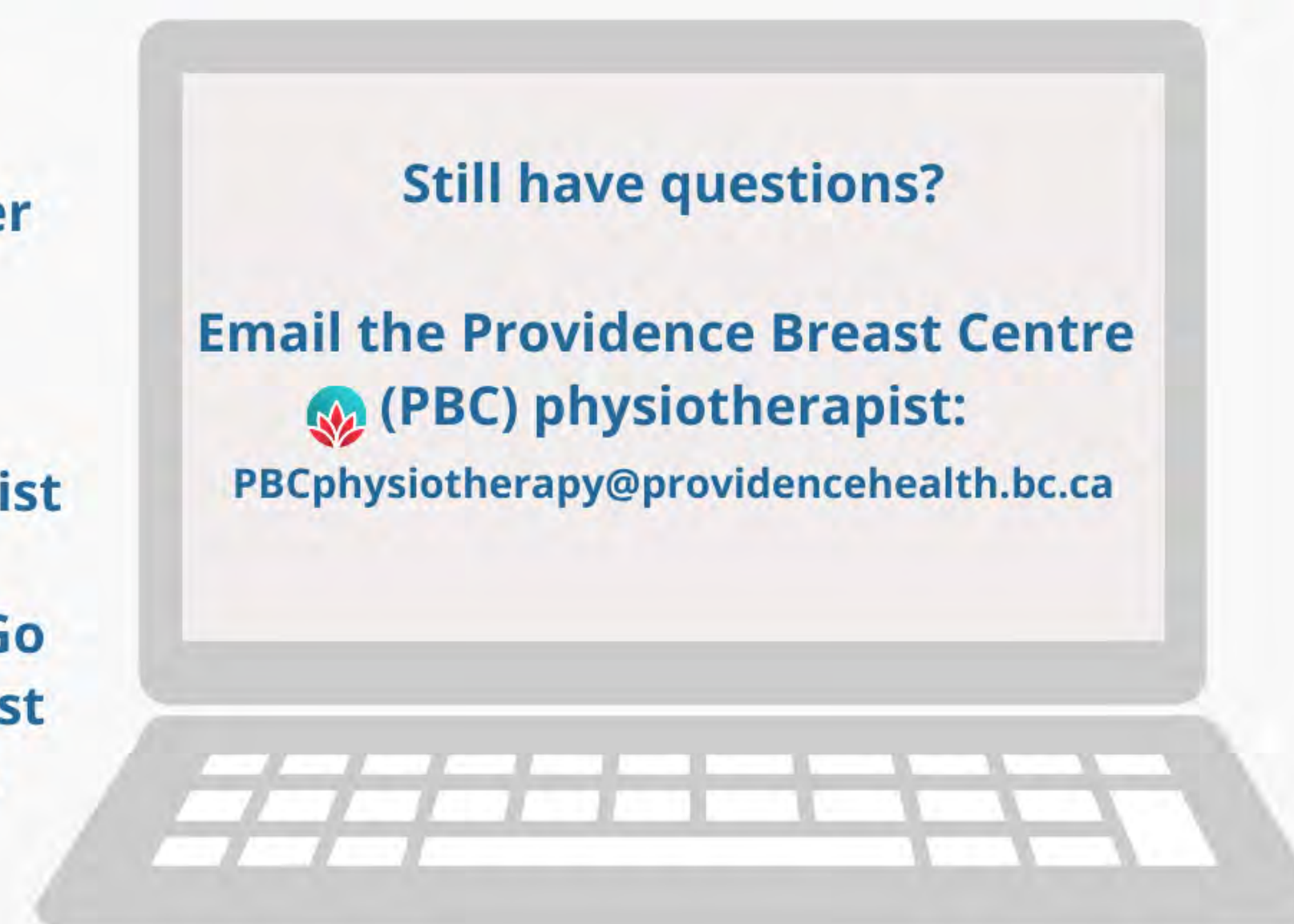
Physiotherapy Post Breast Surgery



Is the movement of your arm on the side of your surgery getting back to normal?

Are you doing your exercises?

- Review your exercises in the “*Exercise after Breast Cancer*” booklet or look at the BC Cancer “*Exercises after Surgery*” (bccancer.bc.ca)
- Consult a private physiotherapist who specializes in treating patients after breast surgery. Go to bcphysio.org and type “Breast Health” under keywords in the *Find a Physio* tool.



Still have questions?

Email the Providence Breast Centre (PBC) physiotherapist:
PBCphysiotherapy@providencehealth.bc.ca

Goals and Objectives

Provide patients with options for accessing information about exercising to restore function of their arm after surgery.

Ensure patients feel supported post-operatively and have someone to ask questions about appropriate exercises for their stage of healing.

Initiate exercise at the optimal time during recovery to prevent unnecessary stiffness or loss of function of the affected arm and poor quality of life.

Initiative

- In Jan 2024, the physiotherapy team developed the postcard (above) with patient partners.
- The postcard is emailed to patients prior to their Physiotherapy Preoperative Education session.
- The postcard may also be distributed at the post operative nursing visit if questions about physiotherapy exercises are asked.

Evaluation

- Monitor the number of patients who email the PBC physiotherapist, document their issues and type of surgery.
- Administer satisfaction of service survey to all patients who have received the postcard.
- Use the data to optimize our resources to deliver the best care to the patients at a time in their recovery where the information is most easily absorbed. This may include re-designing/enhancing physiotherapy services post breast surgery.

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Acknowledgements

Providence Breast Centre Nurse Navigators
Patient Partners

Questions?

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Providence Health Care



Mission: Forward Strategic Plan 2019–26

NEWS QI Project at MSJ

Aisha Aquilaro, Beena Parappilly, Dave Taylor, Jin Huang, Julia Santucci, Lourdyn Okoronkwo, Monica Li, Rafael Sumalinog, Swapnil Shah (Patient Partner), Vininder K Bains

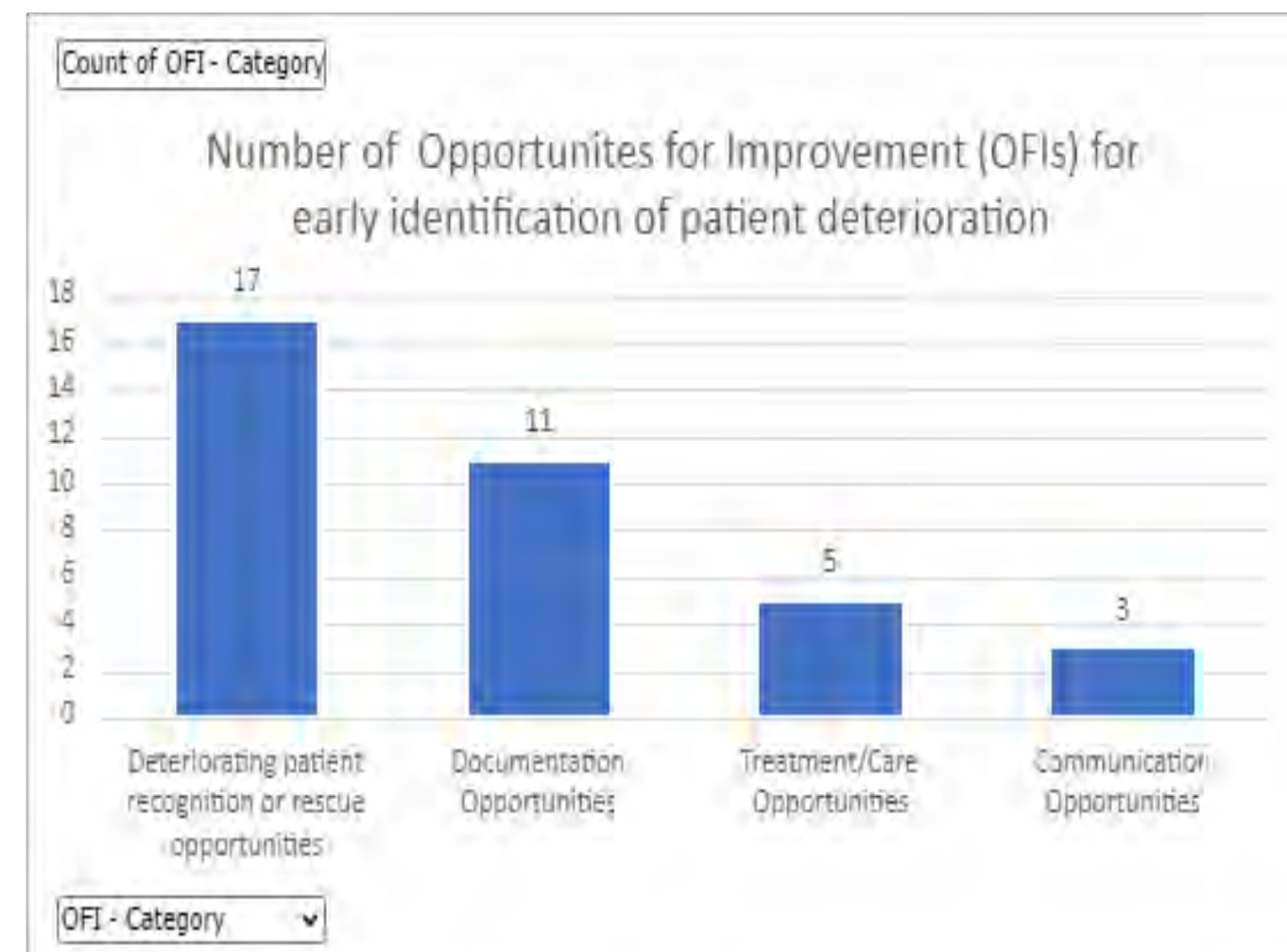
Background

Mount St. Joseph Hospital launched a quality improvement project to enhance nurse education and utilization of the National Early Warning Score (NEWS) to detect early patient deterioration and improve outcomes. The NEWS system, which assesses patient condition severity based on vital signs, was previously underused due to a lack of awareness. A NEWS working group was formed to address this gap through targeted education and evaluation strategies.

Significance of NEWS tool in Clinical Deterioration

Cases of early patient deterioration between 2019-2023 resulting in mortality cases were examined and analyzed:

- 36 Opportunity for Improvement (OFIs) identified in the reviewed cases
- NEWS documentation was missed
- No escalation of care documented despite patient assessment changes
- Missed opportunities to escalate care to the CCOT



Measures

NEWS on Admission Report:
Is a Complete NEWS being done within 2 hours of an inpatient admission?
Goal = >80%
$$= \frac{\text{admitted pts with NEWS}}{\text{admitted pts}} \times 100$$

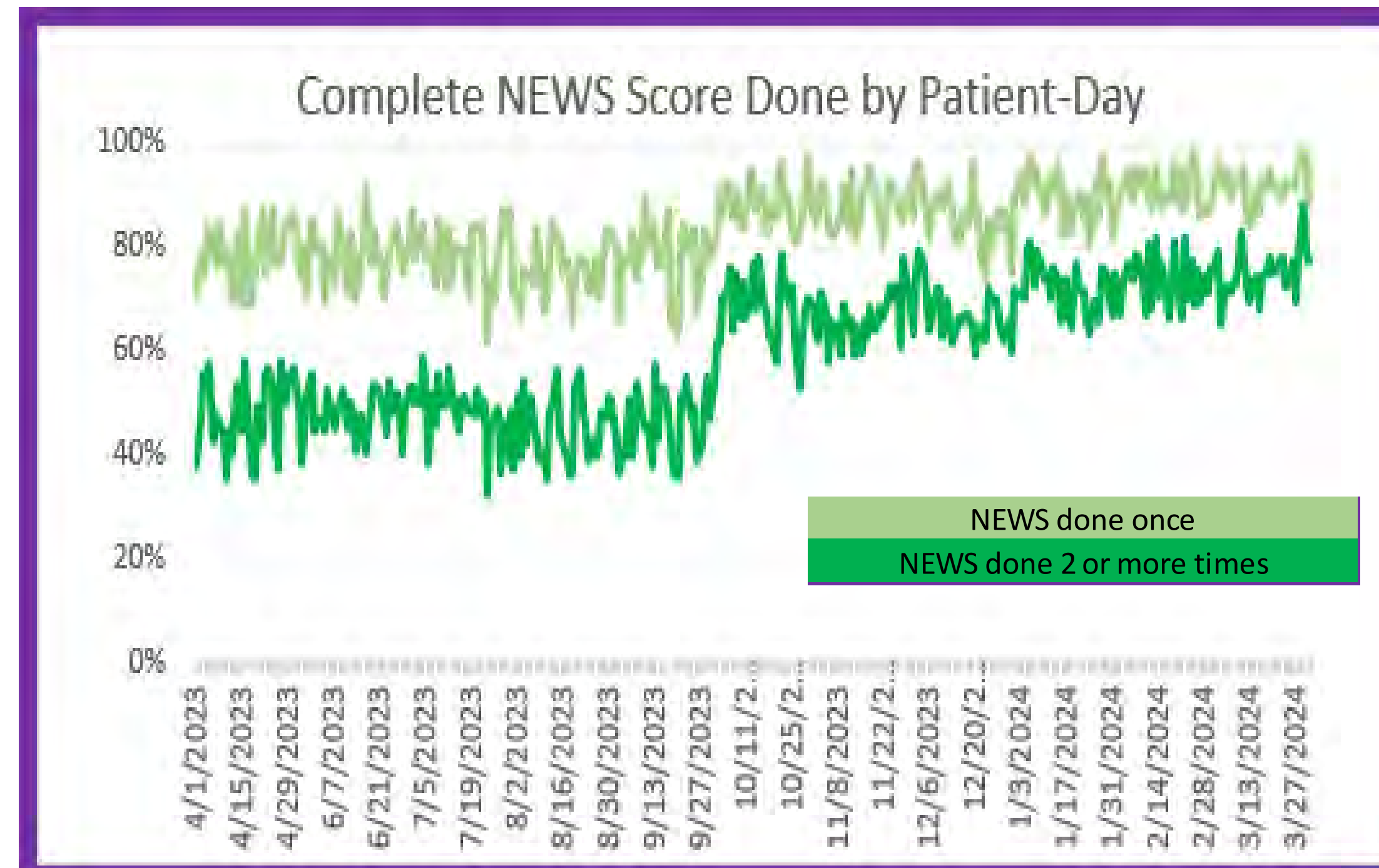
NEWS Completion Report:
Is a Complete NEWS being done at least twice daily?
Goal = >80%
$$= \frac{\text{Patient \cdot Day with NEWS}}{\text{Patient \cdot Day}} \times 100$$

NEWS Elevated Score Actions Report:
When the NEWS is elevated, what actions are being reported?
Increased frequency of VS?
Provider notified?
CCOT notified?

Methodology

- Dashboard was developed to utilize Cerner information to display NEWS completion data
- Regular communication of NEWS completion data to nurses
- Continuous training with nurses and students focused on proper utilization of NEWS
- NEWS education included in the New Employee Orientation
- Incorporated NEWS during unit morning check-ins
- Chart Audit for NEWS
- Sharing incidents reviews related to undetected patient deterioration with the staff

MSJ NEWS Completion Data 2023 to 2024



MSJ NEWS Alert Action Data



Next Steps

- Develop a Data Analytic Dashboard for capturing comprehensive NEWS reports across the organization
- To sustain the NEWS QI work by integrating Key Performance Indicators (KPIs) for outcome measures within the Data Analytics Dashboard
- To spread the project on a small scale to other parts of PHC

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