SSC
SPECIALIST SERVICES COMMITTEE

PQI PHYSICIAN QUALITY IMPROVEMENT
Specialist Services Committee

SQI SPREADING QUALITY IMPROVEMENT
Specialist Services Committee

# Physician Quality Improvement & Spread

## Cohort 7, Alumni & Spread Projects

2023 - 2024

Vancouver CoastalHealth

Providence Health Care
How you want to be treated.

# Territory Acknowledgement

**We wish to acknowledge that the land on which we gather is the traditional and unceded territory of the Coast Salish Peoples, including the Musqueam, Squamish, and Tsleil-Waututh Nations.**

Vancouver Coastal Health is committed to delivering exceptional care to 1.25 million people, including the First Nations, Métis and Inuit, within the traditional territories of the Heiltsuk, Kitasoo-Xai'xais, Lil'wat, Musqueam, N'Quatqua,
Nuxalk, Samahquam, shíshálh, Skatin, Squamish, Tla'amin, Tsleil-Waututh, Wuikinuxv, and Xa'xtsa.

Indigenous Health | Vancouver CoastalHealth

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# PQI&S Team

**Leadership**

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# Introduction

The Physician Quality Improvement & Spread (PQI&S) initiative is a province wide initiative and a partnership between Vancouver Coastal Health (VCH), Providence Health Care (PHC), and the Specialist Services Committee (SSC). The vision of PQI&S is to "empower physicians to enable a continuous improvement culture, to achieve excellence in care for patients and families, where BC is a model for health and wellness globally" – PQI&S Vision, Mission, Values

This years' 2023-2024 booklet showcases the effort and results of 19 Cohort projects, 15 Alumni/Open More Door (OMD) projects, and 1 Spreading Quality Improvement (SQI) project completed or near completion this year.

Congratulations to all the physicians and their team members who dedicated their time and effort to improving care for patients.

Above: Cohort 7 class photo

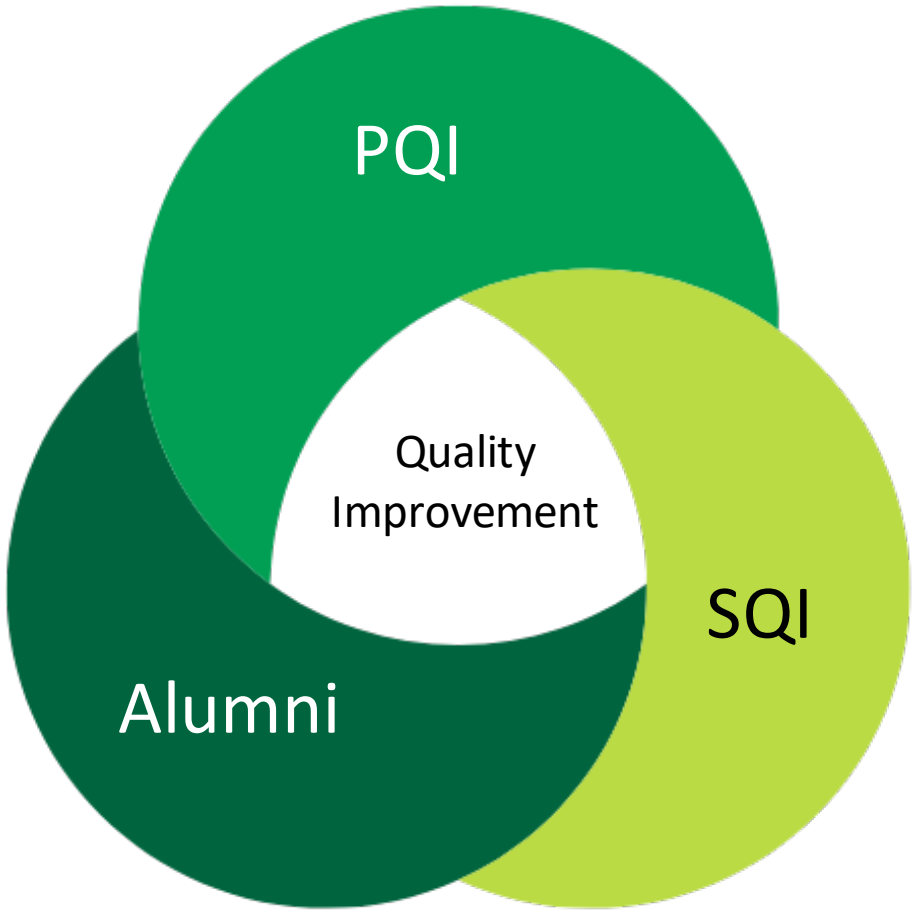
# Supporting Medical Staff to be Powerful Health System Partners

## Physician Quality Improvement (PQI)

PQI provides training and project support to physicians for in-depth learning about QI theory and tools, and an opportunity to conduct their own QI project. Training opportunities range for self-paced online learning (Level 1), class-based half day zoom sessions (Level 2), to cohort-based learning with full project support (Level 3). We also offer QI coaching as needed and Quality Quest for team-based learning.

## Alumni & Open More Doors

This strategy was formally created this year to continue supporting physicians in their QI journey (alumni) and create an opportunity for more physicians to be involved in quality (open more doors). The key components we offer are project funding, program advisor support, and data analytics. We continually strive for physicians to become QI leaders within their team and their organization.




PQI Website

SQI Website

## Spreading Quality Improvement (SQI)

SQI is an initiative that aims to foster collaborative relationships at the provincial, regional/ organizational and local levels resulting in the spread of QI work funded by the SSC and Shared Care Committee. The goal is to spread successful QI projects to accelerate the impact and transformation for our health care system within the Institute for Health Care Improvement (IHI) Modified Triple Aim framework. SQI provides support to sending and receiving sites in the form of physician funding, QI education, data support, project/change management, and system navigation.

# Cohort 7 Projects

## Institute for Healthcare Improvement (IHI) – Modified Triple Aim

| Project Titles | Patient Experience | Population Health | Cost of Care | Provider Satisfaction |
|---|---|---|---|---|
| **Chow, Bryan** *Improving the Efficiency of Determining Dispositional Capacity on the VGH ACE Unit* | | | | |
| **Dingee, Carol** *Increasing Preoperative Imaging Access at First Surgical Consult at Providence Breast Center* | | | | |
| **Lee, Darren** *Reducing Time to Physiatry Consultation for Traumatic Brain Injuries* | | | | |
| **To, Fergus** *Best Practice: Physiotherapy for All Myositis Patients* | | | | |
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| **Baxter, Jennifer** *Bringing Joy to the Workplace: Enhancing Physician Wellness in the Sechelt ER* | | | | |
| **Shnurr-Howsam, Rebecca** *Optimizing Medication Reconciliation at the Geriatric Assessment Program in Richmond, BC* | | | | |
| **Drury, C. Taylor** *St. Paul's Hospital Emergency Department (ED) Low Risk Pulmonary Embolism Pathway* | | | | |
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| **Lupton, Keeva** *Reducing Urinary Catheterization on the St. Paul's Hospital Acute Care for the Elderly (ACE) Unit* | | | | |
| **Chakrabarti, Shantabhanu** *Physician Wellness Project, Division of Cardiology, Providence Health* | | | | |
| **Shertzer, Robert** *Enhancing the Selective Laser Trabeculoplasty (SLT) Experience* | | | | |

**Patient Experience**
Improving patients' (individual's) experience of health care

**Population Health**
Improving health in the population (addressing cause of illness)

**Cost of Care**
Improving cost efficiency in health without reducing efficacy

**Provider Satisfaction**
Improving the experience of those working in health care

# Cohort 7 Highlights

**10** MONTHS

**13** QI TRAINING SESSIONS

**19** COHORT 7 PROJECTS

***Dr. Robert Schertzer*** enhances patient experience during glaucoma consultations with videos and educational material

***Dr. Richard Gilbert*** improves antibiotics usage to reduce surgical site infection rates for patients undergoing pancreatic resection

***Dr. Darren Lee*** aims to shorten the time from admission to physiatry consult for traumatic brain injury patients

***Dr. Evelyne Perron*** enhances families' preparation and support for birth with an education package designed by patients

***Dr. Kara Jansen*** enhances postpartum breastfeeding support by promoting access to a hospital drop-in clinic

***Dr. Rebecca Schnurr-Howsam*** optimizes medication reconciliation with patient communication and reminders

***Dr. Bryan Chow*** improves the efficiency of determining patients' capacity to return home

***Dr. Carol Dingee*** increases surgeons' access to external mammogram images, which improves assessment, surgical planning, patient understanding, and collaboration in breast cancer care

***Dr. Jennifer Baxter*** *and* ***Dr. Santabhanu Chakrabarti*** each lead a project on physician wellness. Ideas tested include a 5-minute check-in, Kudos Project, and retirement planning

***Dr. Jay Pai*** creates an outpatient paracentesis clinic and reduces ED visits and admissions for cirrhosis and ascites

***Dr. Maja Sagedi*** introduces a surgeon review process to reduce wait times for liver transplant consultation and decision-making

***Dr. Taylor Drury*** is keeping pulmonary embolism out of hospital with an outpatient care pathway

***Dr. Betty Tang*** implements standardized rating scales to streamline assessments, save time during appointment, and assist patients in organizing their thoughts.

***Dr. Peter Rose*** reduces delays in pain management for chest trauma patients

***Dr. Victor Tran*** aims to decrease repeated investigations in pre-operative patients

***Dr. Shaqil Peermohamed*** aims to increase syphilis screening for patients

***Dr. Keeva Lupton*** aims to reduce length of urinary catheterization through awareness and communication

***Dr. Fergus To*** aims to increase access to physiotherapy services for myositis patients through same day assessments

PQI PHYSICIAN QUALITY IMPROVEMENT Specialist Services Committee

# PLANETARY HEALTH IMPACTS

This year, we prioritized incorporating planetary health impacts into our QI projects to ensure that our initiative not only improves patient care but also contributes positively to environmental sustainability. Under the guidance of our PQI alumni Dr. Andrea MacNeill (VCH Regional Medical Director for Planetary Health) and her team, we've approached our QI projects from a fresh perspective. A few examples include:

Breastfeeding, when possible, is more environmentally preferable than formula since it avoids the resource use, emissions, and waste associated with producing, shipping, and preparing formula
*(see Dr. Kara Jansen)*

Shorter hospital stays reduce the environmental impacts of acute inpatient care because they lower the consumption of resources such as energy, water, and medical supplies, which contributes to a smaller carbon footprint and less environmental strain from healthcare services.
*(see. Dr. Bryan Chow)*

Preventing infections helps the environment by reducing the need for medical treatments and hospital stays.
*(see Dr. Keeva Lupton, Dr. Richard Gilbert)*

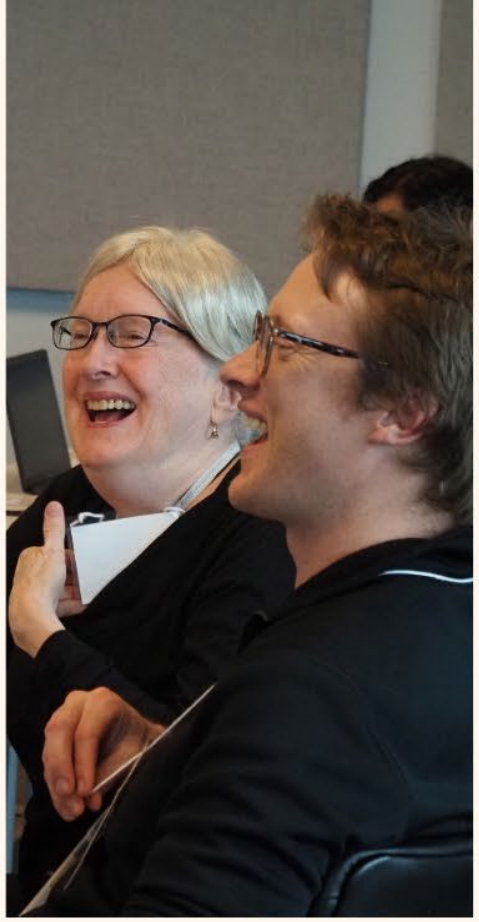
Integrated IT systems enable seamless coordination of care across different providers and systems, benefiting the environment by reducing unnecessary duplication of tests.
*(see Dr. Carol Dingee, Dr. Victor Tran)*

Moving care from inpatient to outpatient or less resource-intensive settings saves a significant amount of resources and can reduce the carbon footprint of those visits
*(see Dr. Taylor Drury, Dr. Jay Pai, Dr. Darren Lee)*

Reviewing and managing medications can help reduce the environmental impact caused by taking multiple drugs and treating problems from drug interactions or inappropriate prescriptions.
*(see. Dr. Rebecca Schnurr-Howsam)*

**Planetary Health Framework**

Reference: MacNeill, Andrea & McGain, Forbes & Sherman, Jodi. (2021). Planetary health care: a framework for sustainable health systems. The Lancet Planetary Health. 5. e66-e68. 10.1016/S2542-5196(21)00005-X.



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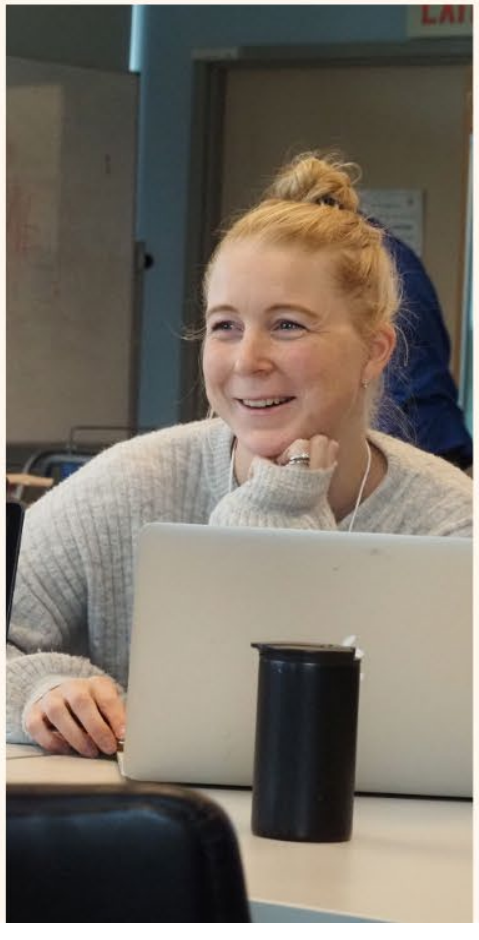
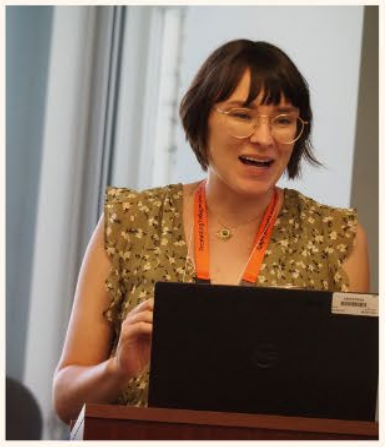
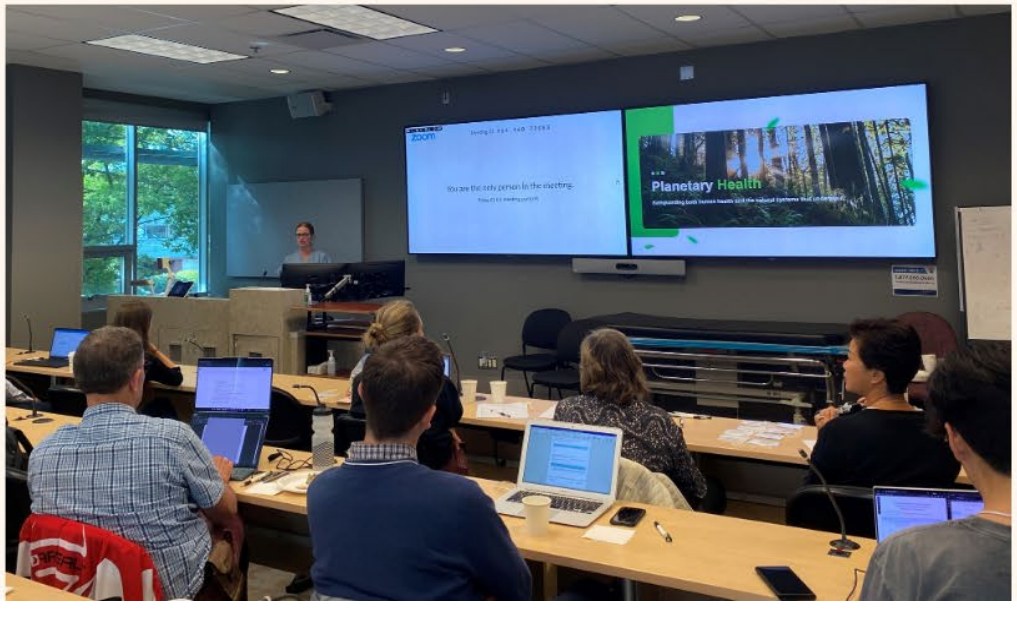
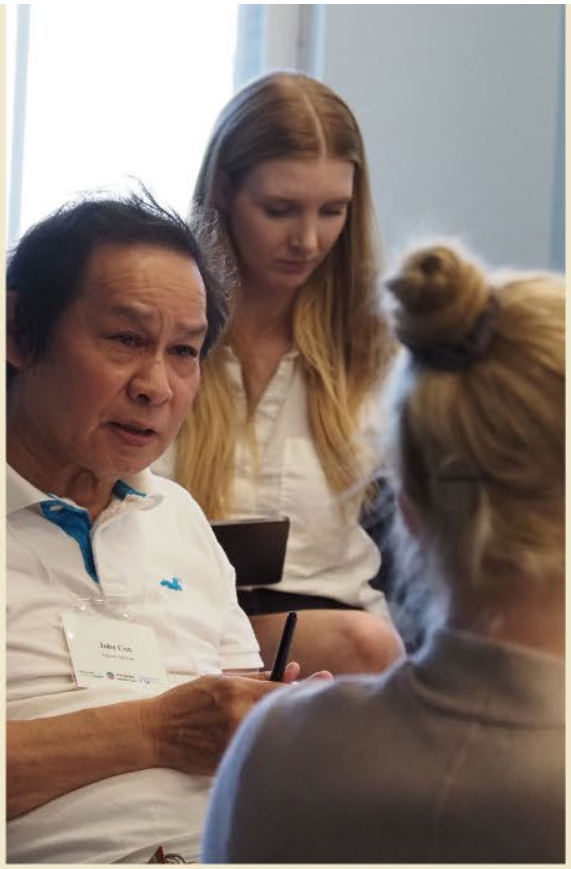
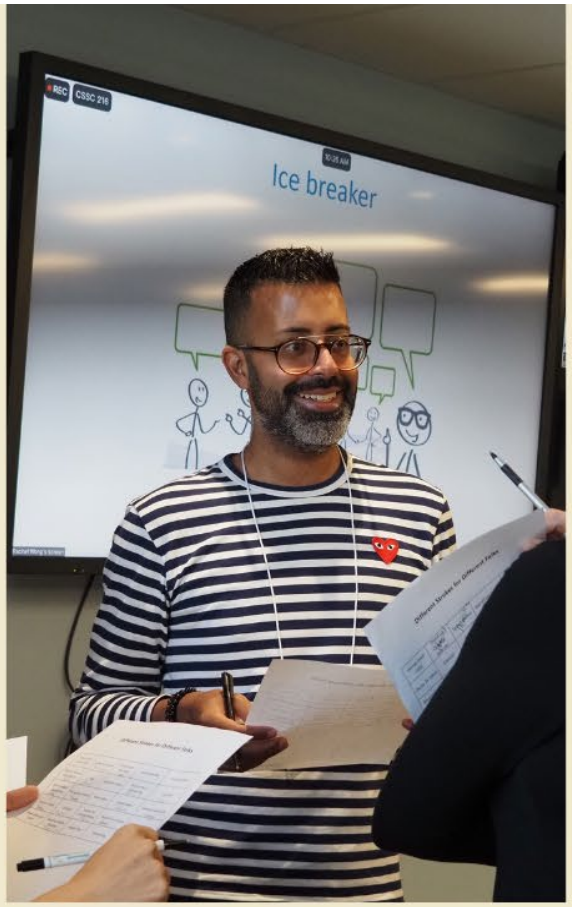





Planetary Health




Ice breaker

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# Cohort 7 Projects

Vancouver CoastalHealth

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# Improving the Efficiency of Determining Dispositional Capacity on the VGH ACE Unit

Dr. Bryan Chow, Dr. Justin McGinnis, Jefferson Xu

Vancouver CoastalHealth | Providence Health Care — How you want to be treated. | PQI Physician Quality Improvement, Specialist Services Committee

## CONTEXT

- Elderly patients presenting with complex acute medical issues are often admitted to the **Vancouver General Hospital Acute Care for Elderly unit (VGH T11A/D)**
- The ACE unit is run by an **interdisciplinary team** with Clinical Teaching Unit/CTU (Internal Medicine) social workers, occupational therapist, physiotherapist, dieticians, Care Management Leaders (CML) and Transition Services (TST) nurses.
- **Geriatric Psychiatry** is often consulted for patients with complex psychiatric and cognitive presentations

## PROBLEM

- One common consult to Geriatric Psychiatry is for **"capacity to go home",** also known as **dispositional capacity**
  - This is often due to a patient's **complex medical and psychosocial circumstances** leading to uncertainty about their ability to return home.
  - The existing process to determine disposition is **complicated and time-consuming**
- Causes include:
  - 1) **knowledge gaps** around the concepts around capacity and relevant legislation (HCCFA, AGA, MHA)
  - 2) **delays** in recognition of complexity, in timing of assessments, and in psychiatric consultation
  - 3) **inconsistent** assessment process

## AIM STATEMENT

- To reduce the average duration of time between identifying complex disposition to the determination of disposition by 3 days in 12 months on the Vancouver General Hospital Acute Care for Elderly unit.

## INTERVENTION OR STRATEGY FOR CHANGE

1. **Educational sessions** to ACE unit about capacity and disposition
2. **Early consultation** to Geriatric Psychiatry
3. **Checklist** of recommended assessments to determine capacity

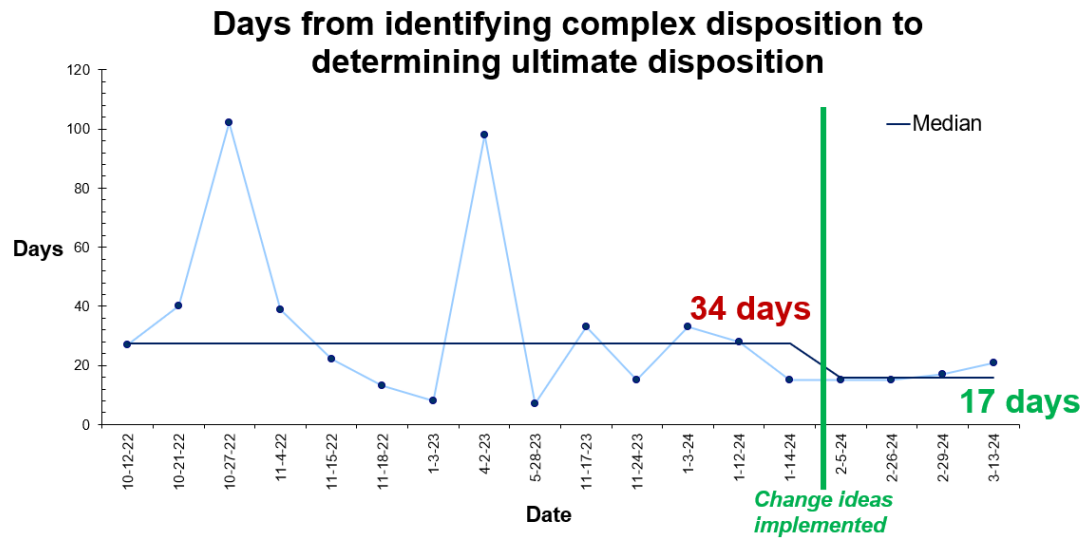
- Implementation
  - Face-to-face time on the wards with teams
  - Frequent informal meetings with CML and TST
  - Changes first implemented in February 2024, ongoing process

## EFFECTS OF CHANGE

- **Improved team experience** (clarity of process and roles)
- **Improved patient experience** (appropriate disposition, quicker)
- **Lowering costs** (duration of hospitalization)

**Unanticipated effects**

- More informal consultations/patient discussions
- Reliance on individual clinicians and team members




## MEASURES OF IMPROVEMENT

- Data collected via manual chart review
- Days from identifying complex disposition to when disposition is ultimately determined
  - **From 34 days down to 17 days**
- Days from identifying complex disposition to geriatric psychiatry consultation
  - **From 16 days down to 8 days**

## LESSONS LEARNED

- **Improving efficiency** of complex processes like disposition planning is possible
- Potential use on **any other medical/surgical unit**
- Value in **building connections** to improve personal and team understanding of complicated process
- Value in **taking the time** to reflect, think and learn about problems

## SUSTAINABILITY

- Ongoing education (CTU rounds, Consultation-Liaison Psychiatry rounds)
- Cerner implementation of checklist as PowerPlan
- Ongoing working relationships

**Acknowledgements**

All the CTU attendings and residents, Sarah Dunlop, Matthew Zhiss, Candace Tegart, Shelley Goodwin, Robert Bush, Pam Papp, Scott Hobson, Dr. JJ Sidhu, Dr. Shao-Hua Lu, PQI Cohort 7

**Glossary of acronyms**

VGH: Vancouver General Hospital; ACE: Acute Care for Elderly; CTU: Clinical Teaching Unit; HCCFA: Health Care Consent and Facilities Act; AGA: Adult Guardianship Act; Mental Health Act

For questions contact Bryan Chow at: bryan.chow@vch.ca

# Increasing Preoperative Imaging Access at First Surgical Consult at Providence Breast Center

Ms. Lillian Chen, Mr. Jefferson Xu, Dr. Stephen van Gaal, Ms. Sarah MacDonald, r. Carol Dingee

Vancouver CoastalHealth | Providence Health Care — How you want to be treated. | PQI Physician Quality Improvement — Specialist Services Committee

## CONTEXT

This project was based at the **Providence Breast Center (PBC)**

- Established in 2009 at Mt St Joseph Hospital (MSJH) in Vancouver
- Multidisciplinary surgical unit with a centralized referral system
- More than 1000 surgeries performed annually - 80% for a malignant diagnosis

MSJH has an active breast radiology unit, but as the PBC serves patients of BC (with most from lower mainland) patients have breast imaging at large number of radiology facilities.

## PROBLEM

Historically mammograms were analog and therefore straightforward to access

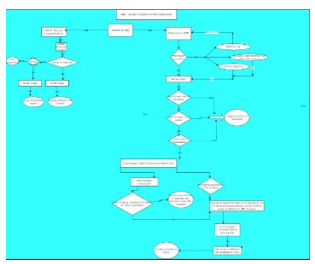
All breast imaging is now digital: Imaging is stored in a PACS system (Picture Archiving and Communication System), and every facility that offers imaging has their own PACS

→ **Problem: Surgeons often do not have access to externally generated preop imaging at point of first PBC consult**

## AIM STATEMENT

To increase by 50% the percentage of patients for whom externally generated mammogram images are available in Care Connect or PACS at point of first in person/virtual consultation at PBC

**1. Process Map**



**2. Change Ideas**

**PDSA #1**
- Identify access pathways for external PACS systems
- Test access to preop imaging for Greig Associates with 1 PBC surgeon

**PDSA #2**
- Provide instructions to all PBC surgeons on Greig Associates PACS access

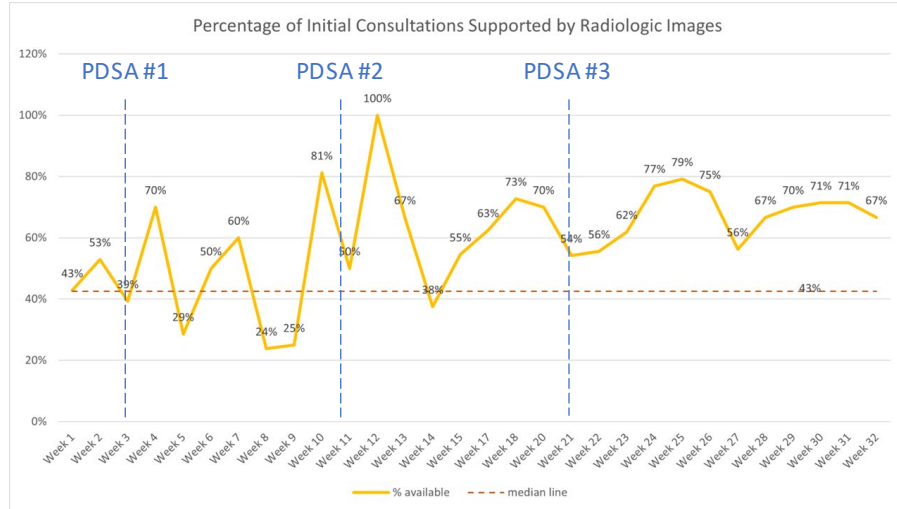
**PDSA #3**
- Provide instructions to all PBC surgeons on PACS access for additional imaging sites
- Offer to submit access applications on behalf of PBC surgeons

Key partners involved in PDSAs: breast surgeons, clerical staff, radiology clerks, radiologists

## EFFECTS OF CHANGE

- The goal of **50% improvement** in imaging access was achieved
  - Since images were access electronically, there was no surgeon generated increase in environmental footprint
- **Surgeons** can now better assess the extent/location of masses/calcification
  - Allows for a comprehensive discussion around surgical planning
  - More accurate data for collaboration with the other partners in patient care (radiologist, anesthetist, plastic surgeons, nurses)
- **Patients** have a better understanding of the extent of cancer in the breast and what surgical options are therefore possible
  - Addresses patient expectations the images will be available, and surgeon will have reviewed prior to consult
- **Were there any unanticipated or negative effects?**
  - Uploading tomosynthesis CD is time-consuming for radiology clerical staff

## MEASURES OF IMPROVEMENT




## LESSONS LEARNED

- Achieving the goal of 50% improvement, and developing a strategy to allow access to non federated imaging that is better for planetary health/environmental sustainability is doable with QI
- Any breast clinic with a similar catchment area could benefit from adopting an external PACS access workflow/process
- PQI training is enjoyable, and results can be seen by following a QI framework
- It takes significant support to do these projects and the PQI team works hard to help you succeed

## SUSTAINABILITY

**Mechanisms in place to ensure improvements will be sustained over time:**

- Word document circulated to surgeons with contact addresses for external PACS
- External PACS addresses are bookmarked on desktop
- Need for burned discs for surgeons is significantly less

**In Progress:**

- Address Xray offices for which PACS is not compatible
  - For some external imaging facilities, images will still have to be downloaded to CDs and delivered to MSJH

**Acknowledgements**

Ms Barb Langois (Program Director Surgery PHC), Ms Amy Hamill (Patient Care Manager PBC), Dr Enrique Fernandez Ruiz (Program Advisor, Medical Quality Leadership and Practice), Ms Priscilla So (Clerk PBC), Ms Josie Remedios (Screening Mammogram Clerk MSJH), Ms Jenni Wong (Head Diagnostic Imaging Clerk, MSJHMs), Ms Eakjot Kang (PQI Project Coordinator), Dr R Warburton (Medical Director PBC), Dr Jessica Farrell (Head of Breast Imaging MSJH), Dr Amy Bazzarelli, Dr M Deban, Dr Elaine McKevitt, Dr JS Pao, Dr Jieun Newman Bremang (Breast Surgeons, PBC), Dr Oliver Gagne (Orthopedic Surgeon PHC), PQI Staff

For questions contact Carol Dingee at: cdingee2@providencehealth.bc.ca

# Reducing Time to Physiatry Consultation for Traumatic Brain Injuries

Dr. Darren Lee, MD, FRCPC

Vancouver CoastalHealth | Providence Health Care — How you want to be treated. | PQI Physician Quality Improvement — Specialist Services Committee

## CONTEXT

- Moderate and severe traumatic brain injuries (TBIs) require complex care and are associated with poor long-term outcomes
- Patients with TBI admitted to Vancouver General Hospital (VGH) are usually followed by the trauma service and most cases transfer to trauma as the most responsible provider (MRP) during their admission.
- TBI patients are located in various wards throughout the hospital including the ICU, Burns, Trauma, High Acuity (BTHA) ward, trauma unit, and other locations at VGH.

## PROBLEM

- A multidisciplinary review of TBI management revealed **concerns about optimal management of agitation, patient and provider safety concerns, and the potential importance of early physiatry consultation** to optimize management of TBIs and to expedite appropriate rehabilitation of this complex patient population.
- Although clinical practice guidelines exist for management of complex TBIs, these require nuanced interpretation and clinical experience often only available through specialist providers.
- Manual chart review of recent cases reveals relatively low numbers of moderate to severe TBI admissions (4-6 per month).

## AIM STATEMENT

- **The aim of this project was to reduce the time from VGH admission to physiatry consultation for moderate to severe TBIs age 65 or less from a median of 13-18 days to less than 10 days by April 2024.**
- Aim developed after discussions with multidisciplinary care team regarding the challenges of TBI care as well as a journal article indicating improved long term functional outcomes and decreased length of stay in moderate-severe TBIs who received early physiatry consultation[1]

## INTERVENTION OR STRATEGY FOR CHANGE

- Following a multidisciplinary discussion and individual conversations with members of the trauma service, **screening criteria for moderate-severe TBI** were developed with the aim of **triggering automatic physiatry consults** when these cases were admitted to trauma MRP.
  - Criteria included: age 65 or less (due to logistical constraints of the physiatry service), abnormal findings on intracranial imaging (CT or MRI), and a traumatic mechanism of injury.
- The intervention was initially implemented with a **5-minute weekly briefing by a physiatrist** (Dr. Darren Lee) to the trauma service, requesting that all admissions meeting the above criteria be referred for physiatry consults as soon as possible.

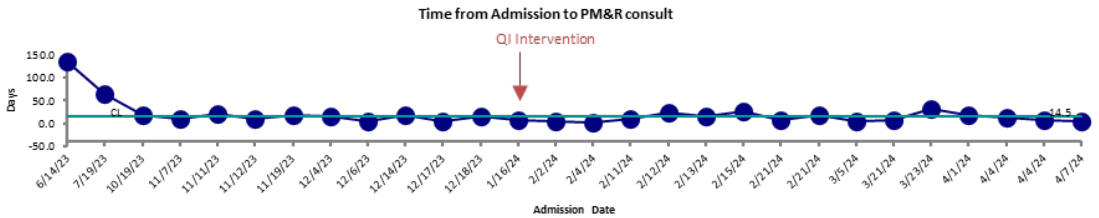
## MEASURES OF IMPROVEMENT

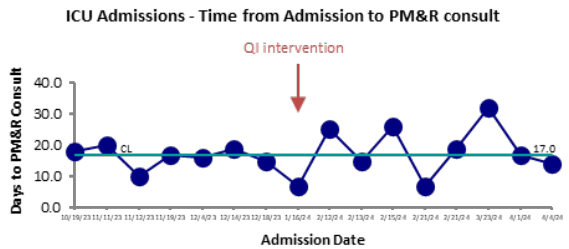
- Measures were obtained by manual chart review and individual feedback/interviews as no automated processes were available for the desired measures

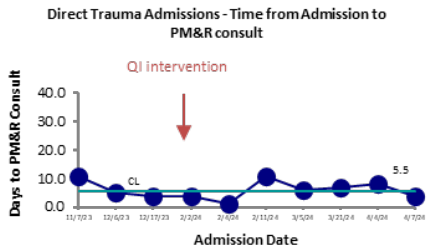
**Outcome Measure**
- Time from VGH admission to physiatry consultation
  - Pre-intervention median 13-18 days depending on data set, post-intervention 9.5 days with significant variance, no clear trend or shift on run chart

**Process Measures**
- Time from trauma service MRP admission to physiatry consultation
  - 2.42 days over 12 cases post-intervention, no pre-intervention data
- % qualifying patients seen by physiatry prior to discharge

**Balancing Measure**
- Verbal feedback from the trauma service and brain injury physiatry consultants
  - Trauma service reported early consultations were helpful. Physiatrists reported no significant increase in work.




## EFFECTS OF CHANGE

- No clear change in outcome measure on run charts, although the aim statement was achieved (physiatry consultations <10 days for moderate and severe TBIs)
- Identified a significant difference in time to consultation for direct trauma MRP admissions compared to non-trauma admissions (primarily ICU admissions)
- Although no significant clinical metrics were collected, the relationship between the physiatry and trauma services was strengthened

## LESSONS LEARNED

- Obtaining baseline data is critical to assessing if an intervention is warranted and if the intervention is effective
- Unfortunately, the complexities of hospital logistics and the incomplete integration of the EHR with other health systems can make seemingly simple systematic changes challenging

## SUSTAINABILITY

- The referral protocol is now included in the resident orientation for the trauma service
- Physiatry has been invited to present at the trauma fellow orientation in order to reinforce the importance of early TBI referrals and review the role of physiatry in trauma patients
- This project will be presented to trauma council to consider spread to the ICU and neurosurgery teams

**Acknowledgements**

Jeff Xu, PQI Program Advisor
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Derry Dance, GFS medical lead, and the GFS ABI physiatrists
Trauma service: Nasira Lakha, Angie Brisson, Glen Purcell, Dr. Phil Dawe, Dr. David Evans, all the trauma service residents and fellows

**Glossary of acronyms**

PQI: Physician Quality Improvement; SSC: Specialist Services Committee; VGH: Vancouver General Hospital; TBI: traumatic brain injury; GFS: GF Strong Rehabilitation

**References**

[1]Wagner et al. Physical medicine and rehabilitation consultation: relationships with acute functional outcome, length of stay, and discharge planning after traumatic brain injury. Am J Phys Med Rehabil. 2003 Jul;82(7):526-36. doi: 10.1097/01.PHM.0000073825.09942.8F. PMID: 12819540.

For questions contact Dr. Darren Lee at darren.lee@vch.ca

# Best Practice: Physiotherapy for All Myositis Patients

Dr. Fergus To, Ruby Xie, Kei Nishikawa, Shirin von Mende

Vancouver CoastalHealth | Providence Health Care — How you want to be treated. | PQI Physician Quality Improvement, Specialist Services Committee

## CONTEXT

Patients with inflammatory myopathies ("myositis") assessed at the Vancouver Coastal Health (VCH) Myositis Clinic were included in this project. These are patients referred from rheumatologists to this quaternary care clinic for a second opinion on diagnosis and management. These patients are seen by a rheumatologist subspecialized in myositis as well as nurses with myositis expertise. This clinic runs out of the Mary Pack Arthritis Centre (MPAC) once weekly by two rheumatologists.

## PROBLEM

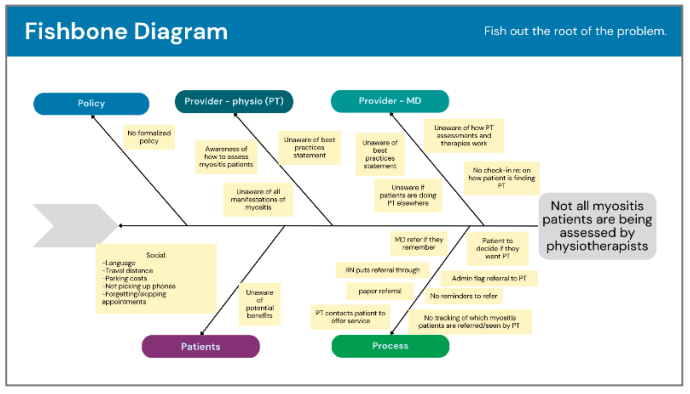
- Best practice guidelines suggest all patients with myositis should be assessed by a specialist physiotherapist(PT) and included in an exercise program.
- On chart review of patients previously seen at our myositis clinic, only approximately 1/3 of patients had been referred. Some of the common barriers to referral included physician and/or patient assessment that they were minimally weak, had been seen by a non-myosiits specialized PT, or had access issues traveling to Vancouver.

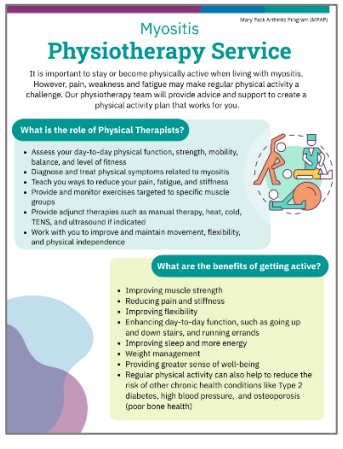
## AIM STATEMENT

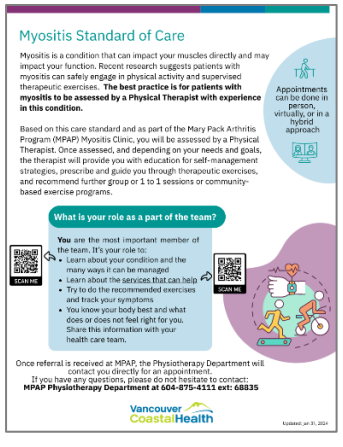
- All patients with a true diagnosis of myositis reviewed at the VCH Myositis Clinic be referred to the MPAC Physiotherapy Program.

## STRATEGY FOR CHANGE

- The team gathered a brainstormed all the reasons for patients not being assessed by PT. A fishbone diagram was created (see right)
- Change ideas:
  - **Patient flyer** with infographics highlighting the rationale for physiotherapy to educate patients
  - Reminder on nursing forms where progress notes normally are taken to automatically refer patients for PT
  - On the day of the clinic appointment, patients would receive a **same day PT full 1 hour assessment** (or 20-minute introductory meet and greet session if they were limited for time)
- Staff involved: RN, MD, PT staff
- This project started a few months after the cohort's start date, so the team meetings commenced only in approximately November 2023. PDSA cycles started February 2024.




## MEASURES OF IMPROVEMENT

1. Number of patients that were fully assessed by physiotherapy with same day appointments.
2. Number of patients receiving 20 minutes introductory assessments on the same day as their myositis appointment.
3. Number of internal referrals made that resulted in actual physiotherapy assessments (for those who are not fully assessed on the same day as their regular myositis appointment).

- Note: Only five clinics had occurred from February 2024 until the end of this cohort year, so data is still being collected. We will be continuing our project onwards.

**Preliminary data reflecting 5 clinics from February 2024-April 2024**

| | 1 hour session (same day as Dr. appointment) | 20 min session (same day as Dr. appointment) | Patient accepted internal PT referral for future appointment | Patient declined PT referral | Total |
|---|---|---|---|---|---|
| No. of patients | 2 | 4 | 6 | 3 | 15 |

## EFFECTS OF CHANGE

- Of the 15 patients that were identified who had definitive myositis and had not already been seen by physiotherapy, 12 patients were interested in being assessed. 2 of these were able to receive 1 hour for assessment on the same day as their myositis appointment. 4 patients opted for a 20-minute intake session (these will also be seen in future appointments by PT). 6 have been internally referred and are pending assessments.
- 12/15 patients will have received full PT assessment

## LESSONS LEARNED

- PDSA cycles take longer if the number of patient visits are small. This does mean it takes longer to collect data and reflect change.
- Same day PT appointments are patient centred. They increase accessibility to PT and significantly reduce commuting time for many patients.

## SUSTAINABILITY

- From the outset, we have continually improved on each PDSA cycle to simplify the process of the day PT appointment. This immensely reduces workload on the team to increase sustainability of the projects. For example, we have eliminated the number of staff and steps involved in booking PT appointments to eliminate delays in booking.

### Acknowledgements

Ruby Xie, Kei Nishikawa, Shirin von Mende, Kamaljeet Guram, Kam Shojania, Allison Chiu, Dr. Stephen Van Gaal.

### Glossary of acronyms

PQI: Physician Quality Improvement; SSC: Specialist Services Committee; VCH: Vancouver Coastal Health; MPAC: Mary Pack Arthritis Centre; PT: physiotherapy

**For questions contact: Fergus.to@vch.ca**

# Improving Access to Outpatient Therapeutic Paracentesis for Symptomatic Ascites at Vancouver General Hospital

Dr. Jay Pai (Lead Physician); Enrique Fernandez Ruiz (PQI Advisor)

Vancouver CoastalHealth | Providence Health Care — How you want to be treated. | PQI Physician Quality Improvement, Specialist Services Committee

## CONTEXT AND PROBLEM

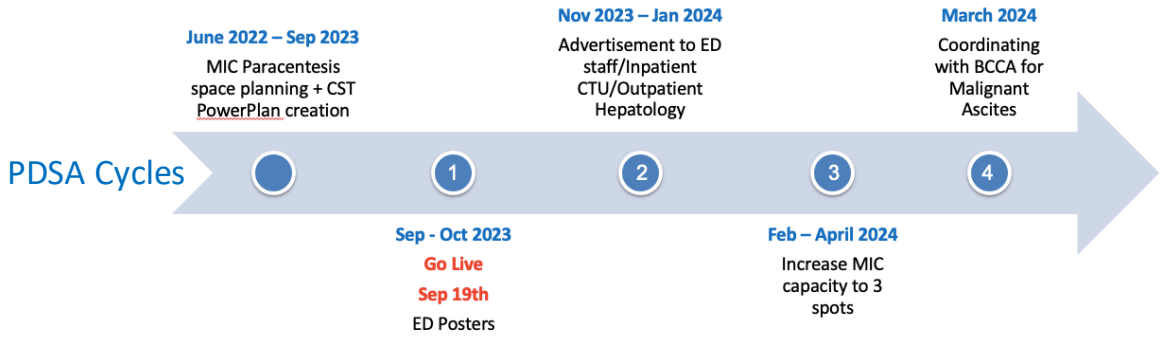
- Symptomatic ascites is a major driver of acute care utilization and hospital early re-admission (<30 days) amongst patients with decompensated cirrhosis.
- At VGH (Nov'22 – Sep'23) there were 189 emergency department (ED) visits for ascites, with 40% requiring admission to hospital, and 17% with recurrent ED visits for ascites within 30 days.
- Patient's requiring access to outpatient therapeutic paracentesis have only two options: (1) The ED, or (2) via interventional radiology.

## AIM STATEMENT

- To reduce the 30-day ED re-presentation rate by 50% for patients with decompensated cirrhosis and ascites at VGH by April 2023.

## INTERVENTION OR STRATEGY FOR CHANGE

- An outpatient paracentesis clinic was created within the Medical Infusion Clinic (MIC) at VGH, in collaboration with the MIC staff and Internal Medicine Point-of-Care Ultrasound Team (POCUS).
- We created a CST ambulatory paracentesis power plan.
- Referrals via (1) VGH ED physicians; (2) Inpatient's from Clinical Teaching Units (CTU) (3) Outpatient Internal Medicine/Gastroenterologists/Hepatologist physicians at VGH.
- Patients were followed longitudinally by Dr. Jay Pai for hepatology care.

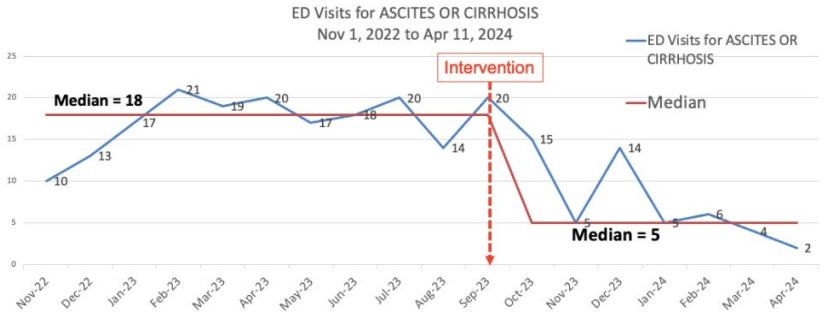



## MEASURES OF IMPROVEMENT

- **Outcome Measures**: (1) ED/Hospital admission rate for ascites; (2) 30-day ED re-visit for ascites.
- **Process Measures**: (1) # of referrals via ED, Inpatient CTU, Outpatient; (2) # of paracentesis ;(3) # Etiology of ascites; (4) Time from referral to first contact; (5) Patient satisfaction/QOL.
- **Balancing Measures**: (1) Adverse procedural events; (2) # of missed appointments; (3) Workload burden on physicians/MIC staff/nurses.

| N = 17 All Ascites | Pre-Intervention Apr '23 – Sep '23 Total (Median per Patient) | Post-Intervention Oct '23 – Apr '24 Total (Median per Patient) |
|---|---|---|
| ED Visits for Ascites | 54 (3) | 9 (0) |
| Hospital Admission for Ascites | 24 (1) | 6 (0) |
| Recurrent ED visit for Ascites within 30 days | 71% (n = 12) | 41% (n = 7) |

| N = 11 Cirrhosis | Pre-Intervention Apr '23-Sep '23 Total (Median per Patient) | Post-Intervention Oct '23 – Apr '24 Total (Median per Patient) |
|---|---|---|
| ED Visits for Ascites | 46 (3) | 6 (0) |
| Hospital Admission for Ascites | 22 (1) | 3 (0) |
| Recurrent ED visit for Ascites within 30 days | 100% | 27% (n = 3) |




## EFFECTS OF CHANGE

- **Within the first 6 months of the MIC paracentesis clinic operating:**
  (1) 17 patients with ascites were seen; 49 paracentesis performed; 288L ascites drained.
  (2) These 17 patients had significant reduction in ascites-related ED and hospital admissions.
  (3) The median # of ED visits for ascites/cirrhosis per month at VGH decreased from 18 to 5.
  (4) The early (<30-day) recurrent ED visit for ascites decreased from 17% to 11%.

## LESSONS LEARNED

- A small # of patients with decompensated cirrhosis + ascites contributing to disproportionately high acute care use at VGH.
- This project is a successful proof-of-concept of outpatient ascites management pathway at VGH.
- There is potential to significantly reduce acute care utilization and improve patient QOL.

## SUSTAINABILITY

- We will be working on a business case to establish ongoing funding and expand the clinic capacity.

**Acknowledgements**
PQI Team: Drs. Penny Tam & Iain McCormick
VGH POCUS Staff: Drs. Katie Wiskar, Shane Arishenkoff, Barry Chan, Nathan Chan, Stephanie Morrison, & Michael Cheung.
MIC Staff: Tom Ying, David Ehlen, Daniella Mitchel, & Sharlene Johnson

**Glossary of acronyms**
PQI: Physician Quality Improvement; SSC: Specialist Services Committee; VGH: Vancouver General Hospital; QOL: Quality of life.

For questions contact Dr. Jay Pai at: jayaram.pai@vch.ca

# Improve DeLIVERy of Care: Decreasing Delays in Transplant Work up for Hepatocellular Carcinoma

Dr. Maja Segedi, Vanessa Kong (student), Germain Ho (student), Octavian Turner (student), Thresha Wanaththaiya (advisor)

Vancouver CoastalHealth | Providence Health Care — How you want to be treated. | PQI Physician Quality Improvement, Specialist Services Committee

## CONTEXT

- VGH is the provincial referral center for all patients in need of liver transplant, with nearly 1000 liver transplants performed since 2010
- HCC is a progressive disease, requiring multidisciplinary care
  - Transplant criteria for HCC depend on tumor size and extent
  - Longer wait leads to disease progression and missed opportunity
  - Expeditious evaluation and care are important

## PROBLEM

**Pre transplant period is a time of anxiety, and stressors on patients** and their families are great.

**Lack of access to timely work up → Obstacle to quality patient care → Delay in referral for transplant**

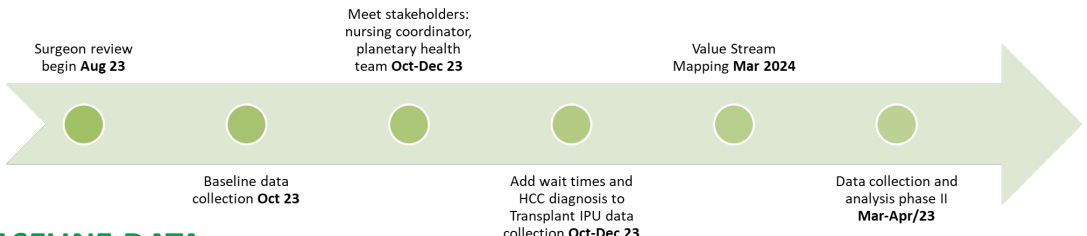
- Cost and sustainability: long wait times, expired tests, burden on the system
- Issue of access, equity

## AIM STATEMENT

- Streamline the evaluation process for patients with hepatocellular carcinoma referred for liver transplant evaluation
- 80% patients referred with HCC will receive first consult within 30 days and decision regarding candidacy 60 days

## INTERVENTION OR STRATEGY FOR CHANGE

- Improve data collection by liaising with VGH IPU Liver Transplant team and collecting wait time data
- Early surgeon chart review by surgeon to ensure tests are up to date and patients have no contraindications
- Identify bottlenecks in evaluation process




## BASELINE DATA

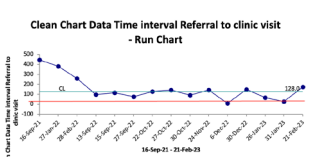
**Wait times are far from our aim target** (30 days for first consult) – **average wait is 128 days**

- Outpatient wait times (242 days) are significantly longer than inpatient wait times (47 days)

**Outdated tests are many**

- 28 (87.5%) patients had outdated CT scans at first consult

Wait times are **far from our aim** target (30 days for first consult)



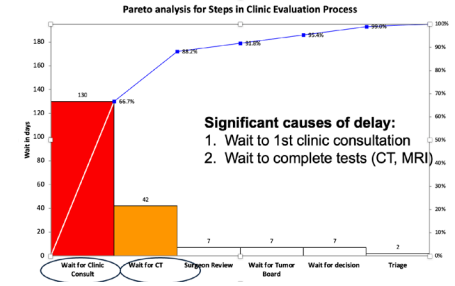

**Drop off during evaluation**

- 3 patients (9.3%)
- One patient passed, one declined, one went for transplant abroad

## PDSA Tracker

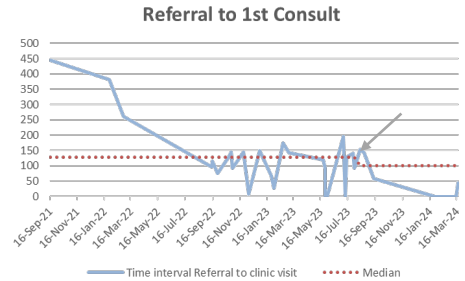
| PDSA # | Start Date | End Date | Plan: Theory & Prediction | Do: Result | Study: Prediction supported? | ACT: Abandon/Adapt/Adopt |
|---|---|---|---|---|---|---|
| 1 | Aug 2023 | Nov 2023 | Delays from referral to evaluation are significant | Collect patients referred Aug 2023 | Yes | Adapt: Repeat data collection and analysis with earlier patient sample |
| 2 | Dec 2024 | Feb 2024 | CT chest is unnecessary for staging, CXR sufficient | Systematic review | Yes and No | Adapt: Low level evidence CXR reasonable for low risk patients with small disease burden |
| 3 | Aug 2023 | Mar 2024 | Surgeon review | All referred HCC patients should undergo surgeon chart review | Yes | Adopt |
| 4 | Feb 2024 | Apr 2024 | Value streaming exercise | Bottlenecks of care are imaging and wait for clinic consultation | Yes | Adapt our change ideas to include additional measures |

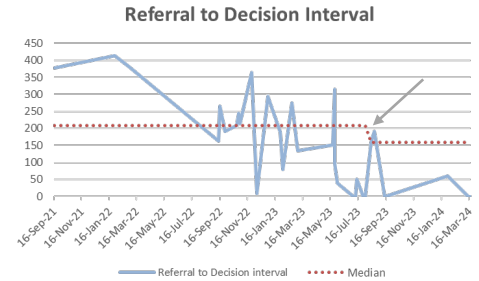
## PARETO Analysis – causes of delay




## EFFECTS OF CHANGE

- Surgeon review resulted in **decrease in wait time, time to consult, and time for decision making**
- Improved data collection that will be sustained through Liver Transplant IPU
- Identified bottlenecks: Significant delay in time to consult and tests, outdated tests – to be addressed
- Change in culture: Increased engagement of physicians, allied staff, care coordinators, management teams




## LESSONS LEARNED

- Improvement in wait times can improve efficiencies and decrease wasted and expired tests
- This translates into improved patient access and decreased patient stress,
- Data collection using IPU resource can be a valuable resource in tracking wait times
- Engagement of all members of transplant team is key, and improving small steps can result in a bigger change

## SUSTAINABILITY

- Addressing bottlenecks by engaging leadership (increase clinic capacity, align test timing with clinic visits, admit for expedited evaluation patients who are higher risk, eliminate unnecessary tests)
- Create a template for improving clinic workflow for all patients referred to the transplant clinic
- Continue wait time data collection via IPU
- Continue to engage clinic staff in value streaming mapping to look for bottlenecks

### Acknowledgements

**Specialist Services Committee, Doctors of BC**

FLEX and Coop Students: Germain Ho, Vanessa Kong, Octavian Turner, Luan Tai Nguyen
Thresha Wanaththaiya, Vandad Yousefi, Rest of PQI staff and classmates;
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Transplant surgeon group: Stephani e Chartier-Plante, Peter Kim, Michael Bleszynski, Graziano Oldani;
Transplant hepatologists: Benjamin Cox, Vladimir Marquez;
Clinic managers: Sharon Duncan, Jamie McDowell; Clinic administrative staff: Julinena Ho;
Dr Andrea MacNeill; Kristina McDavid, librarian

### Glossary of acronyms

PQI: Physician Quality Improvement; SSC: Specialist Services Committee; VGH: Vancouver General Hospital; HCC: Hepatocellular Carcinoma; CT: computed tomography; XR: x-ray; IPU: integrated practice units

For questions or comments, contact Maja Segedi at: Maja.Segedi@vch.ca

# An Initiative to Reduce Delays in Pain Management for Chest Trauma Patients at Vancouver General Hospital

Dr. Peter Rose, Dr. Ray Tang, Jenni Sakai, Winnie Au, Dr. Emilie Joos, Angie Brisson, Dr. Andrew Kestler, Jefferson Xu, Vicky Mai

Vancouver CoastalHealth | Providence Health Care — How you want to be treated. | PQI Physician Quality Improvement, Specialist Services Committee

## CONTEXT

Vancouver General Hospital is a trauma referral centre that receives **>250 patients per year with traumatic chest injuries**.

- Approximately one third of these patients have severe injuries requiring acute pain specialist intervention to adequately manage pain and reduce morbidity.
- There is currently a chest trauma referral pathway for the admitting trauma service to consult the anesthesia perioperative pain service (POPS) for high-risk patients.

## PROBLEM

There is often a delay between the time the trauma patient is assessed, and the time POPS team is involved in patient care.

**Baseline Data:**

Excessive delay (at times >24hrs) in optimal care:

- Admission to POPS consult interval: **15.2 hrs**
- POPS consult to POPS intervention interval: **3.5 hrs**
- Interval between missed consults (≥24hrs): **2.7wks**

**The result:** is that some high-risk patients may wait an inappropriately long time (at times >24hrs) to receive optimal care leading to:

- Inadequate pain control, avoidable opioid side effects, increased delirium risk and avoidable pulmonary compromise.

**Potential drivers of the problem:**

- Trauma house staff familiarity with chest trauma algorithm
- Trauma house staff understanding of POPS availability
- Access to POPS consult process for chest trauma

## AIM STATEMENT

...To reduce the **time interval from trauma consultation to POPS assessment or intervention** in high-risk chest trauma patients admitted under trauma services at VGH.

## INTENDED RESULTS

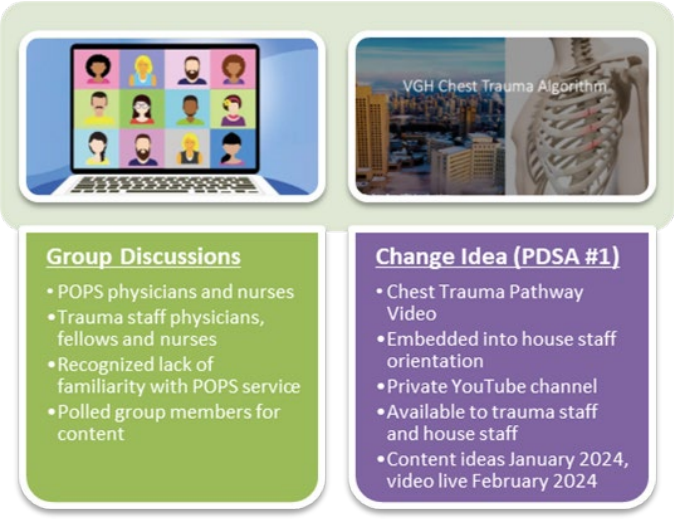
**Outcome measures:**

- 15% reduction in Admission to POPS Consult interval (hrs)
- 15% increase in interval between missed consults (weeks)

**Balancing measure:**

- Stable number of consults per week

## INTERVENTION OR STRATEGY FOR CHANGE



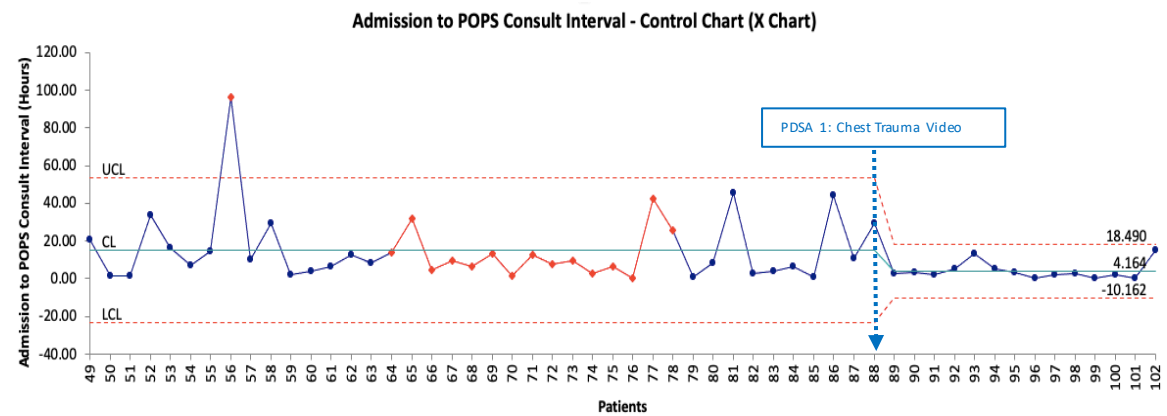

## MEASURES OF IMPROVEMENT

**Outcome Measures:**

- Admission to POPS Consult interval
  - **Pre- 15.2 hrs, Post- 4.2 hrs**
- POPS Consult to Intervention interval:
  - **Pre- 3.5hrs, Post- 4.1 hrs**
- Admission to POPS Intervention interval:
  - **Pre- 18.0 hrs, Post- 8.2 hrs**
- Missed consults since intervention (>24hrs)
  - ***None**

**Balancing Measure:**

- Consult frequency
  - **Unchanged (1.9/week)**




## EFFECTS OF CHANGE

**Timeliness of care:**

- Reduced amount of time that patients with traumatic chest injury are waiting for pain mgmt.

**Patient experience of care:**

- *"She was able to withstand the pain with this treatment and was able to cough and breathe and heal so much so that 2 weeks after the accident she is out of the ICU and in good spirits"*
  - Patient's family member

## LESSONS LEARNED

1. Including all points of view is essential for developing an effective and sustainable change idea
2. Utilization of accessible multimedia to convey messages is important for adoption
3. Earlier patient access to optimal care and improved patient satisfaction are things we can actively improve

## SUSTAINABILITY

- Established an ongoing data collection process
- Continuing to hold regular team meetings
- Plans for future PDSA cycles:
  - Trauma team handover checklist for overnight patients
  - Cerner customized documentation for POPs referral pathway

**Acknowledgements**

Andrea Bisaillon
Dr. Jens Lohser

**Glossary of acronyms**

PQI: Physician Quality Improvement; SSC: Specialist Services Committee; VGH: Vancouver General Hospital

For questions contact Dr. Peter Rose at: peter.rose3@vch.ca

# Reducing Surgical Site Infections in Patients Undergoing Pancreatic Resection

Dr. Richard Gilbert, Megan O'Brien, Dr. Allison Mah, Dr. Kristen Kidson, Dr. Peter Kim

Vancouver CoastalHealth | Providence Health Care — How you want to be treated. | PQI Physician Quality Improvement, Specialist Services Committee

## CONTEXT

- Nearly 100 patients undergo pancreatic resection at Vancouver General Hospital every year.
- Patients undergoing Whipple or Total Pancreatectomy have high rates of wound infections (20-30% in literature)
- Etiology is likely due to bile spillage during surgery that will contaminate the surgical field (when bile duct is cut)
- If the patient has had a biliary stent the bile is commonly contaminated

## PROBLEM

- Historical surgical site infection (SSI) rate at Vancouver General Hospital for Whipple procedures is 52% (Parapini et al, 2022)
- A lot of these patients did not receive appropriate antibiotics to cover their bile bacteria (Parapini et al, 2022)
- Patients who develop a surgical site infection following pancreatectomy experience increased length of hospital stay and worse quality of life.
- Prolonged recovery often delays their ability to receive adjuvant chemotherapy and can impact their overall survival.
- Wound infections also pose a significant cost burden on our health care system.

## AIM STATEMENT

- Reduce surgical site infections by 50% in patients undergoing Pancreatectomy at Vancouver General Hospital by May 2024 January 2024 (Target = 26% from 52%)

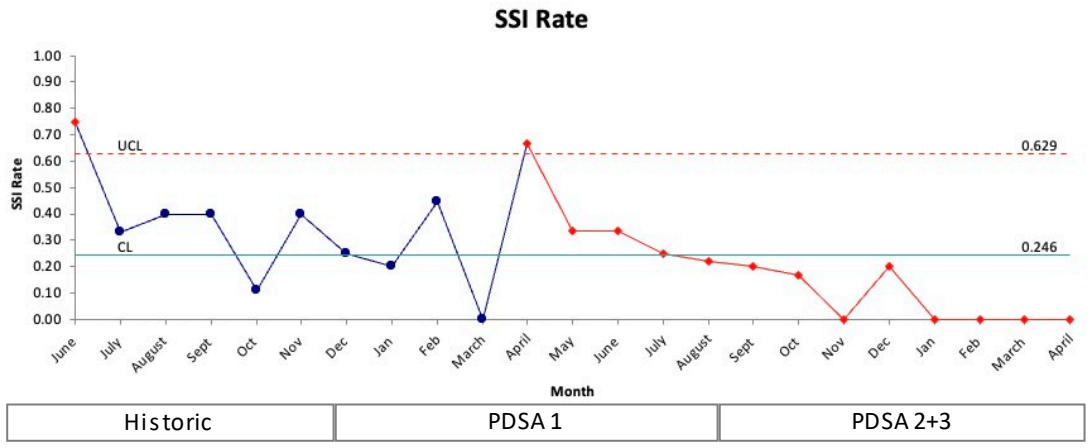
## INTERVENTION

- A team was formed (see Figure 1) with specific roles of engagement within their areas.
- A process map was created of the PDSA ideas below:
- **PDSA1**:
  - Improved Antibiotics: Piperacillin Tazobactam q4h
  - Multicenter RCT showed reduction in SSI with Pip- Tazo compared to Cefoxitin (D'Angelica et al, 2024)
- **PDSA2/3:**
  - Re-dosing timer
  - Ringed wound protector

**Figure 1. Key Partner Table**

| Team Lead | Role | Engagement |
|---|---|---|
| OR Nursing | Get the Antibiotics, Remind the Team of Dosing, Collect the Swabs | Breakfast Club with project plan and updates |
| Anesthesia | Give the Antibiotics, Re-dose the antibiotics | Rounds at the start of the project, Email updates to all team members |
| Infectious Disease | Ensure correct prescribing and dosing schedule | Rounds at the start of the project, Email updates to all team members |
| Surgical | Ensure prescribing and dosing, ensure and collect swabs | Rounds at the start of the project, Email updates to all team members |

**Figure 2. SSI Rate**




## MEASURES OF IMPROVEMENT

- **Outcome measure:** Percentage of patients with surgical site infections Rates of Pip-Tazo Dosing
- **Process measure:** Rates of Correct Re-Dosing
- **Balancing measure:** Rate of complications associated with antibiotic administration / c. diff./ candidiasis

## EFFECTS OF CHANGE

- Significant reduction in rates of SSI (7.3% vs. 52%) (see Figure 2)
- Effective rates of pip tazo dosing: (98.1%)
- Effective rates of pip tazo re-dosing (94.5%)
- C.Diff infection = 0/110

## LESSONS LEARNED

- Leverage your change team
- Use data validated interventions (Pip-tazo, wound protectors)

## SUSTAINABILITY

- Working with Integrated Practice Unit (IPU) to collect data on SSI rates, tazo dosing
- Provide Surgeons with progress reports q6/12

**Acknowledgements**
Funded By PQI Program and VPSA Facility Engagement - Small Steps Big Ideas Grant

**Glossary of acronyms**
SSI: Surgical Site Infections

**For questions contact Richard Gilbert at: Richard.gilbert@vch.ca**

# Automatic Syphilis Screening for Hospitalized Patients at Vancouver General Hospital

Dr. Shaqil Peermohamed

Vancouver CoastalHealth | Providence Health Care — How you want to be treated. | PQI Physician Quality Improvement, Specialist Services Committee

## PROBLEM

- There were 13,953 cases of infectious syphilis reported in Canada in 2022, corresponding to a rate of 36.1 cases per 100,000 population, which is a 109% rate increase since 2018
- In 2023, there were 2066 cases of syphilis reported in British Columbia (which is a rate of 37.4 per 100,000)
- On average, only 5.28% of hospitalized patients admitted to Medicine at Vancouver General Hospital underwent screening for syphilis during their hospitalization in 2023

## AIM STATEMENT

- We aim to increase syphilis screening rates amongst patients admitted to Medicine units at Vancouver General Hospital by 10% by June 30, 2024

## INTERVENTION OR STRATEGY FOR CHANGE – PLANNED PDSA CYCLES

- Monthly teaching sessions with Clinical Teaching Unit residents and attending physicians (our first syphilis teaching session took place on May 16)
- Working with BCCDC to create a digital syphilis campaign with printed materials for public awareness and provider awareness to increase screening
- Implementation of checkbox for syphilis screen in Cerner Medicine admission order sets planned in July 2024

## MEASURES OF IMPROVEMENT

- Outcome Measure → Proportion of screening tests sent per month standardized for the number of patients admitted to Medicine at VGH
- Process Measures → Proportion of syphilis screens for patients admitted to medicine units at VGH that were sent through the checkbox nudge in the Medicine admission order set (per month)
- Balance Measures → % of increased syphilis screening volumes/ capacities (staffing requirements); Feedback from Medicine about Cerner changes; Feedback from ID, Public Health, Pharmacy teams about increased test results

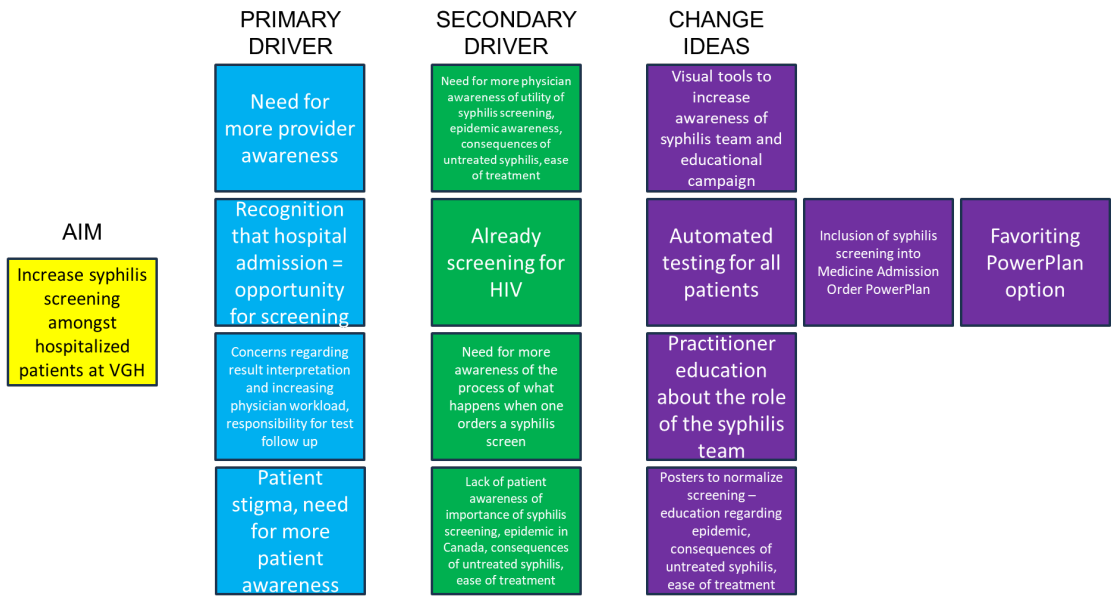



Figure 1. Driver diagram

## LESSONS LEARNED

- Implementing effective changes takes time and collaboration
- Simple but powerful changes like behavioral nudges can take time but are worth pursuing

## SUSTAINABILITY

- Ongoing work to monitor impact of syphilis screening nudges in Medicine admission PowerPlans
- Next phase will also be investigating if we are diagnosing more patients with syphilis with increased screening amongst hospitalized patients, and if this leads to earlier treatment

**Acknowledgements**

Dr. Penny Tam, Thresha Wanaththaiya, Dr. Marthe Charles, Dr. Althea Hayden, Dr. Rohit Vijh, Dr. Stephen Van Gaal, Dr. Tristen Gilchrist, Dr. Laura Kuyper, Dr. Nancy Duan, Cameron Rankin

**Glossary of acronyms**

PQI: Physician Quality Improvement; SSC: Specialist Services Committee; VGH: Vancouver General Hospital;

For questions contact Shaqil Peermohamed at: Shaqil.Peermohamed@vch.ca

# Decreased Repeated Investigations in the Pre-Operative Patient – Cardiac Surgery (DRIPP – C)

Dr. Victor Tran (Project Lead), Thresha Wanaththaiya (Project Advisor)

Vancouver CoastalHealth | Providence Health Care How you want to be treated. | PQI Physician Quality Improvement Specialist Services Committee

## CONTEXT

- The original project scope was to assess all preoperative patients coming for surgery at VGH
- The scope was narrowed to focus our efforts on a smaller sample size.
- Reducing preoperative investigations for elective coronary artery bypass grafting (CABG) patients at VGH.

## PROBLEM

- We hypothesized that we were performing more investigations than necessary.
    - Investigations: complete blood count, electrolytes, renal function, hepatic function, HgbA1c, NTproBNP, troponin, chest radiograph, electrocardiogram.
    - Pre-Anesthesia Clinic adheres to a Cardiac Surgery Guideline: patients should have bloodwork and ECG within 30 days and a CXR within 3 months of their surgical date.

## AIM STATEMENT

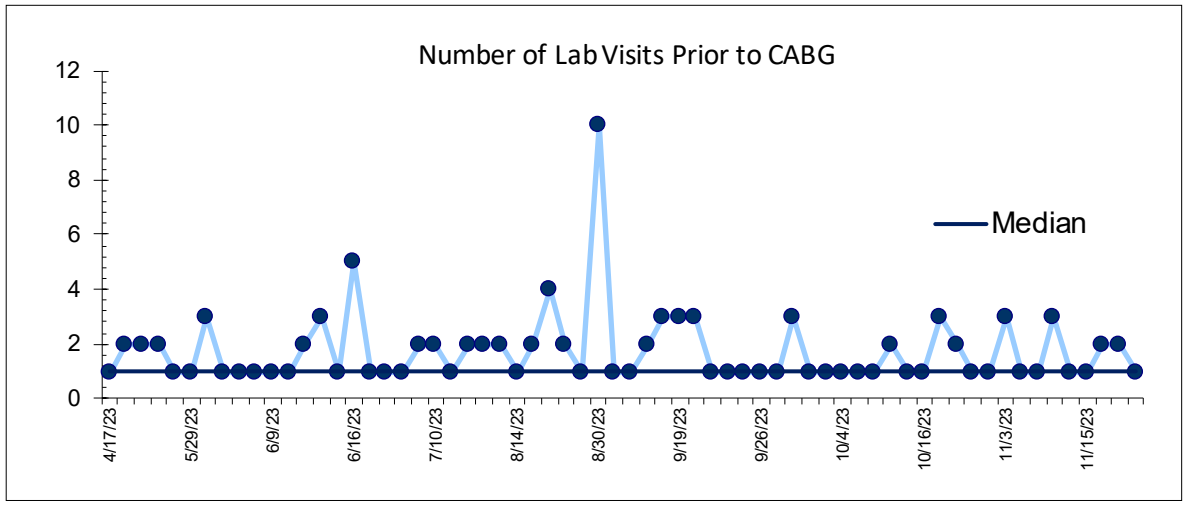
- Optimize preoperative investigation ordering:
    - Reduce lab visits to two lab visits.
    - This could potentially reduce investigations by more than 33%.

## INTERVENTION OR STRATEGY FOR CHANGE

- Problem #1: No baseline data to verify our hypothesis.
    - We would try to automatically extract data from Cerner to assess how many investigations elective CABG patients had from April until November 2024.
- Problem #2: Multiple physicians ordering investigations.
    - We would determine when each physician would order investigations.
- Problem #3: Ordering more bloodwork than the Cardiac Surgery Guideline requires.
    - We would change the frequency that investigations need to be performed.

## MEASURES OF IMPROVEMENT

- We analyzed the number of investigations that 64 elective CABG patients had during our study period.
- We discovered the following results:
    - Median number of lab visits: 1
    - Median number of investigations: 8
    - Median number of CXR: 1
    - Median number of ECG: 1
- We presented the data in the form of a run chart.




## EFFECTS OF CHANGE

- We realized the number of lab visits and investigations were already at our target.
- While no intervention was implemented, we successfully highlighted the timing of patient investigations before surgery.
- There were no unintended negative outcomes.

## LESSONS LEARNED

- Better understanding of the patient's preoperative journey.
- We identified an appropriate investigation ordering practice (with our baseline data).
- The Health Data Platform is a more reliable source of investigation data when compared to Cerner.
- It is an acceptable practice to start with a smaller scale to test ideas and methods.

## SUSTAINABILITY

- Very grateful for continued support from PQI to support our project with the QI coaching program.
- We hope to expand our scope to establish baseline preoperative investigations for all patients at VGH/UBCH and then to subsequently: Decreased Repeated Investigations in the Preoperative Patient (DRIPP).

**Acknowledgements**

- Physician Coach: Dr. Stephen Van Gaal
- UBC Flex Medical Student: Cynthia James
- This work was made possible with funding from the Specialist Services Committee.

**Glossary of acronyms**

PQI: Physician Quality Improvement; SSC: Specialist Services Committee; VGH: Vancouver General Hospital; UBCH: University of British Columbia Hospital; CABG: Coronary artery bypass grafting; CXR: Chest X-Ray; ECG: Electrocardiogram

For questions contact Dr. Victor Tran at: victor.tran@vch.ca

# Improving Consistency in Psychiatric Assessment of ADHD in Adults in Community Mental Health Care

Dr. Betty Tang (Physician Lead); Leanne Komm (Clinical Operations Manager, Sunshine Coast MHSU); Enrique Fernandez (PQI advisor); Dr. Vandad Yousefi (Physician Coach)

Vancouver CoastalHealth | Providence Health Care How you want to be treated. | PQI Physician Quality Improvement Specialist Services Committee

## CONTEXT

- Sunshine Coast Mental Health and Substance Use Services (MHSU) is an outpatient community psychiatric team under Vancouver Coastal Health Authority. The client group involved was general adult psychiatric patients. Staff consisted of the Sunshine Coast MHSU manager; team leader; community outpatient psychiatrist; and receptionist.
- This work was done remotely. This is an underserviced area in a remote / rural Coastal Health region.

## PROBLEM

- Adult ADHD has high comorbidity with other psychiatric and medical conditions, and is frequently missed, leading to increased utilization of health resources and increased functional impairment
- I noted that 30 to 50% of patients that I was seeing for psychiatric consultation had ADHD either not at all identified, or identified in childhood and not treated in adulthood
- Many of these patients were being referred for chronic Depression or Anxiety; Posttraumatic Stress Disorder; query Borderline Personality Disorder; and had struggled for years. ADHD, even if previously diagnosed, was typically not addressed.

## AIM STATEMENT

- Initial AIM statement: Increase ADHD rating skills used in GP office by 50%, as part of referral package sent. This proved difficult to implement.
- Revised AIM statement: **Increase ADHD (and depression and anxiety) rating scales sent by and returned to Sunshine Coast Mental Health and Substance Use Treatment Centre, prior to first psychiatric assessment, from 0% to 50%.** These rating scales were the ASRS, PHQ-9, GAD-7, and WURS.

## INTERVENTION OR STRATEGY FOR CHANGE

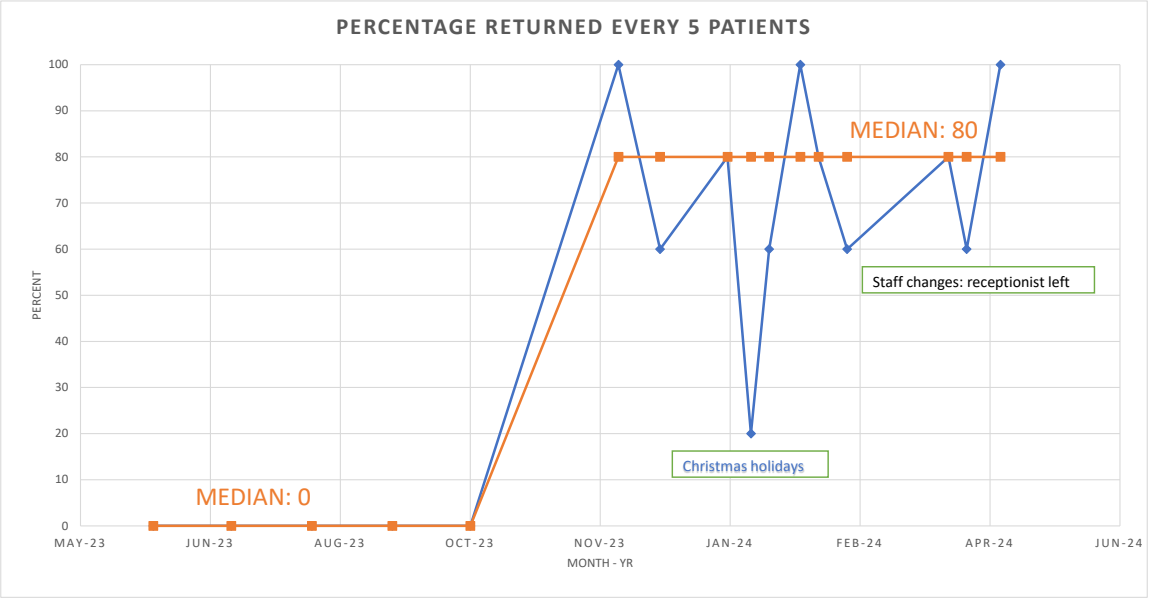
- Sunshine Coast MHSU receptionists emailed the rating scales to patients at the same time as the zoom appointment was booked. This is for all psychiatric patients booked to see me, not just those referred for ADHD.
- The time frame for this was November 2023 to the end of April 2024.
- Meetings and phone calls every 1 – 2 months with Sunshine Coast MHSU manager, team leader, and receptionists to review ideas, plans for change, results, and any workload concerns.

## MEASURES OF IMPROVEMENT

- Outcome Measure:
  - Tracking of rating scales returned was collated on an excel spreadsheet, and run chart was done. Measure noted on run chart was percentage of rating scales returned, per every 5 new assessments.
- Balancing Measures:
  - Survey of workload for receptionists to send out psychiatric rating scales
  - Impact on patient satisfaction – patient satisfaction survey through Checkbox (anonymous and voluntary)
  - Impact on psychiatric objective measurement and psychiatric interview time

## EFFECTS OF CHANGE

- Improved standardization of assessment and follow-up review of psychiatric symptoms of ADHD, depression, anxiety
- Patients commented that the rating scales helped them to organize their thoughts prior to psychiatric assessment. This helped to save time during psychiatric assessment, in addition to the information obtained from the rating scales.
- Balancing measure noted few negative effects:
  - Receptionist Survey (2/2) did not note increased workload and noted benefits to patient care;
  - Patient Experiences Survey (10 / 41) was positive for ease and use of surveys.
- Comments from the Patient Experiences Survey indicate that some explanation of how rating scales are used would help to clarify their role to the patient. Rating scales are not diagnostic in and of itself, for example.




## LESSONS LEARNED

Doing standardized rating scales for depression, anxiety, and ADHD is not onerous, helps to guide psychiatric assessment, saves time during the interview process, and helps to identify underlying ADHD symptoms that may be contributing to depression and anxiety comorbidity, **that would not otherwise have been recognized.**

## SUSTAINABILITY

This process is easily sustainable. Receptionist feedback has been positive without significant additional workload. A standardized operational procedure for this process can be done.

**Acknowledgements**

I would like to thank the PQI team; Sunshine Coast Mental Health and Substance Use Services staff: Leanne Komm, Jared Hurdman, Jayme Watts, Leslie Bing, Jill Galway; Shawna G. (patient partner); Shirromi Sarveswaran (4th year flex student). I am also grateful for the funding provided from SSC.

**Glossary of acronyms**

ADHD: Attention-deficit/hyperactivity disorder;
ASRS: Adult ADHD Self-report scale;
GAD-7: Generalized Anxiety Disorder;
MHSU: Mental Health and Substance Use;
PHQ-9: Patient Health Questionnaire;
WURS: Wender Utah Rating Scale for childhood symptoms.

For questions contact Dr. Betty Tang at: betty.tang@vch.ca

# Bringing Joy to the Workplace: Enhancing Physician Wellness in the Sechelt ER

Dr. Jennifer Baxter (Physician Lead), Dr Amrish Joshi (Physician Coach), Enrique Fernandez Ruiz (Project Advisor)

Vancouver CoastalHealth | Providence Health Care – How you want to be treated. | PQI Physician Quality Improvement – Specialist Services Committee

## CONTEXT

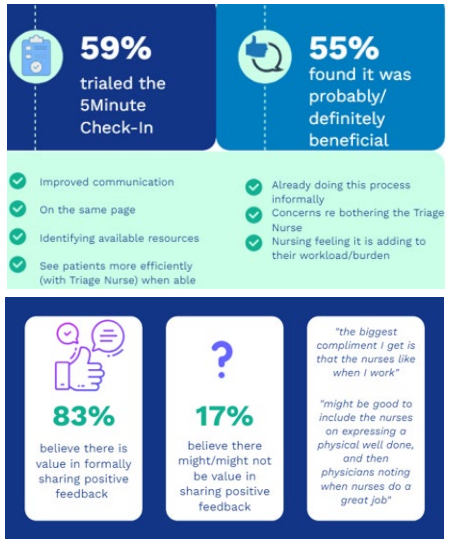
- Sechelt Hospital ER - regular physician staff
  - Family Physicians working part-time in the ER in addition to other roles and responsibilities
- Sechelt Hospital is a 63-bed (funded beds) hospital serving a catchment population of 33,000 on the Lower Sunshine Coast
  - Geographically isolated, precluding "diversion"/ease of transport of patients when required
  - Typically runs 20-50% over-capacity with admitted patients
  - >18,600 patient visits annually to the Emergency Department

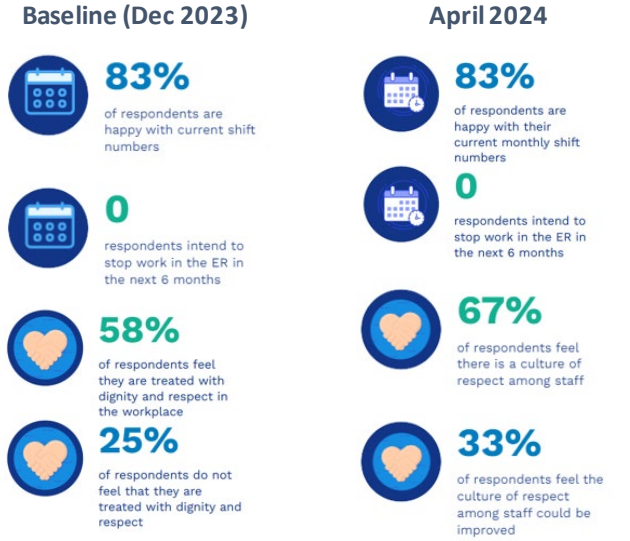
## PROBLEM

- Substantial reduction in the number of regular physicians staffing the Sechelt ER in the year prior to project initiation
  - 6 providers dramatically reduced/ceased working in the Sechelt ER
  - Remaining 20 providers were unable to sustainably staff all required shifts
- Need for improved workplace satisfaction and joy in work as a means of improving retention and ongoing recruitment efforts

## AIM STATEMENT

- **To increase joy in work among ER physicians at Sechelt Hospital, as measured by increased workplace satisfaction from 58% rating their satisfaction as great/incredible to 75% rating their satisfaction as great/incredible by May 2024**
  - **Associated decrease in the number of physicians intending to decrease monthly shift numbers/cease working in the Sechelt ER**
  - **Associated increase in Net Promoter Score**



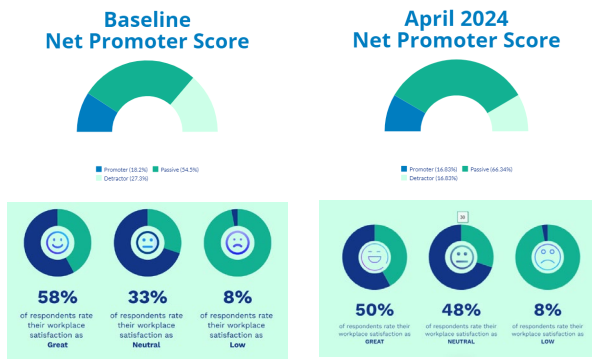




## INTERVENTION OR STRATEGY FOR CHANGE

- IHI Joy in Work White Paper methodology implemented asking providers "What Matters to you?" to identify barriers to joy in work and workplace satisfaction through anonymous online surveys (16 responses), Focus Group (9 participants), and individual interview (1)
  - Thematic analysis, Driver Diagram, Fishbone Diagram, and PICK Chart tools used to identify initial Change Ideas
- **5-Minute Check-In** to increase shared priorities within the interdisciplinary team
  - Brief touch-base between physician and Triage Nurse at the start of each physician's shift
  - 3 PDSA cycles Feb-Apr, 2024
- **Kudos Project** to improve a culture of appreciation
  - Physician successes shared at department meetings, initiated March 2024

## MEASURES OF IMPROVEMENT

- Anonymous daily feedback forms regarding 5-Minute Check-In; feedback questions regarding the 5-Minute Check-In and the Kudos Project in April 2024 follow-up anonymous online survey
- Anonymous online survey for re-evaluation (total 13 respondents) of measures of:
  - Workplace Satisfaction
  - Net Promoter Score
  - Intention to reduce/cease ER work
  - 3 Daily Questions (treated with dignity and respect in the workplace; recognized and thanked for what you do; having what you need to make a contribution that is meaningful to you)
- Recurring Focus Groups for ER physicians every 6 months (next planned July 2024) to obtain ongoing qualitative data




## EFFECTS OF CHANGE

- Improved provider/team experience: Physicians felt heard, appreciated the opportunity to connect outside of the workplace for focus groups
- Initiation of dialogue around joy and meaning in work and workplace satisfaction in our department
  - Identifying where/how to start and what major systemic barriers remain, building an organizational culture of assessing and addressing workplace satisfaction and meaning/joy in work
  - Evolving interdisciplinary efforts

## LESSONS LEARNED

- Taking the time to collect necessary baseline data (both qualitative and quantitative) and work with the project advisory team to develop meaningful initiatives with greater chances of success and sustainability was highly valuable
- A quality improvement lens and PDSA cycles are effective means of approaching efforts to address meaning and joy in work, particularly when addressing efficiencies of practice and developing a culture of wellness
- Changing culture and building new habits takes time – encourage and support the early adopters!

## SUSTAINABILITY

- Ongoing interest and engagement in addressing joy and meaning in work and workplace satisfaction for all members of the interdisciplinary team from providers and operational leadership
  - Incorporating this work into the role of the Clinical Nurse Educator for the ER as well as the Quality Lead for Sechelt Hospital (both new positions initiated during the course of the project)
  - FEI funding approved for ongoing support for physician time engaging in this work April 2024-March 2025

### Acknowledgements

Project Advisory Team: Dr Ted Krickan, Dr Nancy Yao, Dr Ruby Yee & Dr Benjamin Bauer

Marie Duperreault, Site Director, Sunshine Coast; Karen Inkpen, Acute Care Manager, Sechelt Hospital; Kristine McMillan, CNE, Sechelt ER; ER Physicians and Nursing Team at Sechelt Hospital; VCH PQI Cohort 7 Team and Participants

**Funding provided by the SSC and FEI (Sechelt MSA)**

### Glossary of acronyms

PQI: Physician Quality Improvement; SSC: Specialist Services Committee; FEI: Facility Engagement Initiative; MSA: Medical Staff Association; CNE: Clinical Nurse Educator; IHI: Institute for Healthcare Improvement

For questions contact Dr Jennifer Baxter at: [Jennifer.baxter4@vch.ca]

# Optimizing Medication Reconciliation at the Geriatric Assessment Program in Richmond, BC

Rebecca Schnurr-Howsam (Physician lead)

Vancouver CoastalHealth | Providence Health Care How you want to be treated. | PQI Physician Quality Improvement Specialist Services Committee

## CONTEXT

- The Geriatric Assessment Program (GAP) is an outpatient geriatric medicine clinic located in Richmond, BC. Initial appointments consist of patient +/- care partners meeting the geriatrician.
- During these initial appointments, we ask for patients to bring all their prescription medications, over the counter medications, and supplements with them in their original packaging so we can review them and make recommendations.

## PROBLEM

- During first assessments, we determined that only about 40% of patients were bringing in these medications. This makes it challenging to perform a comprehensive medication review.
- The causes of the problem include lack of awareness to bring in medications, lack of ability to bring in medications, and lack of reminders. These were assessed by completing a literature review, doing clinic observation, process mapping, developing a fishbone diagram and subsequently creating a driver diagram.

## AIM STATEMENT

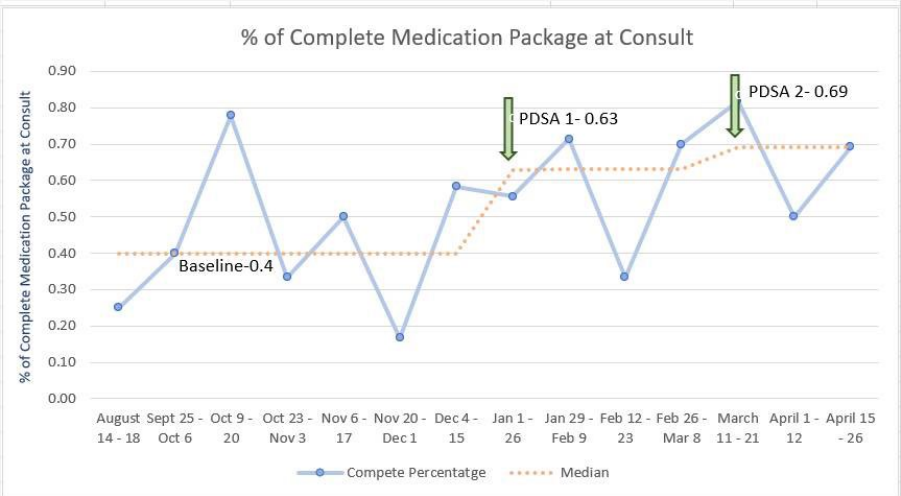
- Within 10 months 75% of new patients will come in with all their prescription medications, non-prescription medications, and supplements.
- The intended result was to see improvement in the number of patients bringing in their medications so the geriatricians can obtain an accurate medication list and perform a comprehensive medication review.

## INTERVENTION OR STRATEGY FOR CHANGE

- We identified change ideas, created a PICK chart, and chose PDSA cycles sequentially. We focused on standardizing a script for phone call reminder calls done 1-7 days prior to the appointment (PDSA 1) and putting in a paragraph about the importance of bringing in medications in our appointment notification letter sent out when the appointment is booked (PDSA 2).
- We implemented our change ideas through an iterative process. We discussed the proposed changes with the GAP team, the QI team, and made adjustments to the script/text until everyone was agreeable to the change.
- Results were disseminated through team meetings.
- PDSA 1 took place in January 2024 and PDSA took place in March 2024.

## MEASURES OF IMPROVEMENT

- We measured our changes using a series of measurements
  - Outcome measure - % of patient bringing in all their medications to their appointments at the GAP clinic
  - Process measures - % of patients receiving reminder calls, % of patients receiving appointment notification letters
  - Balancing measure – Program assistant (PA) workload
- The data was analyzed using a run chart.




## EFFECTS OF CHANGE

- There was improvement in the median percentage of patients bringing in the medications from 40% at baseline to 63% after the first PSDA cycle and to 69% after the second PDSA cycle.
- The implemented changes improved patient and care partner understanding of why we ask them to bring in medications. This allowed geriatricians to complete a medication review and facilitate a conversation about medication recommendations if indicated. This ideally improves patient experiences and leads to better health outcomes.
- There were no unanticipated negative effects.

## LESSONS LEARNED

- I learned that small changes can make a big difference. I also learned that it is important to learn from the challenges that present themselves when doing QI.
- In QI, the team is essential. Particularly in this project, having a patient partner was essential.
- There are always more changes that can be made, and further PDSA cycles are planned going forward.

## SUSTAINABILITY

- The changes we made have either been automated (as in the case of changing the appointment letter) or do not add any additional work for the program assistants which allow minimal work in sustaining the changes.

**Acknowledgements**

John Con, Emily Davies, Thresha Wanaththaiya, Paul Huang, Carolyn Turner, Sally Kong, Leo Lai, Clara Tsui, Reva Adler, Kim Barnett, Jin Baek, Sabrina Sidhu, Arlyn Sosing, Marina Friedman, Roshni Sangha, Edmund Chow, Lily Liu. Funding was from SSC

**Glossary of acronyms**

GAP: Geriatric Assessment Program; PA: Program Assistant

**For questions contact: Rebecca.schnurrhowsam@vch.ca**

# St. Paul's Hospital 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

Vancouver CoastalHealth | Providence Health Care — How you want to be treated. | PQI Physician Quality Improvement, Specialist Services Committee

## BACKGROUND

- Acute pulmonary embolism (PE) is a potentially life-threatening condition characterized by the sudden blockage of one of 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

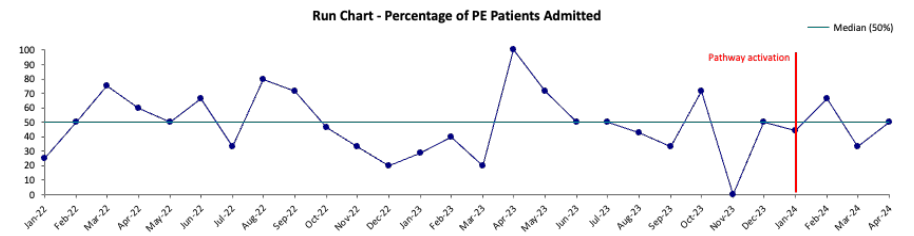
Reducing unnecessary hospital admission for acute PE leads to:

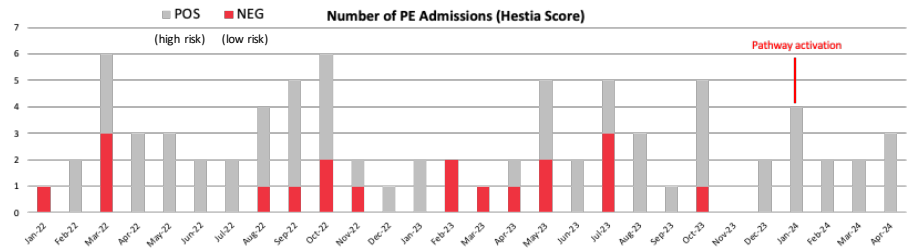
| Patient Experience | Healthcare System | Planetary Health |
|---|---|---|
| ↑ Quality of Life<br>↑ Satisfaction of care<br>↓ Anxiety | ↓ Costs<br>↓ Healthcare utilization | ↓ Carbon emissions |

## MEASURES OF IMPROVEMENT

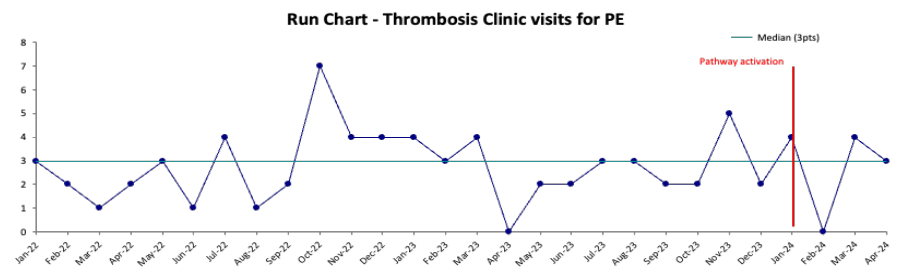
| | |
|---|---|
| **Outcome Measures** | • Rate of hospital admission for acute PE |
| **Process Measures** | • Number of referrals to Thrombosis Clinic for acute PE |
| **Balancing Measures** | • Rate of repeat ED visits for PE symptoms within 30 days of diagnosis for non-admitted patients<br>• Rate of "no-show" to Thrombosis Clinic |

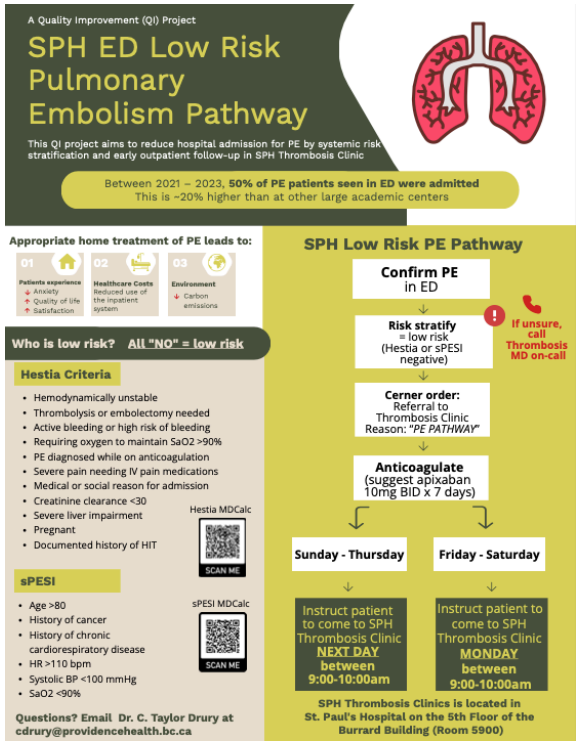
## Outcome Measures:




## Process Measures:




## 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

**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

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

**Acknowledgements**

PQI Data Team: Sarah MacDonald and (Luan) Tai Nguyen
Funding from Specialist Services Committee

For questions contact Taylor Drury at: cdrury@providencehealth.bc.ca

# Enhancing Family Preparation and Support at St. Paul's Maternity Care Clinic

Dr. Evelyne Perron

Vancouver CoastalHealth | Providence Health Care — How you want to be treated. | PQI Physician Quality Improvement, Specialist Services Committee

## CONTEXT

- The St. Paul's Maternity Care (SPMC) clinic, a family practice maternity clinic located within St. Paul's Hospital
- From conception to 6 weeks postpartum. Varied population including newcomers to Canada, language barriers, etc.

## PROBLEM

- The pregnancy to parenthood journey is a significant milestone for families. When families are prepared for labour, childbirth and early parenthood, they tend to cope better, have reduced anxiety and feel more empowered.
- Prenatal classes are often the best and most comprehensive way to get prepared, however there are multiple barriers to access (financial, cultural, linguistic, accessibility, etc.), so many patients at the SPMC do not attend.
- Gaps identified by patients and providers include preparing for childbirth and pain management, caring for a newborn, breastfeeding and mental health/wellness, etc.
- Many gaps in routine medical care could be addressed by integrating more preparation and support in our care.

## AIM STATEMENT

- Increase patients and their families' sense of feeling prepared and supported for labour, delivery and early parenthood by 20% for singleton pregnant families by May 2024 at the SPMC clinic.

## INTERVENTION OR STRATEGY FOR CHANGE

### EDUCATION PACKAGE

January to March 2024

Based on gaps, identified by patients & providers, evidence-based, topics often not routinely discussed in clinic, in waiting room + sent via email

### BASELINE DATA

Feb 1st to Feb 14th 2024

Survey, identify gaps and needs

### BUILDING MATERIAL

January to March 2024

Building package, reviewed by PQI team (advisor, mentor, patient partner) + SPMC physicians. Physical binder assembled & distributed daily in waiting room by Unit Clerks. Communication via monthly team meeting, emails and EMR messaging

### DISTRIBUTION

March 25th - April 16th 2024

Data collection

## MEASURES OF IMPROVEMENT

**Outcome Measures:**

- Feeling prepared for pregnancy & birth
- Feeling prepared for early parenthood
- Feeling supported

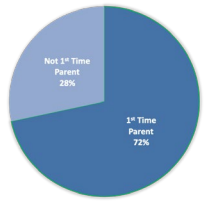
**Process Measure:**

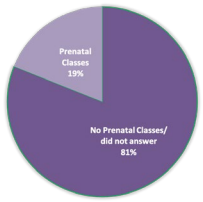
- Survey response → 18.5% (40 survey responses/216 clinic visits with exposure to education package)

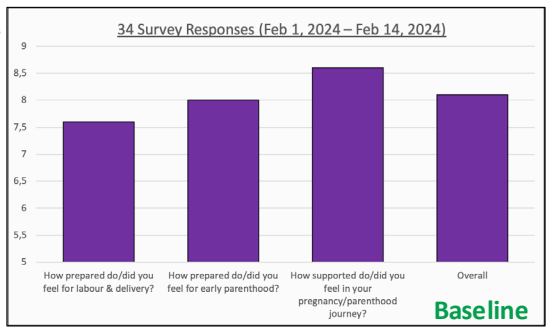
**Balancing Measure:**

- Provider feedback → 100% positive. Patients constantly looking through binder.

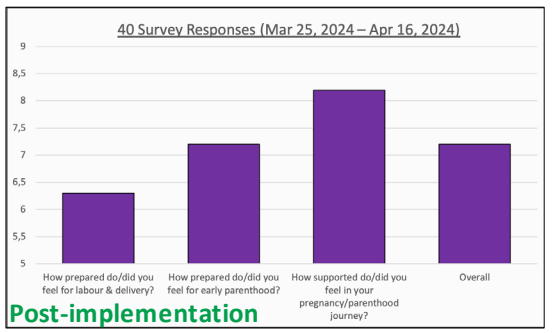
**Survey Respondent Background:**




Baseline



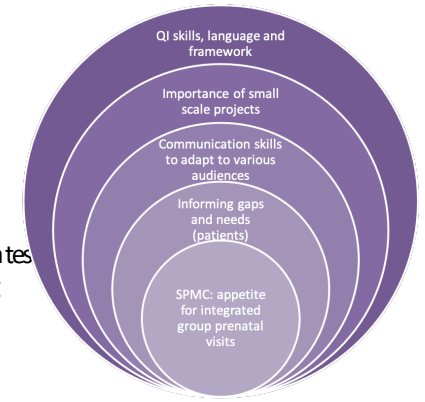

Post-implementation

## EFFECTS OF CHANGE

- Pregnancy and parenthood is a dynamic journey. Parents can naturally feel more prepared getting closer to due date when doing more planning and reading, or they can feel less prepared when faced with the unknown.
- The time frame was too short to see changes, but it is a step in the right direction, essential work to the continuing growth of our clinic.

## LESSONS LEARNED

- The QI framework and skills acquired will be crucial in effective change and sustainability in any future project.
- The ongoing data collection will continue to inform needs & gaps at SPMC clinic.




## SUSTAINABILITY

- The education package is electronic and incorporated in templates within our EMR as well as a printed version available in waiting room for consultation and/or borrowing home.
- Yearly reminder in place for the team to review/update educational resources.
- Continue with survey and tracking data for ongoing improvement/PDSA cycles.

**Acknowledgements**

Thanks to Jefferson Xu (advisor), Dr Trina Montemurro (mentor), Allison Zentner (patient-partner) & the PQI staff, Dr Jennifer Leavitt and the SPMC physicians & staff as well as the SPMC patients. This was made possible by funding from SSC.

**Glossary of acronyms**

PQI: Physician-Quality Improvement; SSC: Specialist Services Committee; SPH: St. Paul's Hospital; SPMC: St. Paul's Maternity Care

For questions contact Evelyne Perron at: eperron@providencehealth.bc.ca

# Improving postpartum breastfeeding support at St Paul's Hospital

Dr. Kara Jansen, Breastfeeding Medicine Clinic, and Richard Cai, FLEX medical Student

Vancouver CoastalHealth | Providence Health Care How you want to be treated. | PQI Physician Quality Improvement Specialist Services Committee

## CONTEXT

- This project took place from August 2023-May 2024 at the Maternity Ward and Family Practice Maternity Clinic at St Paul's Hospital.
- The scope included all patients who delivered at St Paul's Hospital during this period.

## PROBLEM

- The perceived problem was a lack of postpartum breastfeeding support for patients who deliver at St Paul's Hospital.
- Identifying the extent of the problem and how to improve it proved extremely difficult due to lack of data.
- There is a lack of continuity and patient support between acute hospital care and community care

## AIM STATEMENT

- **To improve patient satisfaction with postpartum breastfeeding support received at St Paul's Hospital.**

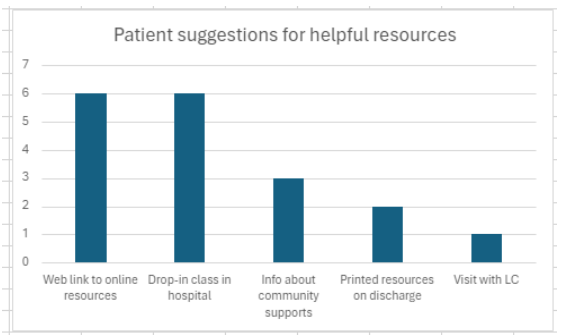
## INTERVENTION OR STRATEGY FOR CHANGE

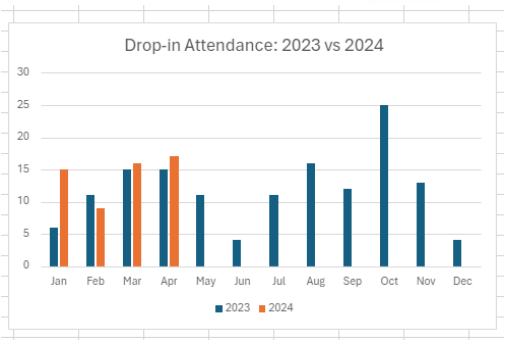
- Most of the study time was spent working on how to collect appropriate data.
- Hospital LC, maternity ward RNs as well as Unit Clerks and leadership were involved. FLEX medical student was also very involved with data collection and analysis.
- Discussions were held in person on the ward to review change ideas.
- Each idea was tried for 3-4 weeks.

## MEASURES OF IMPROVEMENT

- Results were collected via surveys (paper and online) as well as qualitative interviews with patients.
- They were asked: **"What supports would have helped you with breastfeeding when you left the hospital?"**

Word cloud from interviews, and patient suggestions. Also compared drop in group data last year vs this year.




## EFFECTS OF CHANGE

- No significant changes to date.
- Introducing the drop-in clinic last year is most likely to have a significant impact on breastfeeding support.
- Engagement was difficult at all levels: patient, staff, and leadership

## LESSONS LEARNED

- Most proud of tackling a challenging learning process/project, and of new relationships developed within the hospital. Main message: **Can't change what you don't understand – need data!!** Community breastfeeding rates are not measured, which is a huge barrier
- Lessons learned: need more supports, and better coordination of care

## SUSTAINABILITY

- Will continue to advocate for more patient supports
- Continue to advocate for better network of public health support

**Acknowledgements**
Thresha Wanaththaiya, program advisor
Stephanie Chartier-Plante, physician coach
Britt Kirkpatrick, RN, LC at SPH
Andrea Firmani, RN,LC, BFI Lead at SPH
Allison Zentner, Patient Partner
Ying Wong, Nurse supervisor, maternity care, SPH
Hannah Horsfield, Maternity Unit Manager, SPH
Amy Hamill, Director, Maternity, SPH
Gratefully acknowledge funding from SSC

**Glossary of acronyms**
PQI: Physician-Quality Improvement; SSC: Specialist Services Committee; VGH: Vancouver General Hospital;

For questions contact Kara Jansen at:
kjansen@providencehealth.bc.ca

# Reducing urinary catheterization on the St. Paul's Hospital Acute Care for the Elderly (ACE) Unit

Dr. Keeva Lupton

Vancouver CoastalHealth | Providence Health Care — How you want to be treated. | PQI Physician Quality Improvement, Specialist Services Committee

## CONTEXT

- This QI project took place on the geriatrics ACE unit at SPH (Unit 9CD) which is a unit that preferentially admits geriatric medicine patients (those over > 65 years of age) along with other patients.
- Involved geriatricians, nurse educators, and medicine operations

## PROBLEM

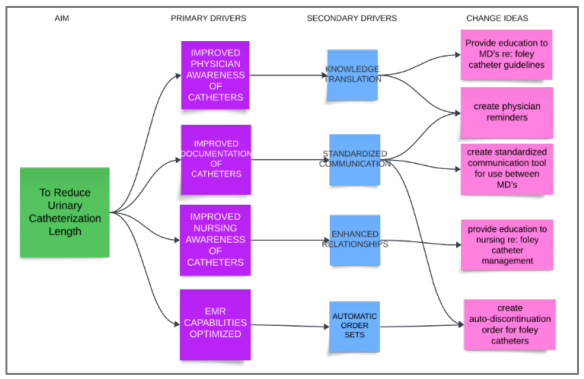
- Urinary (foley) catheters are often inadvertently left for longer than needed, or remain inserted without a clear guideline approved reason
- This is a Canada-wide issue: a recent toolkit was created by "Choosing Wisely Canada" called "Lose the Tube" that identified this as an issue at multiple hospitals
- Process mapping showed a number of reasons for this problem, including lack of MD knowledge of guidelines, poor communication and documentation of foley catheters, and poor use of computer tools that are available.

## AIM STATEMENT

- **The median length of urinary catheterization of geriatric inpatients on the SPH ACE unit will be decreased by 2 days by May 2024**

## INTERVENTION OR STRATEGY FOR CHANGE

- See driver diagram (right) for theory of change and ideas
- **PDSA Cycle # 1**
  - Created MD information poster, disseminated to offices and updated MD's
- **PDSA Cycle # 2**
  - Intervention/template to improve MD documentation on patient charts via charting techniques and improved handover
- **PDSA Cycle # 3 [ongoing]**
  - Change Cerner admission geriatrics PPO to "link" an auto-discontinue order at the time of ordering foley insertion
  - Involved MD group with proposed change and feedback received.

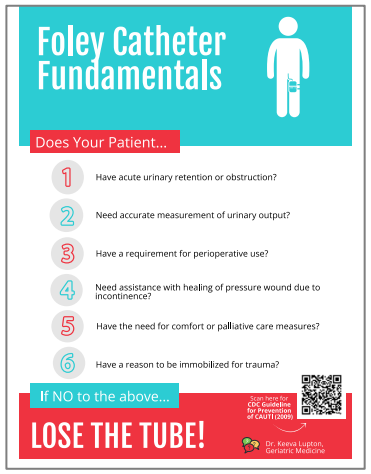


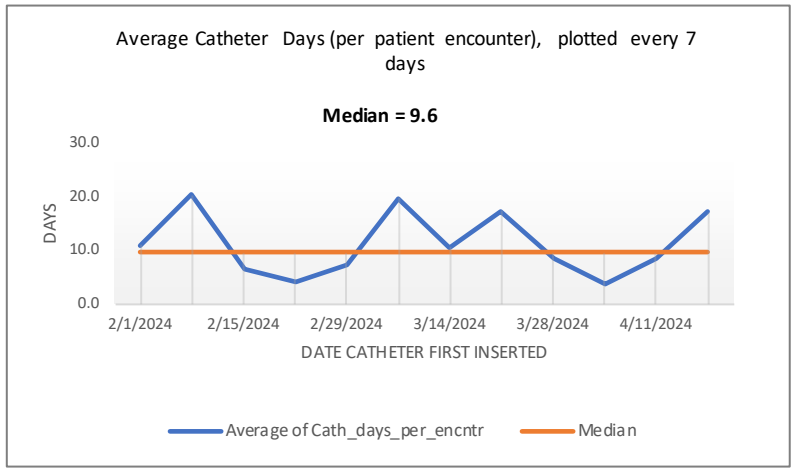

## MEASURES OF IMPROVEMENT

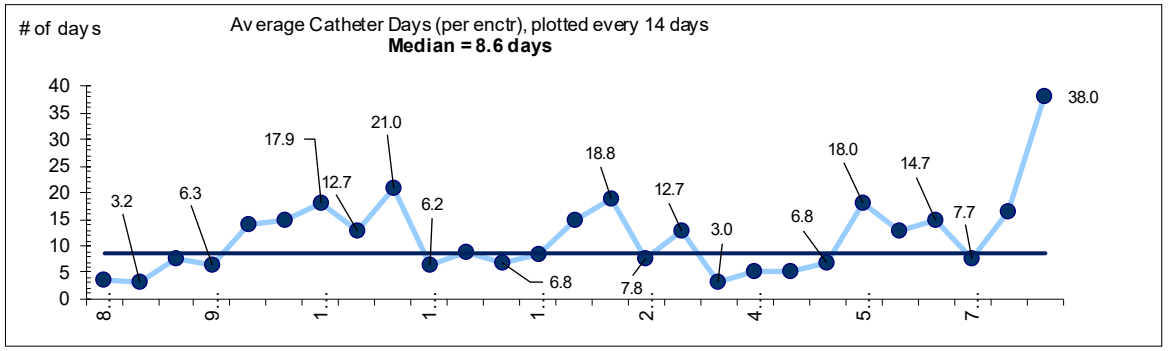
- Model of improvement used as a guide.
- Patient baseline data reviewed for one year Aug 2022 - Aug 2023
- Used survey data to review physician knowledge of foley catheters, and as a process measure of how many MDs were using proposed interventions
- PDSA cycles started in Feb 2024 and data reviewed from Feb – April 2024.

## EFFECTS OF CHANGE

- Length of catheter duration from Feb 1-end of April actually increased from 8.6 days → 9.6 days per patient encounter
- Possible reasons for this:
  - data collection problem – i.e. not enough encounters or patients over only a two-month time frame
  - long length of stays of patients on our unit and low turnover
  - not enough high-impact change ideas or PDSA cycles completed
  - non-adherence to change ideas already being trialed




## LESSONS LEARNED

- From literature, it is clear that removing foley catheter earlier reduces patient complications including CAUTI
- The Lose the Tube toolkit allows us to prove show other institutions that interventions such as auto-removal orders can lead to reduced foley catheter durations when implemented. This could be useful to other facilities.
- Ideally, involving other patient care groups, such as nursing, in the future can hopefully engage the full team in foley removal

## SUSTAINABILITY

- If achieved: a Cerner PPO order would be sustainable and spreadable to other sites and other areas of geriatrics and internal medicine
- Educational posters can be informative and remain displayed, and updated if guidelines change.

**Acknowledgements**

Allision Chiu, PQI Advisor; Enrique Fernandez Ruiz, PQI Data team; Marla Gordon, PQI Mentor; Rebecca Macleod, UBC Flex Student; ACE teams; Dr. Spencer, Dr. Gilley; Julia Santucci, CNE Medicine SPH; Sandy Barr, Ops Leader Medicine SPH

**For questions contact: keeva.lupton@vch.ca**

# Physician Wellness Project, Division of Cardiology, Providence Health

Santabhanu Chakrabarti, Barbara Field, Valerie Mok

Vancouver CoastalHealth | Providence Health Care — How you want to be treated. | PQI Physician Quality Improvement — Specialist Services Committee

## CONTEXT

- Members of Division of Cardiology, St Paul's Hospital and Mt St Joseph Hospital, Providence Health Care
  - 44 members (mostly Cardiologists, others : Nursing Professor, Radiologist, Research Scientist)

## PROBLEM

- To identify the prevalence of Physician Burnout in PHC Cardiology and Change ideas
  - Anonymized 1:1 telephone interviews with Project Team member ( BF)
  - Objective criteria (Maslach Burnout Inventory) and Subjective questionnaire
- Causes of problem identified were :
  - Interpersonal : Respectful interactions, respectful interactions , Equity
  - Systemic : Effective use of Electronic Medical Records
  - Administrative: Communication , Transition processes , Transparency

## AIM STATEMENT

- **Improve Physician Wellness in PHC Cardiology Members**
- **Reduce MD Burnout by 10% in 6 months**

## INTERVENTION OR STRATEGY FOR CHANGE

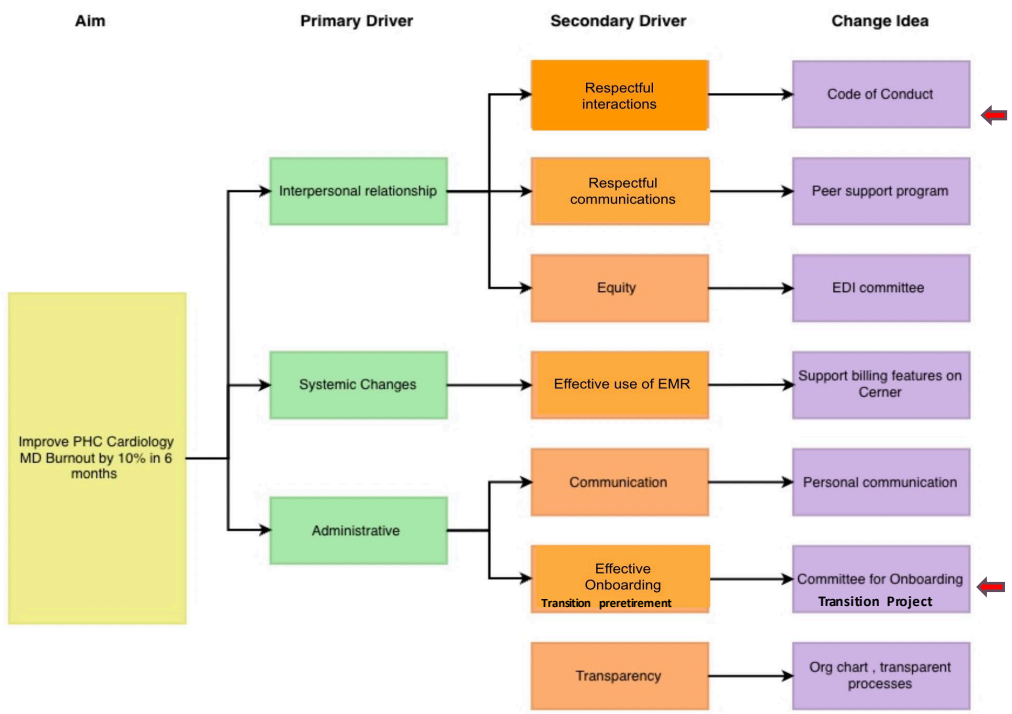
- Change Ideas
  - Code of Conduct / Equivalent Document
  - Transition to Peri Retirement Project
- Involvement of UBC Cardiology, PHC Work Force Strategy, PHC Peoples Pillar
- Information dissemination : Meetings with Leadership, Presentation in Divisional meetings
- Time frame: Project still in progress – extension applied for 6 months

## MEASURES OF IMPROVEMENT

- Work in progress, initial survey performed, $PDSA_2$ after implementation of change ideas in 4 months
- Maslach score
- Encouraging feedback from divisional members (requests to join initiative)

## EFFECTS OF CHANGE

- Code of conduct / equivalent document
- EDI Committee
- Career transition support program (in progress)
- Due to the time course of development and deployment of the change ideas, we will perform effectivity measures in next 4 months
- Subjective effects : More engagement
- The project was not designed to measure direct impact in patient care
- No negative effects perceived but delays from upscaling and involvement of more key partners




## LESSONS LEARNED

- 'Opportunities of improvement' are more important and acceptable than 'deficiencies' while driving change
- A focus on the system is more effective than on individuals when driving change
- QI is a positive attitude and way of life in personal and professional spaces
- PQI is vital to improve efficiencies, resource utilisation and reduce waste of valuable and limited healthcare resources
- Accept there will be temporary barriers and headwinds when are driving real positive change
- Direction is more important than speed in ushering change

## SUSTAINABILITY

- Embed the positive change in Departmental, Divisional and Health Authority policy
- Several additional grants obtained for MD wellness
  - Additional PHC Pillar funding
  - PHC Wellness Champion program
  - Peer Support Program training (Doctors of BC Physician Health Program Grant)

**Acknowledgements**

Enrique Fernandez Ruiz, Dr. Cole Stanley, Dr. Sean Virani, Dr. Jasmine Grewal

SSC: PQI Funding, PHC Facility Engagement

**Glossary of acronyms**

PHC: Providence Health Care;
PQI: Physician Quality Improvement

For questions contact Shanta Chakrabarti at: schakrabarti@providencehealth.bc.ca

# Enhancing the Selective Laser Trabeculoplasty (SLT) Experience

Rob Schertzer, MEd, MD, FRCSC (clinician) & Natasha Ryzhaya, MD (FLEX student)

Vancouver CoastalHealth

Providence Health Care
How you want to be treated.

PQI PHYSICIAN QUALITY IMPROVEMENT
Specialist Services Committee

## CONTEXT

- Our clinic sees **2800 unique pts/yr**, **1/2** of them having **glaucoma or suspected** of having a high risk of developing glaucoma. **SLT** is an elective laser procedure that has the potential to **reduce the need for glaucoma medications**
- Project took place in an **ophthalmology clinic** and involved patients undergoing the **SLT** procedure. **Team** consisted of 3 members (**treating physician, MOA, student**)
- For the procedure, **4 appointments** are generally needed: initial consult, laser day, 1-week F/U, 6-week F/U

## PROBLEM

To improve patient experience during a glaucoma consult, specifically, discussion around SLT procedure at the clinic, **to improve patient understanding and satisfaction rates with procedure**

## AIM STATEMENT

To improve communication, dialogue, and thus, patient satisfaction of patients prior to SLT procedure from the baseline metrics

## INTERVENTION OR STRATEGY FOR CHANGE

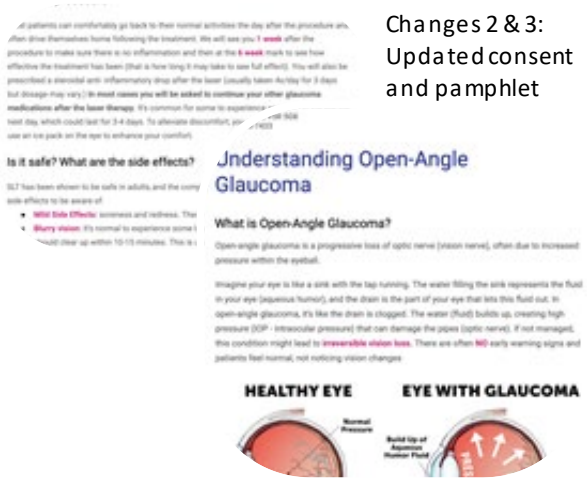
- Patient partners identified need for improved communication using brochures, ensure diagnosis sufficiently understood for informed decision making, provide ample opportunity to ask questions about procedure and diagnosis
- Change 1: Instead of only emailing educational video to patient, review and discuss video at time of decision for laser
- Changes 2 & 3: Create & provide patients with info pamphlet to review at home and consent form with matching working
- Change 4: SLT laser infographic in waiting room
- Clinician primarily involved in discussion with patient; FLEX Medical Student refined survey, collected results, drafted pamphlet and consent forms
- Time frame 6 weeks for each of the 3 PDSA cycles plus extra time if any cycles require modifying and repeating

## MEASURES OF IMPROVEMENT

- Survey after each change vs before any changes were made
- To increase survey uptake, a paper copy will be given to SLT patients at 6 week follow-up mark instead of email

Change 1: Videos

Change 4: Infographic




Changes 2 & 3: Updated consent and pamphlet

## EFFECTS OF CHANGE

- No formal survey data yet as just have baseline survey results to date
- No anticipated negative impact
- Informal feedback: patients appreciate the survey; like that their opinion matters
- Better connection with patients

## LESSONS LEARNED

- The importance of patient partners when undertaking a QI project; prevented us from getting lost in the weeds trying to change the wrong thing!
- The act of conducting a survey on my patients made then feel appreciated

## SUSTAINABILITY

- In the end, feared more time "wasted" ended up being the same amount of time explaining SLT to patients
- Builds better connection with patients by being a partner in their care and decision making

**Acknowledgements**

Special thanks to patient partners Cameron Rankin & John Con, program advisor Thresha Wanaththaiya, coach Cole Stanley, MD. Special thanks to SSC of BC for funding this initiative

For questions contact Rob Schertzer at: iguy@iguy.org

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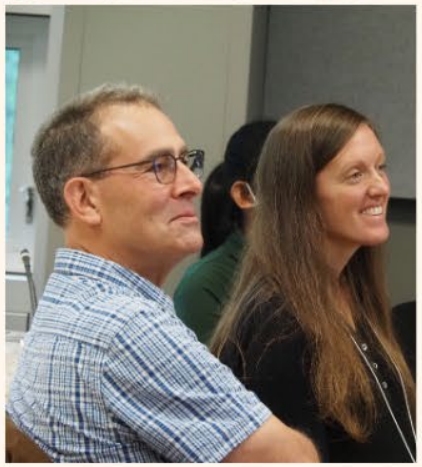

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PHYSICIAN QUALITY IMPROVEMENT
Specialist Services Committee

# Alumni Projects

Vancouver CoastalHealth

Providence Health Care
How you want to be treated.

# Minoru Residence Service Delivery Model Change: A Neighbourhood Model of Care

Dr. Adam Chang MD, Physician Lead at Minoru Residence

Vancouver CoastalHealth | Providence Health Care How you want to be treated. | PQI Physician Quality Improvement Specialist Services Committee

## CONTEXT

- Minoru Residence is a relatively large Long-Term Care (LTC) facility in Richmond; it has 250 beds, divided into 5 geographically separated nursing units within the same building.
- Physicians working at Minoru traditionally did not have a unit(s) designated to them, and therefore would provide care to residents in all 5 units.
- In recent years, some other LTC facilities have transitioned to a Neighbourhood Model of care whereby each physician is designate to working at one or two units. Each units is known as a "Neighbourhood" with its own group of nursing staff, allied health professionals, and physicians.

## PROBLEM

- Physicians found it difficult to become familiar with each of the units, and staff on each unit found it difficult to become familiar with all the physicians. This often resulted in suboptimal communication and teamwork.
- Walking from one unit to another within the building incurred travel time and was not an efficient use of physicians' time.
- Physicians could have up to 5 units calling throughout the day which adds a lot of administrative burden.

## AIM STATEMENT

- **By adopting a Neighbourhood Model of care, our goals were to:**
  - **Improve patient care and patient outcomes** (e.g. increase frequency of physician visits, decrease transfer to acute care, decrease number of after-hours calls)
  - **Improve teamwork and communication between physicians and other members** of the care team
  - **Improve efficiency for physicians**

## INTERVENTION OR STRATEGY FOR CHANGE

**Fall 2023:** project info was communicated to residents/families at Resident Family Council and by written materials

Care teams consulted with residents/families and obtained consent to switch to a different physician. Residents were given the option to keep their previous physician.

We designated physicians to a unit where they already had a large number of residents (to minimize the number of residents that need to switch physicians).

**Early 2024:** residents were switched to their new physician in the designated unit.

Created a SBAR binder for each physician, includes all written communication between nursing and physician, so it will be easier to locate

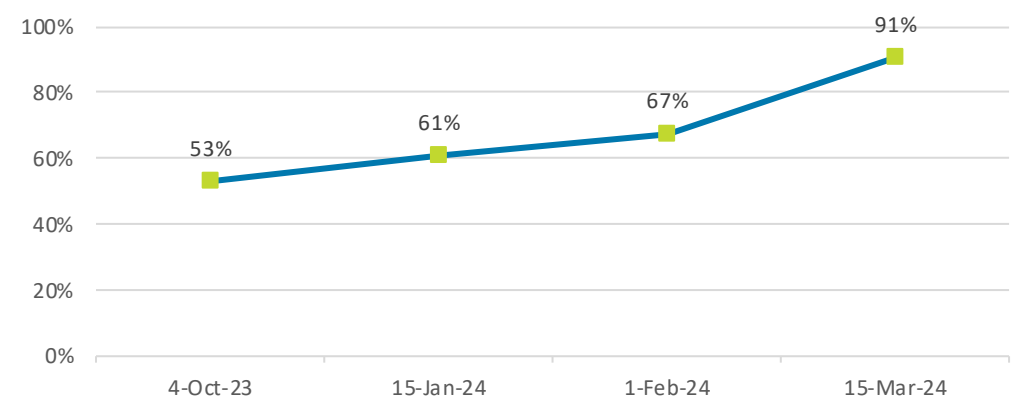
## MEASURES OF IMPROVEMENT

**Outcome Measure:**
- The percentage of residents in each physician's panel belonging to their designated unit before and after implementation of the new model (Figure 1)

**Process Measures:**
- Number of visits by physicians before and after
- Rate of transfer to acute care before and after

**Balancing Measures:**
- Pre- and Post-satisfaction surveys of nursing, physicians, and residents/families
- Rate of transfer to acute care before and after
- Number and assess the appropriateness of after-hours calls
- Number of steps physicians took in a typical workday by using a step counter, with the goal being fewer steps after implementation because physicians will have less need to travel between neighbourhoods

Figure 1. Average Percentage of Residents in Physician's Designated Neighbourhoods (N=7 physicians)




## EFFECTS OF CHANGE

- Both physicians and nursing provided good feedback on the use of the SBAR binder.
- The new Neighbourhood Model of care was implemented in early 2024. As of March 2024, the average percentage of residents in a physician's designated Neighbourhood has increased to 91%
- Data is currently being collected and more data will be available in the next few months.

## LESSONS LEARNED

- Most residents/families welcomed the new Neighbourhood Model of care
- We were able to implement the new model relatively quickly (within the first 3 months of 2024)
- Some residents choose to keep their existing physician because they had developed a good relationship with them, and therefore did not switch to the new designated physician in their Neighbourhood
- Physicians found that they had to adjust to a higher workload transiently as many residents transferred onto their panels within a short period of time

## SUSTAINABILITY

- The Neighbourhood Model will become the new permanent model of care at Minoru, and we anticipate its success will be highly sustainable since there is minimal work required to maintain its operations

### Acknowledgements

Operations Initiative Lead at Minoru Jasjit Gill
VCH Project Manager Judy Zhu
Drs. Howard Chang, Justin Hsu, and A. Alexiadis.
Allison Chiu, Mandy Man
Other Minoru staff and physicians who contributed to meetings and surveys

### Glossary of acronyms

**LTC:** Long Term Care
**SBAR:** Situation, Background, Assessment and Recommendation structure communication tool

For questions contact Dr. Adam Chang: aychang@ualberta.net

# Let's P.A.U.S.E a Moment: A Palliative Care QI Initiative at Richmond Cancer Care and Richmond Palliative Care Team

Dr. Amrish Joshi[1], Lara Musa[1], Jefferson Xu[2], Allison Zentner[2], Allison Chiu[2]
[1]Richmond Integrated Hospice-Palliative Care Program, Vancouver Coastal Health; [2]Medical Quality Leadership & Practice, Vancouver Coastal Health and Providence Health Care

Vancouver CoastalHealth

PQI PHYSICIAN QUALITY IMPROVEMENT Specialist Services Committee

## CONTEXT

- The purpose of this project was to strengthen the collaboration between the Palliative Care Team and the Cancer Care Team in the Richmond community of care. Specifically, the Richmond Palliative Pain and Symptom Management Clinic (PSMC) receives significant referrals from the Cancer Care (CC) team.
- Earlier referral to the Palliative Care service leads to improved symptom management, improved quality of life, and facilitating transition in care between different teams.
- Earlier contact can reduce presentations to the Emergency department and enable care from appropriate services.

## PROBLEM

- Upstream referrals were hindered by a lack of a structured criteria for who to refer to the Palliative Team.
- Confusion about the available Palliative Care services in the community (home visits, PSMC, and hospice) and how to refer to each service.
- Impact: Oncology patients who could benefit from an early PSMC intervention were not being seen.
- **At baseline, there were on average 428 days between the first oncology visit and PSMC referral, and nearly all referrals were made over 60 days after the patients' first oncology visit**.

## AIM STATEMENT

Between May 2023 to Dec 2023, to increase the percentage of first Oncology visits with a PSM clinic referral within 60 days by 20% and to reduce the average time between first oncology visit and referral to the PSM clinic by 20%.

## INTERVENTIONS

The oncology and palliative team met together and created a fishbone (Ishikawa) diagram (bottom right) on the causes that lead to late referrals. The following interventions were decided (below):

| | |
|---|---|
| Revision of the existing PSMC referral form, in collaboration with the CC team. (Figure 2) | Inclusion of referral tools including P.A.U.S.E criteria for palliative care[1-4] (Figure 2) |
| Providing clarity for the different palliative care services - inpatient and outpatient settings. | Clear and easy access to the referral process and instructions. (Figure 2) |

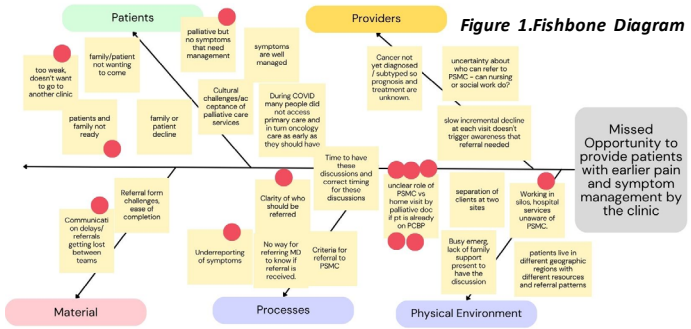
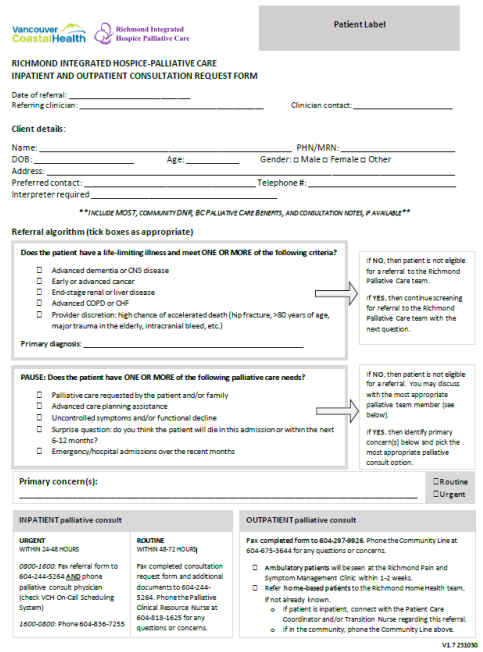



*Figure 1.Fishbone Diagram*

## MEASURES OF IMPROVEMENT

| | |
|---|---|
| **Outcome** | • Decreased referral time between first oncology visit and referral date to PSMC.<br>• Increase in referrals made within 60 days of the first oncology visit. (Figure 4.) |
| **Process** | Increased number of new PSMC referrals from the CC team.<br>• From Nov 2022 to Apr 2023, there was on average 7 referrals per month from the Oncology team to the PSM clinic. A total of 42 referrals with the highest in Nov 2022 at 11 referrals.<br>• From May 2023 to Feb 2024, there was on average 10 referrals per month from the Oncology team to the PSM clinic. The highest number of referrals was 16 in Nov 2023. |
| **Balancing** | No significant change in the triage workload or follow-up calls for the PSMC Palliative Clinical Resource Nurse. |

*Figure 2. Palliative Consultation Request Form incorporating referral tools*



Vancouver CoastalHealth | Richmond Integrated Hospice Palliative Care

Patient Label

RICHMOND INTEGRATED HOSPICE-PALLIATIVE CARE
INPATIENT AND OUTPATIENT CONSULTATION REQUEST FORM

Date of referral: _____
Referring clinician: _____ Clinician contact: _____

**Client details:**

Name: _____ PHN/MRN: _____
DOB: _____ Age: _____ Gender: ☐ Male ☐ Female ☐ Other
Address: _____
Preferred contact: _____ Telephone #: _____
Interpreter required _____

***INCLUDE MOST, COMMUNITY DNR, BC PALIATIVE CARE BENEFITS, AND CONSULTATION NOTES, IF AVAILABLE***

**Referral algorithm (tick boxes as appropriate)**

**Does the patient have a life-limiting illness and meet ONE OR MORE of the following criteria?**

- ☐ Advanced dementia or CNS disease
- ☐ Early or advanced cancer
- ☐ End-stage renal or liver disease
- ☐ Advanced COPD or CHF
- ☐ Provider discretion: high chance of accelerated death (hip fracture, >80 years of age, major trauma in the elderly, intracranial bleed, etc.)

**Primary diagnosis:** _____

If NO, then patient is not eligible for a referral to the Richmond Palliative Care team.

If YES, then continue screening for referral to the Richmond Palliative Care team with the next question.

**PAUSE: Does the patient have ONE OR MORE of the following palliative care needs?**

- ☐ Palliative care requested by the patient and/or family
- ☐ Advanced care planning assistance
- ☐ Uncontrolled symptoms and/or functional decline
- ☐ Surprise question: do you think the patient will die in this admission or within the next 6-12 months?
- ☐ Emergency/hospital admissions over the recent months

If NO, then patient is not eligible for a referral. You may discuss with the most appropriate palliative team member (see below).

If YES, then identify primary concern(s) below and pick the most appropriate palliative consult option.

**Primary concern(s):** _____ ☐Routine ☐Urgent

**INPATIENT palliative consult**

**URGENT**
WITHIN 24-48 HOURS

*0800-1600:* Fax referral form to 604-244-5264 AND phone palliative consult physician (check VCH On-Call Scheduling System)

*1600-0800:* Phone 604-836-7255

**ROUTINE**
WITHIN 48-72 HOURS

Fax completed consultation request form and additional documents to 604-244-5264. Phone the Palliative Clinical Resource Nurse at 604-818-1625 for any questions or concerns.

**OUTPATIENT palliative consult**

**Fax completed form to 604-297-9926.** Phone the Community Line at 604-675-3644 for any questions or concerns.

- ☐ **Ambulatory patients** will be seen at the Richmond Pain and Symptom Management Clinic within 1-2 weeks.
- ☐ Refer **home-based patients** to the Richmond Home Health team, if not already known.
  - o If patient is inpatient, connect with the Patient Care Coordinator and/or Transition Nurse regarding this referral.
  - o If in the community, phone the Community Line above.

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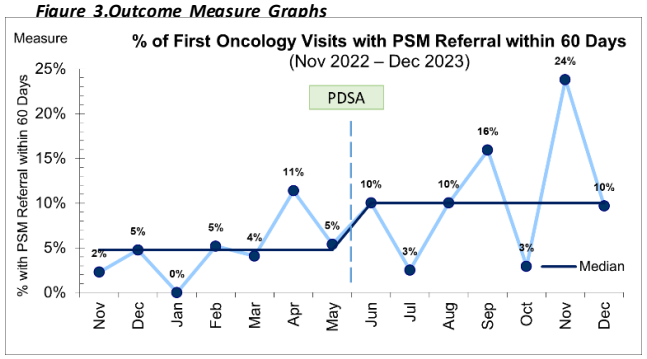
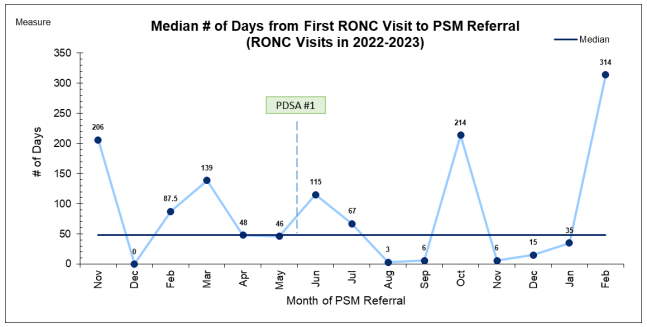
*Figure 3.Outcome Measure Graphs*




## EFFECTS OF CHANGE

- Earlier referrals to the PSMC from the CC team led to patients being seen upstream in their medical journeys.
- Earlier connection with palliative care services in the community.
- Enhanced wrap-around care from the Home Health team and interdisciplinary palliative team members.
- Improved satisfaction from the referring clinician (CC team) by having a clearer referral criteria and an embedded screening algorithm.

## LESSONS LEARNED

- As there are ongoing changes in Cerner/EHR, it's important to review and adapt interventions as needed
- Early engagement from the oncology team helped clarify and uncover what would be important for a new referral form
- For a project that focuses on long-term outcomes, it's important to build in shorter-term measures to track and communicate real-time project progress

## SUSTAINABILITY

- The referral algorithm will be embedded in the medical health records (CST Cerner Power Plan) for all palliative consults.
- Richmond Community of Care will be transitioning to the electronic CST Cerner documentation in summer 2024.
- The current referral form is being used in all acute care settings for preliminary clinical education and tool socialization, in preparation for CST Cerner go-live.

### Acknowledgements

We would like to thank the Richmond Cancer Care Clinic team for their support throughout this Quality Improvement project.

**For questions contact Dr. Amrish Joshi and Lara Musa (Amrish.Joshi@vch.ca and Lara.Musa@vch.ca)**

**Glossary of acronyms**

PSMC: Pain and Symptom Management Clinic; CC: Cancer Care; EHR: Electronic Health Record: CST: Clinical and Systems Transformation; RONC: Richmond Oncology clinic

### References

[1]Cotogni et al.(2017). *Minerva anestesiologica*, *83*(5), 474–484.
[2]George et al. (2015). *Acad Emerg Med*, *22*(7), 823-837.
[3]Koh et al. (2019). *Am J Hosp Palliat Care*, *36*(7), 571-576.
[4]Tiernan et al. (2019). *J Health Serv Res Policy*, *24*(3), 155-163.

# The Sliding Sign Initiative: Facilitating Earlier Detection of Deep Endometriosis in an Academic Ultrasound Department

Dr. Emily Pang (lead), Caroline Lee (co-lead)

Vancouver CoastalHealth | Providence Health Care — How you want to be treated. | PQI Physician Quality Improvement, Specialist Services Committee

## CONTEXT

This project completed within the ultrasound service at VGH and UBCH in collaboration with the BC Women's Hospital Center for Pelvic Pain and Endometriosis. Multidisciplinary involvement included radiologists, gynecologic surgeons, and sonographers.

## PROBLEM

Endometriosis is a prevalent, chronic condition which can cause significant reduction of quality of life. Symptoms are often nonspecific, leading to delayed diagnosis (5-10 years). Most patients will undergo a routine pelvic ultrasound; however, this is generally unable to detect deep endometriosis. A dynamic endovaginal ultrasound maneuver, the "sliding sign" can help detect the most common location of deep endometriosis (Sens 85%, spec 98%), and is relatively easy and quick to perform.

**Thus, by introducing the sliding sign into the pelvic ultrasound protocol for patients at risk for endometriosis, there is an opportunity for earlier detection.** Risk factors include premenopausal, non-pregnant patients with one of chronic pelvic pain, infertility, history of TOA/PID, known endometriosis, or endometrioma/adenomyosis

## AIM STATEMENT

To have at least 80% of the patients who the meet the inclusion criteria for ultrasound sliding sign endometriosis assessment have it performed correctly and reported appropriately by Dec 2023

## STRATEGY FOR CHANGE

**PDSA 1** (Oct 2021)

Training sessions for techs and rads, memo issued. Early enthusiastic uptake which tapered off.

*Main issues identified:*
- Forgetting the inclusion criteria
- Only one person championing SSI
- Some radiologists unaware of SSI

**PDSA 2** (Feb 2023)

**Change Idea**: Reminder posters placed in the EV probe sanitation room

**Rationale**: Inclusion criteria reminder, targets all techs needing to perform TVUS

**Implementation:** 2 weeks - Design and feedback, poster printing

**PDSA 3** (Mar 2023)

**Change Idea**: Posters redesigned and relocated to individual US rooms

**Rationale:** More immediate reminder, improve readability

**Implementation:** Initiated by team member, done over 3 days

**PDSA 4** (July/Aug 2023)

**Change Idea**: Direct feedback to outlier radiologists

**Rationale:** Address awareness gap

**Implementation:** Identify rads not consistently reporting and pitch initiative in-person

**PDSA 5** (Oct 2023)

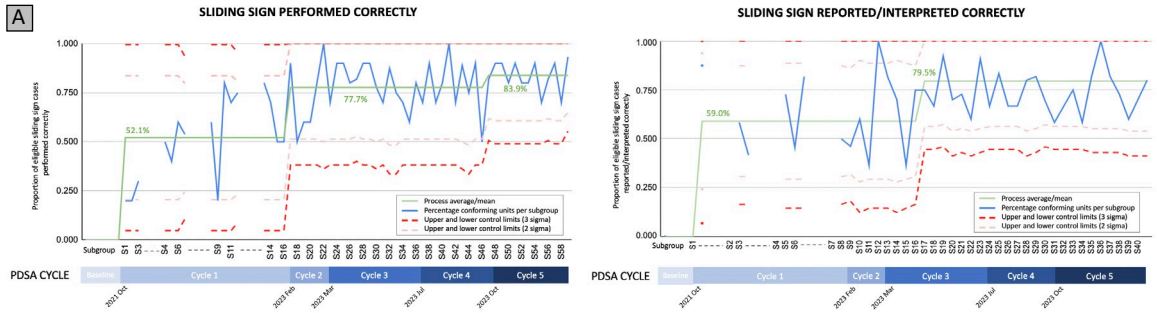
**Change Idea**: Creation of user's guide, dictation macro

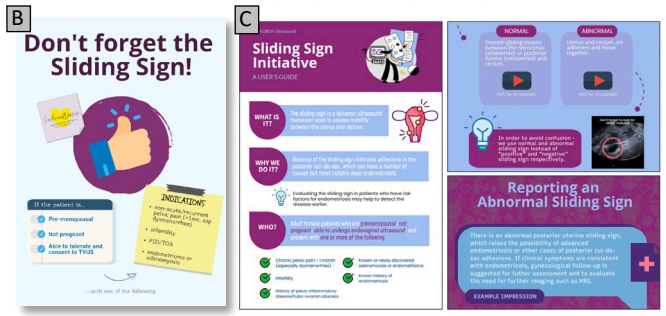
**Rationale:** Request for reference material

**Implementation:** Created reference infographic (with examples) emailed to all interested parties, shared dictation macro

## MEASURES OF IMPROVEMENT

Data collected at baseline and with each PDSA cycle:
- Review imaging and reports to determine (4 measures):
  - If the sliding sign was 1) performed and if so, was it 2) performed correctly
  - If the sliding sign results were 3) reported and 4) interpreted correctly
  - Data divided into subgroups and control charts utilized to identify change signals
- Secondary aim: Identify all abnormal sliding sign cases during project period – chart review to assess how many patients newly diagnosed




[A] Control (p) charts depicting the outcome measures: sliding sign performed correctly (left) and reported correctly (right)
[B] Example of reminder poster used for PDSA 2 and 3.
[C] Sliding sign reference guide created for PDSA 5, including dictation macro

## EFFECTS OF CHANGE

Sonographers achieved 55.9% correct SS performance post-Cycle 1, increasing to 83.9% by Cycle 5. Radiologists attained 69.0% correct SS reporting/interpretation after Cycle 1, reaching 79.5% by Cycle 3 and plateauing thereafter. 37 patients were newly diagnosed with endometriosis subsequent to the SS ultrasound. Estimated additional time to acquire the sliding sign images averaged 11.9 seconds.

## LESSONS LEARNED

- Augmenting the routine pelvic ultrasound with the sliding sign correlates with increased endometriosis diagnoses, allowing earlier and appropriate management.
- Physician performance mainly driven by improvements in sonographer performance.
- Developing change ideas based on multidisciplinary feedback is key.

## SUSTAINABILITY

Sustainability plans include 1) ongoing program evaluation, 2) mandatory sliding sign education with onboarding of new technologists and radiologists, 3) promoting the SS initiative to referring physicians to encourage specific requests for SS, 4) recruiting additional champions

**Acknowledgements**
We gratefully acknowledge M. Wiseman, A. Harris, E. Khalifa, A.Lee and C. Allaire for their contributions. *This project has been funded by the Specialist Services Committee (SSC) Physician Quality Improvement (PQI) program, with invaluable QI support provided by H.Y. Wong, A. Chiu, J. Xu, and E. Fernandez.*

**Glossary of acronyms**
PQI: Physician Quality Improvement; SSC: Specialist Services Committee; VGH: Vancouver General Hospital;

**For questions contact Emily Pang at: emily.pang@vch.ca**

# Empowering our Patients, Families & Caregivers with Emergency Department (ED) Patient Discharge Handout

Dr. Jatina Lai (LGH ED physician), Erin Barbour (Clinical Informatics), Helena Jung (QPS-Experience in Care) from Vancouver Coastal Health Authority (VCHA)

Vancouver CoastalHealth | PQI Physician Quality Improvement Specialist Services Committee | Clinical + Systems Transformation | Emergency Care BC Provincial Health Services Authority

## 1. Aims

Improve Emergency Department (ED) patient discharge communication with 3 primary goals:

- To empower patients, families, and caregivers with information regarding ED diagnosis, treatment, and follow-up plans
- To educate and foster patient's ability to manage their care and condition
- To improve care coordination in transition of care

## 2. Context

Transitions out of hospitals are recognized as high-risk scenarios for patient safety, outcome and experience. Patients, families, and caregivers report feeling overwhelmed and confused in how to care for themselves or their loved ones after being discharged. Not understanding can potentially lead to missed follow-up care, adverse outcomes, more ED visits and hospital readmissions.

In October 2023, the ED Patient Discharge Handout functionality to create and print a patient-friendly discharge handout on the electronic medical health record system became available at Cerner sites across VCH, PHC and PHSA.

## 4. Evaluation Plan

To monitor, evaluate, and support PDSA cycle for change in practice, the evaluation plan includes:

- Patient, Family, Caregiver & Staff experience survey
- Number of sites
- Number of handouts created
- Number of website access through QR codes

## 3. Interventions

**To empower patients, families, and caregivers with the information they need to manage their care after they leave the hospital two handouts were created:**

**1. ED Patient Discharge Handout contains:**

- Discharge diagnosis
- Patient instructions*
- ED Referral Orders**
- Follow-up imaging and labs
- Allergies
- Medication given in ED
- ED prescription and take-home medications
- Lab and Diagnostic results

For Cerner sites, physicians can type in autotext shortcuts in:

*Patient Instructions, by typing "**,,ed_dc_(condition)**" to upload the QR code of the specific resource sheet from Emergency Care BC

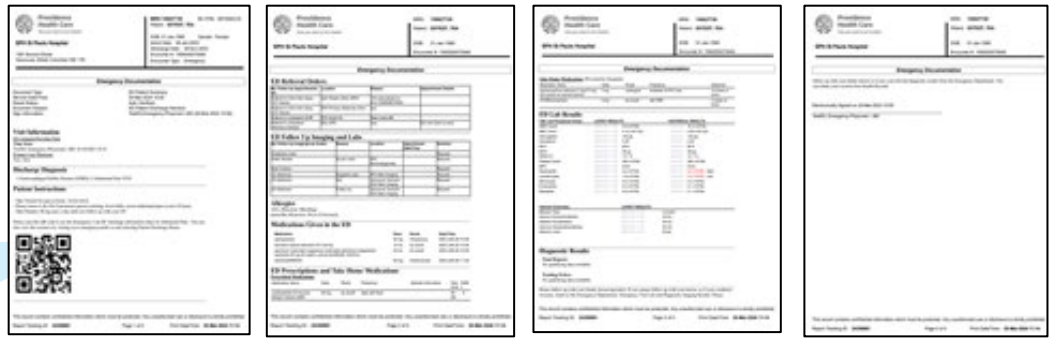
**Referral Orders, by typing "**,,edLGH_(specialty)_(consultant's last name)**" to add consultants' office contact information

**2. QR Code Menu:**

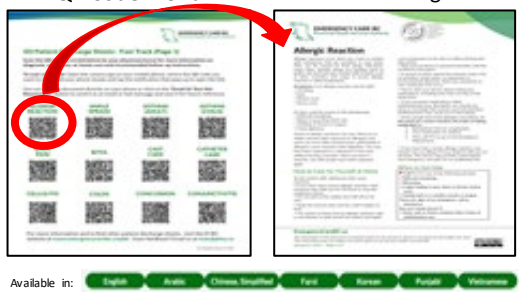
Not every patient may receive an ED Patient Discharge Handout, but they would benefit from learning about their condition.
To support this, a QR Code Menu with links to Emergency Care BC Patient Discharge Sheets to the most common conditions seen in Emergency Department was created. The QR Code Menu is available for staff to have printed at hand (e.g. placed at the first aid station) to circle the relevant condition and hand out to the patient.
More QR Codes are being added to the QR Code Menu.

**Patients who benefit most from the ED Patient Discharge Handout have:**

- English as a Second Language
- Cognitive difficulties
- Follow-up appointments and tests
- Special physician instructions
- Support systems



QR Code Menu



Patient Discharge Sheet

Available in: English, Arabic, Chinese Simplified, Farsi, Korean, Punjabi, Vietnamese

## 5. Knowledge Translation Plan

To support the spread of the use of the ED Patient Discharge Handout and QR Code Menu, a toolkit is available:

- CST help video
- Communication posters
- Wheels on Wheels cue cards reminder
- Sample workflow
- Staff, Patient, Family & Caregiver survey template
- Paper-based ED Patient Discharge Handout template (for downtime for Cerner sites; paper-based sites)

**Acknowledgments:** Developed in collaboration with Cerner enterprise-wide ED representatives including patient partners, CST design team, Emergency Care BC, LGH ED team, Regional ED Working Group, VCH QPS-Experience in Care team. Special thank you to: Allison Chiu, PQI; Dr. Andrew Kestler; Dr. Heather Lindsay; Elizabeth Stacy, ECBC

**Also ask us about the In-Patient Patient Discharge Handout (aka PODS) and Teach Back/Read Back**

**Scan to Connect with Us**

https://forms.gle/YYBLmJqzSWY2UFXS7

# Developing a Digital Remote Symptom Monitoring Program (RESPONSe) to Support Patients Undergoing Chemotherapy at Richmond Cancer Clinic

Dr. Jeremy Ho, Monique Davidson, Ann Enno, June NgAKein, Adele Lui, Tamsin Morgana, Shahrzad Daliran

Vancouver CoastalHealth

PQI PHYSICIAN QUALITY IMPROVEMENT Specialist Services Committee

## CONTEXT

- Richmond Cancer Clinic is an outpatient full-service chemotherapy center at Richmond Hospital.
- The American Society of Clinical Oncology (ASCO) has advocated for increased clinical use of patient reported outcome measures (PROMs), given research showing the use of PROMs to be associated with improved patient-provider communication, patient quality of life, reduced symptom burden, improved survival and reduced acute care utilization.
- Previously, PROMs were not collected in any form at the Richmond Cancer Clinic

## PROBLEM

- Cancer patients experience delays in accessing care for symptom management during treatment.
- This was also an issue identified at Richmond since telephone support for patients undergoing treatment was the responsibility of the chemotherapy nurses, who were often too busy administering IV chemotherapy to respond promptly to patient concerns
- The team saw an opportunity to improve patient care by creating a remote symptom monitoring (RSM) system in conjunction with reorganization of the nursing team responsibilities by creating a new symptom management role

## AIM STATEMENT

- To develop and implement a digital RSM system to collect PROMs at specific timepoints during patient's treatment journey with automated triaging logic to flag symptoms of concern that would result in a phone call from a dedicated symptom management nurse (RESPONSe Program).
- We aim to provide better patient centered care through the prompt management of treatment related symptoms with the goal of reducing symptom burden and ultimately decreasing the need for acute care visits.

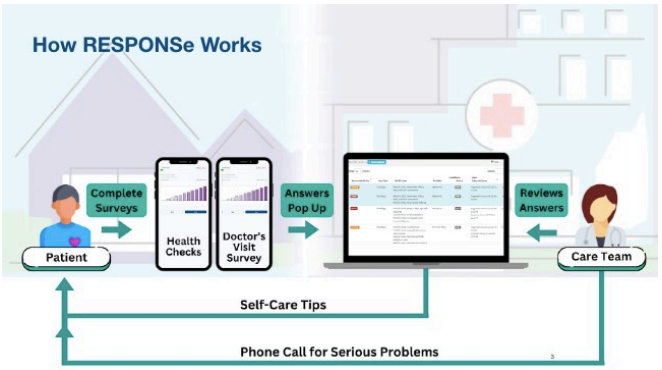
## INTERVENTION OR STRATEGY FOR CHANGE

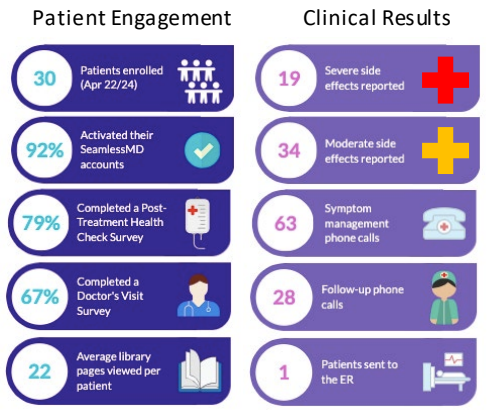
**Nov 2022**
- After successfully winning a competitive grant for $100,000, the project was initiated with the support of VCH Virtual Health and the VCH Research Institute
- Through a competitive procurement process, SeamlessMD (vendor) was the successful proponent

**Aug 2023**
- Multiple design cycles to incorporate conditional logic, COSTARS oncology symptom specific questionnaires, automatic triaging flags, immediate self—management tips and links to educational resources allowed development of a beta version by November 2023.
- Hiring of a new symptom management nurse

**Dec 2023**
- Dry run testing with mock patients identified multiple issues requiring rapid redesign and update for improved platform experience and usability
- Concurrent development of symptom management nursing workflows with constant fine-tuning of the interaction between nurse, digital clinical dashboard and existing paper chart system

**Jan 2024**
- Go-live
- Ongoing identification and tracking of areas needing improvement based on patient and clinician feedback for planned 3-month platform update




## MEASURES OF IMPROVEMENT

- We plan to track ER and UPCC visits as well as rates of hospitalization and length of stay within the first 6 months of starting IV chemotherapy since initiation of the RESPONSe project January 2024.
- The comparator will be the time period in (March-December 2023) for which we have been tracking this data.
- Patients will be requested to completed an experience survey at the 3-month mark

## EFFECTS OF CHANGE

- Patients feel that they are being supported by the clinic through their treatment
- Patients appreciate automatic contact from nurses when they report a problem
- Patients find reassurance in being directed to relevant library resources depending on their issue
- Chemotherapy nurses are able to focus on administering IV treatment without interruptions
- Physicians finding the helpful in facilitating communication during appointments

## LESSONS LEARNED

- Don't be afraid to think big
- Learn and adapt from other successful models of care to your local context
- Involve leadership/operations from the beginning to gain their support
- Seek out and leverage supports from within your institution (VCHRI, VCH Virtual Health, VCH Office of Innovation) and externally (PQI, SCC, Ministry of Health) to help your project along

## SUSTAINABILITY

- Now need to demonstrate the value of having this system in place in order to seek operationalization
- Will be looking at the acute care utilization data, as well as patient and staff satisfaction with the program

**Acknowledgements**
Thanks to Eric Liow and Nasia Sheikh (VCHRI)
Funding support received from Pfizer-EMD Sorono-Bladder Cancer Canada, Ministry of Health, Richmond Hospital Foundation, SCC, PQI, BC Community Oncology Trialists Group

**Glossary of acronyms**
PQI: Physician Quality Improvement; SSC: Specialist Services Committee

For questions, contact Dr. Jeremy Ho at: jho3@bccancer.bc.ca

# Hip Fracture Anesthesia Intervention Quality Project

Dr. Steven Lee, Dept. Anesthesiology and Perioperative Care. Vancouver Acute

Vancouver CoastalHealth | PQI Physician Quality Improvement, Specialist Services Committee | VGH UBC hospital foundation

## CONTEXT

- Hip fracture patients are historically a vulnerable patient group due to advanced age, altered cognition and multiple co-morbidities
- Regional Anesthesia nerve blocks have been shown to improve pain control and patient satisfaction (Figure 1.)
- The Department of Anesthesiology and Perioperative Care in conjunction with the Orthopedic Trauma Division proposed to perform nerve blocks for hip fracture patients

## PROBLEM

- Hip fractures cause significant pain especially with movement and patients may not always be able to verbalize their pain
- Untreated pain can lead to significant hemodynamic changes resulting in heart injury or other complications
- Excessive use of opioids for pain control may cause over-sedation or exacerbate cognition disturbance in this vulnerable patient population

## AIM STATEMENT

- To provide a consistent and reliable nerve block delivery protocol and incorporate it into the standard of care for hip fracture patients starting in January 2023
- Within the confines of Anesthesia staffing and resources, to provide at least one nerve block intervention in the peri-operative period to all hip fracture patients at VGH

Figure 1. Hip Fracture Nerve Blocks (*The Scientific Evidence)*

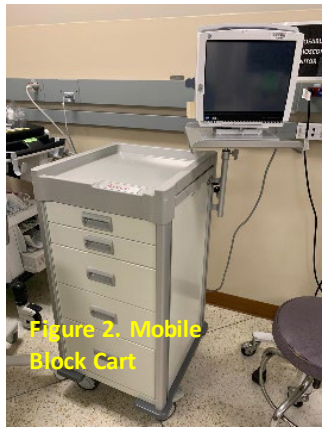


Figure 2. Mobile Block Cart

## INTERVENTION OR STRATEGY FOR CHANGE

| | |
|---|---|
| Regional Anesthesiologist position as an out-of-OR role | • A group of regional anesthesia specialists were tasked with performing these nerve blocks<br>• This was made possible via efforts by the Dept. of Anesthesia to staff the regional anesthesia position as an out-of-OR role |
| Communication, Collaboration, and Education | • Communication and collaboration with Orthopedic and Emergency Departments including ward nursing staff helped optimize the intervention<br>• OR nursing also played a pivotal role in coordinating patient transfers for blocks to occur<br>• In-Service sessions were held for Anesthesia/ER staff as well as ER and Orthopedic ward nurses |
| Block Room | • A block room was formed in the Perioperative Care Centre and utilized pre-operative and recovery room nurses, Anesthesia Assistants for block delivery and monitoring |
| Mobile Block Cart | • A mobile block cart (Figure 2.) with monitors was created to allow flexibility in doing nerve blocks outside of the block room |

## MEASURES OF IMPROVEMENT

- Every patient that underwent a procedure for treatment of hip fracture at VGH was tracked in a database retrospectively
- Nerve block capture rate and other data were recorded to measure state of progress of the intervention and identify areas for improvement

Figure 3. Percentage of Patients that Received a Nerve Block

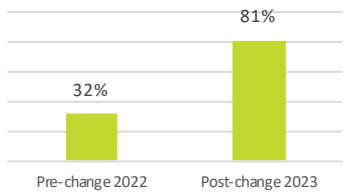
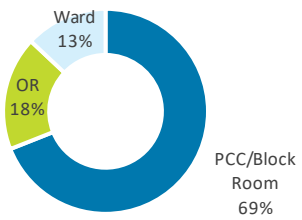



Figure 4. Percentage of Nerve Blocks Performed by Location




## EFFECTS OF CHANGE

- Approximately 350 patients present with hip fracture to VGH annually, of whom 81% now receive a nerve block. This is a substantial improvement over the baseline of 32% Pre-Change (Figure 3.)
- In addition to performing blocks in the PCC Block Room, the mobile cart enabled flexibility in providing the service on wards (Figure 4.)
- Excellent feedback received from patients, family members and ward/OR nursing regarding the hip fracture nerve blocks
- Block capture rate predictably fluctuated with Anesthesia Staffing with dips during holiday season and half of the missed blocks occurred on weekends

## LESSONS LEARNED

- Nerve Block intervention for hip fracture is becoming a standard of care per International Guidelines. We have demonstrated that we can provide this service at a consistent level and high capture rate at VGH
- Implementing a change in standard of care is challenging and it took much effort and collaboration across Departments to arrive at the current state. It was truly a team effort
- Further work will focus on education and training to improve block capture rates for afterhours and weekends

## Patient & Staff Feedback

**100%** (n=8)

**Orthopedic OR nurses** surveyed indicate that the program makes a positive impact and would like to see it continue

**100%** (n=7)

**Orthopedic ward nurses** surveyed indicate that the program makes a positive impact and would like to see it continue

*"My mother broke her hip in March. She was promptly seen by the friendly anesthesia team who performed a nerve block for her hip. Within the hour she was sitting up and eating dinner with me without need for pain medication." Family Member M.T*

*"[it] benefits the elderly who are confused or have dementia and can't express their pain appropriately"*
- Ward RN

*"Ten months ago, I fell and fractured my right hip. When I arrived in the ER at VGH I was in unbearable pain. Fortunately, there was a program at VGH where one could receive a nerve block to the hip to relieve the pain. It didn't take long for the injection to work, and I was able to move. I sincerely hope that this program still exists and is offered to all patients in similar situations."*
**- Patient H.T**

## SUSTAINABILITY

- The Department of Anesthesia is committed to continue to staff a dedicated regional anesthesia specialist for the provision of nerve blocks
- With continued support from Orthopedic Trauma Service and peri-operative staff, this initiative shall continue indefinitely

**Acknowledgements**

Dr. Trina Montemurro, Allison Chiu, Dr. Ayda Askari and Orthopedic Trauma Division for project support. Matthew Tang and Brian Tang for data support. Funding from SSC and VGH & UBC Hospital Foundation. Dept. Anesthesia and entire Peri-operative team to make this initiative possible for the patients

**Glossary of acronyms**

PQI: Physician Quality Improvement; SSC: Specialist Services Committee; VGH: Vancouver General Hospital; PCC: Perioperative Care Centre

**For questions or For comments, contact Dr. Steven Lee at: steven.lee2@vch.ca**

# Application of 5S Methodology for Equipment Stocking in St. Paul's Hospital Emergency Department Fast Track

Alaina Aguanno MD, Moses Li RN, Rebecca Laursen RN, Ramses Prado

Providence Health Care
How you want to be treated.

PQI PHYSICIAN QUALITY IMPROVEMENT
Specialist Services Committee

## CONTEXT

- Emergency volumes continue to increase
- Emergency physicians, nurses, unit clerks and porter ward aides face staffing shortages
- The emergency department (ED) environment in which we work can directly affect staff morale, efficiency, and the quality of patient care delivered
- 5S is defined as a methodology that results in a workplace that is clean, uncluttered, safe, and well organized to help reduce waste and optimize productivity.

## PROBLEM

- Nursing staff and physicians find challenging to find the right care supply items needed at the point of care.
- The activity of stocking these items falls into the Porter Ward Aide's (PWA's) responsibilities. Since there is no formal list of specific supplies needed to be stocked in different points, casual and new PWA's don't know how stock them with proper supplies.

## AIM STATEMENT

- To get a 100% compliance of the stocking of right care supplies in each stock location in the Fast Track are in the Emergency Department at St. Paul's Hospital (SPH) by July 31, 2023.

## INTERVENTION OR STRATEGY FOR CHANGE

- A physician and nurse team went through every drawer, shelf, and bin in the Fast Track area.
- Obsolete and unnecessary equipment was removed
- Necessary equipment was sorted, stocked in intuitive and visible arrangements
- Stocking lists were created, so that Porter Ward Aides could maintain new stocking regimen

## MEASURES OF IMPROVEMENT

- Our Performance Improvement Consultant and Nurse Educator performed stocking spot checks intermittently after initial implementation

## EFFECTS OF CHANGE

- Standardized equipment stocking at the bedside
- Standardized equipment stocking in specialty rooms (eye, ENT, gyne, ID cart)
- Equipment availability has improved.
- Time to locate required equipment has decreased

## LESSONS LEARNED

- Equipment requirements change over years. A health practitioner who utilizes this equipment is best suited to make decisions about how equipment should be updated, a stocked. A local equipment champion could liase with medical staff.
- SPH ED PWAs do not have a direct supervisor who take ownership of equipment management for Fast Track. A similar role exists in other EDs. Introduction of this role would be a benefit in SPH ED.

## SUSTAINABILITY

- Our Quality Improvement Physician Leader is available to provide direction, as needed
- Stocking lists support PWAs to stock correct equipment, in appropriate volume

**Acknowledgements**

Sara Charlton-Gray, Beena Parappilly, Emilia Rydz, Erin Kenny, Allison Chiu, Kanako Sato and the PQI Initiative at PHC

# Breast Surgery Seed Localization: Reducing Patient Day of Surgery Wait Times and Improving Care

Dr. Amy Bazzarelli, Allison Chiu (Program Advisor)

PQI PHYSICIAN QUALITY IMPROVEMENT Specialist Services Committee

Providence Health Care
How you want to be treated.

## CONTEXT

- Patients with non-palpable palpable breast lesions require localization of the lesion for excision.
- Traditionally, these lesions were localized with wires placed under image guidance in the radiology department on the day of surgery.
- Now, we have changed to using magnetic seed localization, which localizes lesions with small magnets and a probe is used in the operating room to detect the magnets.
- This change occurred at Mount St. Joseph (MSJ) Hospital Breast Clinic and Surgical and Radiology departments and results were analyzed.

## PROBLEM

- Surgical start delays and long patient wait times for surgery may occur in patients undergoing surgery for non-palpable breast lesions.
- The placement of a fine wire in the radiology department on the day of surgery requires patients to arrive early in the day. Wire placements vary in complexity and may take longer than expected, resulting in possible delays.
- Magnetic seed localization has been shown to decrease patient wait times and the day of surgery.
- Lesions localized with fine wires can be challenging to find intraoperatively, while seed probes provide intraoperative operator feedback of seed location.
- Sustainment of the change is challenged by added expense of seeds as well as process change in many departments.

## AIM STATEMENT

**Initial aim statement:**
To decrease patient surgical wait times for lumpectomy requiring localization in pre-operative area (day care surgery) on the day of surgery by 50% by May 31, 2022. Surgical start times will occur earlier in the day in 50% of cases.

**Second aim:**
To transition completely to seed localization by February 28, 2023, with 100% of cases completed with seeds

**Final aim:**
Operationalize seed localization as standard procedure at MSJ and spread to other centers throughout British Columbia.

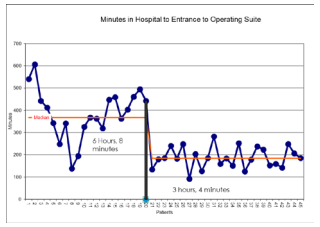
## INTERVENTION OR STRATEGY FOR CHANGE

- Initial intervention (2022): Replace same day wire localization with magnetic seed localization placed days ahead of surgery
- Ongoing interventions: Use of various strategies to re-implement and sustain the change idea:
  - St. Paul's Hospital foundation approval to fundraise seed purchase as a priority item and obtaining funding
  - Senior leadership approval and regional development of regional initiative for seed localization
  - Patient and provider education
  - Processes to address challenges with change to seed localization: seed rounds with surgery and radiology to discuss difficult cases, assist in OR, ongoing discussion with vendor
  - Ongoing data analysis of data gathered by work learn student
  - Request for Proposal (RFP) from vendors for provincial contracts through PHSA

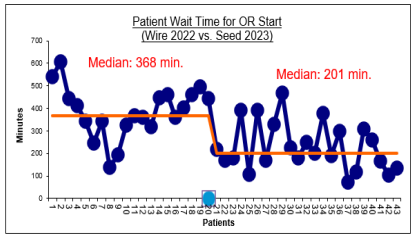
## MEASURES OF IMPROVEMENT

| Outcome Measure | Process measures | Balancing measures |
|---|---|---|
| • Amount of time patients wait in peri-operative area on day of surgery<br>• Patient and practitioner satisfaction<br>• Specimen Margin Status | • Time of entry to hospital and time to OR<br>• Patient reported outcomes | • Travel for additional procedure, surgical and localization times |

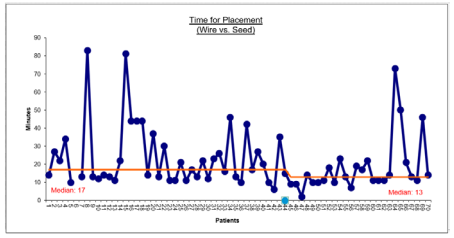
**Initial effect of change**



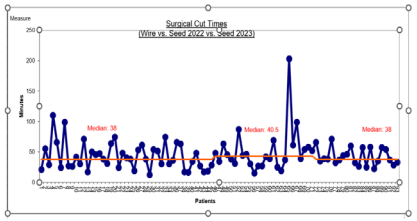

**Sustained effect of change**




**Wire vs Seed Placement Times (2022) in Radiology Department**




**Surgical Operative Times (wire vs. seed 2022 vs seed 2023)**




**Wire localization (WL) patients (197) and seed localization (SL) patients (199) from September 2022 to June 20September23**

| | WL (n=197) | SL (n=199) |
|---|---|---|
| Mean Day of Sx Wait Times (min) | 350 | 198 |
| Mean Radiology Placement Times (min) | 21 | 19 |
| Mean Operative Times (min) | 52 | 54 |
| Positive Margin Rate | 19.9% | 17.1% |

## EFFECTS OF CHANGE

- We were able to demonstrate in 2022 a 50% decrease in patient day of surgery waiting times
- This effect has been maintained (45% decrease) since reimplementation of the seed localization program in 2023, and is consistent with a larger group of patients
- Surgical operative times have not increased with the introduction of seed localization
- Radiology procedure times have similarly remained stable
- Similar changes have started to be implemented in other hospitals throughout the province
- Surgical positive margins are slightly less with seed localization

## LESSONS LEARNED

- Change requires persistence
- Involve key stakeholders early
- Convincing argument is needed to make a change
  - Management, patient and provider by-in is needed
  - Data to support the change is helpful
- Most important is to improve patient care and experience

## SUSTAINABILITY

- Ongoing data analysis of patient wait times, radiology times, operative times, patient satisfaction, provider satisfaction, surgical margins and re-excision rates, specimen volumes, economics, radiology information to occur
- Provincial contracts for seed localization at all health authorities upcoming soon. These contracts will facilitate discussions and transition to seeds at all health authorities in the province.
- Ongoing discussions with management re. sustained funding to make this change a PHC operational budget item

**Acknowledgements**
Funding from Specialist Services Committee
Amy Chang, Stephen van Gaal, Sandra Swanson, Barb Langlois, Elaine McKevitt, Rebecca Warburton, Jin-Si Pao, Carol Dingee, Arveen Gogoani, Providence breast clinic nurses, radiology clerks and technicians, Perioperative and OR nurses and staff, Jessica Farrell, Yvette Cheong, Amie Padilla, Aileen Rankin, Rathi Sivarasa, Rick Domingo, Chris Grubb, Parker Sheehan, Kelly Dawson, Karolina Ged-Piesik, Darren Barnfield, Kelly Third, Providence Health Foundation, Hing Wong, Jefferson Xu, Melina Deban, Jieun Newman-Bremang



For questions contact Amy Bazzarelli at: abazzarelli@providencehealth.bc.ca

# Food as Medicine for Patient Healing: Balancing Patient Eating Habits with Planetary Health

Eileen Wong MD, CCFP, FCFP

PQI PHYSICIAN QUALITY IMPROVEMENT Specialist Services Committee

Providence Health Care
How you want to be treated.

## 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 waste?

Vegetarian meals served to patients (pre-PDSA)

Balance between Patients' and Planetary Health

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

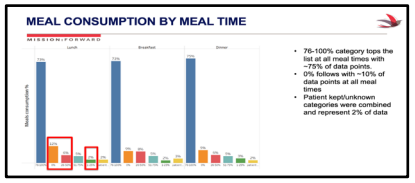
## MEASURES OF IMPROVEMENT

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

**Food Waste Audit – VEM (visual estimation method)**

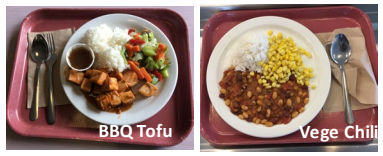
- record amount eaten of all food items on food slips
- all three meals for one week for all patients
- *food wastage is 0-50% quartiles

Food slips

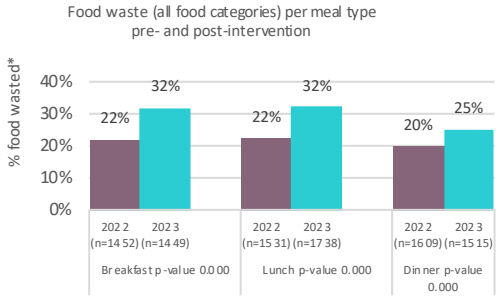


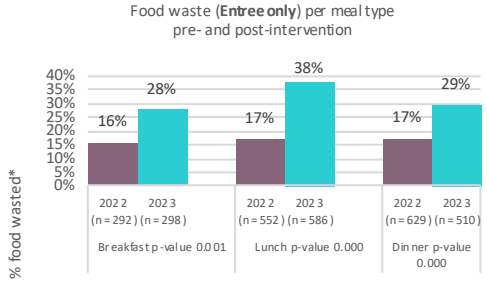

## INTERVENTION OR STRATEGY FOR CHANGE

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

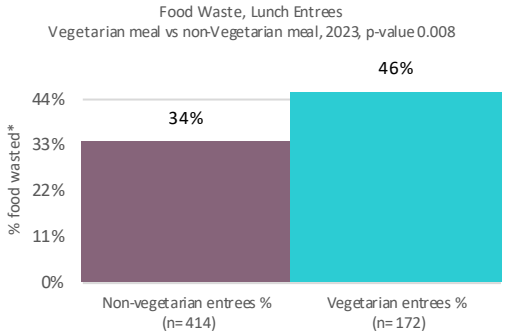


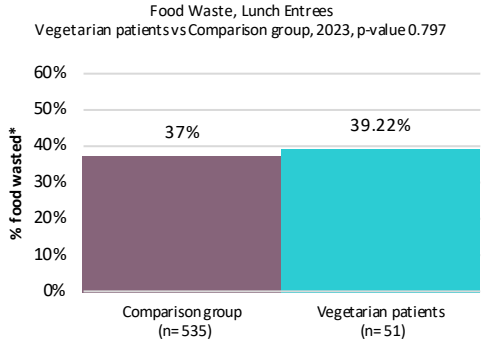

**Food Waste Pre-2022 and Post-2023 intervention**




**Food Waste 2023 Intervention: Vegetarian vs. Non-vegetarian Meal , Patient**




## CONTEXT

- Providence Health Care (PHC) Vancouver, BC
- Average age – 74 ; mostly male (62.5%); 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<br>n= 20 (37%) Female<br>total=54 | n=40 (62%) M<br>n= 25 (38%) F<br>total = 65 |
| Age (average) | 74 years M<br>72 years F | 73 years M<br>79 years F |
| LOS length of stay (average) | 39 days M<br>22 days F | 35 days M<br>36 days F |
| Diet types | 8 | 7 |

## EFFECTS OF CHANGE

1. **Aim Statement** not achieved - food wastage increased but **we learned:**
2. **Patient Survey results:** most patients (78.6%) ate **omnivore diets**, had tried vegetarian dishes before (62.1%), aware of the benefits of vegetarian diets (58.6%) on personal and planetary health but did not always choose vegetarian menu items during the PDSA
3. **Food Waste Measurements (entrées):**
   - lunch entrees wasted most (17% to 38%)
   - vegetarian entrees wasted more (46%) vs. non-vegetarian (34%)
   - vegetarian patients wasted just as much as non-vegetarians 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

**Ultimately for patients' food experience:** taste, texture, temperature, cultural preferences and experience determine acceptability, palatability
**For patients, quality of life is an issue.**

## LESSONS LEARNED – DATA INFORMS!

- **QI Principle: How do you know a change is a change without measuring?**
  - **Need to measure food experience!**
  - **Measured** through **VEM (visual estimation method) + patient surveys**
- **Patients need to be at the centre of food changes -** improve acceptability and palatability
- **Food production - complex system** (patience and time needed to change)
- **Educate** staff, residents/patients, families: food production system complexity; advocacy for patient voice
- **Change can be slow and/or difficult but not impossible – together we can make Food as true Medicine!**

**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 wastage** 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**

**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 Fernandez Ruiz (VCH Project Advisors)

**For more information contact Dr. Eileen Wong emwong@providencehealth.bc.ca.**

# Pre-Operative Multidisciplinary Review for Breast Cancer

Dr. Elaine McKevitt, Surgeon, Karina Makarova, UBC Student, and the Providence Breast Program at Mt St Joseph Hospital

PQI PHYSICIAN QUALITY IMPROVEMENT Specialist Services Committee

Providence Health Care
How you want to be treated.

## CONTEXT and PROBLEM

- Breast cancer treatment is increasingly multimodal and multidisciplinary
- Preoperative multidisciplinary review has been shown to change care and is a Canadian and International standard
- It rarely happens in BC due to logistics
- Currently there is a cancer care crisis with staffing shortages and increasing wait times for diagnosis, surgery, chemotherapy, radiotherapy
- We showed changes in patient care when reviewing oncoplastic breast reduction cases as the first step in 2022-23

## AIM STATEMENT

- **To increase the number of complex breast cancer cases that have pretreatment multidisciplinary review from 0% to 50% by April 2024**

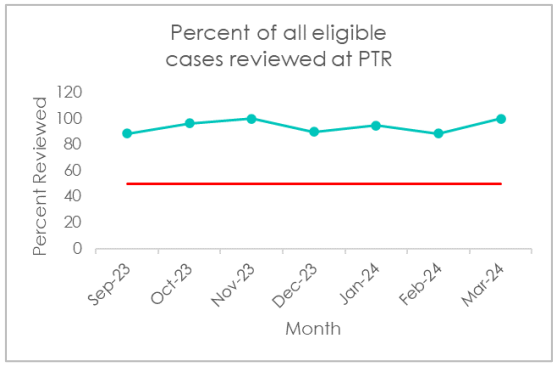
## Plan-Do-Study-Act Cycles

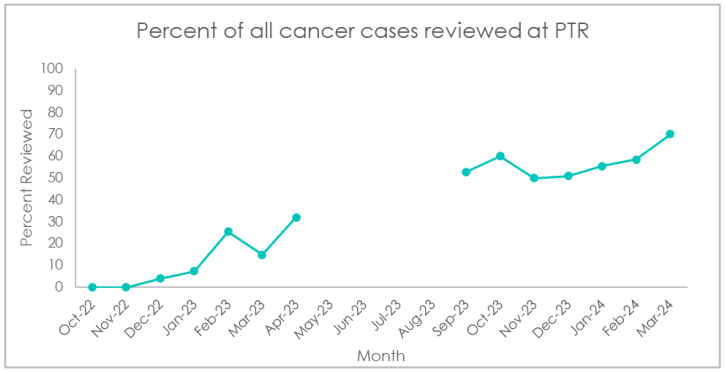
| | | |
|---|---|---|
| 1 Apr. 2023 | Surgeons review complex cases at triage | • Logistics of triage and review<br>• With Nurses |
| 2 Sep. 2023 | Consistent Pre-Treatment Rounds created | • Discussion of complex cases between surgeons<br>• Clarification of treatment plans |
| 3 Dec. 2023 | Plastics and nursing present at review | • Feedback from new members<br>• Methods for sustainability |
| 4 Feb. 2024 | Medical and Radiation Oncology join Pretreatment rounds | • Feedback from new members<br>• Methods for sustainability |

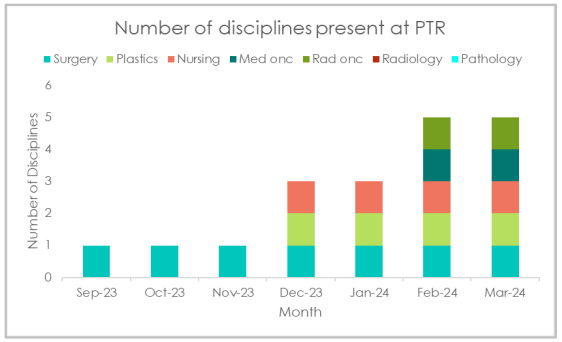
## EFFECTS OF CHANGE

- Multidisciplinary review can change the patient journey
- With routine review of complex cases there were changes in management from triage plan **for 23% of patients**
- 67% providers feel process improves patient care

## MEASURES OF IMPROVEMENT and RESULTS




### BENEFITS

- ✓ Nice to plan entire care trajectory
- ✓ Planning before surgery and scheduling of ORs
- ✓ Greater involvement of multidisciplinary team
- ✓ Assessing need for additional consultations prior to finalizing treatment plans
- ✓ Provides sense of cases referred for triage to Medical Oncology – speeds up process and helps with prioritizing
- ✓ Educational opportunities
- ✓ More rapid treatment plan for patients

### CHALLENGES

- ✗ Volume of cases
- ✗ Difficult for Rounds Chair to keep up with documentation
- ✗ Timing of rounds – can impede on other commitments
- ✗ Added workload
- ✗ No option for other disciplines to present cases

## LESSONS LEARNED

- When considering change it is important to keep the focus on what is best for the patient, despite system challenges, as it is hard to change interdisciplinary processes
- The approach of the PDSA cycle with continued reassessment and modification provided a language to discuss implementing change and was a practical approach
- Our findings support developing systems for pre-treatment multidisciplinary review for breast cancer

## SUSTAINABILITY

- We will continue to review cases in our pretreatment rounds
- We will use the data from this project to develop a business case that will outline the supports needed to implement a sustainable pre-treatment multidisciplinary review and to add diagnostic specialities
- We plan to expand inclusion criteria to include cases that are seen first by other members of the team

**Glossary of acronyms:** BCS: Breast Conserving Surgery; NAT: Neoadjuvant Chemotherapy; BCC: BC Cancer; MSJ: Mt St Joseph Hospital; PHC: Providence Health Care; PBC: Providence Breast Center

**Acknowledgements**

- PBC Team, PHC leadership, PQI team, Partners in care (oncology, radiology, pathology), Beth Rizzardo, patient partner
- This project is supported by the SSC through the PQI initiative

**For questions contact Elaine McKevitt at: emckevitt@providencehealth.bc.ca**

# Improving Access and Flow to Holy Family Hospital Rehabilitation: Thwarting Myths and Accelerating Efficiency

Evan H. Kwong[1], Jeffrey Chan[2], Cheryl Harris[3], Darren Barnfield[4]
[1]HFH Rehab Medical Site Lead; [2]HFH Rehab Patient Care Manager; [3]Performance Improvement Consultant; [4]HFH Rehab Program Director

PQI PHYSICIAN QUALITY IMPROVEMENT Specialist Services Committee

Providence Health Care
How you want to be treated.

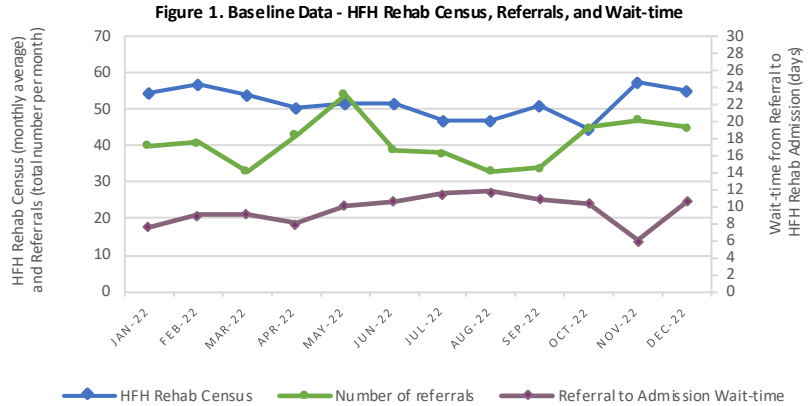
## BACKGROUND

- 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

## HYPOTHESIS

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

**Figure 1. Baseline Data - HFH Rehab Census, Referrals, and Wait-time**




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

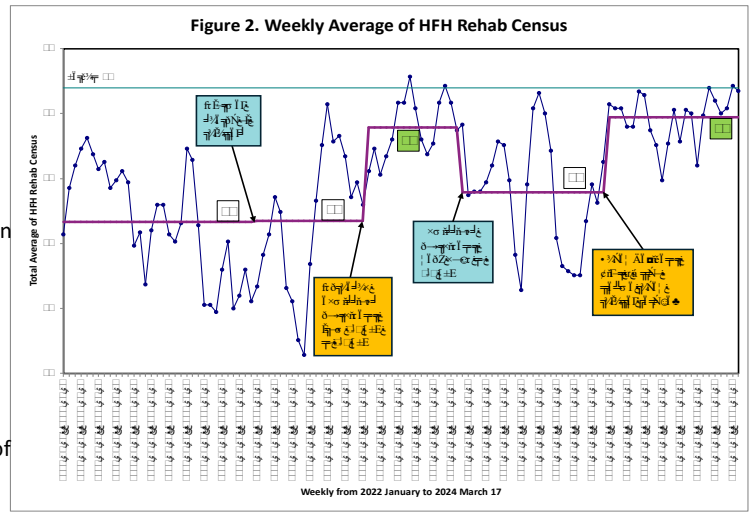
## RESULTS

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

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

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

**Figure 2. Weekly Average of HFH Rehab Census**




## 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)

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

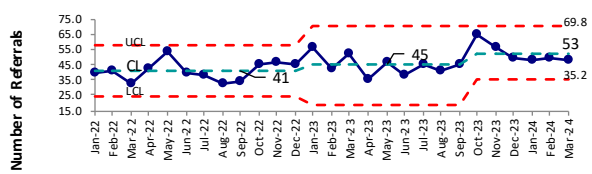
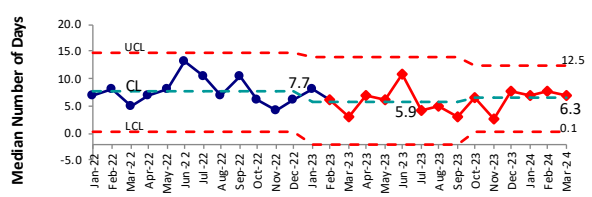
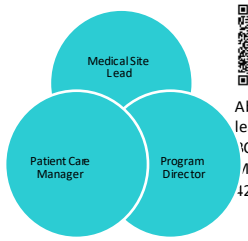



**Figure 4. Wait-time from Referral to HFH Rehab Admission for ALL (median number of days)**



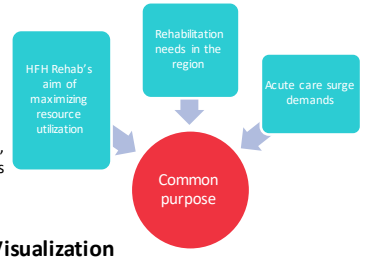

**"QI as done"** (adapted from Work as done, Resilient Health Care)

**Leadership Triad Team**

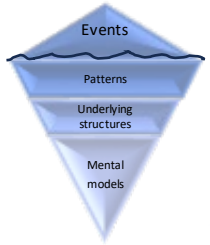



About dyadic leadership model: ICMJ vol 66, No. 2, March 2024; pages 42-45.

**Alignment**

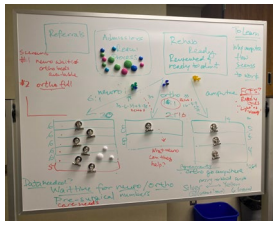



**Iceberg Model**



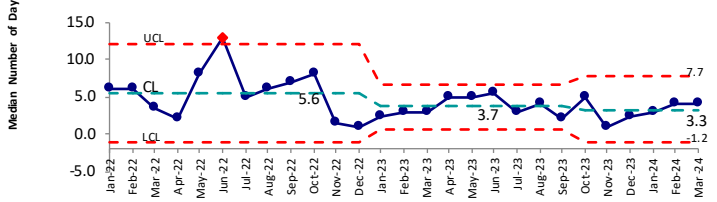

**YouTube video – The Iceberg Model for Systems**

**Visualization**



5 Tips for Guiding Improvement with Visual Data

**Figure 5. Wait-time from Referral to HFH Rehab Admission for PHC sites only (median number of days)**




**Secondary Measures (Figure 3):** The number of referrals to HFH Rehab increased at each of the PDSA start months. The number of monthly referrals from PHC also increased from median of 8 to 15 (data not shown)

**Balancing Measures (Figures 4 & 5):** 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

## 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 from PHC improved and remained stable
- 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

# Implementing Outcome Measures to Monitor Transition of Neurology Patients to Home-Based Therapy

Dr. Kristine Chapman, Dr. Katie Beadon, Michelle Garabb (SPIN RN), Shabnum Hussein (Program Clerk), Stacey Cave (Physiotherapist), Allan Nalica (Clinical Nurse Leader), Angela Carr (Program Manager), Sandy Barr (Program Director), Mairead Ashe (RN), Chelsea Smith (Research Assistant)

PQI PHYSICIAN QUALITY IMPROVEMENT Specialist Services Committee

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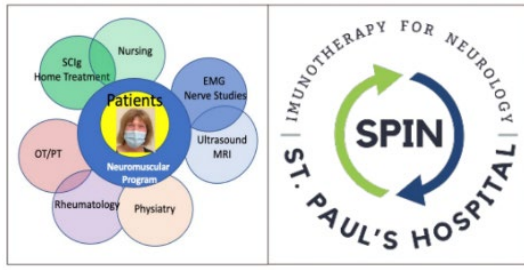
## CONTEXT

- The St. Paul's Immunotherapy in Neurology (SPIN) Clinic provides team-based care to patients with chronic inflammatory neuropathies (CIN), using a Value-Based Health Care Framework.
- Patient Reported Outcome Measures are not routinely used in clinical practice.
- A new home treatment with Immunoglobulins (SCIg) was approved for CIN




## PROBLEM

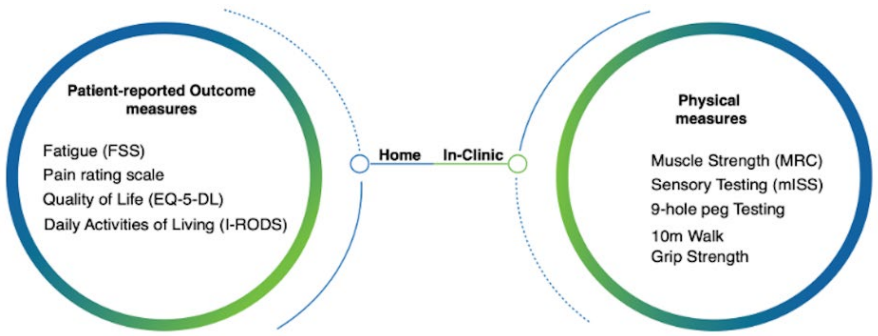
- CIN patients on intravenous immunoglobulin (IVIg) require frequent hospital visits and may experience wearing-off effects between treatments. Many patients wish to transition to home-based therapy to increase autonomy and independence.
- Patients and providers want to ensure disease stability during the transition to home-based therapy.

## AIM STATEMENT

- To implement a set of outcome measures, including functional and patient-reported measures, in routine neurologic care to monitor the transition of CIN patients from IVIg to home-based SCIg therapy.

## INTERVENTION OR STRATEGY FOR CHANGE

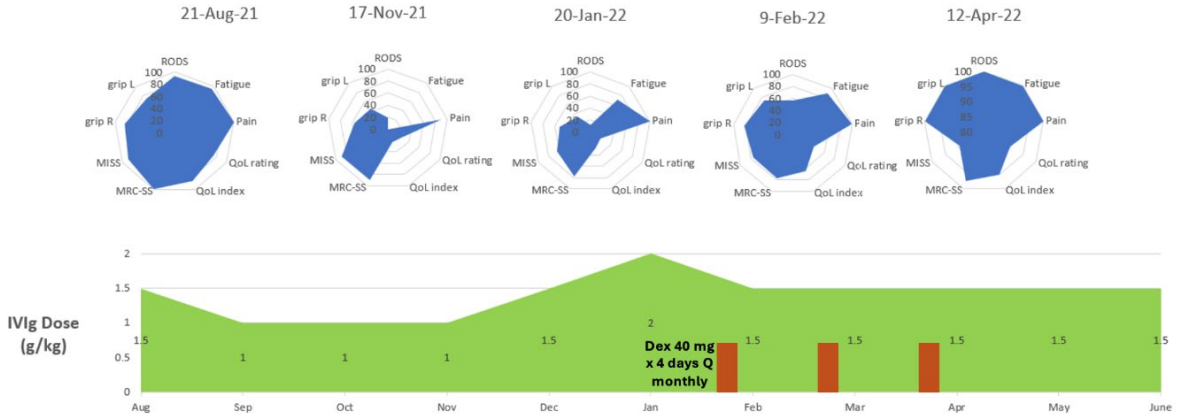
- A panel of nine outcome measures tailored to CIN patients was administered every three months during the transition to home-based therapy over 1 year, as a pilot, and then into routine practice.
- Patient-reported outcome measures were sent electronically, and functional/physical measures were administered in person in the SPIN clinic, prior to and during transition to home-based therapy.
- Results were graphed and used by the team and patient during routine neurological follow-up visits for shared decision-making.




The SPIN clinic team, including two neurologists, a nurse, and a research assistant administered the outcome measures.

## MEASURES OF IMPROVEMENT

- Outcome measures were graphed longitudinally to assess how patients responded to home-based therapy.
- Patient feedback on the transition to home-based therapy was collected via an online survey.
- Pharmaco-economic modeling was applied to assess the savings per patient per year.




- Radar graph, with 100% normal represented on outside of circle. Improvement following increased Immunoglobulin treatment dose and steroid treatment, illustrating clincal worsening and response to treatment.

## EFFECTS OF CHANGE

- Successful transition of 19 patients from IVIg to home-based therapy, 2 required return to IVIg in hospital.
- Pharmaco-economic modeling shows savings of $5,600 per patient transitioned to home therapy per year.
- Patients and providers report outcome measures are useful in tracking disease status during changes in treatment and improve patient involvement in care.
- Patients felt more heard or understood while completing outcome measures during the transition.

## LESSONS LEARNED

- Outcome measures are effective in monitoring the transition from IVIg to home-based therapy and provide insight into aspects of health not captured in routine care.
- Tracking outcomes over time provides quantitative data to review with patients for shared decision-making.
- Transitioning patients to home-based therapy improves quality of life, autonomy, and results in cost savings.

## SUSTAINABILITY

- The team has collected feedback from patients and providers on barriers and areas of improvement for outcome measurement in the clinic to be addressed moving forward.
- Automated online surveys have been established to administer patient-reported outcome measures at home to maximize the efficiency of the time in clinic. Without support from multidisciplinary team or research assistant, difficult to maintain.
- Ongoing communication and collaboration with EMR systems to integrate data storage and visualization.

**Acknowledgements**

This project is supported by the SSC through the PQI initiative.

**Glossary of acronyms**

SPIN: St. Paul's Immunotherapy in Neurology; CIN: Chronic Inflammatory Neuropathy; IVIg: intravenous immunoglobulin

For questions contact Kristine Chapman at: kristine.chapman@vch.ca

# The Anticoagulation Stewardship Program

Dr. Stephanie Garland, BSc(Pharm), ACPR, PharmD, Dr. Taylor Drury , MD, MSc, FRCPC, , Dr. Justin Lambert, MD, FRCPC, Melissa Chan, Joshua Yoon, Dr. Tony Wan, MD, FRCPC, DRCPSC

PQI PHYSICIAN QUALITY IMPROVEMENT Specialist Services Committee

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Providence Health Care
Mission: Forward Strategic Plan 2019–26

## BACKGROUND

Heparins are frequently prescribed in hospitals for prevention of venous thromboembolism (VTE). While necessary in high-risk patients, the indiscriminate use of heparin in low-risk patients may result in adverse effects such as bleeding and heparin-induced thrombocytopenia. The Anticoagulation Stewardship Program (ACSP) was developed to optimize VTE prophylaxis using a risk-informed approach.

## AIM

The aim is to improve the adherence to VTE prophylaxis guidelines in order to reduce the institutional cost for heparin medications by 20% over 6 months.

## ADDED VALUE

### Patient Safety

A risk-informed VTE prevention strategy maintains low rates of preventable VTEs while reducing the risk of adverse drug effects.

### Health Care System

Reducing unnecessary VTE prophylaxis reduces associated medication costs and reduce workload for nurses.

### Sustainability

Reducing unnecessary VTE prophylaxis can minimize the large carbon footprint associated with heparin production[1].

## METHODS

Over 6 months, new admissions to units 7ABCD 8A and 9CD were screened by the ACSP pharmacist. Each patient's VTE risk was assessed using the IMPROVE risk assessment model[2] and their VTE prophylaxis orders were verified against their risk category, weight, and renal function to determine appropriateness. Any recommendations were communicated with the admitting team.

## RESULTS

### Outcome Measures

**Figure 1: Cost of Prophylactic Enoxaparin and Heparin per**

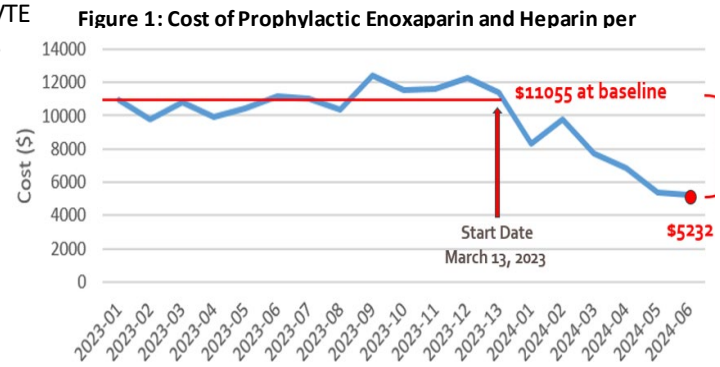



*Figure 1 depicts the combined cost of enoxaparin 30mg, 40mg, and heparin 5000 unit syringes from fiscal period 2023-01 (Apr 1, 2022) to 2024-06 (Sep 14, 2024). The ACSP was started during the 2023-13 fiscal period (Mar 2023). The cost was reduced by 53% in 6 months.*

### Process Measures

Over 6 months, 889 admissions were audited. Of these, 58.7% were deemed low risk and 41.3% were moderate-high risk per the IMPROVE risk assessment model.

### Balancing Measures

Of the 435 low-risk admissions that were appropriately not prescribed prophylaxis, 1.1% had VTE within 90 days. Of the 276 moderate – high risk admissions that appropriately received prophylaxis, 3.6% had VTE within 90 days.

**Figure 2: Proportion of Low-Risk Patients Inappropriately Prescribe VTE Prophylaxis**

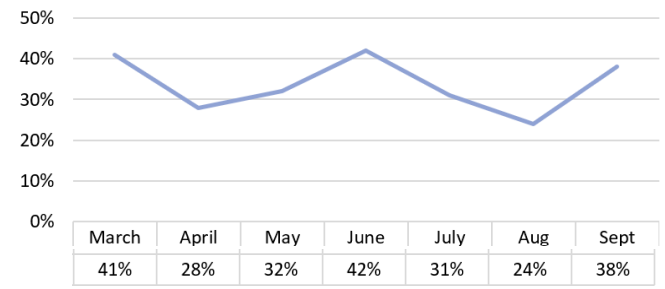



**Figure 3: Percentage of Recommendations Accepted by the Admitting Service**

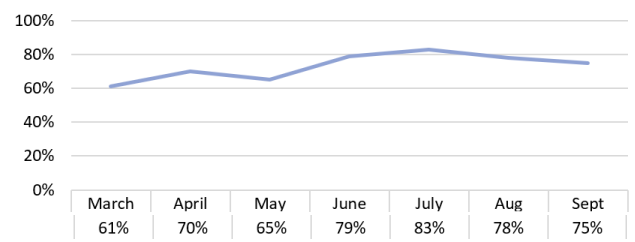
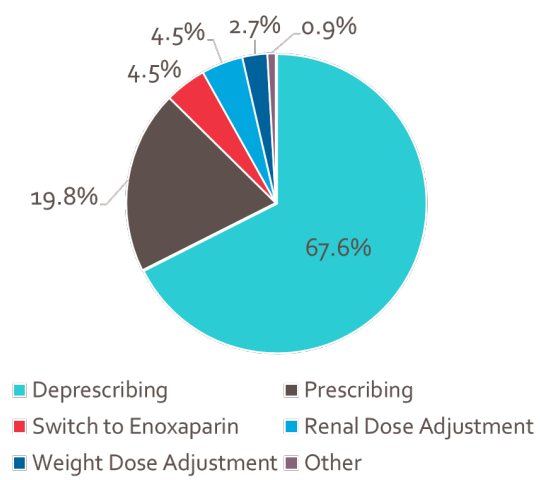



**Figure 4: Types of Recommendations**




## SUSTAINABILITY

With encouraging results that exceeded our initial aim, we showed that the expense of the ACSP was off set by the cost saving achieved by the reduction of heparin use. The PHC senior leadership team has approved long term funding for the ACSP. The ACSP was also given support to develop an artificial intelligence tool to help with the increasing workload.

## FUTURE DIRECTIONS

The ACSP aims to expand to the medical inpatient units in other acute care hospitals with the PHC/VCH health authority. Furthermore, we plan to broaden the intervention to include other clinical use of heparin such as therapeutic anticoagulation with unfractionated heparin infusion. We hope to leverage artificial intelligence tools to achieve the expansion without additional human resources.

**Full Length Article Published!**

Read more about the anticoagulation stewardship program here in Thrombosis Research Journal

SCAN ME

## REFERENCES

1. Fan BE, Favaloro EJ. Counting the carbon cost of heparin: an evolving tragedy of the commons? Lancet Haematol. 2022 Jul;9(7):e469-e471.
2. Rosenberg D et al. External validation of the risk assessment model of the International Medical Prevention Registry on Venous Thromboembolism (IMPROVE) for medical patients in a tertiary health system. J Am Heart Assoc. 2014 Nov 17;3(6):e001152.

# Engaging an interdisciplinary provider group for improving heart failure care in VCH & PHC

Dr. Nat Hawkins, Maria Krahn, Stephanie Ahuja, Jing Luo, Sarah MacDonald

Vancouver CoastalHealth | Providence Health Care — How you want to be treated. | PQI Physician Quality Improvement, Specialist Services Committee

## CONTEXT

- **Heart failure (HF)** is an overlooked public health crisis in British Columbia. Therapies for HF have advanced and significantly reduce morbidity and mortality yet remain underutilized.
- The 2019 Regional Heart Failure Audit conducted at VCH & PHC examined inpatient data from approximately 2000 patients with a primary diagnosis of HF. The findings highlighted underutilization of **Guideline-Directed Medical Therapy (GDMT)**. The need to address this gap resulted in the Regional Cardiac Program including a dedicated pillar for quality improvement (QI) as part of the regional heart failure strategy refresh.

## PROBLEM

- Cardiology and Internal Medicine are the two primary ~~care~~ provider groups to patients with HF in the acute setting. Our hypothesis is that by increasing the providers' awareness of their prescribing practice AND increasing the utilization of the evidence-based HF module in Cerner, more patients will be prescribed GDMT before discharge from hospital. This will ultimately improve survival, readmissions, and quality of life.

## AIM STATEMENT

To Improve the uptake of GDMT for patients with acute heart failure during their hospital stay by establishing an inter-disciplinary physician group across the region of VCH & PHC to provide consultation and inputs on identified QI interventions.

## INTERVENTION OR STRATEGY FOR CHANGE

- The provider working group was first brought together in early 2023 and consists of **two cardiology provider champions** and **two internal medicine provider** champions at VGH and SPH. Two of these champions are PQI alumni. The group has worked on three interventions:

### HFrEF Order Set

- Re-designed Cerner HF module went live in February 2024.
- Ongoing work with clinical informatics on adoption support model (i.e., "live" demos and provider education of the order set).

### Practice Profile

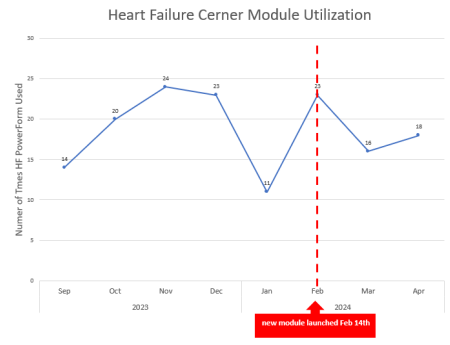
- Developing individual level reports to providers focused on their prescribing rate of quadruple therapy in partnership with the Medical Staff Practice Enhancement (MSPE) program.
- First iteration report is drafted with ongoing work to improve data quality. The second iteration is planned for later in 2024.

### Discrete Data and Reporting

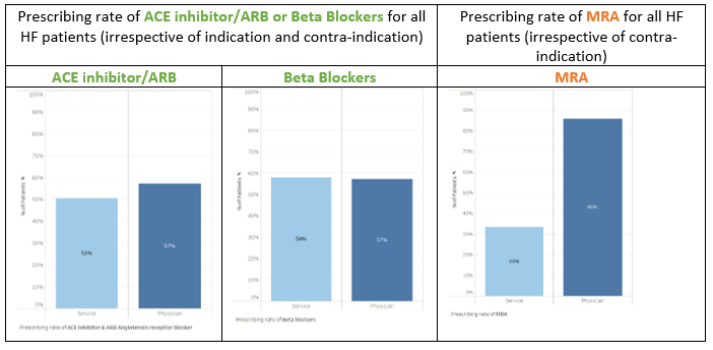
- Supported by the clinical informatics, CST, and cardiology IMITS solutions teams in VCH, an interface between the VCH echo database (Syngo) and CST Cerner is now built and being tested. This will help to streamline future HF audits and support creation of a HF patient roster.
- Completion goal - August 2024, then focus will turn to rebuilding the annual HF Audit report.

## MEASURES OF IMPROVEMENT

| Cerner HF module utilization | Number of HF module initiations |
|---|---|
| **Prescribing rate of quadruple therapy of hospitalized patients with HF** | • Prescribing rate of ACE inhibitor/ARB/ARNI or beta blockers for all patients with HF (irrespective of indication and contra-indication)<br>• Prescribing rate of MRA or SGLT2i for all patients with HF (irrespective of contra-indication) |




A Sample Graph of Comparing Individual vs Peer Prescribing Rate




## EFFECTS OF CHANGE

- An overarching ADKAR change management approach is embedded in the engagement with the inter-disciplinary provider working group that is still ongoing as part of the regional HF quality strategy.
- ➢ ***Awareness:*** utilize 2019 HF Audit to shed light on the treatment gap for this patient population.
- ➢ **Desire**:
- Practice Profile report to encourage provider reflection on individual prescribing practice.
- Understand the barriers of utilizing the Cerner HF order set.
- Importance of discrete Syngo data integration with Cerner to allow focus on the truly indicated patients.
- ➢ **Knowledge:** Ongoing education to the clinical teams on the re-designed HF module in Cerner.

## LESSONS LEARNED

- Invaluable input from this interdisciplinary provider group uncovered the root causes of low order set uptake barriers to starting GDMT during hospital stay. The group also underscored the importance of considering indication and contra-indications when measuring the true treatment gap, which helped inform the specifics of our intervention and change strategies.
- It is important to integrate change management principles when engaging multiple partners for QI Driving meaningful change takes time and iteration. Patience is required when navigating technical changes in Cerner and extracting data out of Cerner.
- A repeatable communications strategy is required to support continuous improvement when the target provider audience is large, heterogeneous, and frequently changing (e.g., new residents / fellows).
- Patient access to GDMT / gaps in coverage and cost can affect compliance in the real-world setting. Considering and discussing drug costs at time of discharge is pertinent.

## SUSTAINABILITY

- Sustainability planning is an ongoing area of development in our HF Quality / Practice Improvement stream.
- With the advent of discrete echo data flowing into Cerner and ongoing support from VCH data and analytics team, our goal is to generate automated annual HF Audit report and provider-specific practice profiles. These two interventions will serve as the foundation of a data-driven approach to improve the care of HF patients, reduce hospital readmissions, and ensure care provided to patients with HF in hospital settings is aligned with best practice guidelines for GDMT.

### Acknowledgements

Dr. Penny Tam, Dr. Simone Cowan, Dr. Barry Chan for participating in the provider working group; Emma Pienaar and Ashish Chauhan for providing data & analytical support; SSC for providing funding to the physicians

### Glossary of acronyms

HFrEF: heart failure reduced ejection fraction

**For questions contact Dr. Nat Hawkins at: nhawkins@mail.ubc.ca**

# Improving Profile Electronic Medical Record for Patient Care

Physician Leads: Drs. Susan Nouch, Jade Koide, Kimberly Merkli, Nathaniel Winata;
PQI Support: Enrique Fernandez Ruiz

Vancouver CoastalHealth | Providence Health Care — How you want to be treated. | PQI Physician Quality Improvement — Specialist Services Committee

## CONTEXT

Different needs for primary care were identified in the community:

- Hepatitis C treatment
- Preventive Health
- Type 2 Diabetes Mellitus assessment
- HIV-related primary care Interventions

## PROBLEM

- Opportunity to develop or improve tools to help with different primary care interventions in the community.

ProfileEMR is the tool used by VCH Primary Care and Community

## INTERVENTIONS

- Four forms developed based on primary care clinician input
  - HCV form — hcv\
  - Preventive Health Form — prevent\
  - Type 2 DM form — t2dm\
  - HIV Form — *TBD*

EMR shortcuts

- PDSAs were used to increase form usage
  - Identified super users to ask them to encourage colleagues
  - Talked to clinicians to present form and functionality
- Dissemination of progress through emails, and internal bulletin explaining new EMR forms and functionality
- Partnership between IMITS/PQI and Community physicians
- The work spread over 4 years (2020-2024)

## AIM STATEMENT

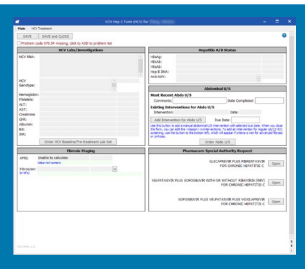
**Develop a comprehensive, easy to use HCV form for the EMR to enhance and improve HCV care within the VCH Community Primary Care Clinics (SN)**

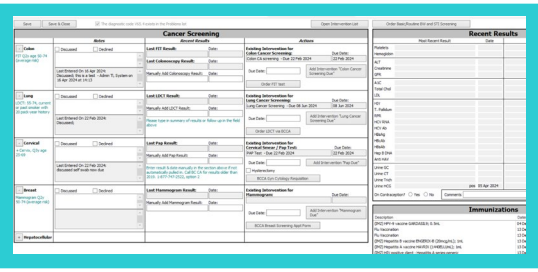
**Improve the rate of cervical cancer screening among eligible Heatley Community Health Centre patients by 50% by May 2021 (JK)**

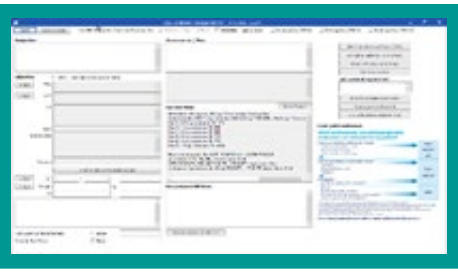
**By 2023, the number of Type 2 Diabetic patients at Pender with all three interventions done together as a bundle of care in last 6/12 months: BP check; foot assessment; immunization review; will increase from 0% to 25% (KM)**

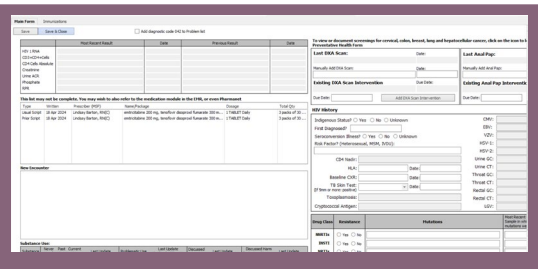
**To increase the completion of 5 primary care interventions by 20% for HIV positive clients at John Ruedy Clinic by May 2023:**
**1. Hepatitis C; 2. Pneumococcal Disease; 3. Colorectal cancer screening; 4. Cardiovascular disease; 5. Tobacco use disorder (NW)**

## EFFECTS OF CHANGE

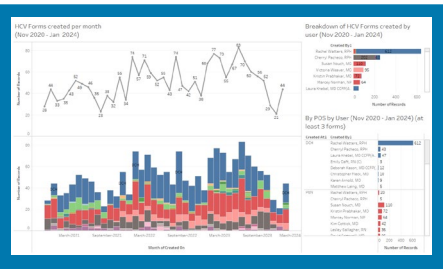


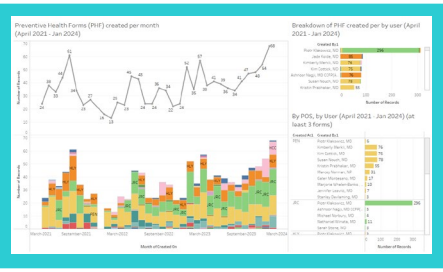


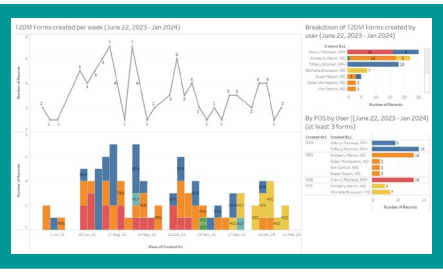




## MEASURES OF IMPROVEMENT







# # forms created
- per week or month
- per site
- per user

**** (IN PROGRESS) ****

## LESSONS LEARNED

1. It is beneficial to utilize existing tools and leverage technology
   a) Utilize outcomes that are easily measurable
   b) Providers appreciate individualized patient reports
   c) A systematic approach improves both patient and provider experience
2. Collaboration is important (w/ leadership, clinic staff)
3. Need to dedicate time for QI
4. QI is fun!
5. PQI support was helpful
6. Everything takes much longer than planned; start small, just try and adjust as needed.

## SUSTAINABILITY

- Transition document was prepared to help clinicians know how to submit change requests going forward
- For future change requests, email EMRHelp@vch.ca
  - If a change can be easily implemented, to be assigned promptly; or
  - If change is complex, to be placed in the Intake queue

### Acknowledgements

**IMITS team:** Teresa Li, Michael Chang, Edward You, Gus Van Der Lely, Harinder Braich; **Advising physicians**: Stan DeVlaming, Cole Stanley; **PQI**: Selina Wong.

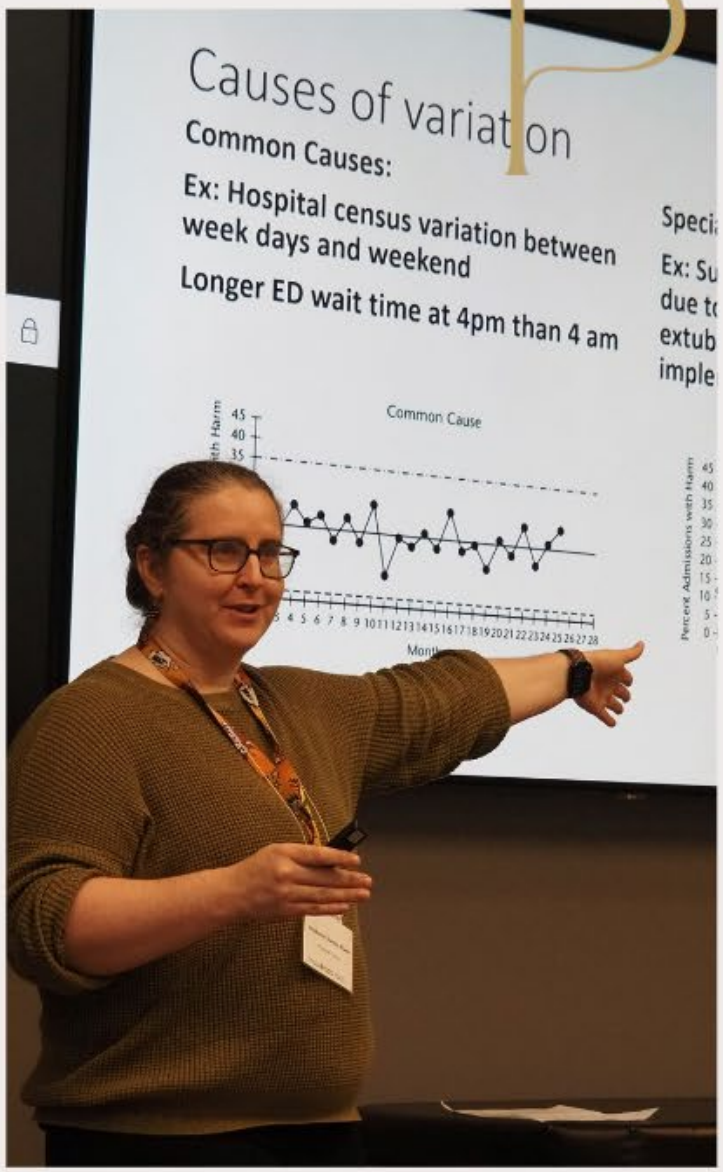
**This project was supported by the Specialist Services Committee through the VCH/PHC Physician Quality Improvement initiative**

### Glossary of acronyms

EMR: Electronic Medical Record; HCV: Hepatitis C Virus; PDSA: Plan-Do-Study-Act

**For questions/comments: Enrique.Fernandez@vch.ca**

# PQI




"Never doubt that a small group of thoughtful committed individuals can change the world. In fact, it's the only thing that ever has."
-Margaret Mead

"THIS QI PROJECT WAS TIMELY AND ALIGNED WITH OUR COMMITMENT TO STREAMLINE ACCESS TO OUR SERVICES. THE TEAM WAS ABLE TO EASILY GET BEHIND AND SUPPORT THIS PROJECT BECAUSE IT MADE SENSE, THE CLIENT JOURNEY WAS IMPROVED AND THE FEEDBACK FROM THEM WAS POSITIVE. THIS IMPROVED CLIENT EXPERIENCE IS AFTER ALL PART OF THE 'WHY' WE DO WHAT WE DO."

- VCH CLINICAL OPERATIONS MANAGER

SQI SPREADING QUALITY IMPROVEMENT
Specialist Services Committee

# SQI Project

Vancouver CoastalHealth

Providence Health Care
How you want to be treated.

# Reduction of Preoperative Group and Screen Testing: A Patient Centered Model

Dr. Jacqueline Trudeau, Dr. Andrew Shih, Amy Chang

Vancouver CoastalHealth | Providence Health Care — How you want to be treated. | SQI Spreading Quality Improvement, Specialist Services Committee | PQI Physician Quality Improvement, Specialist Services Committee

## CONTEXT

- Original PQI project focused on reducing Group & Screen testing for Primary Joint Arthroplasty procedures at VGH
  - ~2,000 fewer GRS/year, ~2,000 fewer patient extra trips to hospital, ~$40,000 savings/year
- SQI project focused on spreading across 19 surgical subspecialties at Vancouver Acute (VA): VGH and UBCH
- Group & Screen (GRS) determines a patient's blood group and ensures safe blood transfusion.
  - GRS must be collected at the hospital where the surgery is occurring in the days prior to the operation.

## PROBLEM

- Approx 55% of VA elective surgical patients come from outside of VCH → Nearly 70% come from outside Vancouver
  - Home Health Authority for VA surgery patients (N=3803) → VCH: 43%, FH: 35%, IH: 9%, NH: 5%, VIHA: 4%
  - Per year, about 7,000 VA patients require an extra visit to VGH for a preoperative group and screen.

## AIM STATEMENT

**Reduce the number of GRS ordered across 19 surgical specialties at VA by 30% by March 31, 2023.**

**Green** depicts: surgical service analyzed, engaged and recommendations made (each is in different stages of implementing change, where recommended);

**Yellow** depicts: data analyzed, in the process of engaging and making recommendations;

**Red** depicts: services where data analysis, engagement and recommendations have yet to be made.

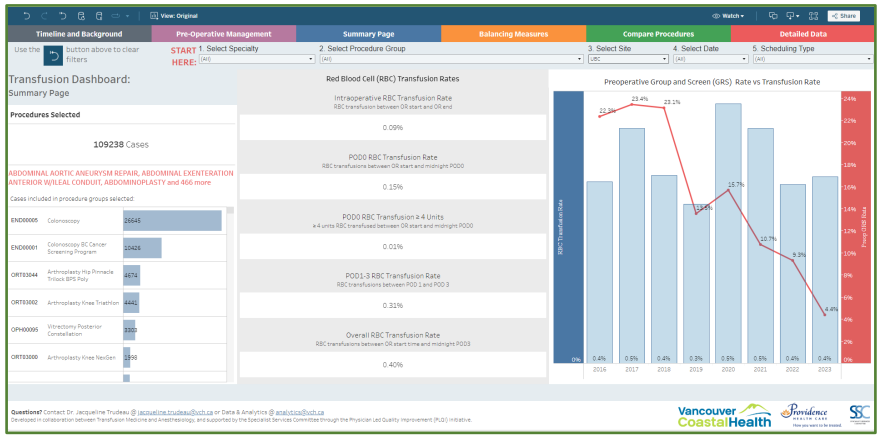
## INTERVENTION OR STRATEGY FOR CHANGE

- Spread Initiative – Reduce the number of unnecessary preoperative GRS performed at VGH and UBCH
  1. **Transfusion Dashboard:** Create an accurate, validated and clinically relevant Transfusion Rate Dashboard to inform which procedures require a preoperative GRS, and which patients should be referred to the preoperative blood management program (PBMP) for anemia management
  2. **Subspecialty Engagement:** Engage with 19 surgical subspecialties to onboard onto dashboard and discuss strategies for reducing unnecessary GRS
  3. **"Home" Hospital GRS:** Following the systematic elimination of unnecessary tests, build a system that permits patients to obtain their preoperative GRS in their community (rather than making an extra trip to VGH preoperatively).

## MEASURES OF IMPROVEMENT

- **Outcomes:** Decrease preoperative GRS rate, Improve patient satisfaction
- **Balancing:** Monitor RBC transfusion rate, provider satisfaction/anxiety, STAT GRS per procedure, use of group O blood

## Transfusion Dashboard




## EFFECTS OF CHANGE

- **UBC**: # GRS decreased by ~80% as compared to pre-intervention stage
- **VGH:** # GRS decreased by ~60% as compared to pre-intervention stage

**Return on Investment:** Impacts on Modified IHI Triple Aim

(compared to pre-intervention)

| | |
|---|---|
| **2022 Cost Savings** ($ 83,558) | **2023 Cost Savings** ($ 106,019) |
| **2022 CO2 savings** -1.284 kg of $CO_2$ | **2023 CO2 Savings** -1.629 kg of $CO_2$ |
| **2022 Patient Trips** 3218 fewer trips | **2023 Patient Trips** 4083 fewer trips |

Cost of GRS Test: $24.16 + 1.8% retested at $100.34

Amount of $CO_2$: 394g + 1.8% retested at 273g

Patient, Carer, and Family Experience and Outcomes | Staff Experience | Productivity and Efficiency | Cost Avoidance | Cost Reduction | Climate Impact

## LESSONS LEARNED

- Start conservative and consider a staged change → Start with a win!
- Go slow enough to do it right and take the time to properly manage your data.
- Acknowledge potential negative consequences → Alleviate anxiety, create accountability, increase buy in
- Create reporting tools that showcase your work → Share often, think about what is meaningful to different groups

## SUSTAINABILITY

- Transfusion Dashboard maintained by VCH Data Analytics
- Training and Education to Nurses, MOAs, Fellows/Residents
- CNE embedded in the Anesthesia Consult Clinic to support, Grand Rounds with Surgeons
- Work with Operations Director Andrea Bisaillon to bring forward to Regional Surgical Executive Committee to implement Medical Directives

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**Glossary of acronyms**
PQI: Physician Quality Improvement; SQI: Spreading Quality Improvement, VGH: Vancouver General Hospital

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SSC
SPECIALIST SERVICES COMMITTEE

PQI PHYSICIAN QUALITY IMPROVEMENT
Specialist Services Committee

SQI SPREADING QUALITY IMPROVEMENT
Specialist Services Committee

Vancouver CoastalHealth

Providence Health Care
How you want to be treated.