

Physician Led Quality Improvement

Cohort Four

2020-21

Quality Improvement Project Posters

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Quality Dimension Icon Glossary

- = Appropriateness
- = Accessibility
- = Effectiveness
- = Efficiency
- = Safety

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INTRODUCTION

The Physician Led Quality Improvement initiative is funded by the Specialist Services Committee (SSC), a partnership between Doctors of BC and the Ministry of Health. The vision of PLQI 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 Vision, Mission, Values

Since 2017, VCH/PHC PLQI has had a yearly cohort of physicians and typically take on 25 new physicians each year. The cohorts have grown each year, and so have the number of projects/physicians supported doing Quality Improvement (QI) work.

Amidst an unpredictable environment, each Cohort 4 member persevered and led a QI project. This booklet showcases the effort and results of 36 different QI projects that took place at Vancouver Coastal Health and Providence Health Care from 2020 to 2021.

We would like to make this a yearly booklet to highlight the great work that it is done at VCH/PHC.

We are proud of the lessons learned and the results of these projects. We are also proud to share some feedback from our Cohort 4 about the PLQI Program:

“You guys do a great job of promoting and supporting QI. Project support was the big winner for me and highlighted how much better this type of work is when supported by enthusiastic and knowledgeable team members.”

“Excited to continue doing QI, even after this program is over.”

“Excellent program!”

“The PLQI program is amazing. I am recommending it to my fellow colleagues!”

“Lots of tools and resources that we got. So thank you so much!”

PHYSICIAN LED QUALITY IMPROVEMENT (PLQI)

PLQI provides training and hands-on experience on QI projects, ultimately promoting a culture of learning, openness, and dedication to quality improvement in the health care system.

QI training provided by PLQI focuses on capability development through an educational “dosing strategy” approach. This creates a pathway where physicians can participate in training at varying levels, depending on their interest. Participating physicians receive funding and support to design, plan, test, and implement their learning action projects with multidisciplinary teams.

Advanced Cohort Training

L3

- Cohort length: Ten months from August to May annually
- Interactive training days with lectures, group activities, and workshops
- Full project support and mentorship from PLQI coaches & faculty, program advisor, and data analysts
- Project endorsement from VCH and PHC medical and operational leaders
- Access to data, QI resources and template

IHI Open School

L1

Online courses offered by Institute for Healthcare Improvement (IHI) Open School:

- QI 101: Introduction to Health Care Improvement
- QI 102: How to Improve with the Model for Improvement
- QI 103: Testing and Measuring Changes with PDSA Cycles
- Dr. Don Berwick presentation - Overview of QI in Healthcare for BC

L2

Intermediate Training

- Two half-days, offered multiple times a year
- Introduction to what is Quality Improvement in health care
- Topics include: Model for Improvement, how to collect data, crafting an aim statement, and the importance of patients voice and more!



2020-21 VCH/PHC PLQI TEAM

PLQI LEADERSHIP

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Vivian Chan
Health Authority Sponsor

Selina Wong
Manager

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Dr. Sophia Park
Laboratory Medicine

Dr. Karen Dallas
Laboratory Medicine



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Regional QI Project Posters

Improving the Transition of Adolescents with Type 1 Diabetes from BC Children's Hospital to Adult Care

Dr. Joseph Leung, Allison Chiu, Hing Yi Wong, Sophia Park, Shazhan Amed



DESCRIPTION OF CONTEXT

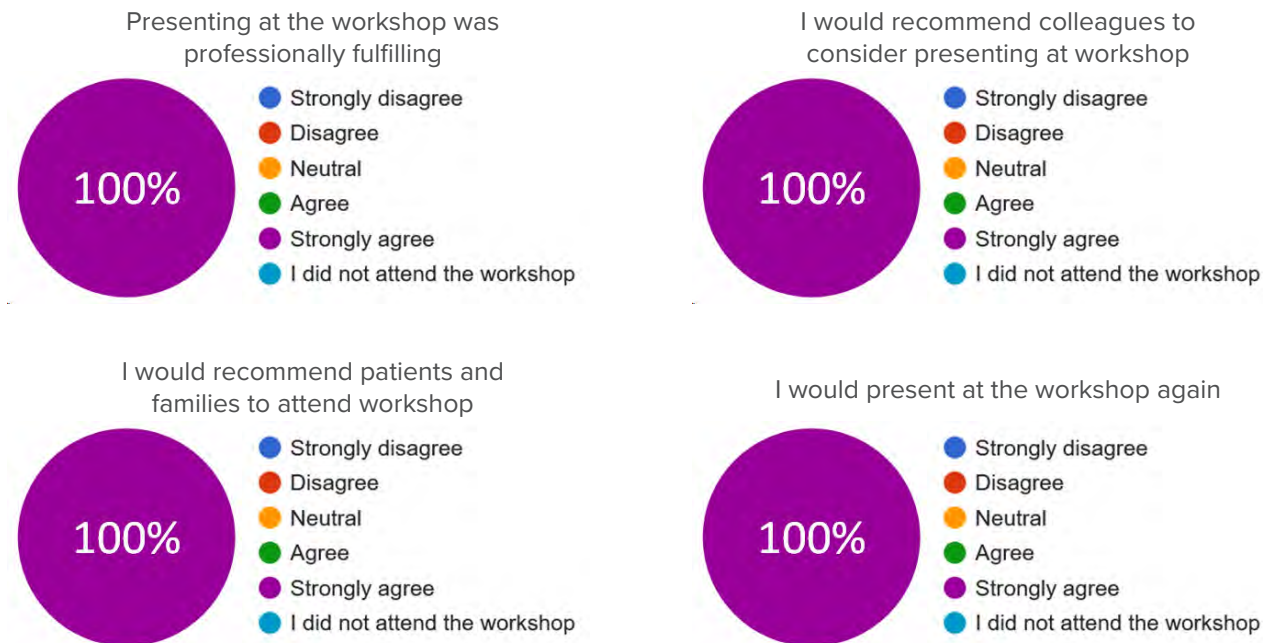
- Adolescents with Type 1 diabetes experience a dramatic deterioration in blood sugars in the transition to adult care; this is associated with long-term complications
- We worked with physicians, allied health, and patient partners from the VGH and BCCH Diabetes Centres to design and implement the change idea

TIMELINE

- Fall 2020: Stakeholder engagement, stakeholder buy-in, and assembly of presentation team
- Winter 2020: Creation of workshop content and materials
- Spring 2021: Implementation of 3 virtual workshops, project presentation, team debrief sessions
- Summer 2021: Spread activities and next steps

AIM STATEMENT

- To improve the transition readiness of adolescents with type 1 diabetes transitioning from BC Children's Hospital to adult care by 25% by May 2021
- The goal is to improve transition readiness such that adolescents will be prepared for what to expect when they transition to adult care



CHOICE OF CHANGE IDEA

- Using different QI tools, such as the fishbone diagram and the PICK chart, we identified several causes and possible change ideas for this problem
- One main cause identified was inadequate preparation for the transition process
- One possible solution was to host educational workshops to prepare adolescents and their families for the pediatric-to-adult transition process
- In light of COVID-19 restrictions, we hosted 3 virtual educational workshops

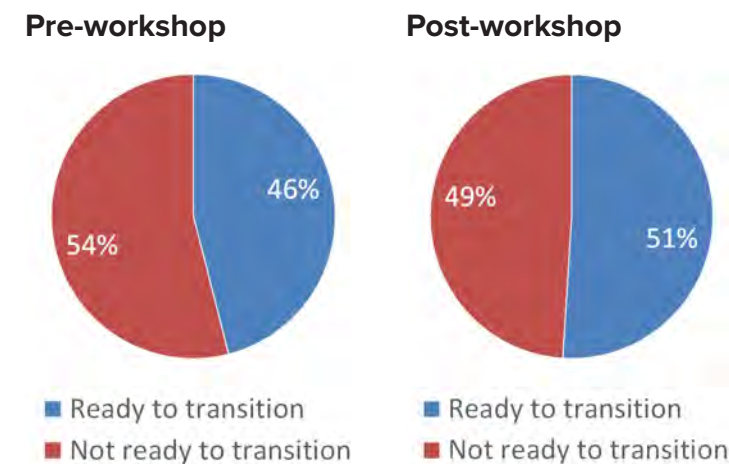
COMPONENTS OF EDUCATIONAL WORKSHOPS

- This change idea consisted of 4 components:
 - PowerPoint slide deck: workshop content summarized on slides
 - Promotional material: circulated by the BCCH Diabetes Centre
 - Registration platform: Google sheets, phone calls to confirm attendance
 - Evaluation platform: configuration of BCCH REDCap QIQA surveys
- Each component went through several PDSA cycles before final implementation

MEASURES OF IMPROVEMENT

- **Outcome measure:** Transition readiness (Behaviour Scale of AM I ON TRAC survey)
- **Process measure:** Attendance of participants, demographics of participants, survey of participants rating workshop, survey of presenters rating experience
- **Balancing measure:** Qualitative comments (free text) from both workshop participants and workshop presenters (obtained through the surveys)
- **Data survey:** Survey data was collected through REDCap QIQA

PARTICIPANT OUTCOMES



How likely are you to recommend this workshop to someone else? (1 = not likely at all; 5 = very likely)

Workshop	Respondents	Score
1	14/25	4.14
2	16/25	4.31
3	9/18	4.11
Total	39/68	4.21

SURVEY COMMENTS

- **Workshop participant:** "Both [J] and I found the workshop very interesting and informative, and we left feeling energized and confident about her transition into adult care. Your guests were really worth hearing as well. Thank you for all of your hard work in organizing this."
- **Workshop presenter:** "I like that things were not sugar coated, in the sense that you did not tip-toe around the topics like alcohol use, or the fact that A1Cs may go up in your first years of gaining independence, and that it is ok to be scared."

LESSONS LEARNED

- **Bottom line:** Educational workshops can improve transition readiness for adolescents with Type 1 diabetes
- **Stakeholder buy-in:** Crossing disciplines, hospitals, and health authorities requires significant relationship building
- **Multiple PDSA cycles:** Change ideas can go through multiple iterations of feedback and revision

SUSTAINABILITY

- **BCCH Diabetes Transformation Project:** We have obtained funding to formalize workshop materials and to post them on a website
- **VPSA Facility Engagement Funding:** We have also obtained funding to pursue another change idea, which is to create a provincial strategy for this issue

Glossary of acronyms

VGH: Vancouver General Hospital
BCCH: BC Children's Hospital
QI: quality improvement
QIQA: quality improvement and quality assurance

Acknowledgements

Workshop presenters: Hannah Braedon (RN), Jillian Creagh (RN), Prue Haniak (RN), Kecia Provo (RD), Ben Mammon (patient voice), Caleb Pope (patient voice)
Project advisors: Dan Metzger, Tricia Tang, Shayni Morgan, Kirsten Miller, Murthy Korada, Angela Li

For questions or comments, contact Joseph Leung at: joseph.leung@vch.ca

Vaginal Birth Collaborative: Improving Vaginal Birth Rates at St. Paul's Hospital

Dr. Valerie Rychel, Dr. Evelyne Perron, Patricia Rohlf, Karen Sandhu, Karl Newholm



DESCRIPTION OF CONTEXT

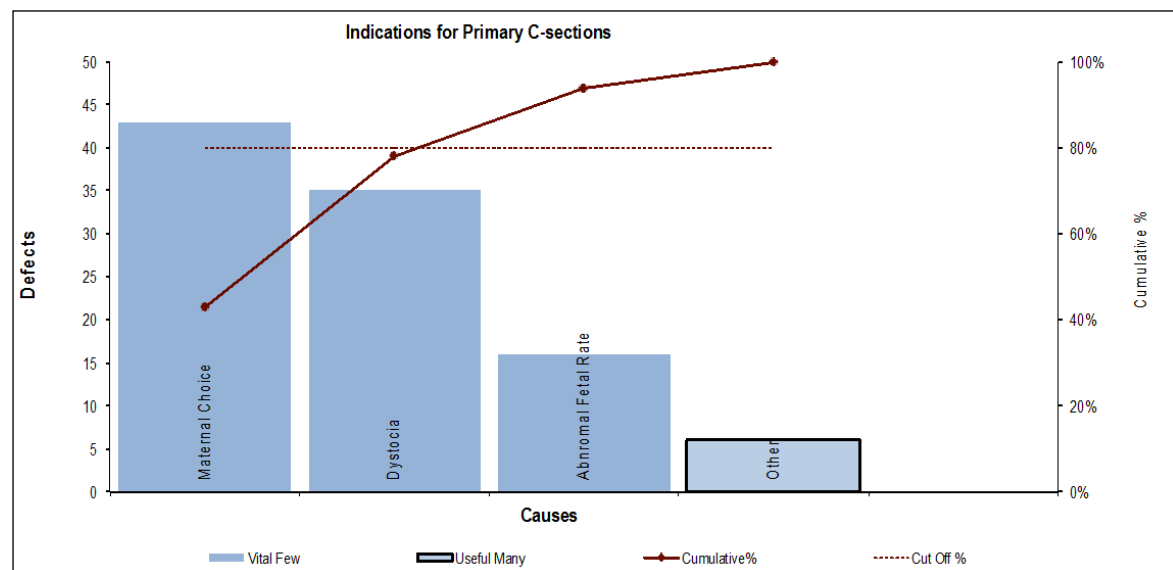
- This is a Regional initiative involving Lion's Gate Hospital, Richmond Hospital, and St. Paul's Hospital
- The unit involved is the St. Paul's Hospital Maternity Centre
- We developed a Multidisciplinary Maternity team including Obstetrics, Family Practice, Midwifery, Nursing, Practice Improvement Consultant, and Patient Partner

DESCRIPTION OF THE PROBLEM

- Vaginal birth rates for first time mothers at VCH/PHC sites are lower than expected
- Literature shows that the primary factor that impacts vaginal birth rates is hospital culture
- Currently, we are unaware of what cultural factors at our site are impacting our vaginal birth rates.
- Thus, we are participating in a quality improvement team based intervention at a regional level which we anticipate will help support an increase in vaginal birth rates, as well as help strengthen team based care delivery by inducing opportunities to learn, improve the culture of patient safety, increase awareness and help support changes in patient care

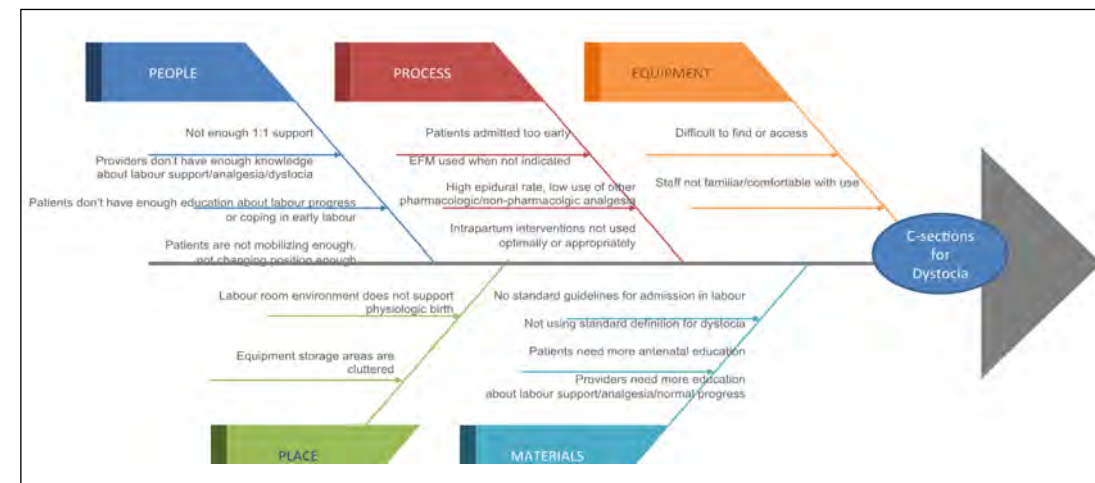
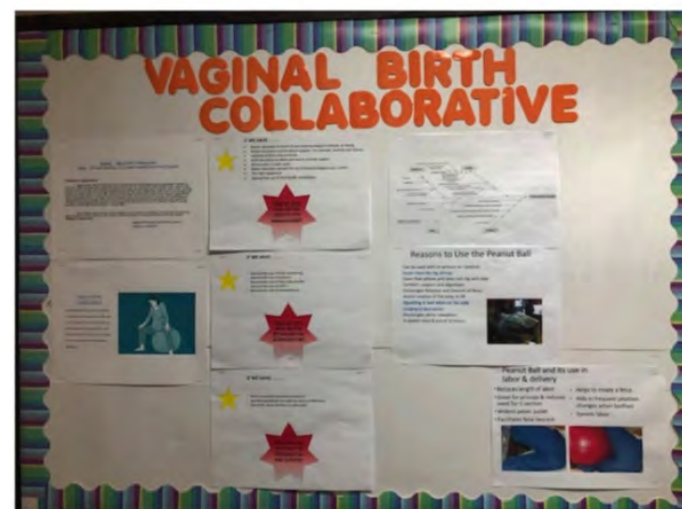
AIM STATEMENT

To increase the proportion of nulliparous women, age 20 to 39 years, with a term, singleton infant in vertex position (Robson Groups 1 and 2A), who deliver vaginally by 3% by December 2021, without adverse effect on perinatal morbidity



INTERVENTION & STRATEGY FOR CHANGE

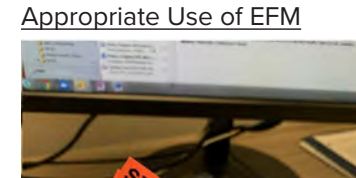
- Through development of a Driver Diagram and three month data review, Dystocia was identified as the focus of our change ideas, which were identified through a PICK diagram
- As a visual adjunct to the roll-out of the new Fetal Health Surveillance curriculum, Electronic Fetal Monitoring awareness stickers were strategically applied to relevant equipment around the unit
- Capitalizing on equipment we already had on the unit, but that was not easily accessible and not being used, awareness of the Peanut Ball as a labour support tool was promoted to the Nursing staff with both on-line education and in-person demonstrations and teaching sessions on the unit; storage of the Peanut Balls was also optimized for easier accessibility
- Labour Dystocia Guidelines from the California Maternal Quality Care Collaborative were shared with the Obstetricians at a quarterly meeting



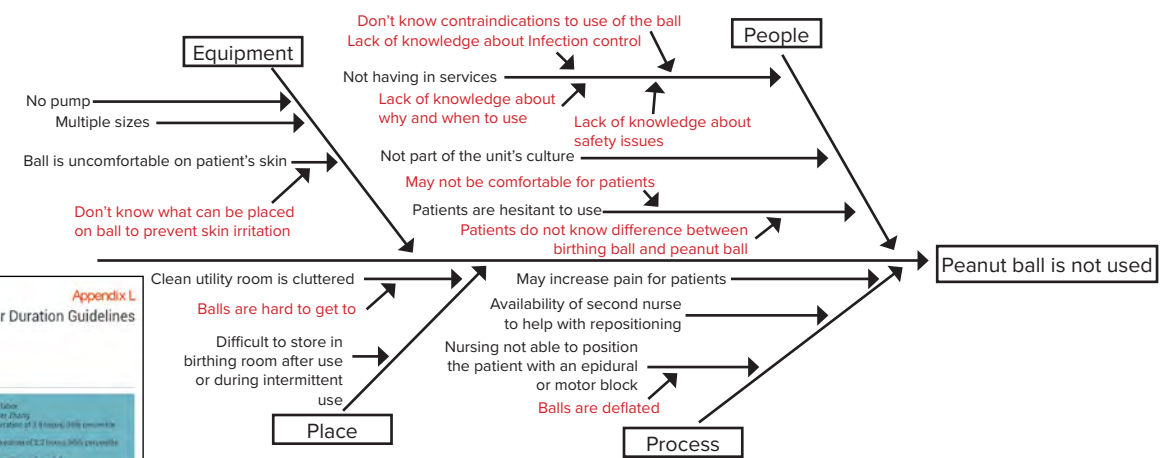
MEASURES OF IMPROVEMENT

- Vaginal birth rate
- Appropriate use of EFM (indication in Cerner)
- Completion of Peanut Ball education in Learning Hub
- Use of Peanut Ball (documented in Cerner)
- Patient and care provider satisfaction survey for Peanut Ball
- Use of Dystocia checklist criteria

Change Idea 1: Appropriate Use of EFM



Change Idea 2: Peanut Ball



Change Idea 3: Standard Definitions of Dystocia

EFFECTS OF CHANGE

- Increased awareness and interest in Quality Improvement on the Maternity Unit
- Anecdotal observations of increased awareness of appropriate use of EFM and increased use of the peanut ball

LESSONS LEARNED

- We are blessed with an enthusiastic team, supportive leadership, and creative minds
- Engage broadly for input to gain varied perspectives and ideas
- Important to understand your patient population and institution
- Keep things small and simple
- There is great benefit to sharing ideas and outcomes between the three hospitals in the Collaborative

SUSTAINABILITY

- Continued sharing of ideas, information and outcomes between the Collaborative hospitals
- Promotion and support of education and change idea successes with the unit staff

For questions or comments, contact Valerie Rychel at: vrychel@providencehealth.bc.ca

Increasing Vaginal Birth Rate (VBR)

Dr. Brenda Tan



DESCRIPTION OF CONTEXT

Over the last 4 decades, C-section rate (CSR) and associated maternal morbidity, have increased around the world without meaningful benefit to neonatal outcomes and WHO has suggested that the ideal CSR should be 10%-15% of all births. At Richmond Hospital (RH), there are ~2000 annual birthers, with an overall CSR of 29%. While RH has one of the best C-section rates in BC, and it's on par with the Canadian average, it still falls short of the WHO recommendation. Therefore, RH joined LGH & SPH under the umbrella of the Vaginal Birth Collaborative to try to increase the VBR in VCH.

AIM STATEMENT

The aim was to increase the VBR in young nulliparous women, with singleton, term, vertex pregnancies by 3% by July 2021. This patient population was targeted because achieving a successful vaginal birth in this group sets the foundation for future vaginal births. Baseline VBR of 80% was determined by Decision Support.

Patient's Birth Journey



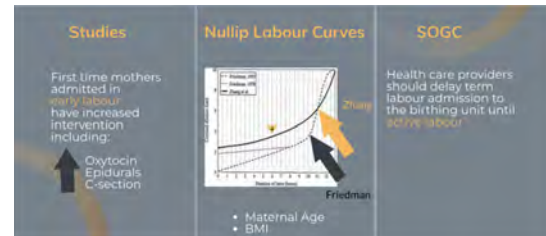
Early Labour Discharge | Active Labour Admission



By working with stakeholders, patient advisors and a multi-disciplinary team, a driver diagram was developed. After reviewing the primary and secondary drivers, the team decided to focus the change idea on hospital admission.

Most people would agree that early labour is 0-3 and active labour is 6-10... but what about 4-5cm? It turns out that different organizations offer different definitions. PSBC defines active labour at 3cm, SOGC at 4cm, WHO at 5cm while the Americans & British define active labour at 6cm. Unfortunately, there is no consensus. So how do we plan when to admit?

Research & Guidelines



Studies show that nulliparous women admitted in early labour have increased interventions including epidurals and C-sections. SOGC also recommends that we should admit patients in active labour. The challenge is what is active labour?

It appears that labour curves have shifted. In the '50s & '70s, traditional labour curves from Friedman showed an inflection point at 4cm, after which patients progressed much more rapidly. Contemporary labour curves from Zhang, suggest that transition from 4-6 cm can take much longer.

PDSA #1: Active Labour Admission

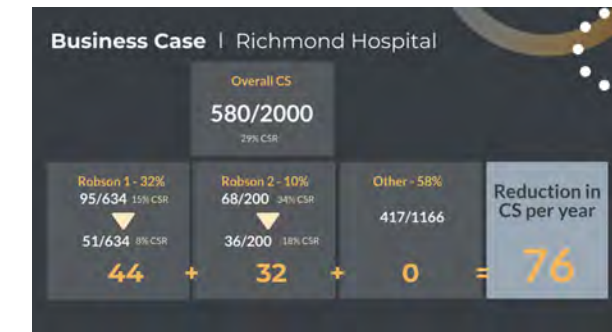
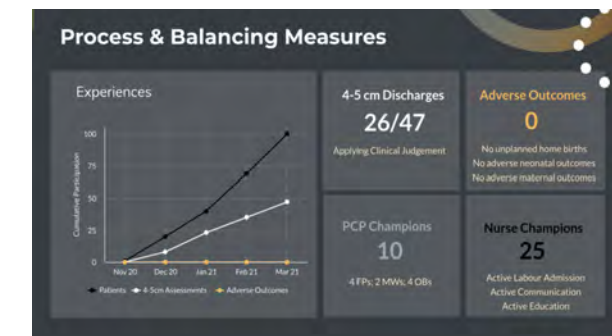
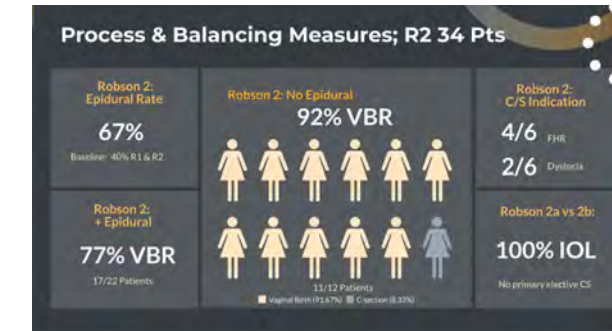
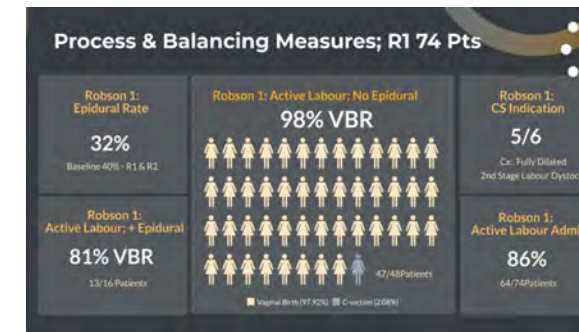
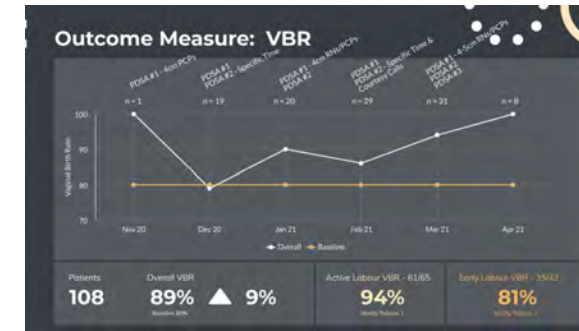
In our current state, patients without variances are admitted at 4cm. For the test of change, nurses & providers took a pause at 4-5cm and applied clinical judgement to determine labour status. Team members were asked to consider factors beyond cervical dilatation such as age, BMI, quality of contractions, membrane status, station, etc. The ask was: Admit patients in active labour but more importantly, discharge those in early labour...with the main idea that many patients between 4-5 cm can be sent home.

PDSA #2: Active Communication

While working closely with patient advisors, a significant gap in communication was identified. In the current state, the onus was on the patient to call back when "things" changed. The 2nd PDSA focused on Active Communication. In addition to patients calling back at a specific time, our amazing nurses provided courtesy calls to check-in on patients at home.

PDSA #3: Active Education

Finally, patient expectations needed to be aligned with the change idea. The 3rd PDSA focused on messaging active labour admission, rather than admission at 4cm. The message was delivered through care providers, nurses, doulas, educators as well as zoom information sessions.



SUSTAINABILITY



Acknowledgements

- PLQI Team: Robin Jacobson, Laura Heslip, Lori Miller, Stephanie Tinson, Louise Underwood
- Patient Advisors: Julia Zhang, Suellen Zhou
- PLQI Advisors/Coaches: Amy Chang, Karen Dallas, Sneha Jain
- Operations Manager: Jill Schulmeister
- RH RP/OB Department Heads: Jason Kason, Rebeca Rivera
- PCP Champions, Nurse Champions, Unit Clerks, RH Health Records, Doula, Prenatal Educators
- VCH Decision Support: Stella Wong
- VCH Professional Practise: Karen Yip
- VCH CEAN: Emina Dervisevic
- VCH VBC: J. Duff, B. Wagner, J. Walker
- CPSBC: Librarians

Glossary of acronyms

- RH: Richmond Hospital
- LGH: Lions Gate Hospital
- SPH: St. Paul's Hospital
- PDSA: plan-do-study-act
- CSR: c-section rate
- VBR: vaginal birth rate



Providence Health QI Project Posters

Improve Access to Osteoporosis Assessment and Care Post Hip Fracture

Dr. Sabrina Gill



DESCRIPTION OF CONTEXT

- Patients with fragility fractures are at a 2-3 fold higher risk of subsequent fractures and 30-40% risk of morbidity and mortality within one year of a hip fracture.
- Only 18% of patients with fragility hip fractures above the age of 75yrs received any investigations or treatment for osteoporosis in 2019 at St Paul's Hospital.

AIM STATEMENT

To improve access to osteoporosis assessment and care post hip fracture in patients 75 years and above from 20% to 25% by 2022.

DRIVER DIAGRAM

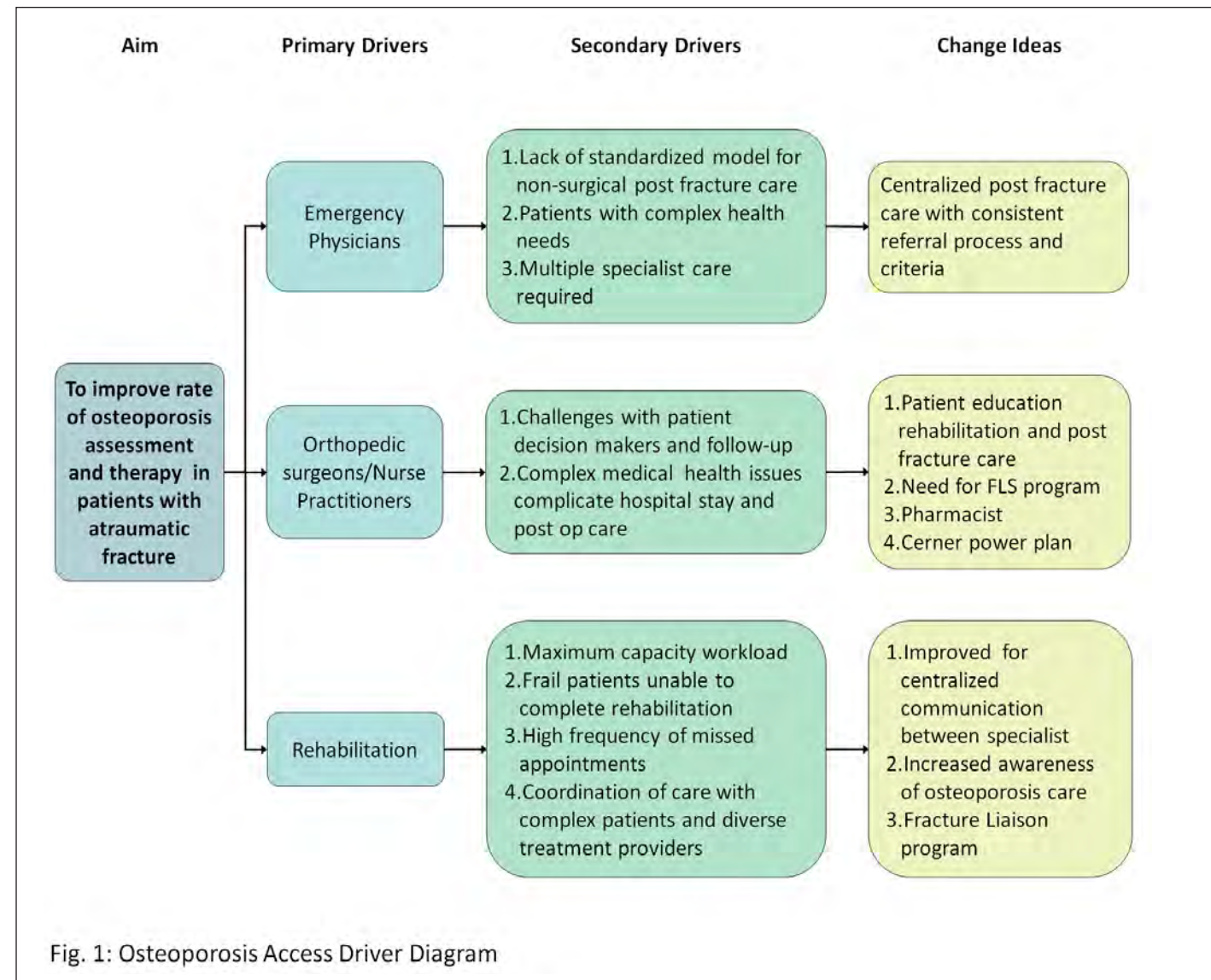


Fig. 1: Osteoporosis Access Driver Diagram

Navigating Fracture Liaison Services

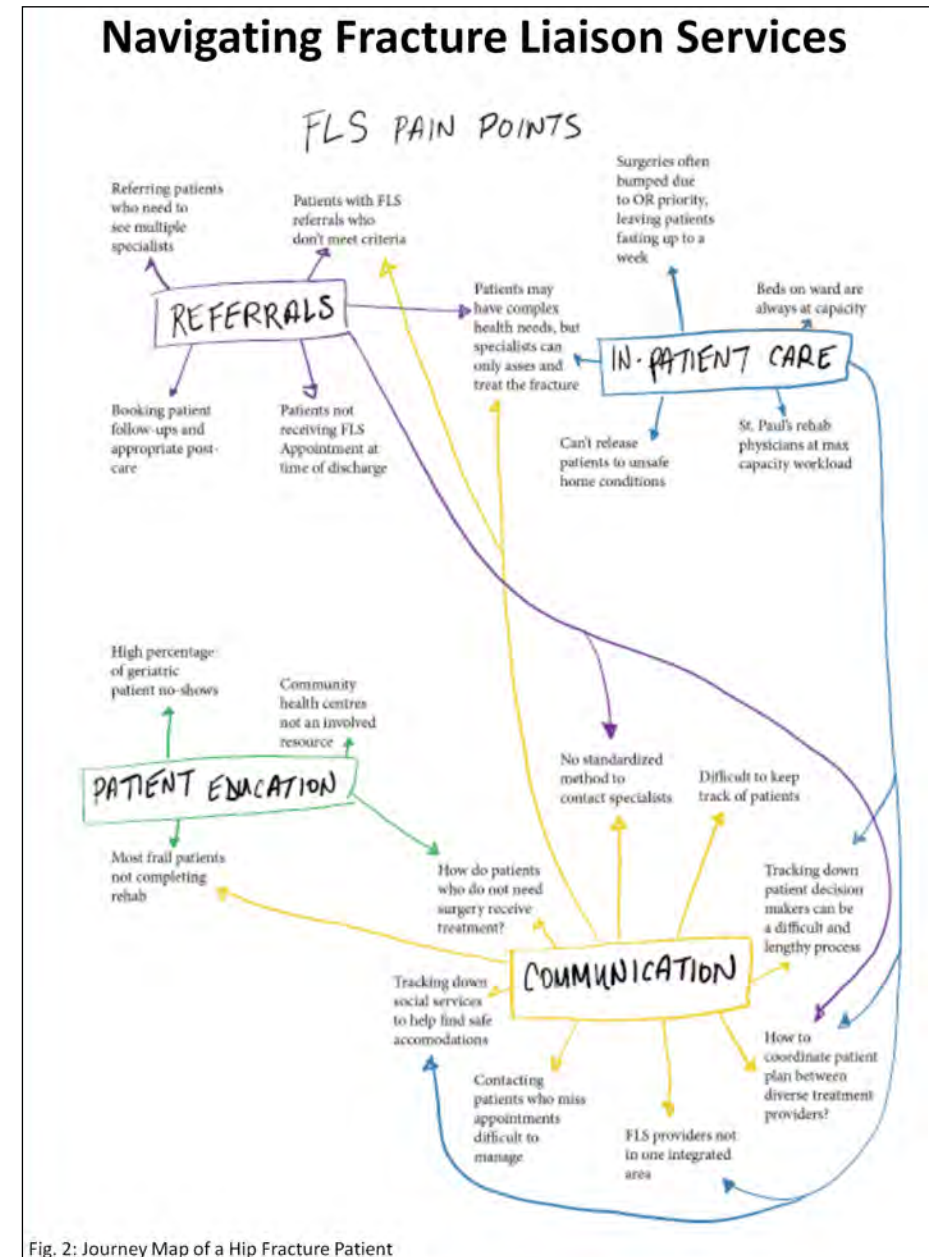


Fig. 2: Journey Map of a Hip Fracture Patient

PATIENT JOURNEY MAPPING

Meeting with physicians (orthopedics, geriatrics, emergency medicine, rehabilitation, endocrinology), nurse practitioners and administrative stake holders in current fracture care model to discuss a journey map of patient presenting to SPH with a hip fracture. See Figure 2.

NEXT STEPS

To identify community barriers to access to care though data collection from patients, family physicians.

Determine the limiting factors for impeding appropriate osteoporosis assessment and care post discharge. Implement cost effective recommendations, such as:

- Post hip fracture pathway in Cerner
- Patient education pamphlets
- Proceed with a PDSA cycle of implementations
- Centralized communication system to coordinate care for referral and power plan for hip fracture
- Patient prevention education program
- Physician awareness program

Acknowledgements

- Orthopedics: Murray Penner, Alastair Younger, Adrian Huang, Melissa Barry
- Emergency: Kira Rich, Erin Kenny
- Geriatrics: Leo Lai, Wendy Cook
- Rehabilitation: Tina Lai
- Endocrinology: Monika Pawlowska
- Administration: Sandra Barr
- The PLQI team, esp. Sneha Jain, Emma Pienaar

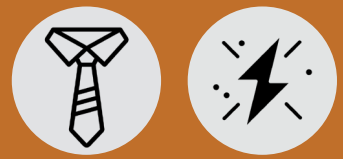
Glossary of acronyms

- SPH:** St. Paul's Hospital
- PDSA:** Plan - Do - Study - Act
- FLS:** Fracture Liaison Services

For questions or comments, contact Sabrina Gill at: sgill@providencehealth.bc.ca

Increasing Emergency Department-Based Buprenorphine/Naloxone Initiation

Dr. Andrew Kestler, Ekaterina Alexeeva, Zoe Bake Paterson, Elizabeth Dogherty, Emma Garrod, Moses Li, Juanita Maginley, Kira Rich, Cindy San, Glyn Townson



DESCRIPTION OF CONTEXT

Starting opioid agonist therapy (OAT) such as BUP greatly reduces death risk for people with opioid use disorder (OUD). St Paul's ED attends many people with OUD. A Quality Improvement (QI) team of physicians, nurses, pharmacists, peer advisors and students set out to start more ED patients on BUP.

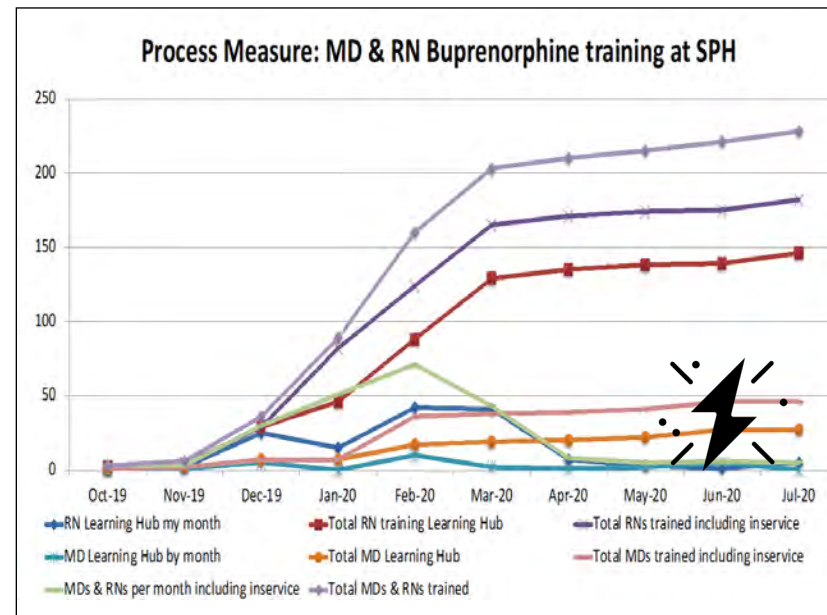
DESCRIPTION OF PROBLEM

Low frequency of ED BUP initiation

Despite access to easy-to-use BUP to-go packs (BTG), MDs were not ordering them. A survey revealed lack of MD confidence in using BTG. Discussions with RN staff also revealed lack of BUP familiarity. Also, many patients with OUD leave without being seen (LWBS). In a mid-project survey, 75% felt stigma affected their care.

AIM STATEMENT

To double dispensing of buprenorphine/naloxone to-go (BTG) starter packs at St. Paul's (SPH) Emergency Department (ED) from 5 to 10 packs/month by May 31, 2020 (later extended to April 30, 2021) to help more people who use opioids start a life saving treatment.



FOCUS ON TRAINING, THEN STIGMA

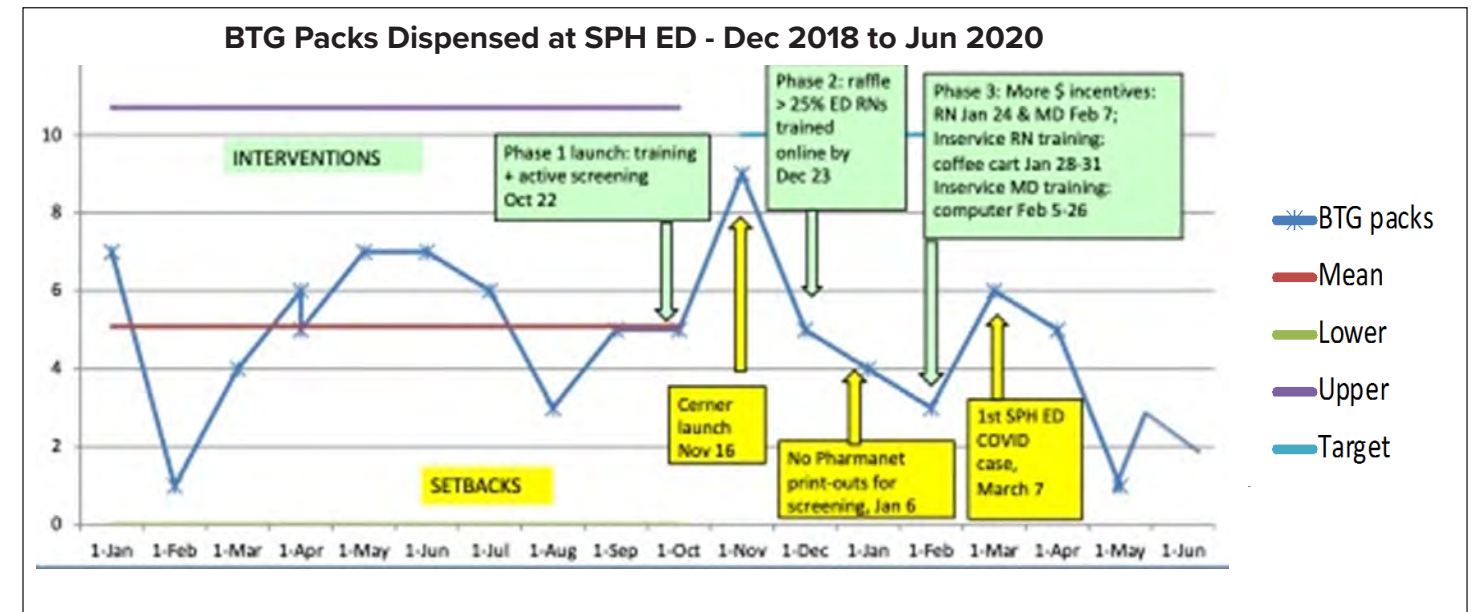
The team developed an online training course for staff. Simultaneously trained screeners help staff identify BUP candidates. Various email reminders, coupled with cash incentives, encouraged staff to take online training course. Second phase of project focused on reducing stigma and LWBS rates by reducing patient placement in inhospitable care spaces such as the triage hallway.

EFFECTS OF CHANGE

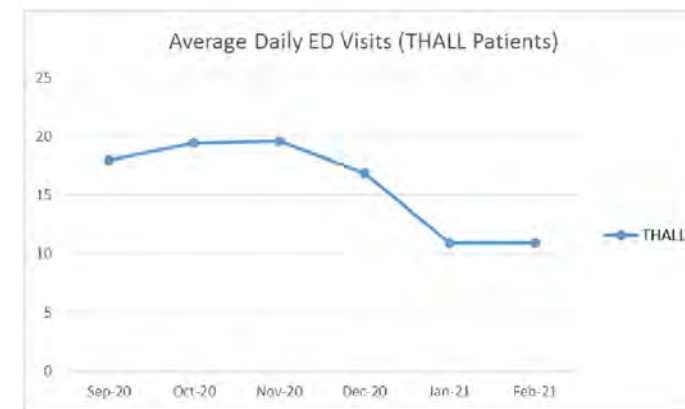
- 10 BTG packs/month nearly achieved in first month of intervention
- Over 200 ED staff members trained & growing # MDs ordered BUP at least once
- # of BTG packs/month dropped below baseline with new IT system & COVID-19
- Triage hallway placements declined
- # of LWBS declined among triage hallway patients, but no overall

MEASURES & MONITORING IMPROVEMENT

- Process measure: # of staff trained (cumulative line graph)
- 2nd phase process measure: # of patients placed in triage hallway (run chart)
- Outcome measure: # of BTG packs dispensed per month displayed (control chart)
- Balancing & intermediate outcome measure: # LWBS (run chart)



Reducing Triage Hallway Placements (THALL)



LESSONS LEARNED

- \$ incentives boost training & training boosts uptake
- Peer input & patient survey should have occurred earlier
- Patient acceptability put ceiling on uptake
- Culture change related to ED OUD care takes a long time

SUSTAINABILITY

- Online course now ED RN onboarding requirement
- Medical students & residents now gain ED BUP experience in training
- Spread to additional ED: Mt. St Joseph
- Challenges: Influx of new staff, new IT system, COVID

Acknowledgements

- PLQI Staff: Amy Chang & Enrique Fernandez
- Peer Advisors: Dianne Tobin & Sherry Grier
- Students: Amarasekera R., Clark JJ., Ho A., Lee S.
- Funding: Specialist Services Committee

Glossary of acronyms

- OAT:** Opioid agonist therapy
- OUD:** Opioid use disorder
- BTG:** BUP to-go packs
- LWBS:** Leave without being seen
- ED:** Emergency department
- BUP:** Buprenorphine/Naloxone

For questions or comments, contact Dr. Andrew Kestler at Andrew.Kestler@ubc.ca

Immunohistochemistry Quality and Problem Solving Framework

Dr. Lik Hang Lee, Henry Ng, Rebecca Chan, Bobby Grewal, Sue Finley



DESCRIPTION OF CONTEXT

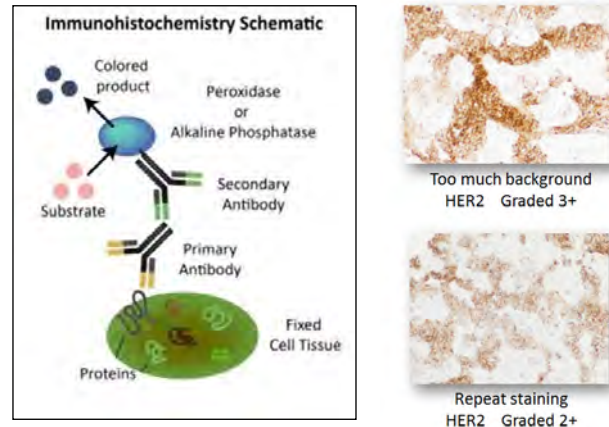
The anatomical pathology lab at St. Paul's Hospital receives specimens from all over British Columbia. The diagnosis of many of these specimens requires the use of immunohistochemistry (or IHC), which is the process to visually detect and quantify specific proteins expressed in cells under the microscope. The results of IHC analysis directly impacts patient management including surgery and medical therapy.

DESCRIPTION OF PROBLEM

IHC is a complex process. Even a stain color that is slightly off can result in an inaccurate diagnostic interpretation.

It is known that error in IHC is common, with multifactorial causes, and can often go undetected. Unlike other laboratory tests such as in chemistry and hematology, there is an absence of a simple direct measure of analytic sensitivity.

There was a lack of a standardized mechanism to identify and correct issues with immunohistochemistry quality at our lab. We wanted to develop a more proactive approach to our IHC quality.



AIM STATEMENT

The aim is to develop a framework for identifying/flagging issues in immunohistochemistry, investigating the issue, and identifying corrective actions, before the slides are distributed to the pathologist, in order to reduce repeat IHCs required.

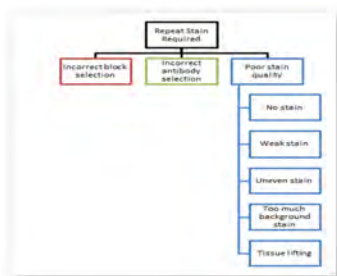
The intended results is to implement a consistent and sustainable method of tracking the issue, finding the baseline, and reducing the baseline by investigating issues through (and concurrent with the development of) the framework. The goal is to reduce potential errors and increase compliance with best practices for IHC.

IDEAS TESTED & SOLUTION

Failure Mode and Effects Analysis - Top 5 Issues

Steps in the Process	Failure Mode	Failure Causes	Failure Effects	Likelihood of Occurrence (1-10)	Likelihood of Detection (1-10)	Severity (1-10)	Risk Profile (RPN)	Actions to Reduce Occurrence of Failure
Block selection by MLT				5	5	10	250	- keep block cut for day and check block against slides before handing slides and check with worksheet
Fixation time	- underfixation - overfixation	- fixation over the weekends (overfixation) - not grossed on the correct day, backlog of cases (overfixation) - rush case (underfixation)	- unvalidated stain result	5	7	4	140	- reminder for surgeon to put time of devitization and formalin - case opening time should also be separated recorded by PA/time stamped - data should be tracked to proactively prevent issues in fixation - improving courier service
Cold ischemic time	- Not placed into formalin quick enough	- Delayed hand-off to pathology (for surgery) - No formalin available	- unvalidated stain result	5	3	8	120	- reminder for surgeon to put time of devitization and formalin - case opening time should also be separated recorded by PA/time stamped - data should be tracked to proactively prevent issues in fixation - improving courier service
Antibody dilution	- wrong dilution used	- incorrect technical calculation or performance of the antibody dilution - incorrect labelling of diluted antibody	- incorrect intensity of stain (particularly important in type II antibodies)	3	5	8	120	- create a computer calculator - possibly created on a portable device - ie tablet - ways to mitigate human error? - standardizing the dilution process to make the same volume each time, with trigger point to refill
Checking target tissue quality - MLT	- MLT not familiar with the quality indicators on the target tissue	- insufficient training or supervision	- quality issues are not caught by the MLT. Slide goes out to the pathologist, resulting in a delay if repeat staining is required.	8	8	2	96	- reviewing slides with pathologist - creating a standardized document with pictures (atlas)

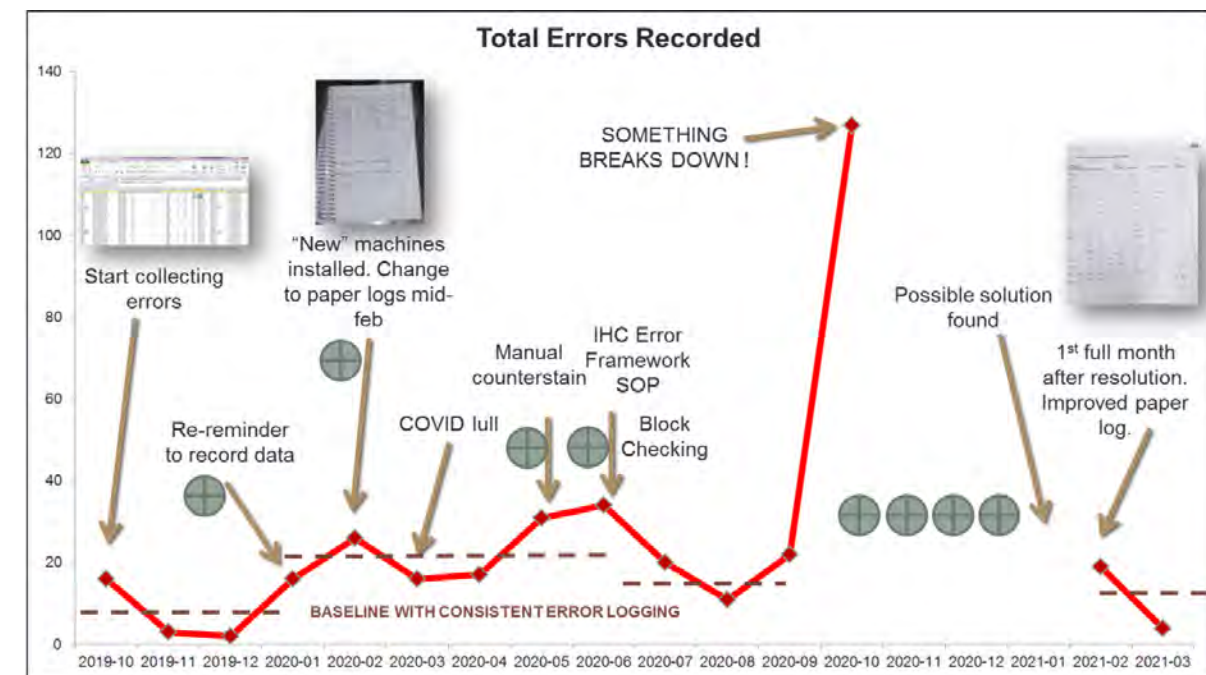
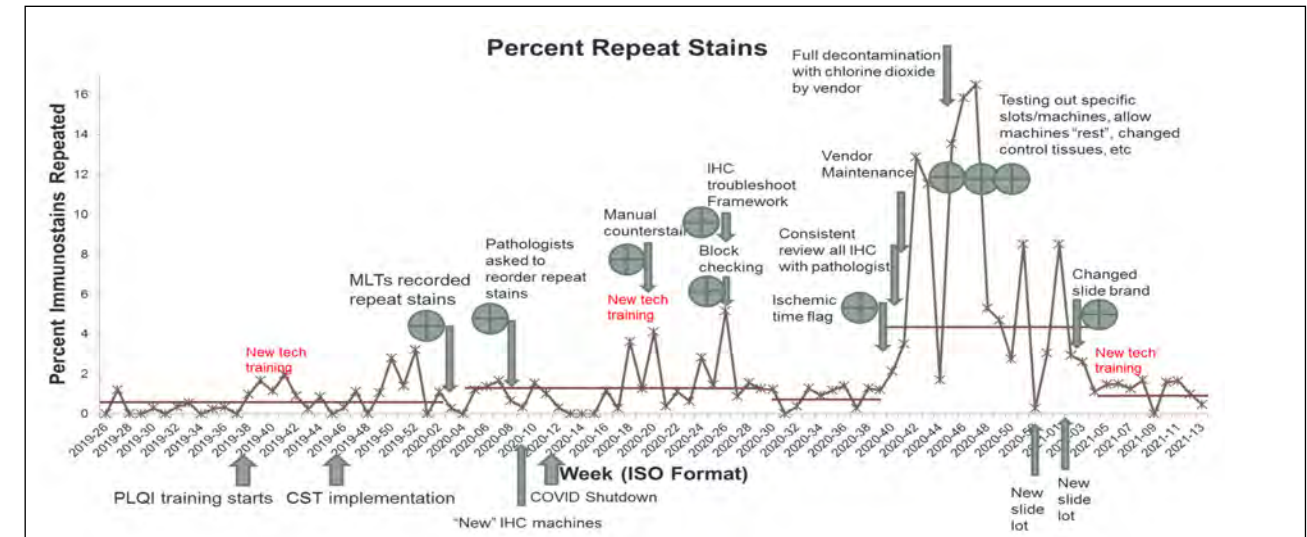
Troubleshooting Flowchart Overview



Representatives Changes Made

- Block Selection
 - Revised procedure
- Tissue/control Quality Review
 - Evaluation and documentation
- Cold Ischemia Time
 - Improve records in LIS

MEASURES OF IMPROVEMENT



EFFECTS OF CHANGE

There were various effects of change. For example, we implemented tracking of IHC issues for problem solving, we improved workflow for IHC technologist, and we improved quality assurance practices in our IHC lab. This process also had many qualitative benefits, including increased awareness of quality improvement among our technologists, improved education and training, and the building of relationships among stakeholders. Most importantly, all this has hopefully led to improved quality of patient care. Ensuring accurate IHC results is essential for accurate diagnoses, which is then essential for correct treatment.

LESSONS LEARNED

The importance of measurement. Obtaining measurement data for high volume procedures with manual record keeping was difficult. You need consistent, reliable, and sustainable measurement for a successful project. You also need to be flexible to account for unanticipated changes and challenges, such as the changing IHC equipment, and unexpected massive failure of the machines.

Acknowledgements

Enrique Fernandez Ruiz (advisor); Sophia Wong (coach); PLQI team; Justin Lo, Ivan Tsang, Aimee Jong, Patricia Hutchinson, Ricardo Ortiz (IHC MLTs); Pathologists; Special services Committee (funding).

For questions or comments, contact Lik Hang Lee at: llee22@providencehealth.bc.ca

Improving Rates of Screening for Sexually Transmitted and Blood Borne Infections Among Patients Initiating Care at the Rapid Access Addictions Clinic

Dr. Julia Maclsaac, Rachelle Funaro, Sam Gill, Dr. Emma Mitchell, Dr. Enrique Fernandez Ruiz



DESCRIPTION OF CONTEXT

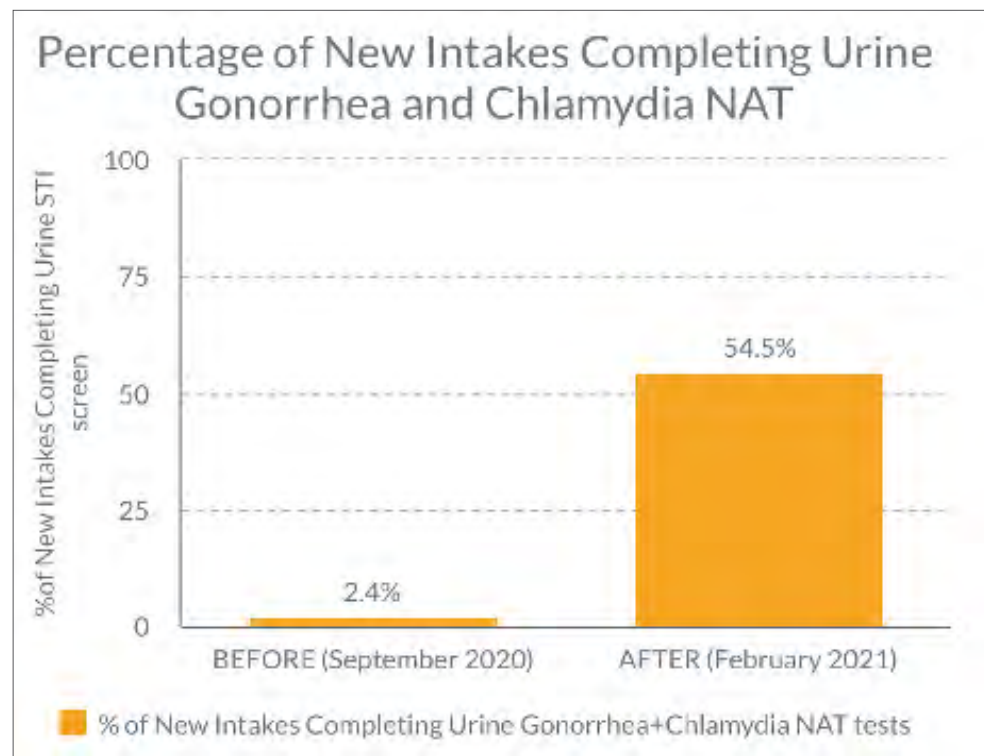
The Rapid Access Addiction Clinic at St. Paul's Hospital is a low-barrier clinic offering assessment and treatment of substance use disorders. The clinic's mandate is to provide short-term stabilization and referral to ongoing care in the community.

DESCRIPTION OF THE PROBLEM

Despite the high prevalence of STBBIs among patients seeking addiction medicine care, screening rates were low. There were no clinic screening guidelines. Patients often had difficulty getting to the lab to complete phlebotomy. At baseline, only 7% of new intakes completed screening for STBBIs and only 65% were even offered screening.

AIM STATEMENT

We aimed to improve the rate of STBBI screening of new intakes at the RAAC by 50% by April 2021 (to be completed within first 30 days of care). The STBBIs screen included HIV, Hepatitis B and C, syphilis, gonorrhea and chlamydia.



INTERVENTION TIMELINE

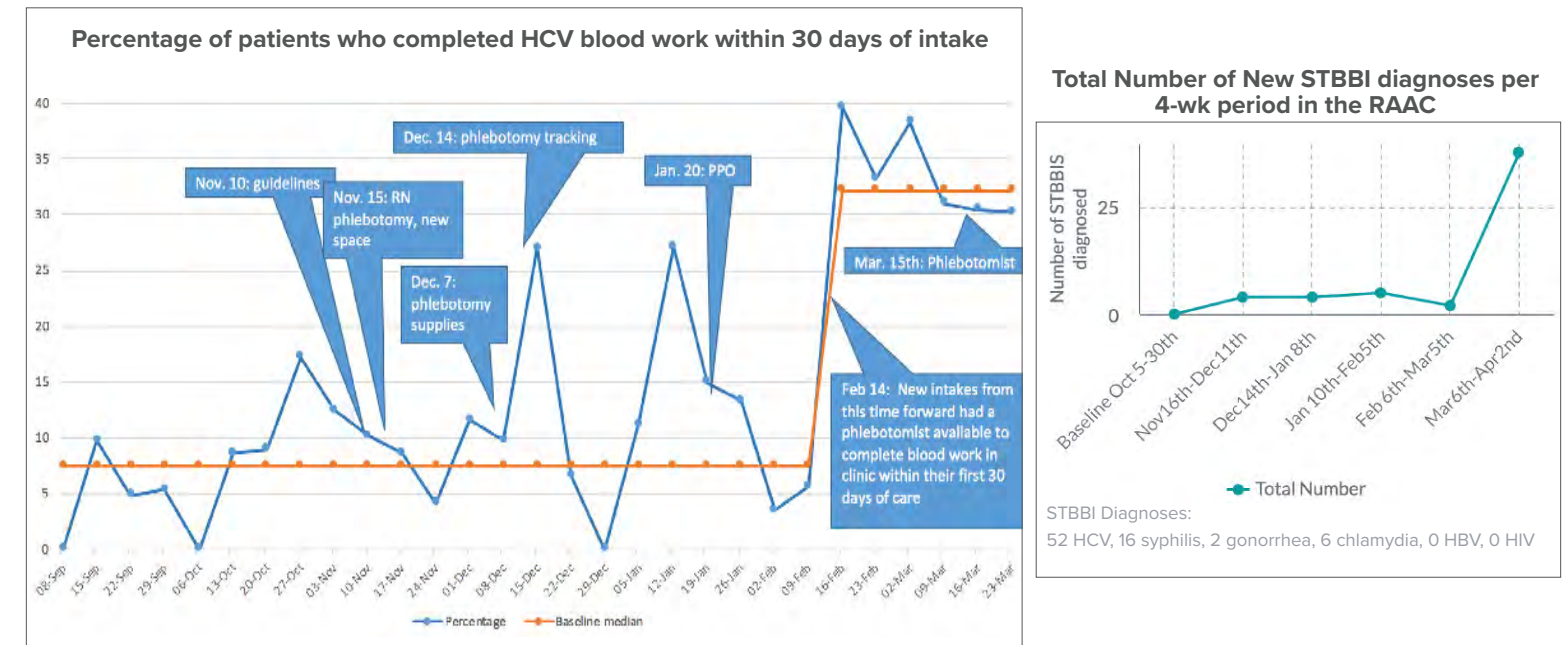
Nov 10, 2020	Nov 15, 2020	Dec 7, 2020	Jan 20, 2021	Feb 1, 2021	Mar 16, 2021
Screening guidelines created	Triage RN performing phlebotomy	Phlebotomy supply cart	Pre-printed order sheets	Urine GC/CT collection containers in triage area	Phlebotomist in clinic 2.5 days per week

EFFECTS OF CHANGE

The changes resulted in higher rates of screening from a baseline of 7% of new intakes to 32%. The clinic saw a large increase in the new STBBI diagnosis rates, allowing the clinic to scale up treatment capacity for these infections.

MEASURES OF IMPROVEMENT

Hepatitis C screening was used as a proxy for the full STBBI screening. The average percentage of new intakes eligible for screening (i.e. no known HCV and not recently screened) was calculated over a three month period and averaged at 89%. The number of new intakes screened per week, expressed as a percentage of all new eligible intakes that week was graphed on the run chart below.



LESSONS LEARNED

Screening for STBBIs is an important aspect of care addiction medicine, however given the need for phlebotomy, achieving high screening rates can be challenging and may require additional resources or support. The addition of routine urine gonorrhea and chlamydia screening is relatively easy to implement in clinics that already routinely collect urine samples for urine drug screens.

SUSTAINABILITY

We have ongoing funding for a half time phlebotomist, which facilitates ongoing screening. The education provided to clinic staff has created a culture shift and awareness of the importance of screening. An embedded STBBI clinic now allows for co-location of services and improved access to care.

Glossary of acronyms

STBBI: Sexually transmitted and Blood Borne Infections
RAAC: Rapid Access Addictions Clinic

Acknowledgements

This project was funded by the SSC through the Physician Led Quality Improvement Initiative. The authors would like to thank Scott Harrison RN, Brynn Grierson RN, Andy Ryan MD, Cole Stanley MD, Seonaid Nolan MD and Mark McLean MD for their support.

For questions or comments, contact Julia Maclsaac at: drmacisaacmd@gmail.com

Road Map to a Multi-Disciplinary Diabetic Foot Clinic at St. Paul's Hospital

Dr. Hooman Sadr, Pam Turnbull



DESCRIPTION OF CONTEXT

Optimizing the management of inpatients presenting with diabetic foot ulcers to SPH

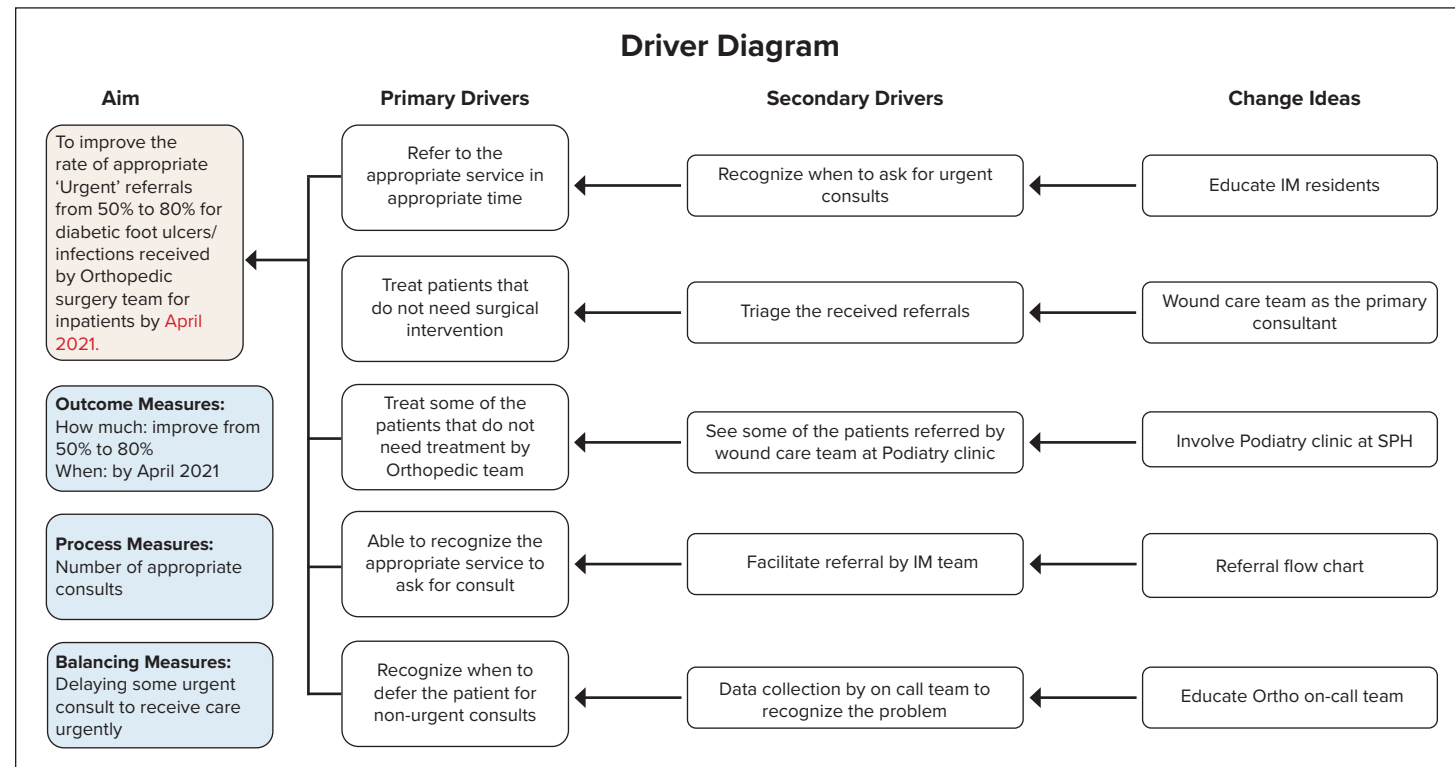
- Orthopedic, vascular, plastic surgery and wound care team were involved
- Work was done at SPH and focused on inpatients with diabetic foot ulcers presented to surgical team

DESCRIPTION OF PROBLEM

- The problem is non-urgent and inappropriate referrals of diabetic foot ulcers and infections received when on call by Orthopedic team
- **One of the causes of this problem is not having any outpatient clinic or recourse to look after non-urgent consults**

AIM STATEMENT

To improve the rate of appropriate 'Urgent' referrals from 50% to 80% for diabetic foot ulcers/infections received by Orthopedic surgery team for inpatients by April 2021.



DESCRIPTION OF INTERVENTION

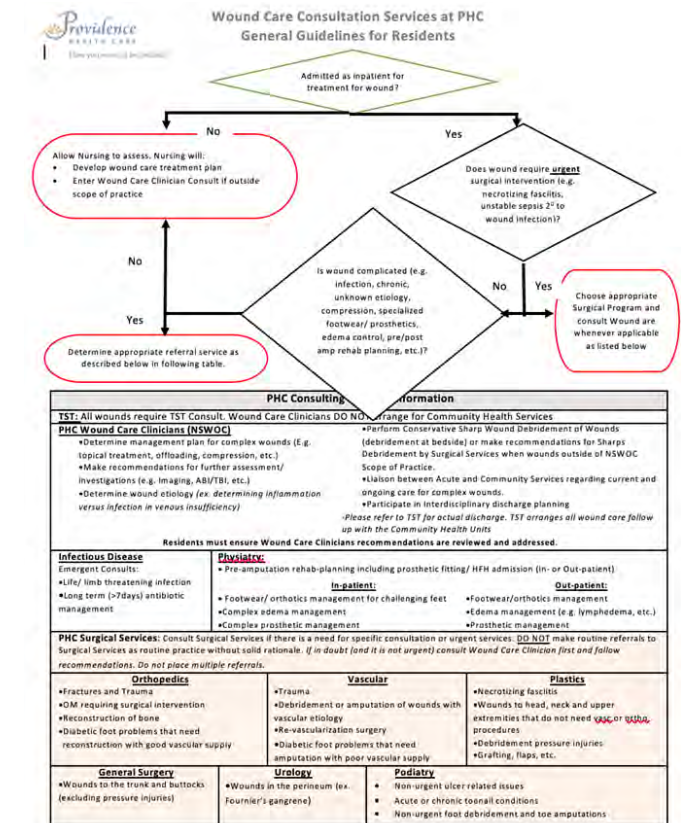
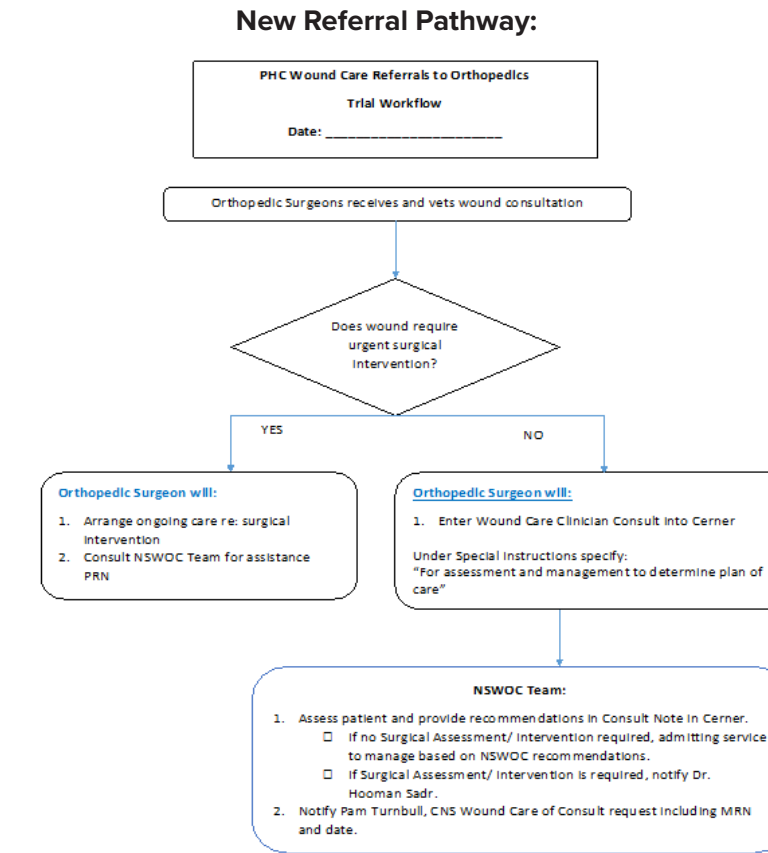
- We started with introducing the problem to surgical team and wound care team
- Then we gathered some data to support the problem
- We introduce the proposal in department meeting and took into account suggestions from team members and wound care team
- We created a new referral pathway to help with the problem
- We tested our new referral pathway through PDSA cycles

EFFECTS OF CHANGE

- We improved the appropriateness of the referral from 20% to 100%
- We reduced the non-urgent referrals from 100% to 10%
- The new referral pathway is helping with the problem of inappropriate and non-urgent referrals to on call team
- Patients are being treated more efficiently and effectively due to better referral pathway

MEASURES OF IMPROVEMENT

We are measuring the effect of our work with constant data collection and continuing open communication with wound care team and surgical team.



LESSONS LEARNED

- Our study and work was done during COVID. I learned that being persistent and patient with people who are usually busy and sometimes under stress and involved in multiple other tasks, is the main key to get response and proceed with good results.
- I learned that when people are involved in the process of change and are valued for what they do, they get on board easier and their chances of success are much higher.
- **I am hopeful that as the next phase of my work I would be able to work toward building a multi-disciplinary outpatient Diabetic foot clinic.**

SUSTAINABILITY

We will be monitoring our results by continuing to collect our data and maintaining open communication with teams involved in the process to make sure that we address any issues along the way.

Acknowledgements

Sneha Jain, Allison Chiu, Karen Dallas, Pam Turnbull, Darlene Ems, Murray Penner, Trina Montemurro

Glossary of acronyms

PDSA: Plan - Do - Study - Act

SPH: St. Paul's Hospital

IM: Internal Medicine

For questions or comments, contact Hooman Sadr at: sadr.hooman@gmail.com or 778-323-3363

Reducing Outpatient Laboratory Wait Times at St. Paul's Hospital

Dr. Janet Simons



DESCRIPTION OF CONTEXT - SPH OUTPATIENT LABORATORY

- 80-100 patients served daily for outpatient blood collection
- Many patients have other appointments (radiology, clinics, medical short stay) at SPH on the same day and need to be able to coordinate visits and appointments
- An appointment booking system was implemented, but long and unpredictable wait times persisted

DESCRIPTION OF PROBLEM - WAIT TIMES

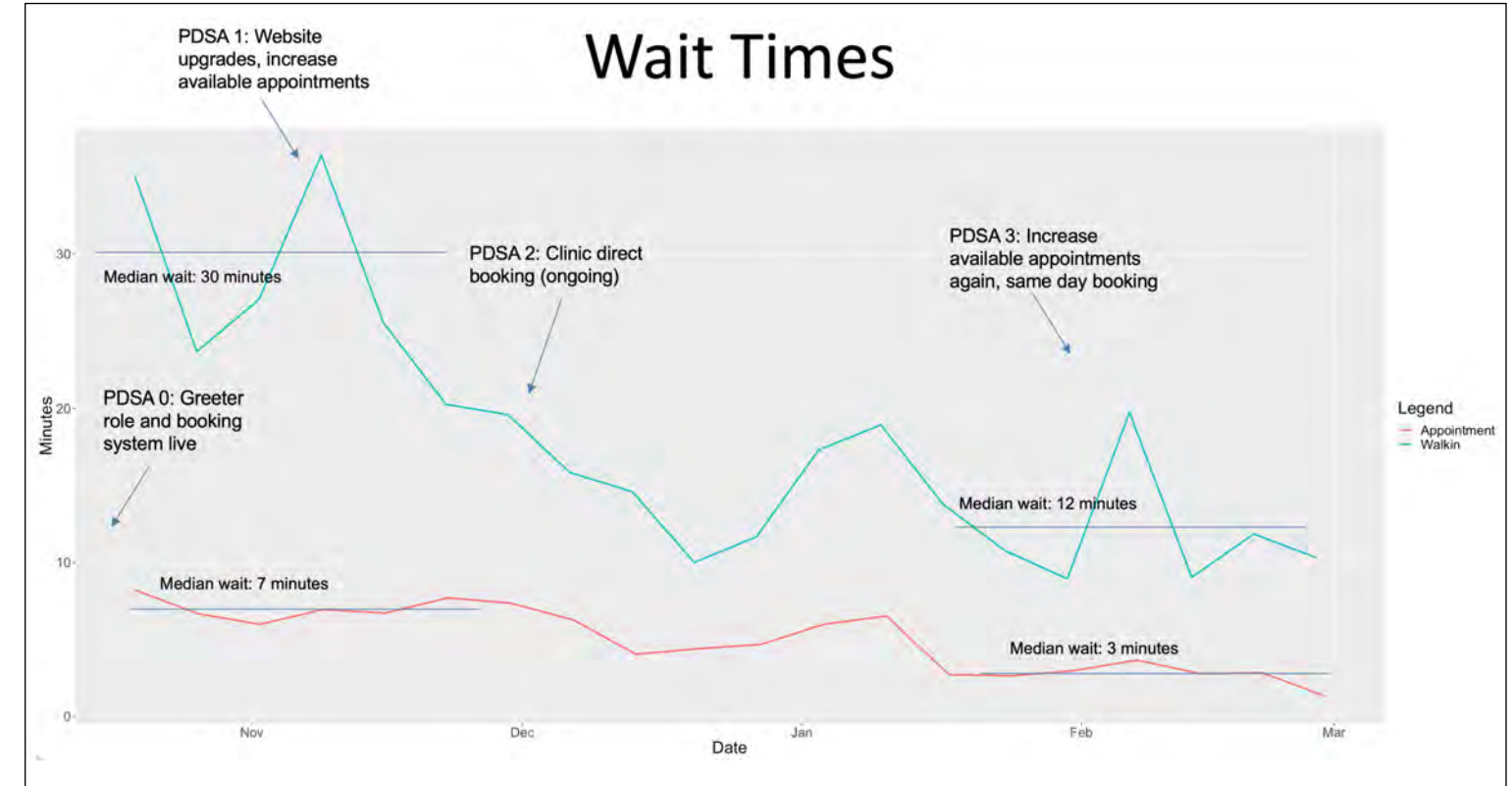
- Once the booking system was introduced, available appointments immediately booked up >2 weeks in advance
- Prioritizing booked appointments led to longer wait times for walk-in patients
- Most patients of SPH clinics did not have booked appointments and so faced longer wait times

AIM STATEMENT

Improve timely and predictable access for patients to outpatient laboratory services at SPH

- Reduce wait times for all patients
- Accommodate clinic patients for same-day or on-demand appointments
- Increase capacity by load leveling work

CHANGES TRIALED



EFFECTS OF CHANGE

- Positive feedback from patients, improved experience
- >50% reduction in median wait times for both appointments and walk in patients
- 5 SPH clinics now booking appointments in behalf of patients
- Improved staff satisfaction, more predictable workloads

LESSONS LEARNED

- Low tech, people powered solutions can work well to trial ideas prior to implementing changes in an electronic system
- A good solution will attract users you are not even aware of – monitor who is using your solution to identify people you can engage
- Small iterative changes are more comfortable for team members than large jumps

SUSTAINABILITY

- Keep greeter role – popular with staff and patients
- Ongoing website upgrades to make processes more automated
- New workflow being incorporated into New St Paul's hospital build for outpatient laboratory

Acknowledgements

- Dr. Sophia Park, PLQI alumni and developer of the appointment booking system
- Gurjit Bupra, Team Lead
- Tess Go and Jennifer Clarke, Technical Coordinators
- Tim Barker, MLA and Lab Greeter Extraordinaire
- All the outpatient lab staff at SPH
- Enrique and the whole PLQI team
- SSC funding for this project

Glossary of acronyms

SPH: St. Paul's Hospital
PDSA: Plan - Do - Study - Act

For questions or comments, contact Janet Simons at: janet.simons@providencehealth.bc.ca

Deep Vein Thrombosis Pathway

Dr. Tony Wan, Hing Yi Wong, Amy Chang, Emma Pienaar



DESCRIPTION OF CONTEXT

Deep vein thrombosis (DVT) is an acute medical condition that requires urgent diagnosis and treatment. Patients with confirmed or suspected DVT often present to the emergency department (ED). At St. Paul's Hospital, there were 383 ED visits for DVT related issues between February 2017 & January 2019. More than 40% of these patients required a repeat ED visit within 30 days.

DESCRIPTION OF PROBLEM

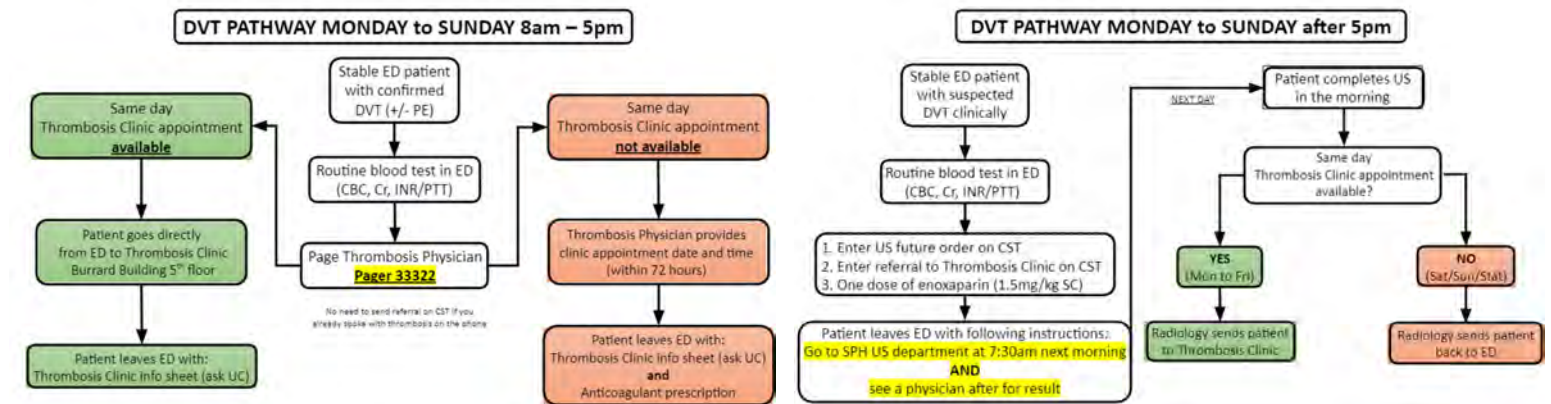
Despite effective outpatient treatment, patients with confirmed or suspected DVT frequently present to the ED because the essential diagnostics and medical treatment are not readily accessible in the outpatient clinics. This results in fragmented patient care and inefficient use of health care resources.

AIM STATEMENT

To develop a standardized pathway that directs DVT patients from the ED and radiology department to the Thrombosis Clinic so the number of ED visits for DVT is reduced by 25% over one year.

INTERVENTION

The DVT pathway was designed collaboratively by physicians, nurse practitioners and ultrasound sonographers in the ED, radiology department and the Thrombosis Clinic. The pathway was implemented on January 28, 2019. The information was distributed by physician champions in their respective departments. Following the implementation, the team met periodically to gather feedback. Physicians from the Vancouver Division of Family Practice joined the team in 2020 and the DVT pathway was expanded to include community clinics near St. Paul's Hospital.



MEASURES OF IMPROVEMENT

The outcome measure was the number of ED visits for DVT, defined by the ED primary diagnostic code of "DVT" and "rule out DVT". We obtained the data from February 1, 2017 to January 31, 2021 from the ED database. The results are presented as a run chart to illustrate the changes before and after the implementation of the DVT pathway. We are in the process of completing the patient experience survey.

EFFECTS OF CHANGE

The DVT pathway improved patient access to diagnostics, treatment, specialist care and as a result significantly reduced ED utilization. The number of visits for DVT was reduced by 50% over two years. An anticipated effect is the increase in urgent referrals to the Thrombosis Clinic.

LESSONS LEARNED

Communication is a major challenge for projects involving multiple departments and clinical services. Messages must be repeated multiple times before the teams fully understand the new information. Ideally, key communications are repeated regularly, which is particularly important as new members join the team.

SUSTAINABILITY

Our data showed improvement was sustained over 2 years. The DVT pathway is now well established and firmly embedded into the workflow of all the services involved. The Thrombosis Clinic is planning to recruit additional physicians to accommodate patient volume.

Glossary of acronyms

DVT: Deep vein thrombosis
PLQI: Physician-led Quality Improvement
SSC: Specialist Services Committee

For questions or comments, contact Dr. Tony Wan at: tony.wan2@vch.ca

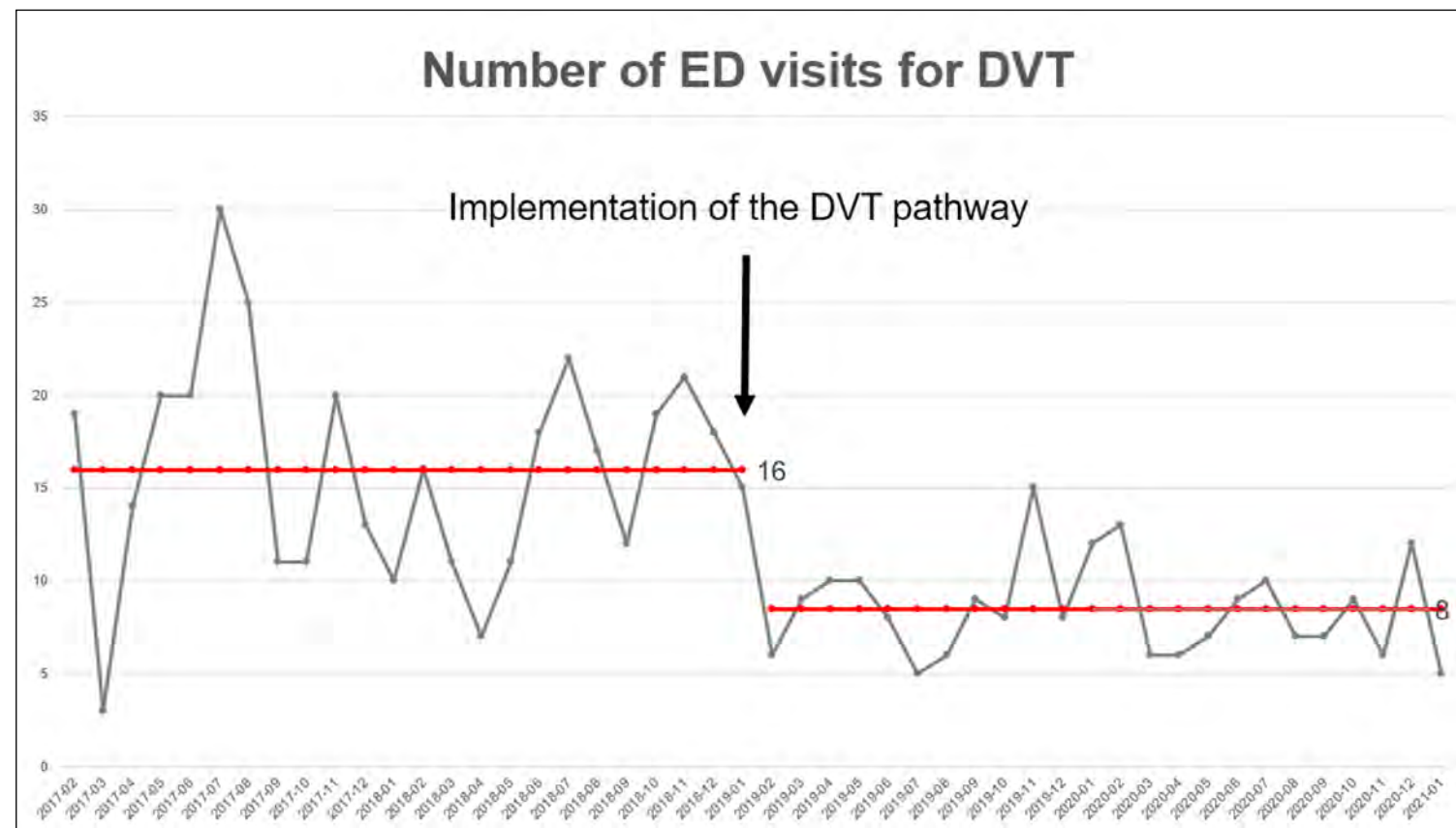
SKIP THE ER! RAPID ACCESS TO DVT DIAGNOSIS

Need an urgent ultrasound or D-dimer?

- FP suspects patient has DVT
- FP calls Thrombosis physician via RACE line
- Patient gets ultrasound or D-dimer the same day

Details

- St. Paul's Hospital Thrombosis Clinic
- Same day ultrasound or D-dimer arranged by the Thrombosis Clinic
- If D-dimer is recommended, a 2nd visit may be required
- Thrombosis Clinic follows up on results and starts treatment immediately if indicated
- Monday - Friday 8:00 - 17:00 starting September 2020



Acknowledgements

Special thanks to everyone in PLQI and Canadian Evaluation Society (CES)

Canadian Evaluation Society
Société canadienne d'évaluation

Thrombosis Clinic

- Sandy Barr
- Dr. Tony Wan
- Dr. Anna Rahmani
- Reshmi Singh
- Annalyn Ebuna

Radiology

- Jennifer Elliot
- Dr. Pari Tiwari
- Jacinta Sheridan
- All SPH radiologists
- All SPH sonographers

Family Practice

- Dr. Claire Young
- Dr. Jamil Hirji

ED

- Cindy Elliott
- Dr. Erin Kenny
- Michaela Hanakova
- All SPH EDP
- ED unit clerks

Providence
Vancouver Coastal Health
SSC

Standardize Rush Pathology Requests at PHC

Dr. Wei Xiong



DESCRIPTION OF CONTEXT

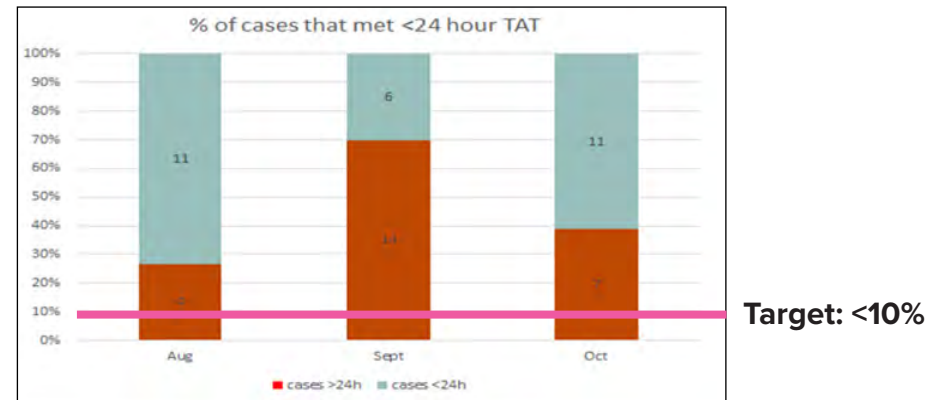
Rush pathology request: pathology diagnosis that is required for urgent patient management.

- ▶ Delay in rush pathology reports could cause suboptimal management and patient harm.
- ▶ Rush pathology turnaround time (TAT): hours from receiving to reporting (final or preliminary).

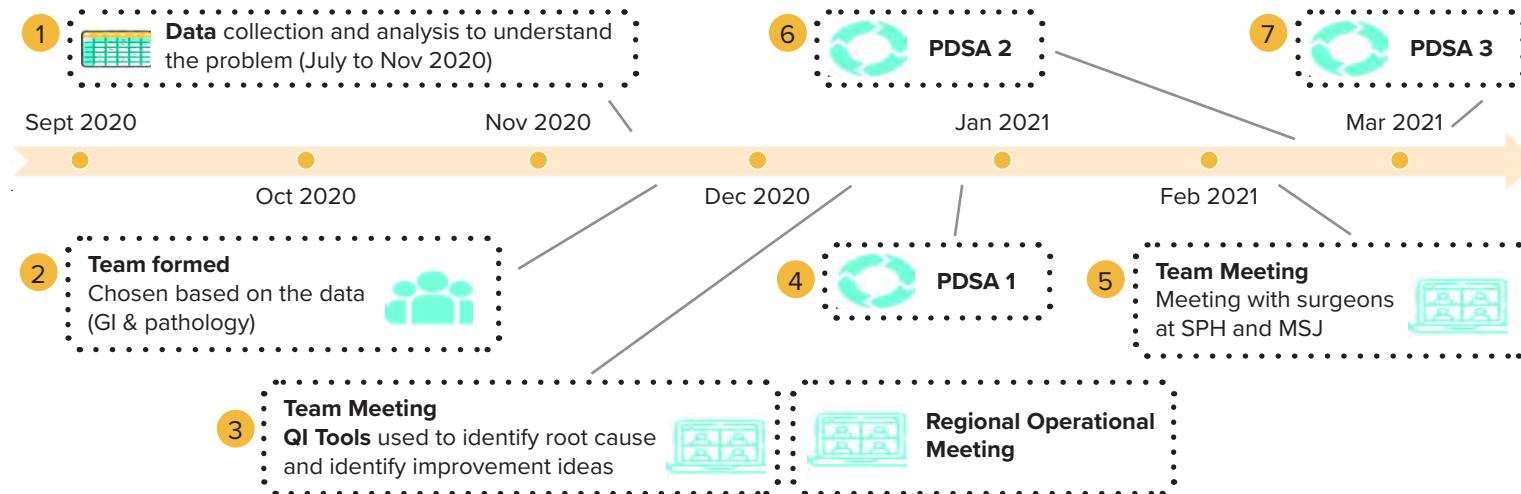
PHC benchmark: 24 hours

AIM STATEMENT

To reduce the delay of urgent cases to <10% by optimizing the workflow for handling urgent pathology requests by May 2021.



PROJECT TIMELINE



Key changes in pathology:

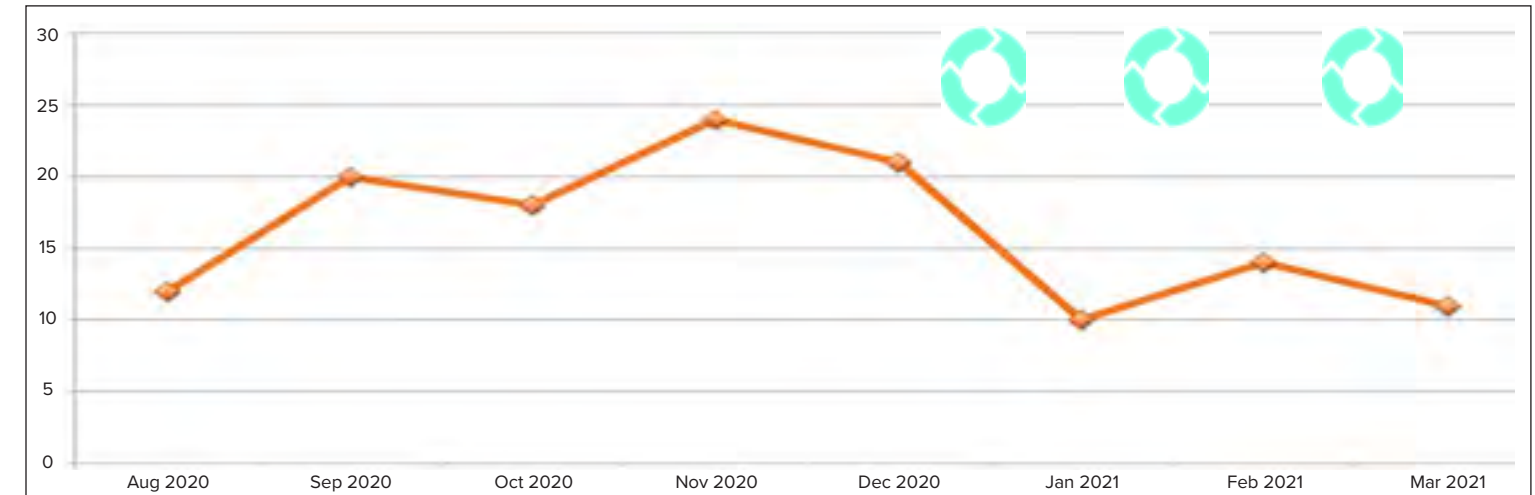
- Rush TAT: 48 h not including weekend
- Prioritize core biopsies in the routine category
- Communicate preliminary reports with ordering physicians within 24 h
- Triage rush requests on Friday, if not needed within 24h → not considered rush

Key changes in Gastrointestinal & surgery

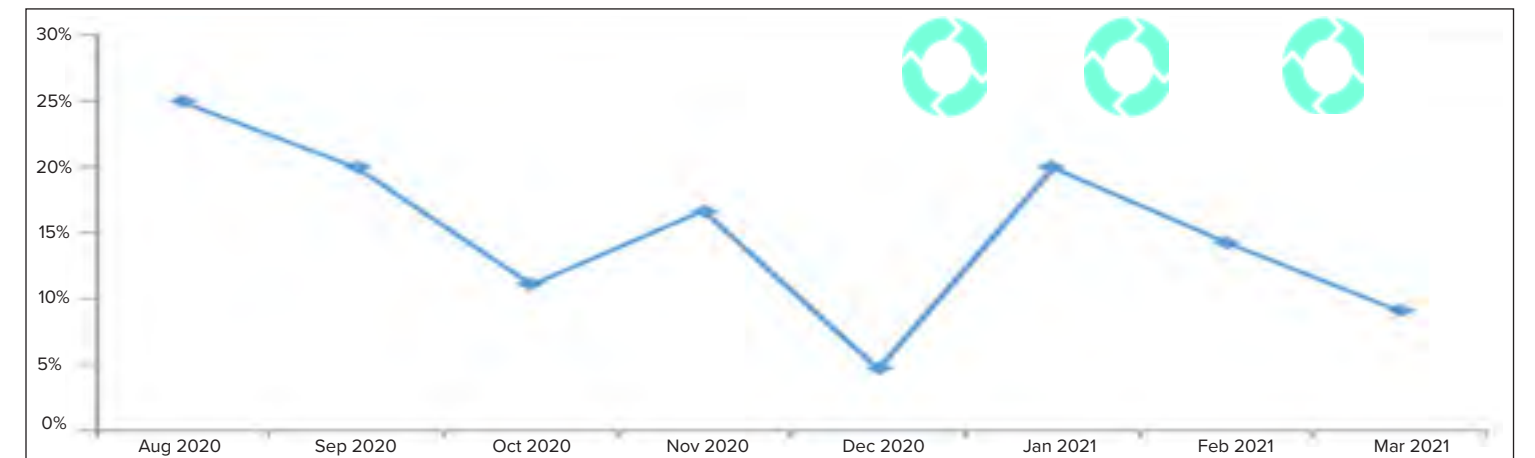
- Flag rush pathology cases with labels
- Schedule urgent biopsies before noon
- Standard criteria for urgent pathology requests
- Non-urgent priority cases with “ASAP” label

OUTCOMES

Reduced number of rush requests/month



Delayed rush pathology cases >48h



KEY WINS



36% reduction in the number of rush pathology requests after 3rd PDSA cycles



Optimize the pathology resource to provide the most appropriate patient care

Glossary of acronyms

TAT: turnaround time
PDSA: plan-do-study-act
PHC: Providence Health Care
GI: Gastrointestinal

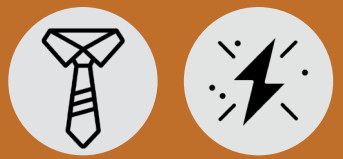
Acknowledgements

- PLQI advisors: Allison Chiu, Emma Pienaar, Dr. Andrew Shih
- GI: Dr. Eric Lam, Dr. Jennifer Telford, Tamara Younger, Sandra Swanson
- Surgery: Dr. Manoj Raval, Dr. Emile Woo, Dr. Jinsi Pao
- Pathology: Dr. Myles, Bobby Grewal, Henry Ng

For questions or comments, contact Dr. Wei Xiong at: wei.xiong@vch.ca

A Quality Improvement Project to Enhance Emergency Department Intubation Performance & Decrease Complications During the COVID-19 Pandemic

Dr. Jeff Yoo, Allison Chiu, Dr. Trina Montemurro, Moses Li, Francis Tenorio, Chris Gagnon, Lena Farina, Dr. Jeanne Macleod



DESCRIPTION OF CONTEXT

- COVID-19 identified in December 2019 and declared a pandemic March 2020
- Intubation can aerosolize COVID-19 containing secretions
- Hospitals adjusted intubation protocols to mitigate the risks to HCWs

DESCRIPTION OF SETTING

- St. Paul's Hospital Emergency Department (ED)
- Tertiary-care Urban Hospital in Vancouver, BC
- Annual ED census of 90,000
- 40 Critical care beds
- Annual average of 160 intubations

AIM STATEMENT

By April 2021, St. Paul's Hospital ED first-pass intubation success will be >83% and complication rates will be <13%.

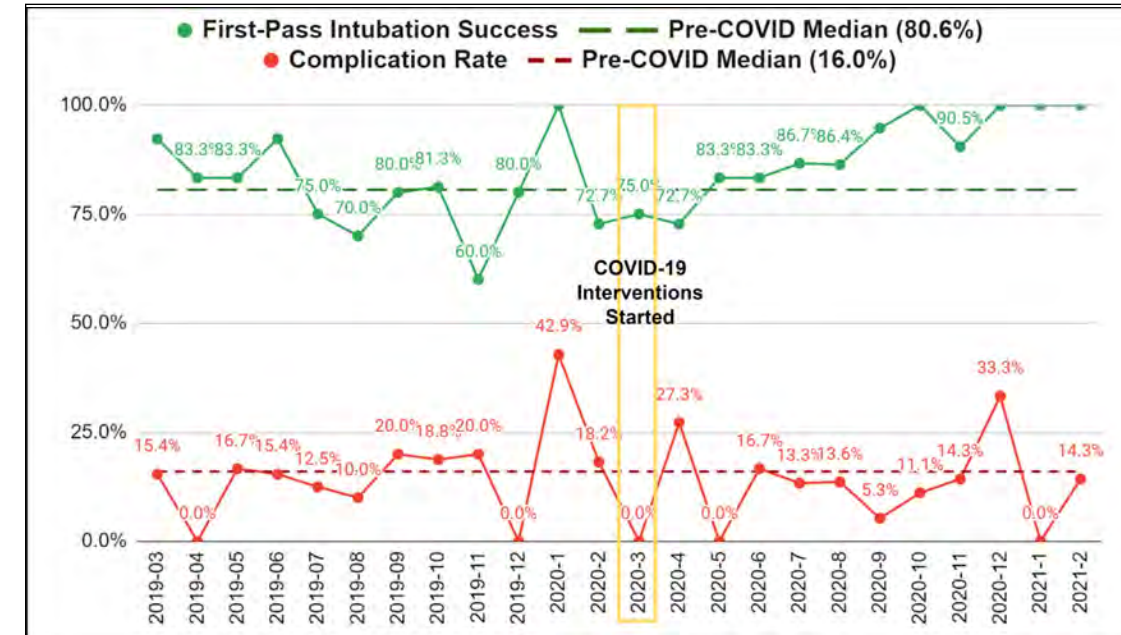
DESIGN

- Standardized airway registry data from 1 year prior to the pandemic were used to identify practice patterns and design Quality Improvement (QI) interventions
- Interventions rapidly implemented in March 2020 using PDSA cycles
- Airway registry data used to monitor the impact of interventions
- Compared:
 - Pre-intervention = March 2019-February 2020
 - Post-intervention = March 2020-February 2021

	Pre-Intervention (n=140)	Post-Intervention (n=132)
Male	107 (76.6%)	130 (71.5%)
Mean Age (median)	52.8 (55.0)	54.5 (55.5)
Seniority = Attending	79 (57.1%)	97 (73.5%)
Discipline = EM	100 (71.4%)	96 (72.7%)
Discipline = Anesthesia	4 (2.9%)	15 (11.4%)
Technique = Video Laryngoscopy	83 (58.6%)	121 (91.7%)

QI INTERVENTIONS

- COVID-19 Airway Checklist
- Intubation PPE donning and doffing visual posters
- Adopting the McGrath Videolaryngoscope as the primary method of intubation
- Most experienced airway operators performing most intubations
- COVID-19 Airway equipment kits



	North American Benchmarks	Pre-Intervention (n=140)	Post Intervention (n=132)
First-Pass Intubation Success	83%	130 (71.5%)	118 (89.4%)
Complication Rate	12%	22 (15.7%)	15 (11.3%)

- Absolute Risk Reduction = 4.4%
- Relative Risk Reduction = 28%
- Number Needed to Treat = 22.7

SUMMARY

- Aims were achieved before stated goal date
- Sustained improvements were seen 2 months after PDSA cycles began
- All QI interventions used in this study can be applied in other ED and critical-care settings

FUTURE DIRECTION

- Adapt and automate data capture through Cerner EMR
- Collect data from more hospitals / become a provincial database
- Spread change ideas to other areas (ICU and code blue) and other hospitals

Glossary of acronyms

CW: Choosing Wisely
MSF: Multisource Feedback
ED: Emergency Department
HCW: healthcare workers
PPE: personal protective equipment
PDSA: plan-do-study-act
EMR: electronic medical records

Acknowledgements

- Funding from the Specialist Services Committee
- PHC Physicians: Drs. Daniel Kalla, Erin Kenny, Chris Schneck, Emilia Rydz, Jim Kim, Shannon Lockhart, Ruth MacRedmond
- PHC Nursing & Allied Health: Cindy Elliott, Pat Munro, Brittany Keskinen, David Sima
- BC-Airway Registry: Drs. Jan Trojanowski, Frank Scheuermeyer, and Robert Stenstrom. Christina Botros, Justin Fernandes, Christine Liu, Emma Croft, and Max Pang
- PLQI Advisors: Allison Chiu and Dr. Trina Montemurro

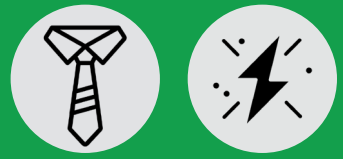
For questions or comments, contact Dr. Jeff Yoo at: jeffhyoo@gmail.com

Vancouver Coastal Health QI Project Posters

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Improving Quality of Care Through Simulations at the Whistler Health Care Centre

Dr. Annie Gareau



DESCRIPTION OF CONTEXT

The project was done at the Whistler Health Care Centre (WHCC), a diagnostic and treatment centre that serving a population of 13,000 which can swell up to 40,000 during the tourism season.

DESCRIPTION OF PROBLEM

Without any specialities back up and with the acuity of the cases presenting at the WHCC, the health care staff need to stay current in all aspects of standard of care. This can be achieved by running simulations in situ (in our own resuscitation room) during which team work, new guidelines, equipment and system issues are addressed.

AIM STATEMENT

Improve physician attendance by 50% from the current baseline (average 2-3 physicians) at the monthly in-situ simulation sessions by May 31, 2021 at the Whistler Health Care Centre.

Secondary aim: Improve communication and team cohesiveness as a result of simulation sessions.



STRATEGY FOR CHANGE

A survey was sent to all the physicians working in the emergency at the WHCC to identify the barriers to simulation attendance. The barriers identified included scheduling, topics, pre-determination of doctor in the 'hot seat', wanting guests from LGH and other departments. Zoom technology was praised.

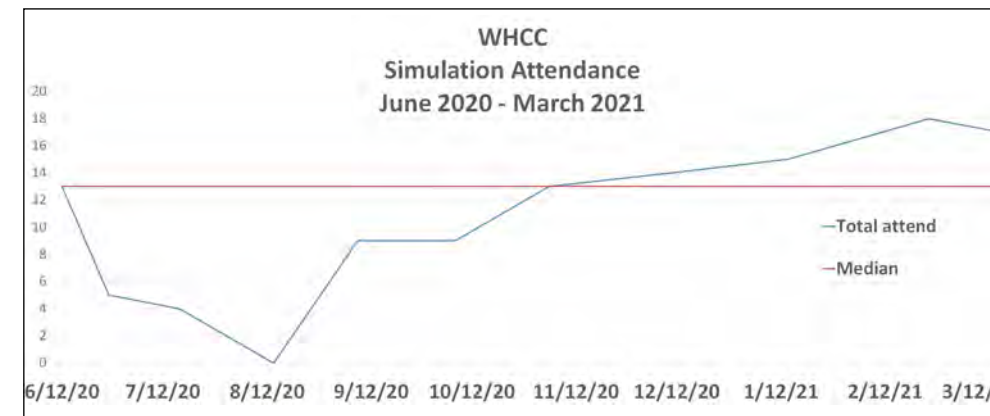
EFFECTS OF CHANGE

- Attendance increased with each PDSA cycle
- Increased dissemination of knowledge (standardization of care, new guidelines of practice) and team cohesiveness and communication
- Cases happened in real life shortly after simulation (DKA, pediatric allergic reaction, pediatric head injury) and the team was prepared and ready
- Too successful: too many attendees and educators which diluted the information and prolonged the session

MEASURES OF IMPROVEMENT

Collected data on number of attendees

- Types of interventions put in place at each monthly simulation (including reminders, 'hot seat' doctor determined, zoom)
- Attendance analyzed with run chart highlighting effects of each PDSA cycle



LESSONS LEARNED

- There is a process to do good QI. It takes time and commitment
- Identify problem without pre-conceived assumptions
- Same or different PDSA cycle to try at other sites
- Practice leads to better care
- PLQI provides a great opportunity to network and disseminate QI ideas (Dr Jeff Yoo)

Whistler Health Care Centre - Simulation Data										Change Ideas Incorporated														
Time	Week Day	MM/DD/YY	Total attend	MD in person attend	Nurse in person attend	MD Zoom attend	Nurse Zoom attend	Other attend	Topic	Notes	Offer remote ZOOM	Hot seat Doc pre-determined	Topic Shared at time	Guest Facilitator LGH	Set day, time each month	Run Sim after MAC	Team Support topics	Success stories	Angie's notes	Remove & replace	Cost	Time	Total Interventions	
11am	Friday	6/12/20	13	4	6	3	0		Covid related		yes				yes									2
11am	Friday	6/26/20	5	2	3	0	0		Covid related		no	yes		yes										2
11am	Friday	7/17/20	4	2	2	0	0	PT	Spinal Cord Injury		no				yes									1
11am	Friday	8/14/20	0	0	0	0	0			no attendance. Tsummer					yes									1
9:30am	Tuesday	9/08/20	9	4	4	0	1	RT/ID	covid related	RT and IPAC, AirVo demo	yes	yes	yes											3
9:30am	Wednesday	10/07/20	9	4	4	0	1		psych/agitation	After MAC	yes	yes			yes									3
9:30am	Wednesday	11/04/20	13	3	8	2	?		pediatric	After MAC	yes	yes	yes			yes								4
9:30am	Thursday	12/10/20	14	4	7	3	?	TM	GI Bleed	Michelle LGH and transfusion MD	yes	yes	yes	yes			yes							5
9:30am	Thursday	1/14/21	15	4	5	2	4	Xray	cardiac arrest in CT scan	Shannon Chestnut guest debriefer	yes	yes	yes	yes			yes	yes						7
9:30am	Thursday	2/25/21	18	5	7	4	2	IV/ED	Hypothermia	Shannon Chestnut guest debriefer	yes	yes	yes	yes			yes	yes	yes					7
9:30am	Thursday	3/18/21	17	7	6	3	1	LGH/NRP	Neonatal case	Michelle Shannon LGH guest, 2 NRP nurses	yes	yes	no	yes	yes	no	no	yes	no					5

SUSTAINABILITY

- Recruit new members for the simulation organizing team
- Create more incentives (CME, remuneration, food) to maintain current attendees
- Invest in medical simulation technology

Acknowledgements

- Amy Chang, Dr. Chris Lee, PLQI Team
- WHCC Sim team (Emma Haggerty, Lev Becker, Kate Thompson)
- Michelle Connell and Dr. Shannon Chestnut
- My colleagues and co-workers

Glossary of acronyms

WHCC: Whistler Health Care Centre
LGH: Lions Gate Hospital
For questions or comments, contact Dr. Annie Gareau at: agareau@telus.net

Standardizing Goals of Care Documentation on the Sunshine Coast – The Green Sleeve Initiative



Dr. Carmen Goojha

DESCRIPTION OF PROBLEM

In BC, there are 2 official forms palliative patients can complete with their physician that outlines the type of care that is acceptable to them should a crisis situation arise in which they cannot speak for themselves – the Provincial No CPR form and the MOST form.

- The No CPR form only states whether or not a patient wants CPR
- The MOST form is the superior form – it includes multiple levels of care a patient can have even if they do not want CPR

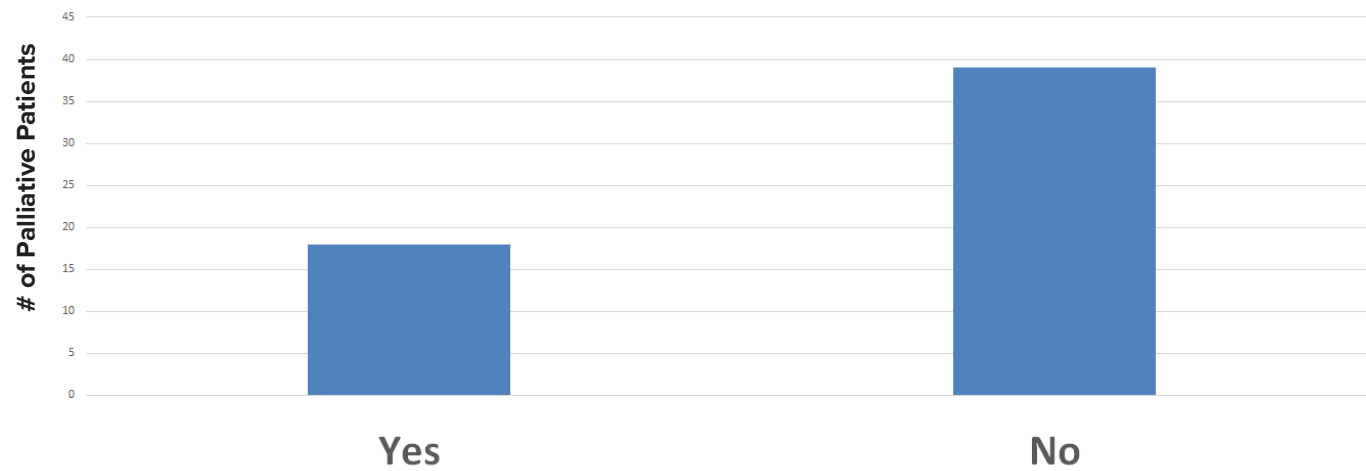
DESCRIPTION OF CONTEXT - COLLABORATION

- SC Hospice, SC Division of Family Practice, SC Palliative Shared Care WG, Sechelt Nation, and BC EHS
- Virtual meetings & planning
- Education Sessions:
 - Virtual ACP community workshop/focus group
 - Virtual/in-person Green Sleeve Initiative training for medical clinics, Sechelt Hospital staff, homecare, and EHS.

AIM STATEMENT

Increase MOST form use in palliative patients on the SC by 80% by June 30, 2021.

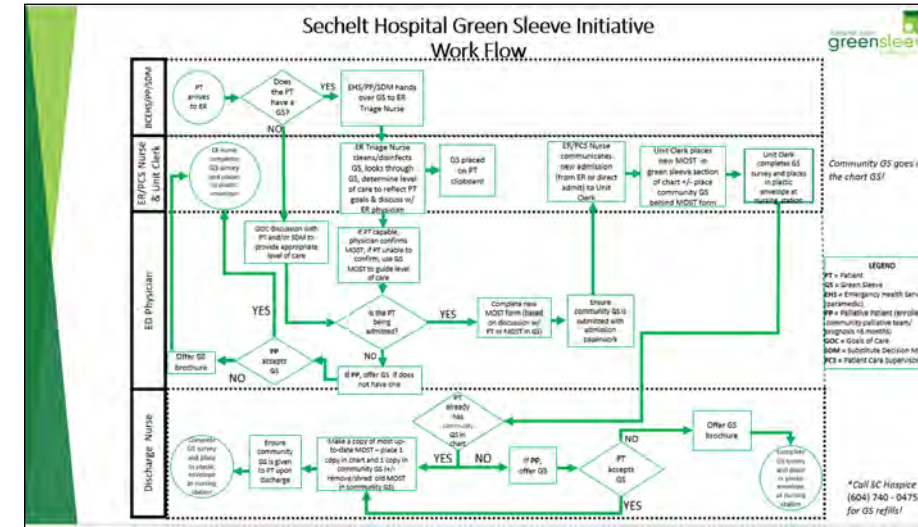
Do Palliative Patients have documented GOC Discussions on their chart?



68% of palliative patients do NOT have their GOC documented in their family physician chart

STRATEGY FOR CHANGE

- The GSI: a sleeve, kept on the fridge that stores medical information (eg MOST form), ensuring the medical team and loved ones know a patient's healthcare wishes if they cannot communicate
- GSI education for physicians, medical office assistants, homecare/hospital nurses, EHS providers, and unit clerks
- Process maps for each setting to guide various clinicians/support staff; PDSA cycles to adjust workflow using participant feedback
- GSI education for the public via SC Hospice: website, ACP group workshops or 1:1 volunteers



The Green Sleeve

Stores MOST form, medical history, medications, allergies, substitute decision maker list

Follows the patient to their outpatient appointments, ER visits, hospital admissions, and goes back home with them



EFFECTS OF CHANGE - GOALS

- Increase physician and patient confidence in having GOC discussions
- Standardize documentation of GOC discussions using the MOST form
- Encourage patient-centered approach to care
- Possibility of perceived increase work load during implementation for healthcare workers, but overall should simplify work

MEASURES OF IMPROVEMENT - PLAN

- Number of green sleeves distributed
- Number of public/staff education/training sessions and number of participants at each
- For the healthcare community – surveys to determine if patient's have green sleeves and if so which forms are completed and stored there, including the MOST form
- For physicians – confidence levels in having and number of GOC discussions pre GSI roll out and 1 year post GSI roll out

LESSONS LEARNED

- Collaboration with key stakeholders is key to making positive and effective change
- The **MOST form is the most important form** to complete with our palliative patients.

SUSTAINABILITY

- SC Hospice will be managing the program
- Ongoing ACP workshops and 1:1 patient support
- Funding via grants and community donations
- Easily accessible GSI videos for healthcare workers and community members
- Big hope that VCH will consider helping to fund this project

Acknowledgements

- PLQI Program (Amy Chang) and Specialist Services Committee funds
- SC Hospice (Jackie Scott, Joan Hibbard, Katie Clogg, Elana Robinson)
- BC EHS (Yvonne Lewis)
- Sechelt Nation (Tamara Guretzki)
- SC Div FP (Susan Papadionissiou, Sarah Garner)
- SC Shared Care Palliative WG (Dr. Annette McCall, Dr. Jenny Phillips, Petrina Wing, Stephanie Monkman, Susann Richter, Shari Myhill-Jones)

Glossary of acronyms

- SC:** Sunshine Coast
- WG:** Working Group
- ACP:** Advanced Care Plan
- EHS:** Emergency Health Services
- MOST:** Medical Orders for Scope of Treatment
- GOC:** Goals of Care
- GSI:** Green Sleeve Initiative
- PDSA:** Plan-Do-Study-Act

For questions or comments, contact Carmen Goojha at: carmenkgojha@gmail.com

British Columbia Urological Society Quality Initiative: Development of a Physician Feedback Program



Dr. Justin Lee, Dr. Ryan Yan, Ellis Wong, Sneha Jain, Emma Pienaar

DESCRIPTION OF CONTEXT

This quality initiative was undertaken by the Division of Urology at Lions Gate Hospital with the goal of improving the quality of care for patients undergoing radical prostatectomy for the treatment of localized prostate cancer.

DESCRIPTION OF PROBLEM

- Evidence shows that the collection and reporting of outcomes improves patient care
- In British Columbia, there is no formal infrastructure or program to collect and measure outcomes for urologists
- Without feedback about individual outcomes urologists are unable to monitor and improve surgical quality and patient care

AIM STATEMENT

The aim is to engage patient voice while fostering a culture of quality improvement and commitment to growth, change and innovation through providing clinicians with regular interval feedback on their outcomes that is risk-adjusted and anonymous.



STRATEGY FOR CHANGE

- Collection of patient reported outcomes (PRO's) using a validated and well published questionnaire for prostate cancer patients (EPIC-26 Questionnaire)
- Development of a secure REDCap Database which includes baseline characteristics, histological outcomes and patient reported outcomes to enable meaningful case-mix adjustment
- Production of an interactive web-based dashboard for physician feedback reporting

INTERVENTION: PHYSICIAN FEEDBACK REPORT

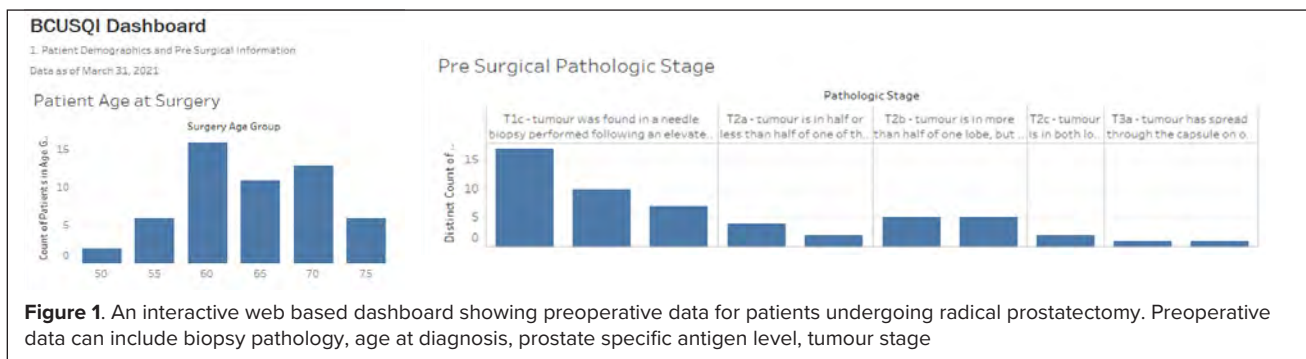


Figure 1. An interactive web based dashboard showing preoperative data for patients undergoing radical prostatectomy. Preoperative data can include biopsy pathology, age at diagnosis, prostate specific antigen level, tumour stage

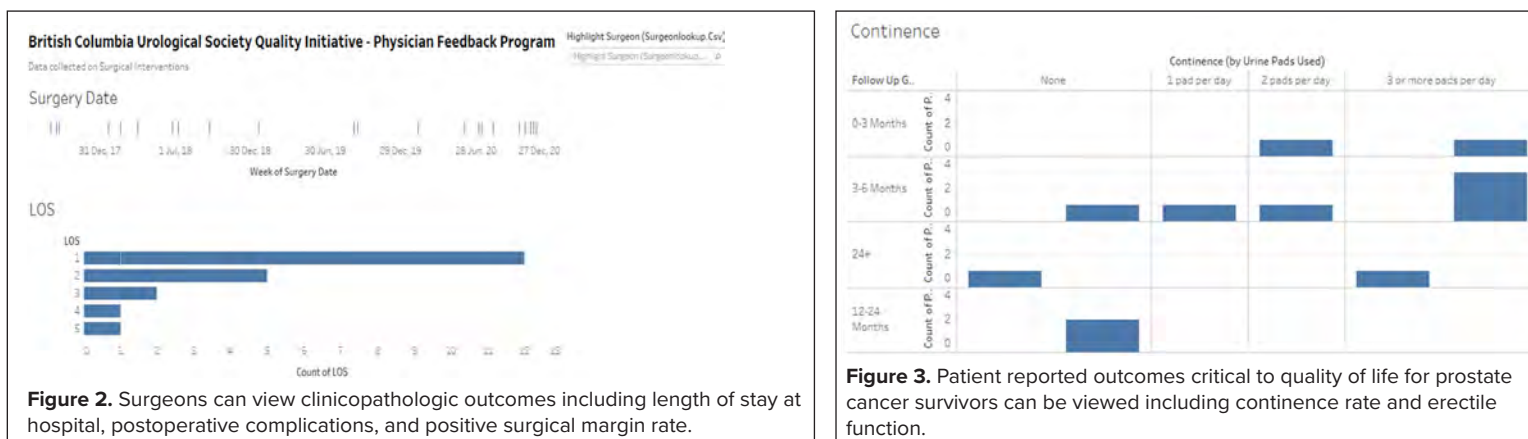


Figure 2. Surgeons can view clinicopathologic outcomes including length of stay at hospital, postoperative complications, and positive surgical margin rate.

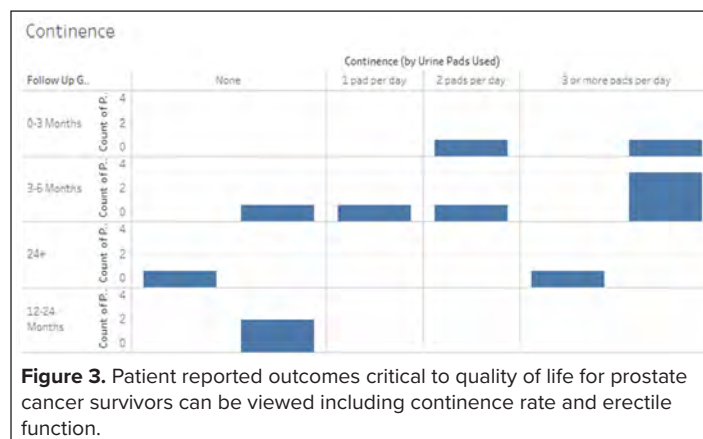


Figure 3. Patient reported outcomes critical to quality of life for prostate cancer survivors can be viewed including continence rate and erectile function.

IMPROVEMENT IN ENGAGING THE PATIENT VOICE

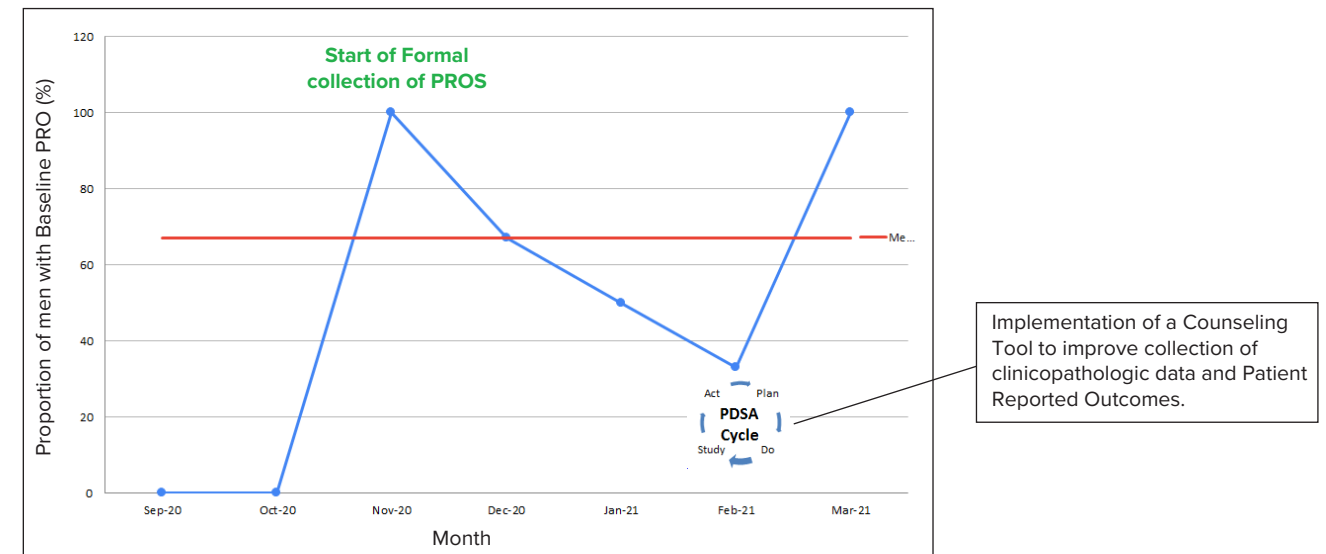


Figure 4. Run chart for the proportion of patients undergoing radical prostatectomy that completed a baseline PROs questionnaire.

Implementation of a Counseling Tool to improve collection of clinicopathologic data and Patient Reported Outcomes.

LESSONS LEARNED

- Privacy and Ethical Consideration is critical
- Protected Health Information is an important aspect of the BCUS-QI Physician Feedback Program
- There are security and privacy implications for Data Collection, Data Storage and Transmission of Information
- Development of a database requires careful planning of variables and cooperation with database specialists

SUSTAINABILITY

FUNDING

Applied for funding through Lions Gate Hospital Foundation Continue

Explore external funding opportunities (e.g. Canadian Urological Association, Doctors)

PARTNERSHIP

Continued cooperation with Medical Quality and Decision Support Team

ENGAGE

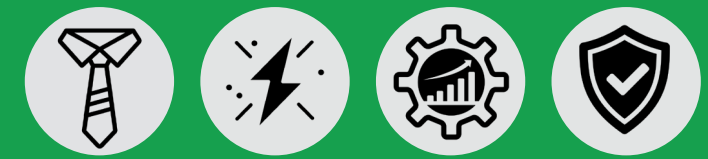
Promote the Physician Feedback Program to urologists province-wide

Enlist urologists to be Quality Improvement Champions

Acknowledgements

- **Medical Quality:** Hing Yi, Ellis Wong, Emma Pienaar, Dr. Stephen van Gaal
- **Privacy and Ethics:** Joeleen Wright
- **Funding:** Specialist Services Committee, Lions Gate Hospital Foundation
- **BCUS-QI Committee:** Dr. Chris Hoag, Dr. Ken Poon, Dr. Iain McAuley, Dr. Troy Schultz, Dr. Alan So, Dr. Mike Metcalfe, Dr. Reza Hamizadeh
- **REDCap:** Eoin Vaughan, Ryan Yan (Medical Student)

For questions or comments, contact Justin Lee at: justin.lee@vhc.ca



DESCRIPTION OF CONTEXT

Ocean Falls is a small remote community on the central coast of British Columbia. It is accessible by boat, plane, or ferry.



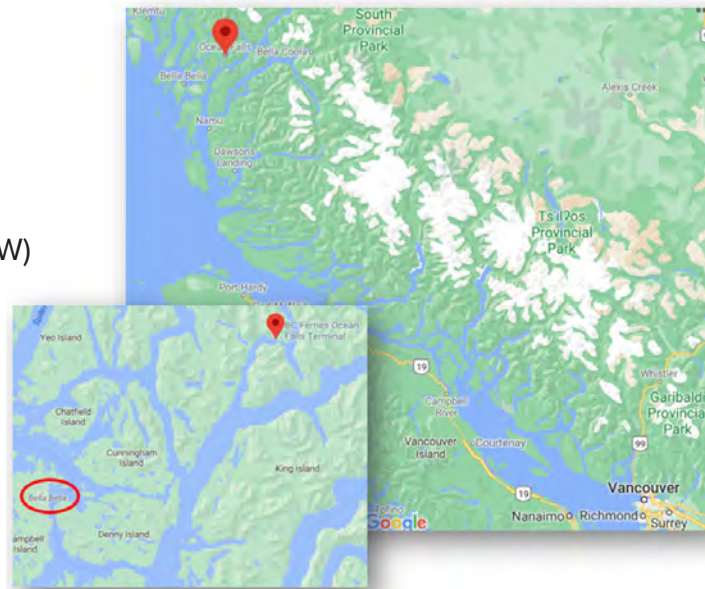
Population: approx. 30 – 40



Age: approx 65 – 83



Closest healthcare centre: Bella Bella (60km SW)



INTERVENTION

A survey was conducted to determine how Ocean Falls residents currently access healthcare and how they view the use of telehealth in their community

- Infographic: an infographic was created with information around how to access healthcare from Ocean Falls after meeting with Dr. John Pawlovich and Dave Harris from the RTVS team. This will be emailed to residents and displayed in public areas
- Equipment: the VCH Virtual Health team helped provide equipment to start integrating telehealth appointments in Ocean Falls as well as equipment to help improve confidentiality in the clinic

AIM STATEMENT

1. To determine how Ocean Falls residents currently access healthcare
2. To improve knowledge of how to access healthcare from Ocean Falls
3. To better understand how Ocean Falls residents see the future of telehealth

SURVEY KEY POINTS

- Need identified for providing education for how to access healthcare from Ocean Falls
- There is support for use of telehealth in Ocean Falls
- Concerns raised around internet requirements for telehealth and ensuring that telehealth is accessible to all residents
- Concern raised related to confidentiality in clinic room
- Some Ocean Falls residents access primary care outside of VCH

NEXT STEPS

- Telehealth equipment has recently arrived in Ocean Falls and virtual appointments will be integrated into the primary care provided by Bella Bella Medical Clinic
- Telus has recently established a higher speed connection to the clinic room that will likely be suitable for virtual telehealth
- The use of telehealth appointments can be monitored as well as the impact of this on Bella Bella Medical Clinic
- A future step is integrating specialist telehealth appointments
- A follow-up survey can be sent to Ocean Falls residents in the future to assess how they view telehealth in their community and whether they have any concerns or suggestions as well as whether more information is needed for how to access healthcare from Ocean Falls



How to Access Healthcare from Ocean Falls

Bella Bella ☎ 1 - 250 - 957 - 2332

Medical Clinic • Call to book a telephone appointment with a family doctor
 • In addition, doctor visits to Ocean Falls occur every 1 - 3 months, Gladys Suderman will send out an email for appointment registration closer to the date

811 ☎ 811
 • Free 24/7 provincial health information and advice telephone line
 • Connects you directly with a nurse, dietician, exercise professional, or pharmacist
 • Your call will be directed to a doctor if needed

Pharmacy • Delivery is available to Ocean Falls by mail
 • R.W. Large Hospital Pharmacy, Bella Bella ☎ 1 - 250 - 957 - 2271
 • Port Hardy Rexall, Port Hardy ☎ 1 - 250 - 949 - 6552

Emergency Services **RCMP** ☎ 1 - 250 - 957 - 2388
Coast Guard ☎ 1 - 800 - 567 - 5111
Emergency Coordination Centre ☎ 1 - 800 - 663 - 3456
 • Nearest hospital is in Bella Bella (60km SW)
 R.W. Large Memorial Hospital ☎ 1 - 250 - 957 - 2314

Vancouver Coastal Health
 Information current as of March 2021

Glossary of acronyms

- PLQI:** Physician-led Quality Improvement
SSC: Specialist Services Committee
RTVS: Real Time Virtual Support

Acknowledgements

My sincerest thanks to Amy Chang, Gladys Suderman, the VCH Virtual Health team, Rhonda Orobko, the Bella Bella Medical team, Dr John Pawlovich and Dave Harris from the RTVS team, Dr Andrew Shih, Anna Ritchley, the PLQI team, and to the SCC for kindly providing funding for this project.

For questions or comments, contact Simona Spassova at: simona.spassova@vch.ca

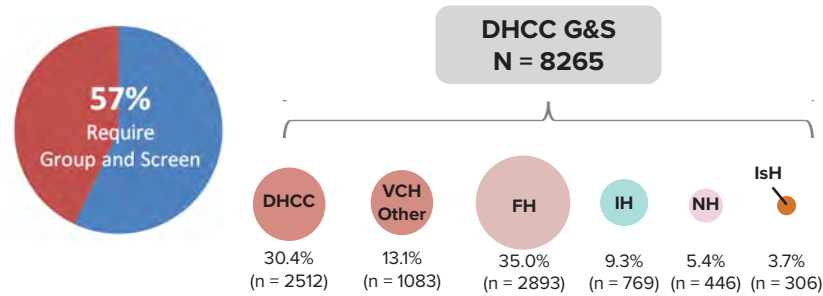
Preoperative Group and Screens – A Patient Centered Model

Dr. Jacqueline Trudeau, Dr. Andrew Shih, Allison Chiu, Hing Yi Wong, Chenyu Zhang, and Emma Pienaar



DESCRIPTION OF CONTEXT

In Vancouver Acute: ~ 14,500 elective surgical cases per year (Drawn at DHCC or VGH)



WHY REDUCE UNNECESSARY PREOPERATIVE GROUP & SCREENS?

- 2 separate samples now needed to confirm blood group. **More unnecessary bloodwork**
- Patient inconvenience
- Lab resources diverted
- Transfusion rates for many procedures low (<2%)

WHY CONSIDER GETTING GROUP & SCREENS AT HOME HEALTH AUTHORITIES?

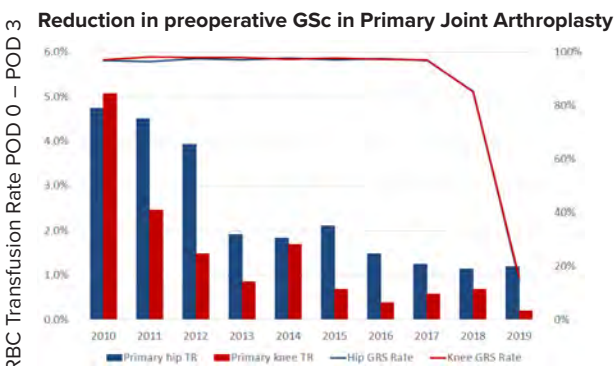


AIM STATEMENT

1. To reduce unnecessary routine group and screens for pre-operative bloodwork in surgical patients undergoing elective procedures with low transfusion risk – by specialty

- 50% Primary measure of success – decrease in procedural group and screens
- 6 Within 6 months of guideline implementation in each surgical specialty
- Primary location – Vancouver Acute Lion's Gate Hospital, Richmond Hospital if possible

2. Having G&S's drawn in home HA accepted by other blood banks → require 14-20 "confirmatory" samples drawn per day → feasible?



IDEAS TESTED – BASED ON SUCCESS WITH ORTHO RECON

Determine transfusion/G&S rates by surgical procedure codes

Engage specialty physician champions to help categorize low/high risk procedures

Implement in PAC guideline and follow outcomes (G&S/transfusion rates, uncrossmatched RBC use)

Modify guideline based on data – use successes to bring to other surgical leaders and champions

LABORATORY:

- A1c (up to 90 days prior to surgery)
- Group and Screen the following patients ONLY:
 - Gynecology: Open hysterectomy and open myomectomy
 - Gyne Oncology: All open abdominal procedures (excludes Minimally Invasive Surgery cases and vulvectomy)
- Group and Screen (clinician override of above)
- CBC with differential
- Electrolytes, urea, creatinine, albumin
- INR and PTT

Other: _____

REFERRALS:

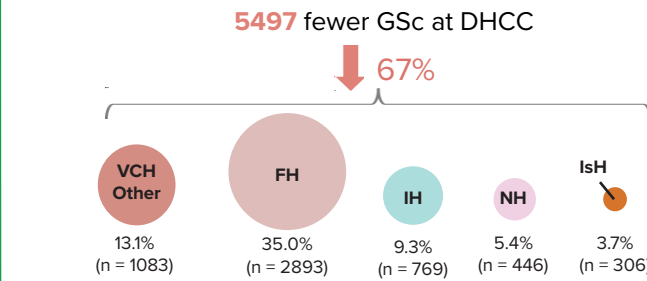
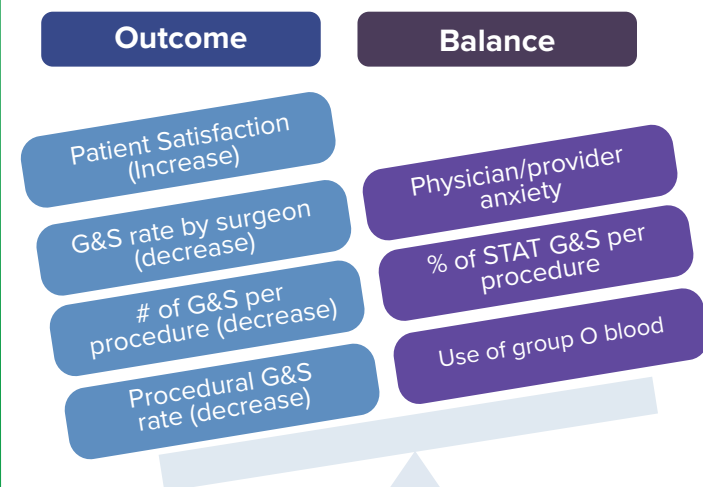
- Perioperative Blood Management Program (PBMP) (consider for patients with Hgb less than 100 g/L or known iron deficiency)

Specialty	Current Rate	Proposed Rate
Gyne	98%	48%
Gyne-Onc	65%	9%

EFFECTS OF CHANGE

- Introduction of PPO ~August 2020 did not significantly change G&S's
 - Suggested that greater culture change is needed
- In parallel engaging with:
 - Urology
 - Spine/NeuroSx
 - General Sx

MEASURES OF IMPROVEMENT



LESSONS LEARNED

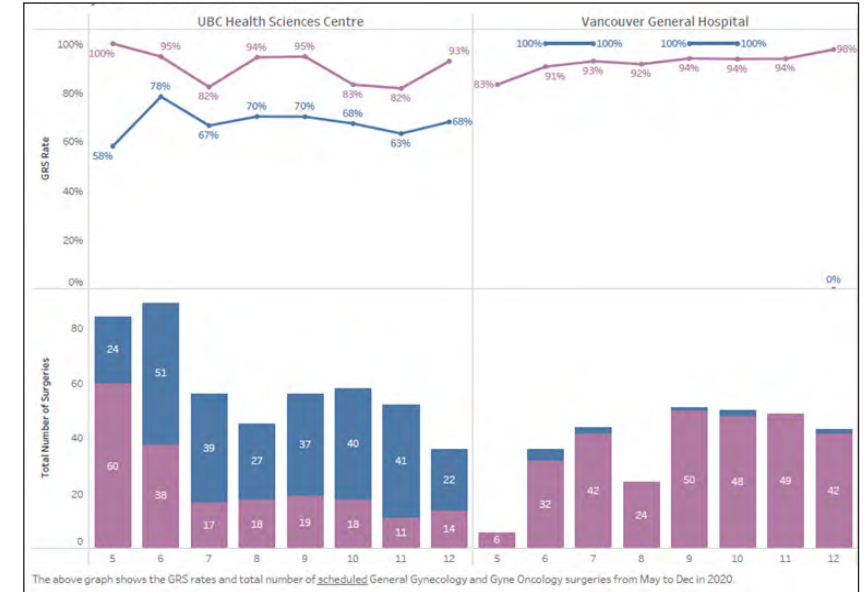
- Change is hard! Requires repeat engagement with change stakeholders
- QI is best tackled breaking problem areas into smaller and measurable pieces
- Iterations of data collection and analysis are key – needs to pass the "smell test"
- G&S/Transfusion rates for surgery may be a potential quality marker for benchmarking
- Changing practice: as changes are being incorporated, it is important to remember the aim to improve patient experience and decrease resource utilization

Acknowledgements

- Special thanks to:
- PLQI: Allison Chiu, Hing Yi Wong, Chenyu Zhang, and Emma Pienaar
 - Gyne/Gyne-Onc: Dr. Murette Lee, Dr. Monica Brunner
 - Urology: Dr. Ryan Paterson, Dr. Martin Gleave
 - Spine/Neurosurgery: Dr. Gary Redekop, Dr. Tamir Ailon
 - General Surgery: Dr. Emilie Joos, Dr. Morad Hameed

For question and comments, contact Jacqueline at: jacqueline.trudeau@vch.ca; and Andrew at: andrew.shih@vch.ca

Monthly GRS rate in 2020 at UBCH and VGH



SUSTAINABILITY

- Dashboard being created so data pulls for G&S rates are automatic
- "Standard Operating Procedure" developed



Improving IGRA Testing for Inflammatory Bowel Disease Patients

Dr. Nancy Fu, Dr. Karen Ung, Dr. Inna Sekirov, Allison Chiu, Sneha Jain



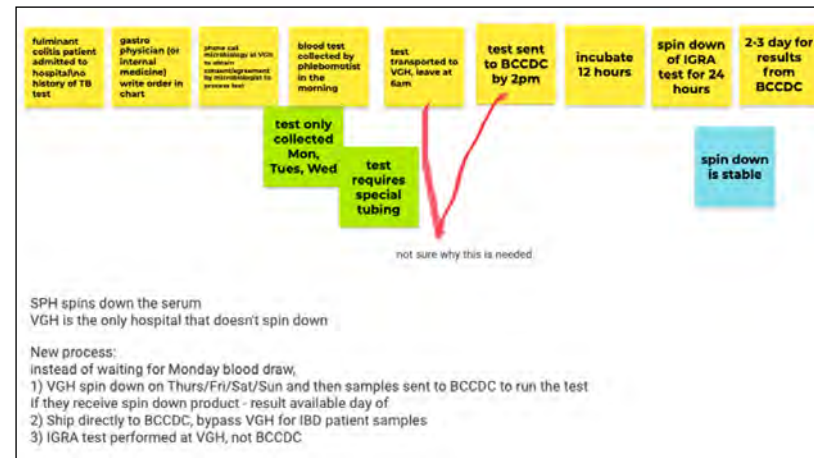
DESCRIPTION OF CONTEXT

- Hospitalized Inflammatory Bowel Disease (IBD) patients with fulminant ulcerative colitis (UC) require biologics (anti-TNFs) when fail to respond to IV steroid
- Guideline recommends initiation of anti-TNFs if no response after 3 to 5 days
- To safely start anti-TNFs, one needs to ensure negative HBV and TB
- IGRA is usually recommended in immunocompromized due to increase false negative of TST

DESCRIPTION OF PROBLEM

- 1) Tedious collection and sampling process
 - IGRA only drawn upon VGH microbiology approval
 - IGRA only drawn Mondays to Wednesdays as it requires incubation at BCCDC x 16 hrs and spin down
 - Stable product after spin down
- 2) Prolonged hospitalization and delayed therapy
 - Total of 7 days from hospitalization to result (Thursdays – Wednesdays)

Interferon-Gamma Release Assay (IGRA) TB T-Spot Assay	DO NOT ORDER. Orderable only after consultation with Medical Micro staff unless patient is on dialysis. Must reach BCCDC within 32 hrs of collection on Mon, Tues, or Wed. Not done Fri to Sun. MUST be a minimum of 5 ml whole blood.	TBTS
Interferon-Gamma Release Assay (IGRA) TB T-Spot Assay	(continued below) (Cont'd) Keep whole blood upright at room temp. Send a req with patient info & history. Please note on outside of sample pkg - TIME SENSITIVE SAMPLE	TBTS
Quantiferon TB Gold Plus	Approval NOT needed for Renal Unit, Hemodialysis and Renal Transplant patients or BMT Pre Transplant. Only available at VGH Collection kit can only be obtained from VGH Lab Reception after approval.	TBQS
Quantiferon TB Gold Plus	Collection between Mon - Thurs excluding statutory from 0600 - 1300 and must reach BCCDC by 1430 for processing. All samples must maintain room temperature between 17 - 25C. Special Collection via PP0920 Job Aid for IGRA	TBQS



AIM STATEMENT

- Improve IGRA testing in hospitalized IBD UC patients by obtaining IGRA result within recommended 3 to 5 days.
- Timely administration of biologics

IDEAS TESTED AND SOLUTION

- Involved RH, BCCDC to reviewed the process.
- Attempted to engage VGH and was unsuccessful → to review process and data collection. Engaged in April.
 - Assess time from collection to result based on days of the week (pending)
 - Consider spin down process at VGH vs. weekend IGRA testing
- Alternative plans:
 - PPO for IGRA ordering due to tedious steps
 - SBAR to be written for proposed plan

What we've heard from staff survey - challenges

"The need to get it approved by medical microbiology."

"It takes too long."

"Can order but it takes way too long to report. Also not collected when we ask"



Only 1 out of 5

Felt somewhat comfortable about IGRA ordering, everyone else felt worst

4 out of 5

Think a PPO for IGRA ordering would be helpful

Current State

Mon	Tues	Wed	Thurs	Fri	Sat	Sun	Mon	Tues	Wed
			No collection	No collection	No collection	No collection	Test	Spin/Incubate/deliver to BCCDC	Result

Proposed Future State

Mon	Tues	Wed	Thurs	Fri	Sat	Sun	Mon
		Patient arrives	Test	Spin/incubate		wait	Result

EFFECTS OF CHANGE & MEASURES OF IMPROVEMENT

- PPO – easier ordering process for gastrointestinal and internal medicine physicians
 - Consider automatic approval from microbiology if fulminant IBD patients
- SBAR – proposal to VGH laboratory for weekend incubation/spin down
 - Measure time of decreased turnaround time → to improve appropriate medication administration and decrease length of stay

LESSONS LEARNED

- Persistence is key
- Break project ideas into small tasks
- Important to consider patient perspective
 - Earlier access to necessary therapy
 - Shorten hospital length of stay

SUSTAINABILITY

- Continue to work with microbiology to explore funding
- IGRA tests are also necessary for transplant, nephro patients → potential for collaboration

Acknowledgements

- RGH: Dr. Karen Ung and technologists
- BCCDC: Dr. Inna Sekirov
- VGH: Dr. Titus Wong
- PLQI team: Allison Chiu, Sneha Jain

Glossary of acronyms

- IGRA:** Interferon Gamma Release Assay
- UC:** ulcerative colitis
- RH:** Richmond Hospital
- PPO:** pre-printed order
- SBAR:** Situation, background, assessment, recommendation

For questions or comments, contact Nancy Fu at: nancytftu@gmail.com

End PJ Paralysis

Dr. Tasleem Rajan, Audra Leopold, Karen Young, Laura Machado



DESCRIPTION OF CONTEXT

- New Acute Care of the Elderly (ACE) Unit at Richmond Hospital
- Patients are greater than 70 years old with medical and psychiatric illness
- Elderly hospital patients are known to have increased deconditioning and delirium

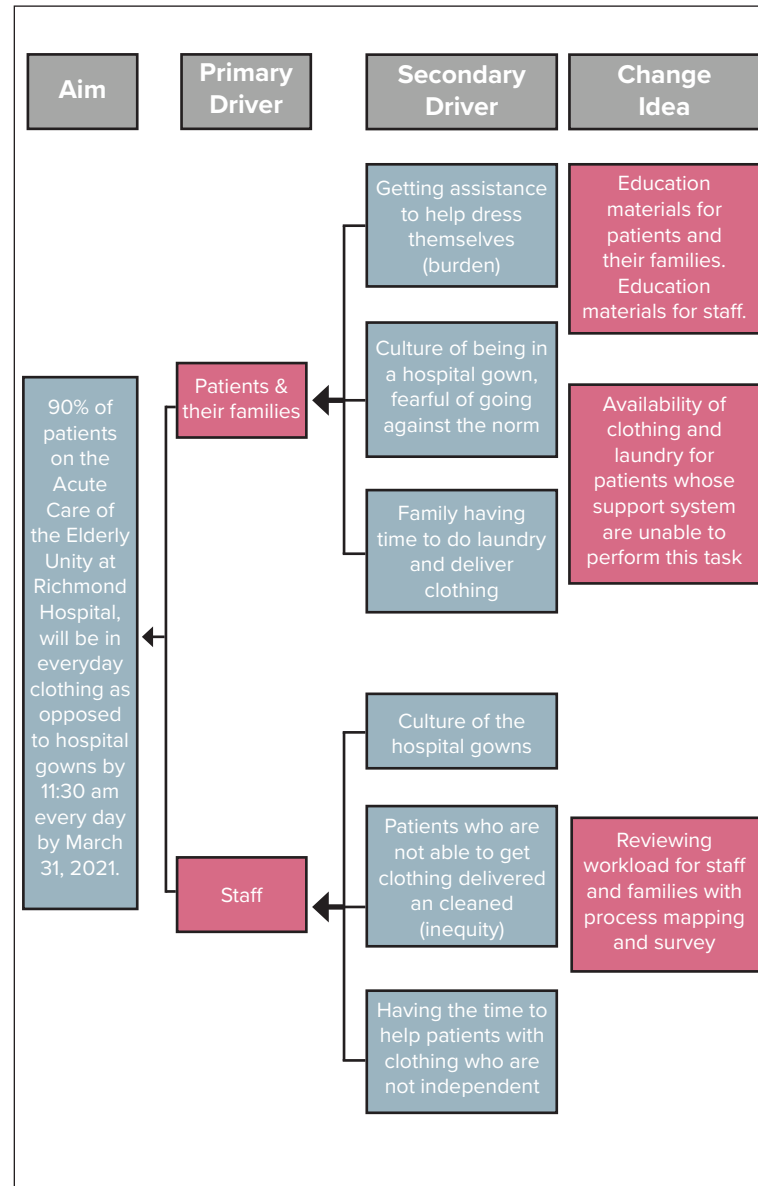
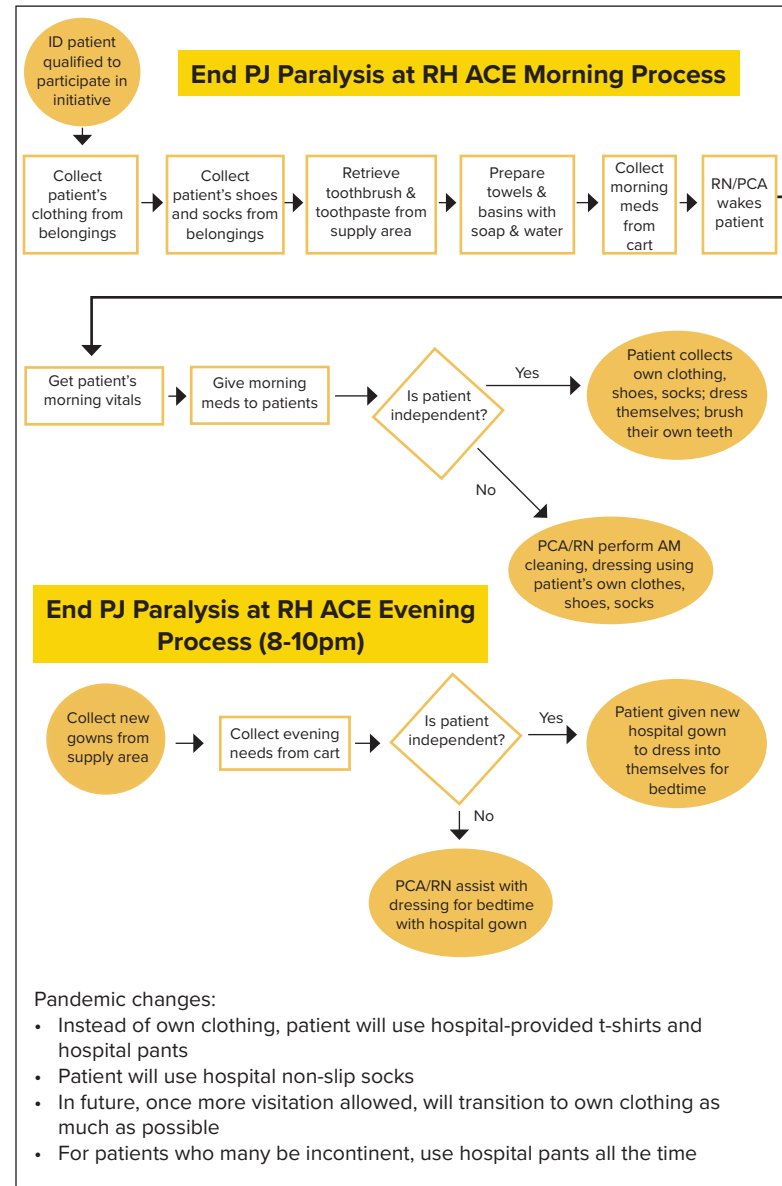


DESCRIPTION OF PROBLEM

- Patients spend the majority of their stay in their hospital gowns and in bed which have impact on their physical and mental health
- Hospital gowns make patients perceive themselves to be 'unwell'
- Patients decondition, and reduce: immobility, cognitive function, social interaction and even dignity
- Hospital length of stay is increased as patients dependency increase

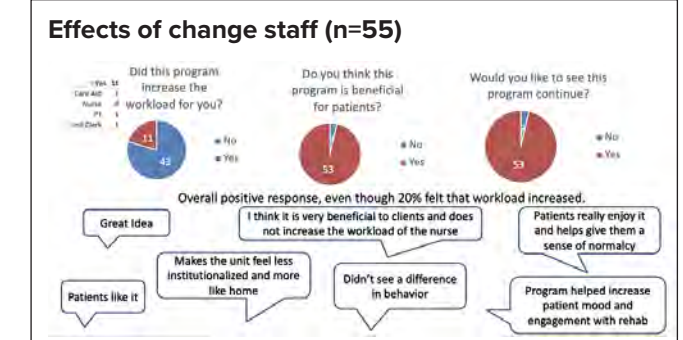
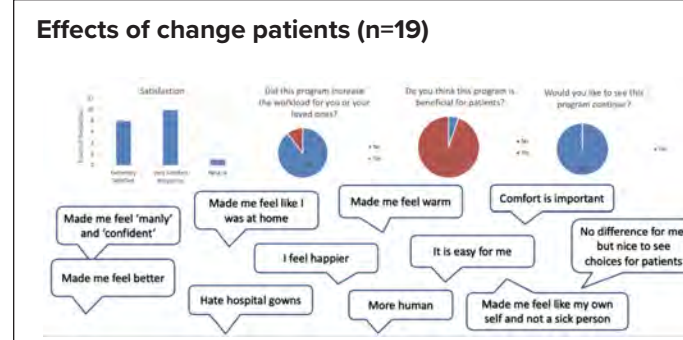
AIM STATEMENT

90% of all eligible patients on the Acute Care of the Elderly Unit at Richmond Hospital, will be in everyday clothing as opposed to hospital gowns by 11:30 am everyday by March 31, 2021.



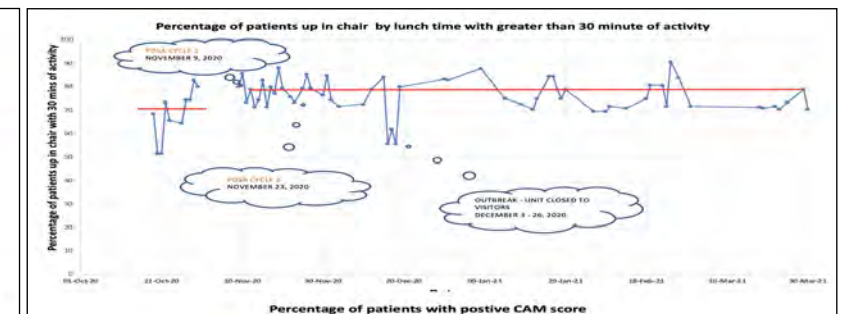
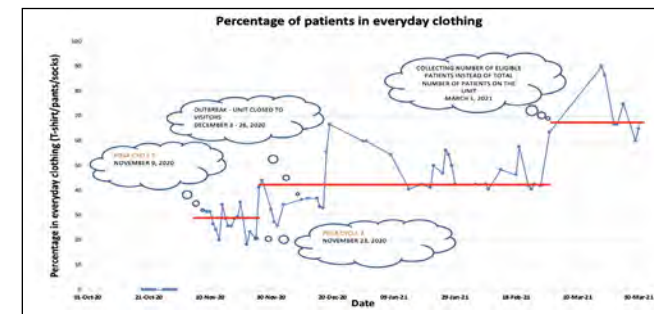
INTERVENTION

- Identified patients that would meet criteria to participate
- Started with donated colourful T-shirts only
- Family members brought in patient's every day clothes to be worn
- Initial PDSA cycle was 10 patients on the ward
- Needed a designated area for clothing
- Identified specific laundry bins to prevent clothing from entering general laundry pathway and loss of garments



MEASURES OF IMPROVEMENT

- Early mobilization prevents deconditioning and delirium
- Patients who wear their everyday clothing are encouraged to participation in:
 - Mobilization (both scheduled and unscheduled)
 - Functional activity
- Wearing everyday clothing re-defines the 'sick role' creating an environment of active recovery to health



LESSONS LEARNED

- All units caring for the elderly, could be part of the End PJ Paralysis movement
- These findings suggest that elderly patients wearing everyday clothing is linked to increased activity and lower delirium scores

SUSTAINABILITY

- 'Order set' created by Team Based Quality Improvement Lead
- Bins set up for patient clothing storage
- Ongoing updates of the data on Team Based Quality Improvement board
- Regular team huddles



Acknowledgements

- Richmond Hospital 4N, Acute Care of the Elderly Unit staff and patients
- Audra Leopold, Karen Young, Laura Machado, Patrice Fugah, Jordan Beard
- PLQI Staff: Amy Chang, Enrique Fernandez Ruiz
- Faculty Mentor: Dr. Marla Gordon
- Specialist Services Committee, Doctors of BC and Ministry of Health
- Vancouver Coastal Health

For questions or comments, contact Dr. Tasleem Rajan at: Tasleem.Rajan@vch.ca

Richmond Hospital: Penicillin Delabelling Project

Dr. Kateryna Vostretsova and Allison Chiu



PROJECT SITE

- Richmond Hospital Acute Care for the Elderly (ACE) unit was chosen as the initial unit for the project
- Training sessions were organized for the nursing staff
- Team-Based Quality Improvement Team in the hospital was instrumental at engaging staff and piloting the project

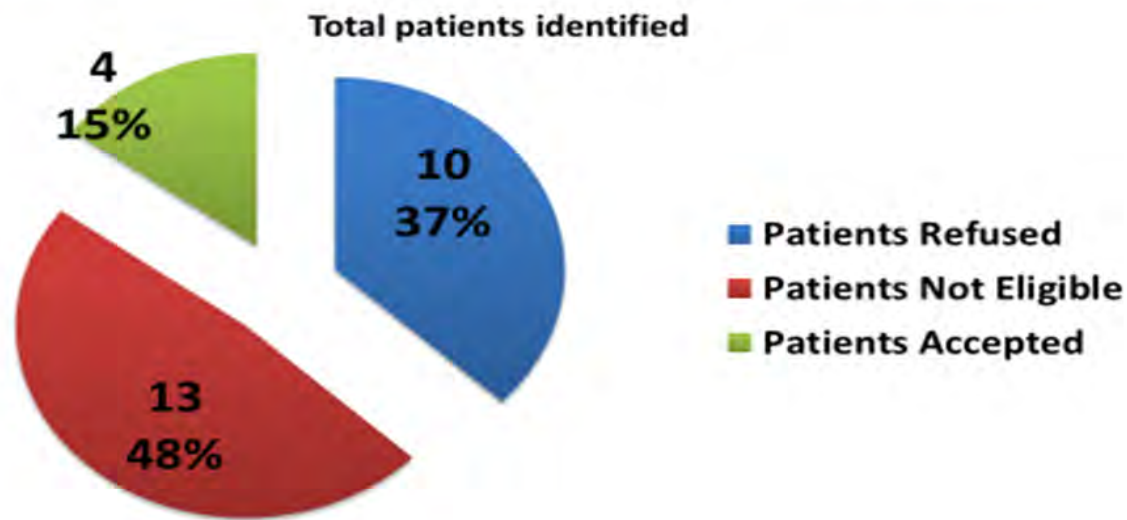
PENICILLIN ALLERGY

- Allergy to Penicillin (PNC) is the most commonly reported drug allergy.
- 10 % of hospitalized population carries PNC allergy label
- 80% of PNC allergic patients are no longer allergic after 10 years
- Patients with PNC allergy label end up receiving less desirable second-line broad spectrum antibiotics which are more expensive and are associated with increased treatment failure and side effects such as increased rates of vancomycin-resistant enterococcus (VRE), C.difficile colitis, and methicillin-resistant Staphylococcus aureus (MRSA)
- PNC allergy results in increased medical costs, surgical site infections and longer hospital stays compared with those without a history of penicillin allergy

AIM STATEMENT

To establish a Penicillin delabelling program at the Acute Care for Elderly Unit by March 2020 so that at least 80% of patients on the ACE unit were delabelled.

Cycle 1 Accomplishments (Sept 2020)

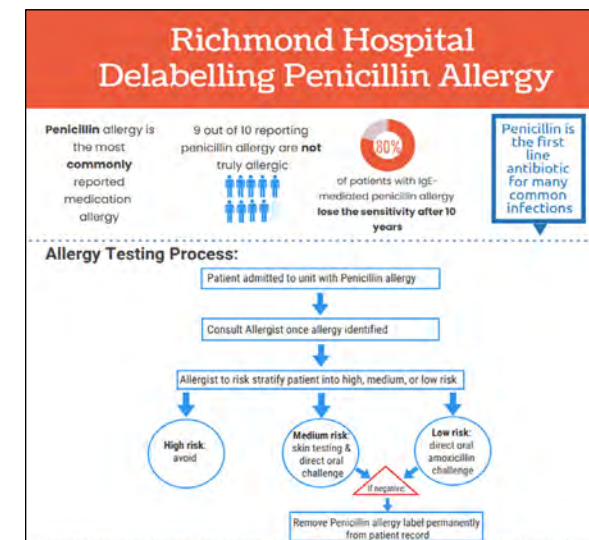


INTERVENTION

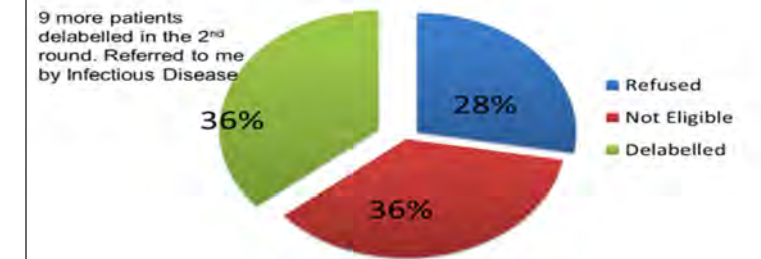
- Patients with a penicillin allergy were identified as they were admitted to the unit
- Registered Nurse (RN) would call the Allergist to see the patient and determine if they would qualify for testing or challenge
- Pharmacy provided the necessary precipitants for intradermal testing
- As a result of the pandemic, the project was off to a very slow start two months after initiation
- Project was expanded to another unit and with help from Infectious Disease, ultimately became integrated into the Antibiotic Stewardship program

EFFECTS OF CHANGE

- All patients delabelled were quite happy to receive first-line antibiotics and were relieved that they no longer had a drug allergy
- Many more patients now are being identified and seen in hospital or are being referred to outpatient clinic for testing and delabelling
- Due to the growing popularity of this service, it is becoming busier and additional help will be needed in the future



Cycle 2 Accomplishments (Dec 2020)



LESSONS LEARNED

The importance of quality improvement cannot be overstated. If someone is truly passionate about accomplishing change and improving patient care, I would strongly advise them to take on a project. It will not be easy but it will be worth it in the end.

SUSTAINABILITY

The penicillin delabelling project has been integrated into Antibiotics Stewardship program at Richmond Hospital who will continue to identify patients with a penicillin allergy and refer them to Allergy for testing and delabelling.

Acknowledgements

Thank you to all the members of the TBQI team at Richmond Hospital for all the support. Dr. Clement Kwok from Infectious Disease, Chong Steve and Loh Gabriel. Lastly I would like to thank SSC for funding this project.

For questions or comments, contact Kateryna Vostretsova at: Kateryna.Vostretsova@ubc.ca

Analyzing VGH Anesthesia's Critical Incidents

Dr. Oliver Applegarth



WHO DID WE SET OUT TO STUDY?

This work involved the Department of Anesthesiology, Pharmacology and Therapeutics at Vancouver General Hospital (VGH).

THE PROBLEM, AS WE SAW IT

- There were significant historical issues with the analytic process for critical incidents within the department
- Analysis was not timely, not standardized, was fed back to stakeholders at irregular intervals, and the incidents were not easily traced to systemic change

AIM STATEMENT

By April 2021 all non-cardiac critical incidents would be analyzed (using a standardized technique) within 3 weeks of submission and fed back to stakeholders within 5 weeks total time.

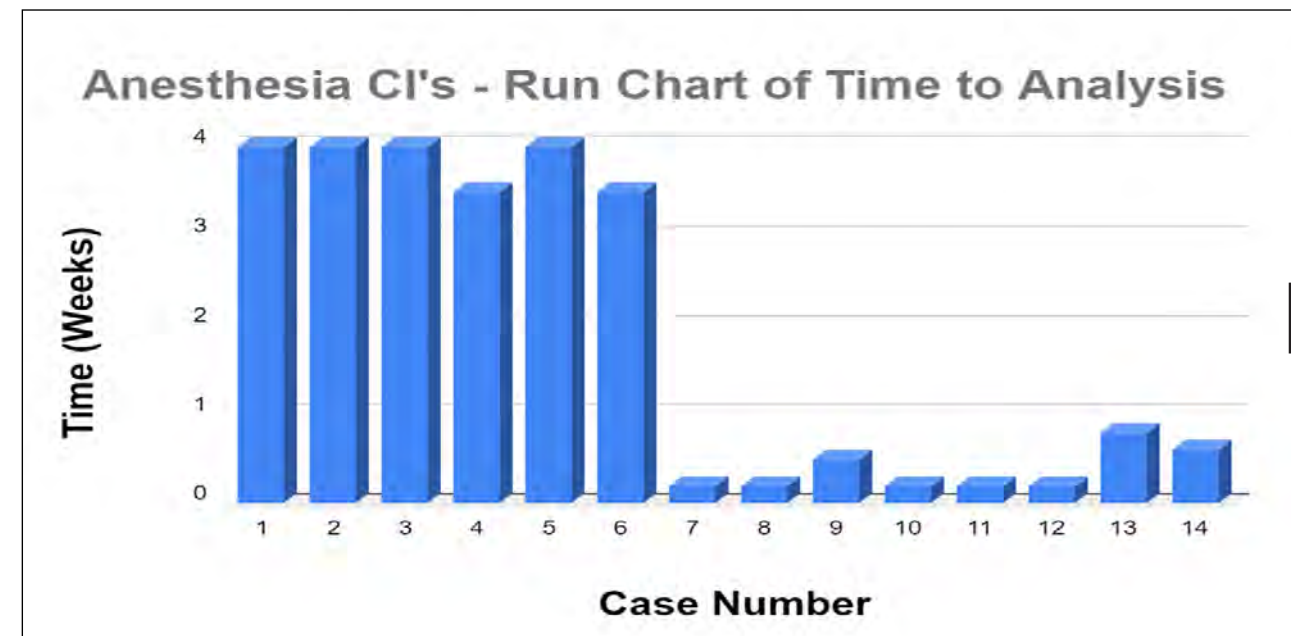
THE STANDARDIZED TECHNIQUE

- We attempted to analyze all cases with involved clinicians, using a variation of root-cause analysis
- The approach was adapted from the Canadian Incident Analysis Framework (CPSI, 2012)

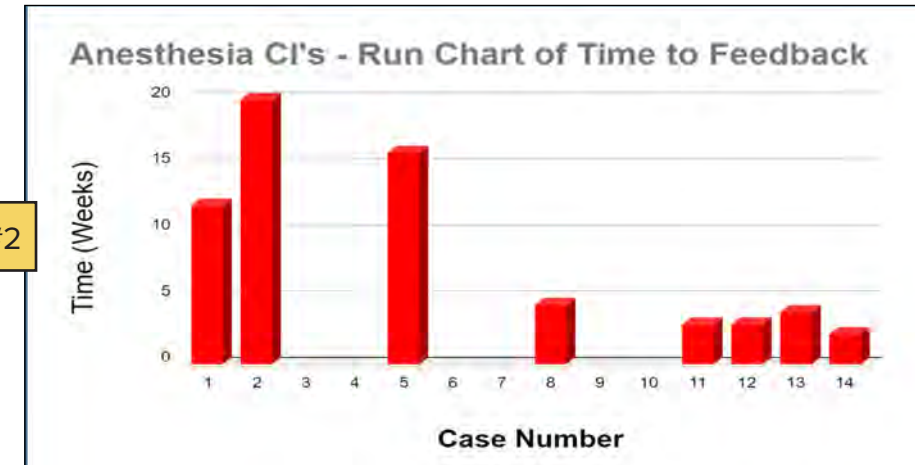
DATA SET

- 14 cases were submitted between September 2020 and March 2021
- Bar Charts 1 to 3 outline the cases chronologically (cases 1-6 were submitted in calendar 2020, and 7-14 in 2021)

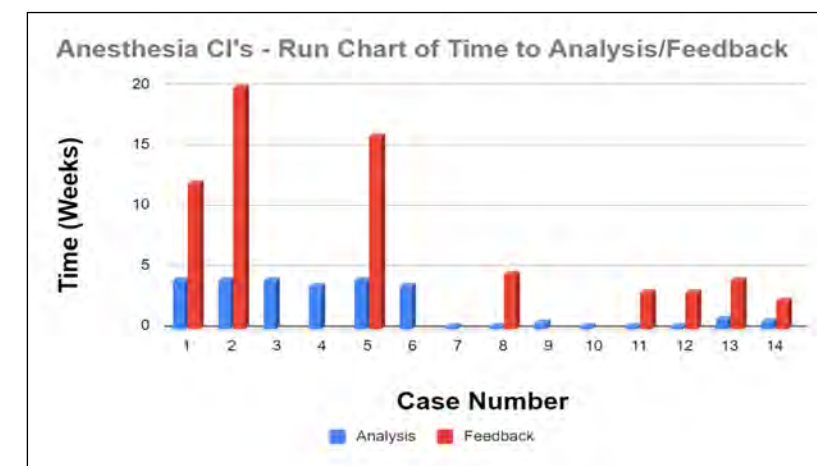
THE DATA



Bar Chart #1



Bar Chart #2



Bar Chart #3

DISCUSSION

- By April 2021, I was able to consistently analyze submitted cases using the standardized format in less than 3 weeks
- Feedback became a far more challenging task:
 - Feedback methods were sporadic in the face of COVID19
 - Some cases (11-14) were easier to analyze, with one or two root causes easily identified
 - Some cases (eg 4 and 10) were complex, requiring numerous analyses with multidisciplinary stakeholders

FUTURE DIRECTIONS

- Re-organize the AIM statement to reflect variations in the complexity of the submitted cases
- Consider different means to feeding back “simple” cases versus “complex” cases
- Integrate the aspect of “systemic change” into the project
- Categorize root causes to understand common recurrences

SUSTAINABILITY

- There is a considerable vulnerability of the project
- Future focus needs to revolve around ensuring “buy-in” from the Critical Incident Response Team in my department

Acknowledgements

- Sneha Jain
- Dr. Enrique Fernandez Ruiz
- Dr. Kelly Mayson
- Dr. Jacqueline Trudeau

For questions or comments, contact Oliver Applegarth at: oliver.applegarth@vch.ca

The “PAWSS Before the CIWA” PLQI Project to Manage Alcohol Withdrawal Syndrome

Dr. Peter Chan



DESCRIPTION OF CONTEXT

The prevalence in hospitalized medically ill from 20-40%. CIWA-Ar (severity scale) PPOs used on VGH CTU Med Units since 2007. Symptoms and signs of AWS have overlap with features of Delirium as captured on CIWA-Ar but it is not validated in acutely medically ill. Research and Quality Improvement projects have identified the inappropriate application of CIWA-Ar in a substantial number of patients so there is potential overuse of benzodiazepines and the risk of complications.

Previous PDSA cycles have determined:

1. Up to 40% inappropriate application or scoring on CIWA-Ar for AWS by nursing staff
2. The PAWSS can be administered quickly (3-5 minutes) in medically unwell inpatients to evaluate risk of withdrawal
3. Retrospective application (2018 VGH chart review) of PAWSS criteria showed discrimination between PAWSS positive and PAWSS negative cases in cumulative benzodiazepine usage per patient: 1 mg vs 10 mg

AIM STATEMENT

Starting in February 2021, to reduce inappropriate benzodiazepine use by 20% by May 2021 for all VGH Medicine patients who are eligible for PAWSS screening by implementing the new PAWSS-CIWA PPO, and educating medical and nursing staff on the use of these scales.

INTERVENTION AND STRATEGY FOR CHANGE

1. Implementing the **PAWSS = Prediction of (risk of) Alcohol Withdrawal Severity Scale** (Maldonado 2014, 2015; Wood et al. JAMA 2018)—validated in medically ill inpatients—prior to the CIWA-Ar by using a new PAWSS-CIWA PPO
2. Education of CTU Medicine staff, residents, and nursing staff through in-services, posters, orientation of residents starting on CTU, production of two new videos on the use of the PAWSS and CIWA-Ar, and liaison with Team-based QI nursing leads and nurse educators.

IMPLEMENTATION CHALLENGES

1. Unfortunately, there was only 1/3 uptake in using the new PPO:
 - i. The old PPOs for AWS could not be de-commissioned, as used in other units in VGH, so ongoing use of the old PPOs despite education
 - ii. The 3rd wave of the COVID pandemic resulted in far fewer admissions involving AWS as the CTU units had outbreaks among staff/patients
2. COVID outbreak in February/March: CTU nursing staff off or pre-occupied

MEASURES OF IMPROVEMENT

1. Completion of the new PAWSS-CIWA PPO correctly and 100% uptake
2. Benzodiazepine dosages
3. Tracking benzodiazepine dosages weekly through Omnicell data for inpatients
4. Less benzodiazepine complications through a retrospective chart review

INTERIM RESULTS

- Uptake of PAWSS-CIWA PPO: 10 new PPOs, 22 old PPOs = 32 % uptake
- Cumulative benzodiazepine (lorazepam equivalents) from Omnicell data:
 - 10 Patients (this correlated well with manual chart reviews of these patients):
 - ◆ 3 PAWSS negative pts— no benzo’s given (#1-3)
 - ◆ 3 PAWSS positive pts: no benzo’s given (#4-6)
 - ◆ #7: PAWSS pos – 13 mg
 - ◆ #8: PAWSS pos—10 mg
 - ◆ #9: PAWSS pos—28 mg
 - ◆ #10: PAWSS indeterminant—11 mg

PAWSS BEFORE THE CIWA

Screening and Managing Alcohol Withdrawal on CTU Medicine Unit

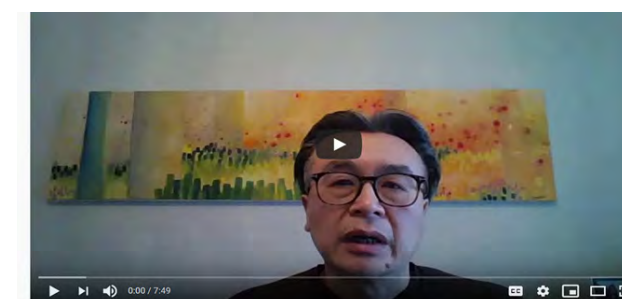
How are we doing this?

PAWSS	CIWA Scale
• Screens risk of patients going into alcohol withdrawal in hospital	• Assesses severity of patients' alcohol withdrawal symptoms to guide treatment
• Validated in hospitalized medically ill populations	• Not originally validated in hospitalized medically ill though used widely in hospitals

PAWSS-CIWA PPO: New Roles

- CTU Medicine Team administers the PAWSS in ED
- CTU Medicine Team to apply the PAWSS criteria even if uncooperative or uncommunicative, when possible
- CTU Medicine Team orders PPO
- Nursing follows the new CIWA protocol PPO
- If PAWSS screens negative or unable to screen, Nursing follows the new CIWA PPO but without Lorazepam prn's being ordered

Remember: "PAWSS Before the CIWA"



Nursing PAWSS CIWA Information Video 2021

Rationale

- Prevalence of up to 20-40% of hospitalized medically ill
- CIWA is often inappropriately applied
 - A chart review at VGH showed inappropriate application of CIWA in 43% of patients
- Benzodiazepines are associated with significant harm
 - Somnolence, falls, respiratory depression, and delirium

PAWSS before CIWA Orientation MD

SUSTAINABILITY

This PLQI Project is part of a larger QI project that has been ongoing for 2 years in finding strategies to manage AWS better, and this group (see below) will continue to meet and improve managing AWS in medically ill inpatients. The project will extend to hospitalists' units beginning in June.

Glossary of acronyms

CTU: Clinical Teaching Unit
PDSA: Plan - Do - Study - Act
AWS: Alcohol Withdrawal Syndrome
CIWA-Ar: Clinical Institute Withdrawal of Alcohol severity scale

For questions or comments, contact Dr. Peter Chan at: peter.chan2@vch.ca

LESSONS LEARNED

1. Include a PDSA cycle specifically involving the Medical Residents surrounding new PPO prior to officially launching PDSA surrounding benzodiazepine usage
2. Workflow issues and difficulty obtaining data from receiving source (ie: Pharmacy)—digital version (re: Cerner) would be much easier
3. Ability to prospectively track medication dosages administered with Omnicell data linked to a patient can be generally useful for other projects

Acknowledgements

Mr. Roger Autio, Dr. Karen Dahri, Dr. Charles Au, Ms. Charissa Chiu, Dr. Tyler Wilson, Dr. Shane Arishenkoff, Dr. JJ Sidhu—VGH Depts of Medicine, Psychiatry, Pharmacy.

Early Extubation in Liver Transplant Recipients

Stephanie Chartier-Plante, Kristen Kidson, Allison Chiu, Steve Moore



DESCRIPTION OF CONTEXT

Early extubation in liver transplant (OLT) recipients

- Concept taken from cardiac surgery
- Allow optimization of resources utilisation without compromising patient safety or comfort

Post operative care of OLT recipients at VGH

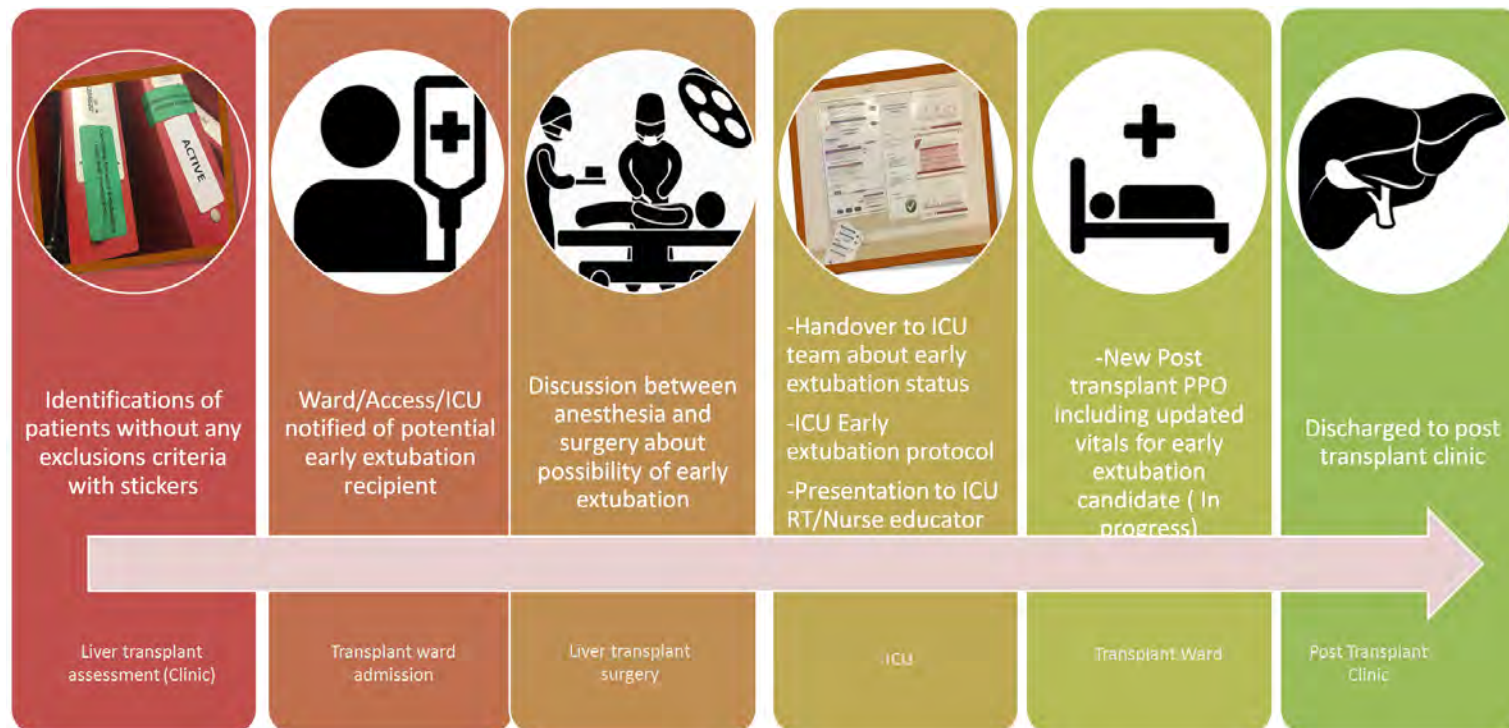
- 03/2019 to 02/2020
- 67 OLT
- Mean ventilator time: 28 hours 55 minutes
- Mean ICU LOS: 4 days, 4 hours 59 minutes
- Mean overall LOS all olt recipients: 19 days

AIM STATEMENT

100% of VGH patients meeting early extubation criteria extubated within 4 hours of the end of their liver transplant and transferred back to the transplant floor within 12 hours by May 2021

MEASURES OF IMPROVEMENT

- Hour on the ventilator, ICU LOS, overall LOS were measured on every liver transplant recipient
- Balancing measure of reintubation and return to ICU during the same admission were also monitored

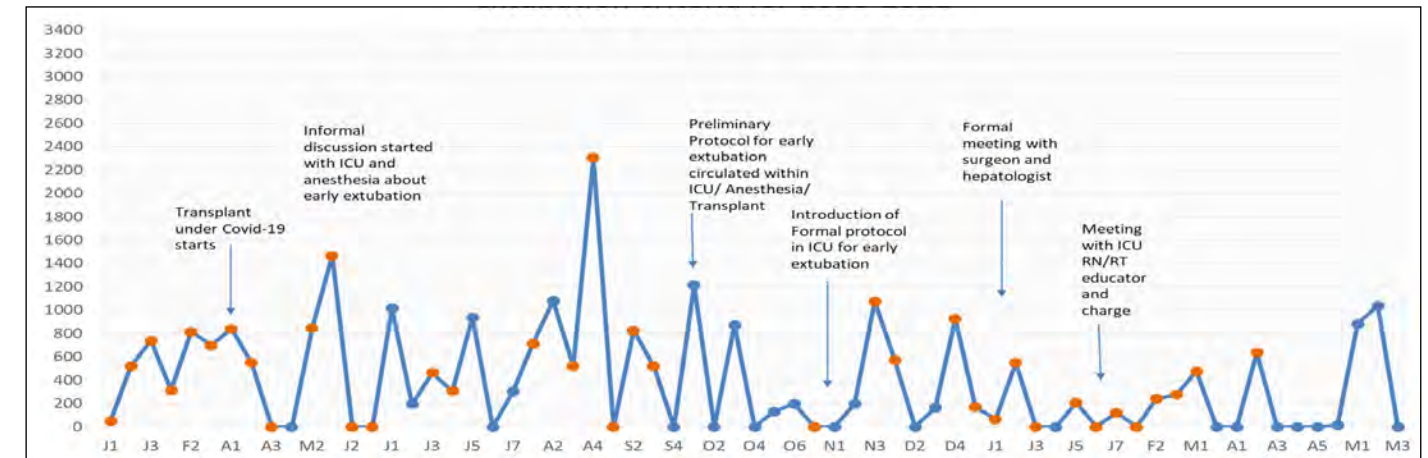


EFFECTS OF CHANGE

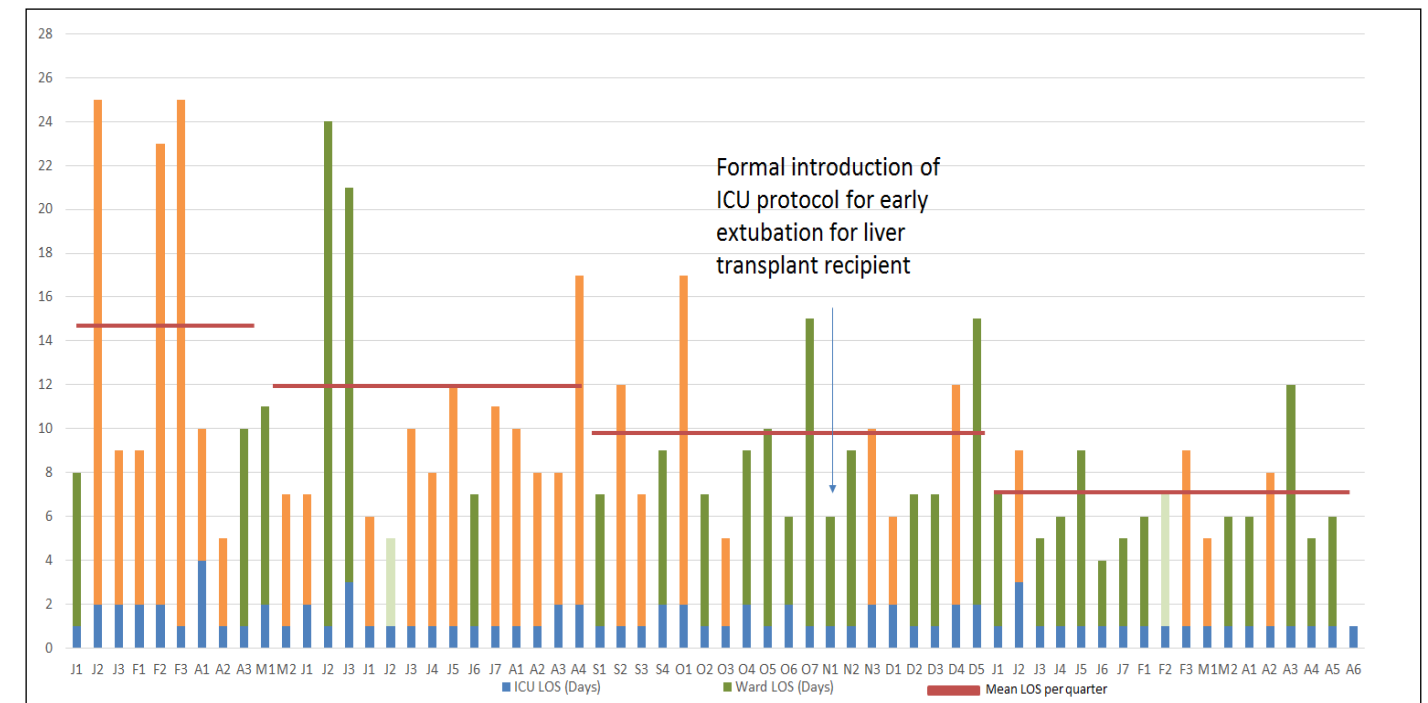
10/2020 to 04/2021

- 58 OLT
- Significant increased in patients extubated in the OR (0 hours on the ventilator) and reduction in ICU ventilator time. (Mean ventilator time: 15 hours 17 minutes)
- Unexpected reduction in overall LOS (Mean Overall LOS: 11 days)
- The transfer of patient back to the transplant floor within 12 hours is a work in progress
 - Mean ICU LOS for all OLT recipients: 1 day 23 hours 2 minutes
 - Mean ICU LOS patients extubated early : 25 hours 1 minute

Minutes on a ventilator for liver transplant recipients meeting early extubation criteria for 2020-2021



The overall length of stay in liver transplant recipients meeting criteria for early extubation has also decreased since January 2020



LESSONS LEARNED

- Quality Improvement allowed for a fast implementation of changes in clinical practice
- There is a potential of reduction of overall transplant cost without compromise on patient safety

SUSTAINABILITY

- We hope to integrate this QI project to the VGH transplant Integrated practice unit to help with monitoring
- Working toward getting more familiarity with early extubation and bypassing ICU altogether for selected patients

Glossary of acronyms

LOS: Length of stay

OLT: Orthotopic Liver Transplant

Acknowledgements

Thank you to VGH liver transplant team, VGH ICU, VGH transplant anesthesiologist and PLQI team.

For questions or comments, contact Stephanie Chartier-Plante at: Stephanie.chartier_plante@vch.ca

Connecting with Compassion: Bringing iPads to Seniors in Long-Term Care

Dr. Mark Fok



DESCRIPTION OF CONTEXT

Seniors in Long-Term Care (LTC) homes are increasingly socially isolated and lonely due to visitation restrictions imposed by the Coronavirus (COVID-19) pandemic.

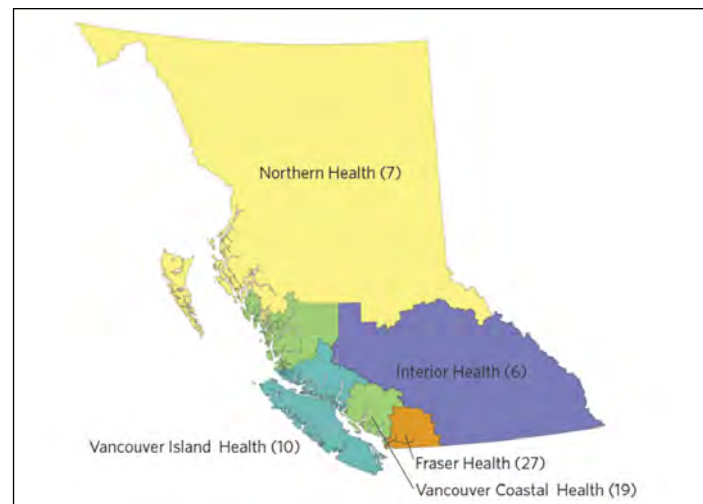
DESCRIPTION OF PROBLEM

- Physical distancing is a critical public-health component to prevent spread of COVID-19
- Visitation restrictions can also have a negative impact on mental, social and physical health of residents in LTC
- Technology can help connect family members with seniors in LTC

AIM STATEMENT

We aim to:

- Distribute a total of 300 iPads to all publicly funded LTC homes in the province of BC within 2 months of assessing their needs
- Evaluate the impact of the program on families and patients through a qualitative analysis



iPad distribution in the five regional health authorities of British Columbia. Image modified from gov.bc.ca.

STRATEGY FOR CHANGE

- A multi-disciplinary advisory working group conducted a needs assessments of all public/private not-for profit LTC homes in BC
- We distributed 156 iPads across 71 LTC homes in the province of BC, covering all health authorities

EFFECTS OF CHANGE

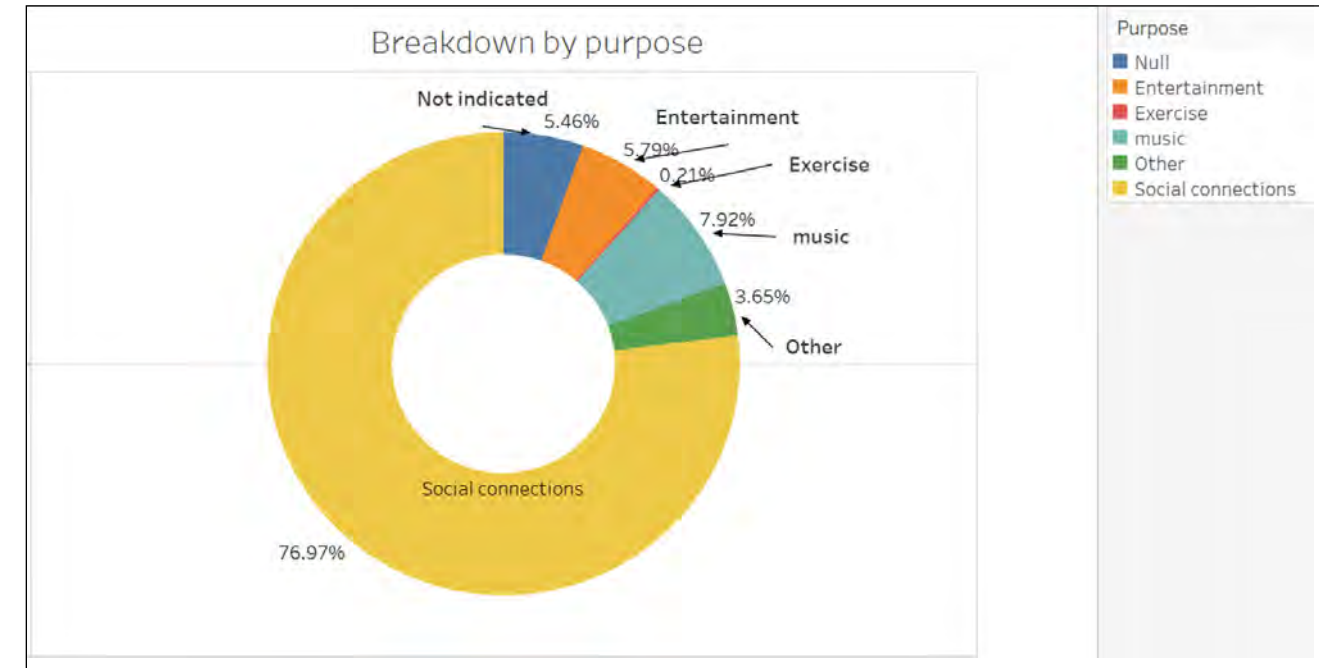
- Residents were able to connect with families via technology and be engaged with music and apps on the iPad



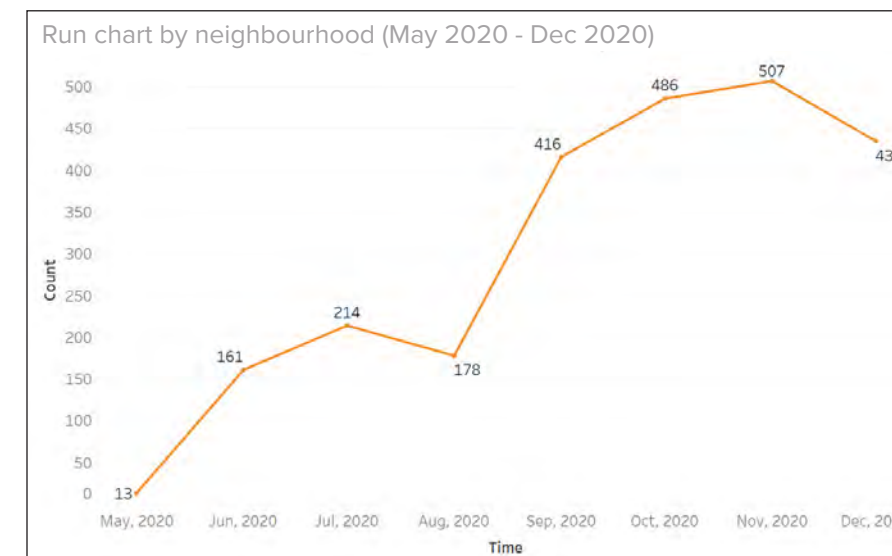
(photo used with permission)

MEASURES OF IMPROVEMENT

- We tracked usage of iPad each time it was signed out over a 4 month period to determine what the primary purpose was for use
- We tracked the number of times an iPad was used over a 4 month period



Usage run chart across one LTC site



LESSONS LEARNED

- Stakeholder analysis is essential
- Technology can help seniors communicate with families
- The biggest resources are human
- COVID-19 changes supply chains, staffing, scheduling and everything in between

SUSTAINABILITY

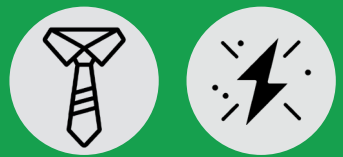
- iPads will be supplied with 5GB of data to ensure continued use, even in the event of no adequate Wi-Fi
- Communication apps may also potentially be used for virtual care with physicians

Acknowledgements

- Funding: Edwin S.H. Leong Healthy Aging Program from the University of British Columbia.
- Faculty sponsor: Dr. Roger Wong. Special thanks to Amy Chang and Leon Ziang for data analysis, and support and the CWC Advisory Working Group.

For questions or comments, contact Dr. Mark Fok at mark.fok@vch.ca

Door-to-Targeted Temperature Management Initiation Following Out-of-Hospital Cardiac Arrest



Dr. Christopher Fordyce, Dr. Enrique Fernandez Ruiz, Jackson Lam, Alexia Simeoni, Laurie Quinn, Tracy Kozji, Krista Botkin, Dr. Nima Moghaddam, Dr. Olivia Poznanski, Dr. Nav Malhi, Dr. Tong Lam, Dr. Heather Lindsay, Dr. George Isac

DESCRIPTION OF CONTEXT

- Collaborative Quality Improvement (QI) project involving stakeholders from the emergency department (ED), and the intensive care unit (ICU), cardiac intensive care unit (CICU)
- Patients: Comatose survivors of out-of-hospital cardiac arrest (OHCA) admitted to either CICU or ICU

DESCRIPTION OF PROBLEM

- Targeted temperature management (TTM) is indicated for comatose survivors of OHCA to increase survival with good neurological recovery
- Door-to-TTM initiation (DTT) is a potentially novel QI metric
- In British Columbia, early (< 2 hours) DTT was associated with a 56% increase in overall in-hospital survival and 83% increase in survival with good neurological recovery among shockable rhythms (Stanger, Fordyce JAHA 2019)

AIM STATEMENT

Achieve a door-to-TTM initiation (DTT) < 120 minutes in 75% of OHCA admitted to VGH.

Intervention

Who? All comatose survivors of out of hospital cardiac arrest

How?

1. Start with cooling blanket
2. ED goal = 35°C - 36°C
3. Enter Times in Data Collection Form*

When? As soon as possible (target < 2 hrs)

Guidelines

We recommend that comatose (ie, lack of meaningful response to verbal commands) adult patients with ROSC after cardiac arrest have TTM (Class I, LOE B-R for VF/pVT OHCA; class I, LOE C-EO for non-VF/pVT (ie, "nonshockable") and in-hospital cardiac arrest).

We recommend selecting and maintaining a constant temperature between 32°C and 36°C during TTM (Class I, LOE B-R).

2015 American Heart Association Guidelines Update for Cardiopulmonary Resuscitation and Emergency Cardiovascular Care

Evidence

In BC, among patients with out-of-hospital cardiac arrest, early DTT (< 122 mins following ER admission) was significantly associated with

- 56% increase in survival
- 82% in survival with good neurological outcome (shockable rhythms)

Stanger, Fordyce, et al., JAHA 2019

For questions, please reach out to Dr. Chris Fordyce (Cardiology): cfordyce@mail.ubc.ca

Vancouver Coastal Health

A Quality Improvement Initiative to Enhance Door-To-Targeted Temperature Management Times in Vancouver General Hospital

Principal Investigator: Dr. Christopher Fordyce
Co-Investigators: Drs. Nima Moghaddam, Navroj Malhi, Enrique Fernandez Ruiz, Graham C. Wong

Current guidelines support the use of targeted temperature management (TTM) to minimize brain injury in out-of-hospital cardiac arrest (OHCA) patients. Although the optimal timing for in-hospital TTM initiation has not been well elucidated, recent studies suggest improved outcomes with earlier initiation of TTM.

In 2019, the average Door-to-TTM time (DTT) at Vancouver General Hospital was 168 minutes, significantly above the threshold that is associated with improved outcomes in post-arrest patients. Therefore, as part of a quality improvement initiative to enhance DTT at Vancouver General Hospital, we have set guidelines for early initiation of TTM in our Emergency Room, ICU, and CICU.

We appreciate if you can fill the below timetable for out-of-hospital cardiac arrest patients receiving targeted temperature management (TTM). In this form, you can document the exact timestamps in hours and minutes (e.g. 11:24 am) of patients' ER arrival, critical care consultation, TTM order and initiation. This can be done in real-time, or by referring back to patient chart if there are missing timestamps.

After completion, please leave the form on front of patient's chart to be collected by the ICU or CICU charge nurse, or hand in directly to your unit's charge nurse. We greatly appreciate your help as this will tremendously help us improve local policies and ensure timely initiation of TTM in our sickest patients. You can record your name below to enter our monthly prize draw!!

Insert Patient Label

	Time (hh:mm)
Time of Emergency Room Arrival	
Time of Critical Care (CICU/ICU) Referral	
Time of ICU/CICU Consultation (i.e. consulting service at bedside)	
Time of TTM order	
Time of TTM initiation	

(Optional) To enter our monthly prize draw, please record your name(s): _____

If you have any questions about this project, please email cfordyce@mail.ubc.ca

INTERVENTION AND PROGRESS

- Multi-stakeholder (CICU, ICU, ED) buy-in (best practices, implementation)
- Data collection feasible
- Infographic distribution
- Incentives (i.e. Starbucks giftcard)
- Data collection form implemented

EFFECTS OF CHANGE

- Data collection of novel QI metric feasible
- Reduction in DTT among CICU patients

MEASURES OF IMPROVEMENT

- Data from EDMart (Data Warehouse) and Patient Chart audit
- PRE (baseline): Jan 1 - Dec 31, 2019 (12 months) 55 records after exclusions due to missing data
- POST intervention Jan 1 – May 11, 2021 22 records
- Key Timepoints: ER room arrival, CICU/ICU referral, CICU/ICU consultation (i.e., at bedside), TTM order, TTM initiation

Door-to-TTM Quality Indicators – Summary Report
01 January 2021 to 20 March 2021

Target Door-to-TTM < 120 mins

	Door-to-TTM Order	Door-to-TTM (DTT)	TTM Order-to-Initiation
	116 mins	145 mins	32 mins

Door-to-TTM Time (DTT)

Ordering Service	Pre-Intervention (2020)			Post-Intervention			% Change DTT Time
	Total Patients	DTT (mins)	% Meeting Target	Total Patients	DTT (mins)	% Meeting Target	
ICU	37	147	32%	6	142	33%	-43%
CICU	18	191	17%	4	156	0%	-18%
Combined (ICU/CICU)	55	162	27%	10	145	20%	-10%

Door-to-TTM Order

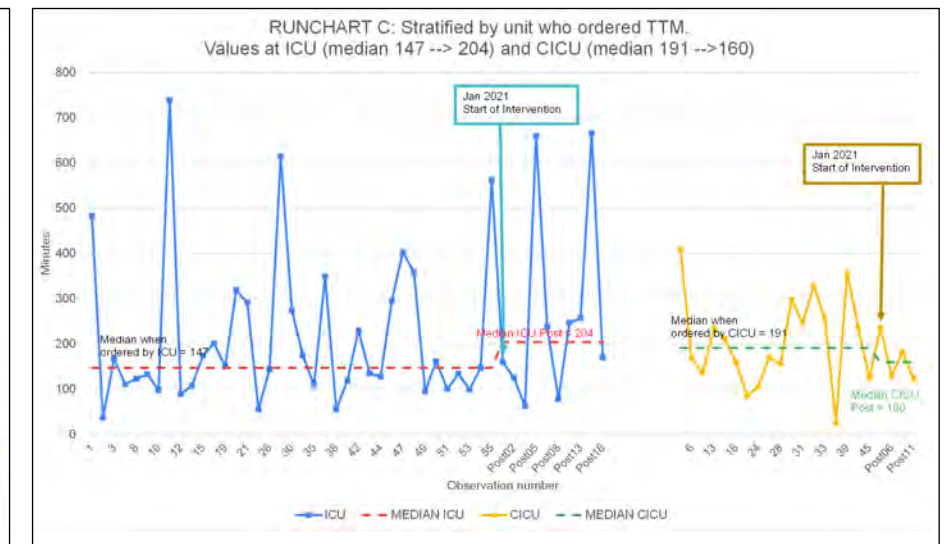
Ordering Service	Pre-Intervention (2020)			Post-Intervention			% Change DTT Time
	Total Patients	DTT (mins)	% Meeting Target	Total Patients	DTT (mins)	% Meeting Target	
ICU	37	133	6	106	10%	-10%	
CICU	18	165	4	137	17%	-17%	
Combined (ICU/CICU)	55	137	10	116	15%	-15%	

TTM Order-to-Initiation

Ordering Service	Post-Intervention	
	Total Patients	DTT (mins)
ICU	6	36
CICU	4	32
Combined (ICU/CICU)	10	32

Neurological Recovery

CPC Score	Pre Intervention (2020)			Post Intervention			
	Total Patients	% Total Patients	DTT (mins)	Total Patients	% Total Patients	DTT (mins)	
Good	1 or 2	22	40%	170	4	44%	154
Poor	4 or 5	25	45%	128	5	56%	160



LESSONS LEARNED

- Identification of and collaboration with multiple stakeholders is key
- Ensure robust data collection and report generation
- Changing the “culture” of healthcare greatest challenge, particularly during COVID-19 in acute care QI

SUSTAINABILITY

- Weekly automatic queries from decision support
- Data collection will be integrated into Cerner as part of TTM orders
- New Cardiac Quality Leader being hired

Glossary of acronyms

ED: Emergency Department
ICU: intensive care unit
CICU: cardiac intensive care unit
OHCA: out-of-hospital cardiac arrest
TTM: targeted temperature management
DTT: Door-to-TTM

Acknowledgements

Thank you to the colleagues from ER, ICU and CICU who helped with data collection, and funding support from SSC.

For questions or comments, contact Christopher Fordyce at:
cfordyce@mail.ubc.ca



DESCRIPTION OF CONTEXT

The patient population with peripheral vascular disease and diabetes mellitus (DM) represent a high-risk group. Where diabetic foot ulcers are present, the 5-10 year mortality rate approaches 50% with a two-fold higher risk of death compared to DM at baseline. Hospital-based treatment accounts for 77% of total cost of care and is more costly than other DM related admissions. In British Columbia, this cost is disproportionately higher in patients aged 60-79 years. The optimization of inpatient DM care and a multi-disciplinary community treatment approach affords the opportunity to address continuity of care with respect to glycemic control and cardiovascular risk factors; along with minimizing peri-operative complications such as secondary infection and wound healing.

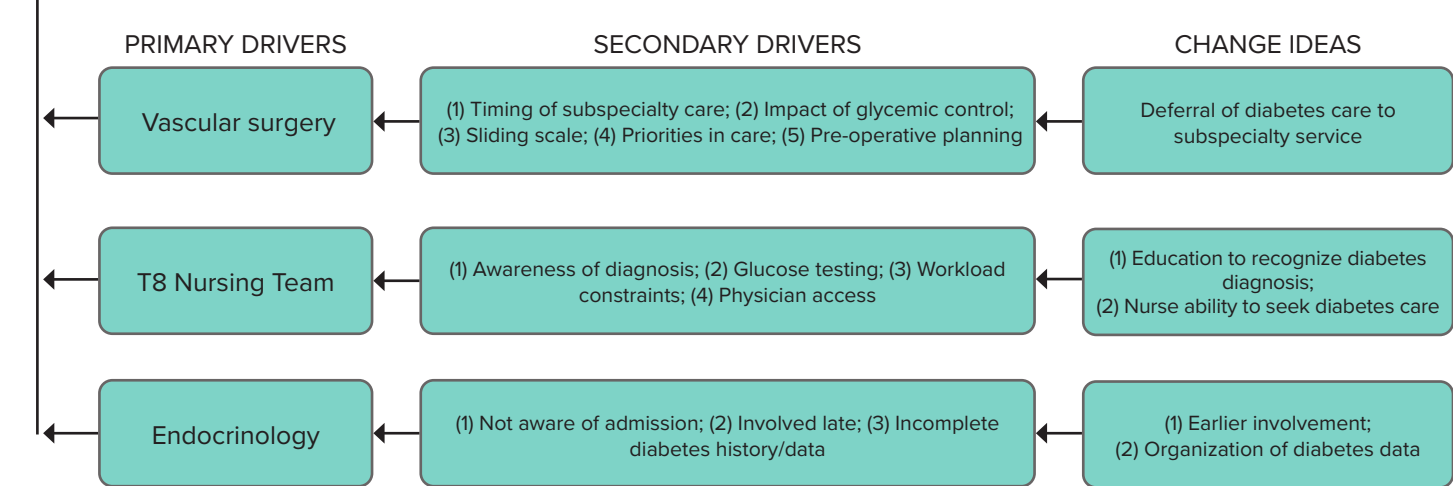
PROJECT DESIGN & STRATEGY

PLQI Project Goal: (1) To reduce LOS of vascular surgery patients with DM or hyperglycemia by 20%; (2) To reduce peri-operative complications related to DM; (3) Improve time in range (TIR) for glycemic parameters by 30% in hospital; (4) Ensure continuity of care for DM management in the outpatient setting.

The design of the project included the following steps:

1. Gathering of baseline data on hospital LOS and glycemic TIR for the target population in the 12 months preceding project start
2. Development and evaluation of a nurse-initiated automatic referral pathway for endocrine consult
3. Development and delivery of nurse education sessions (in-services)

AIM: Reduce the length of stay of vascular surgery patients and peri-operative complications related to diabetes, and improve glycemic parameters by May 2021 at Vancouver General Hospital.



RESULTS

In the 12 month period preceding the project start, there were 651 admissions to the Vascular Surgery service at Vancouver General Hospital of which 181 (27.8%) were documented to have diabetes. Patients with diabetes, however represented 35.4% of patient days in hospital. Average LOS was 4.12 days longer for patients with diabetes (11.63 versus 15.75 days).

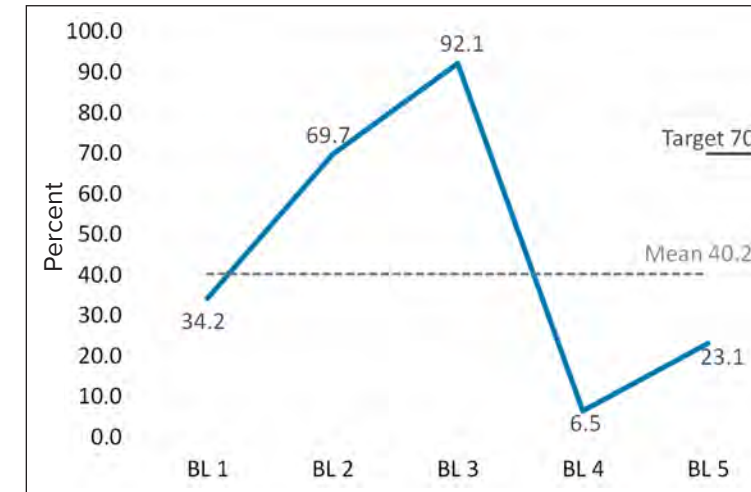


Figure 1: Glucose Time in Range (TIR) Run Chart. Baseline data shows that blood glucose levels were in target range of 5-8 mmol/L 40.2% of the time prior to the start of the project. This confers a goal target TIR of 70% upon implementation of the Vascular Surgery Diabetes Pathway.

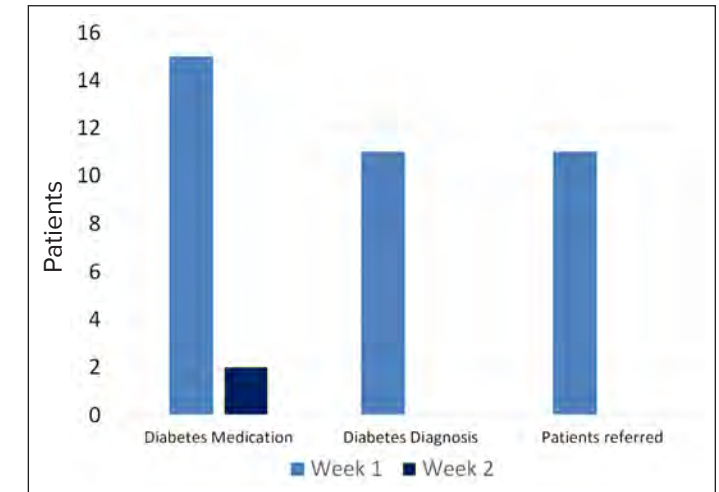


Figure 2: Referral Patterns. Week 1 of implementation 15 patients were prescribed a DM medication and 11 patients met diagnostic criteria for DM. All 11 patients were appropriately referred by the nurse team. The four non-referred patients were prescribed sliding scales but did not require medication. Week 2 had no patients with DM and only two with sliding scale not requiring medication.

LESSONS LEARNED & NEXT STEPS

- Successful implementation takes the coordination and buy-in from multiple teams/stakeholders
- Simplified processes and interventions that do not significantly increase work flow are better received
- Completion of two weeks of project implementation using the Diabetes Vascular Surgery Pathway protocol. Plan to further assess referral patterns and effect on nurse and endocrinologist work flow
- Further analysis of glucose TIR, LOS and NSQIP data over more PDSA cycles

Acknowledgements

- Dr. David Thompson, Director VGH DEC
- Dr. Jonathan Misskey, Vascular Surgery
- Kecia Provo, Patient Care Coordinator VGH DEC
- Divisions of Endocrinology & Vascular Surgery

Glossary of acronyms

- DM:** Diabetes mellitus
- LOS:** Length of stay
- NSQIP:** National Surgery Quality Improvement Program
- TIR:** Time in range

For questions or comments, contact Jordanna Kapeluto at: jordanna.kapeluto@vch.ca

Safely Reducing the Number of Patients Requiring Oral Contrast for CT Scans of the Abdomen and Pelvis in the VGH ED

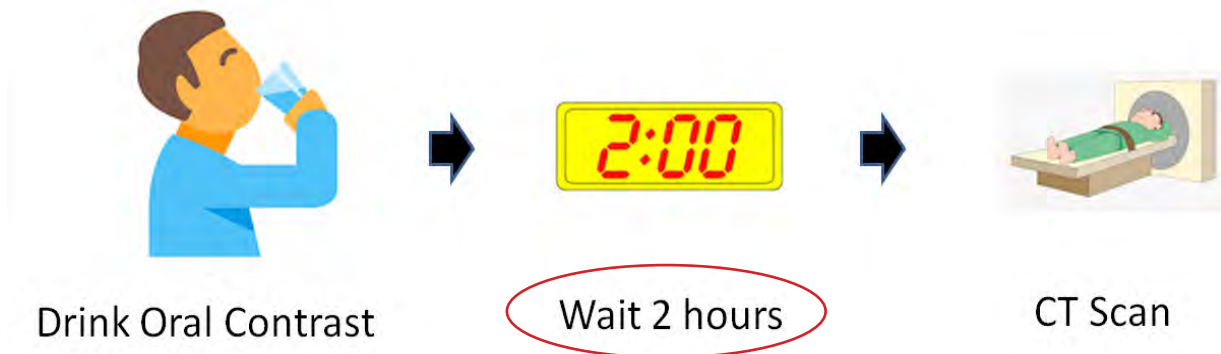
Dr. Tong Vi Lam, Hing-Yi Wong, Enrique Fernandez, David Zhu



DESCRIPTION OF CONTEXT

- For patients getting CT scans of their abdomen & pelvis, oral contrast (OC) is provided to help outline the intestinal tract
 - Historically, this has helped the radiologist identify abnormalities around the intestinal tract
- It takes ~2 hours for the OC to transit through the intestinal tract, which prolongs a patient's length of stay (LOS) in the ED
- As CT scanners improve over the years, the benefit of OC has decreased
- OC is also not as necessary for patients with increased intra-abdominal fat since the fat separates the loops of bowel

DESCRIPTION OF PROBLEM



AIM STATEMENT

- Get consensus between ED, ED Radiology & General Surgery on patient criteria by the end of December 2019
- Reduce average ED LOS of patients requiring CT scan of the abdomen and pelvis by 20% by end of March 2020

EFFECTS OF CHANGE

- Fewer patients receiving OC for their CT scans would result in:
 - Decreased waits to get CT
 - Decreased time to get results
 - Quicker treatments, consultations or discharges

STRATEGY FOR CHANGE



Literature Review



Criteria: BMI > 25*



Group Meeting to reach consensus on inclusion criteria

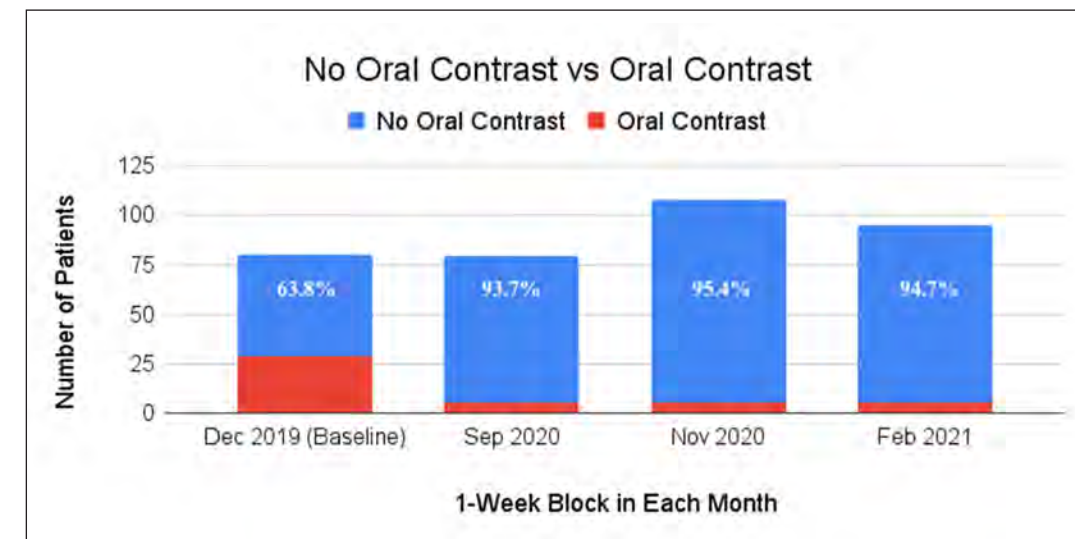


Communication via Information Poster

*Most studies that we reviewed chose patients with BMI>25 to NOT receive OC because OC is less beneficial in patients with increased intra-abdominal fat

MEASURES OF IMPROVEMENT

- ED radiologists & general surgeons agreed to a 3-month trial run
- No patients meeting criteria for no OC had a repeat scan showing new findings within 3 months from initial CT
- ED staff are happy with reduced time to CT



Note: Persistent reduction in oral contrast use months after the completion of the 3-month trial.

LESSONS LEARNED

- Early involvement of key stakeholders ensured that concerns were heard at a point during the project where they could still be addressed
- Despite reducing time to CT and time to reporting by NOT using oral contrast, length of stay was not affected significantly
 - A patient's LOS is affected by so many factors so it was not a good choice as a measure for this project

Category	LOS	# of pts
	8:44	144
	8:58	104

SUSTAINABILITY

- There has been a very positive culture shift amongst the ED radiology team
- Regular audits will be completed to assess for maintenance of results
- If results are not maintained, reminder communications and meetings will be organized to troubleshoot

Glossary of acronyms

CT: Computed tomography
 OC: Oral contrast
 ED: Emergency department
 LOS: Length of stay
 BMI: Body mass index
 VGH: Vancouver General Hospital

Acknowledgements

- SSC for funding support!
- Emergency Department Radiology: Dr. Luck Louis, Dr. Savvas Nicolaou, Dr. Nicolas Murray
- Emergency Department: Dr. Heather Lindsay, Dr. Chris Lee
- General Surgery: Dr. Philip Dawe, Dr. Morad Hameed

For questions or comments, contact Dr. Tong Vi Lam at: tonglam@gmail.com

VGH Electroconvulsive Treatment Outpatient Waitlist

Dr. Verena Langheimer and the VCH Neurostimulation Team ('ECT-Team')



DESCRIPTION OF CONTEXT

The Neurostimulation & Electroconvulsive Treatment (ECT) Program at Willow Pavilion, Vancouver General Hospital (VGH) is a busy clinical service for psychiatric patients. ECT is a highly efficacious treatment for patients with major depressive disorder, catatonia, psychosis and schizophrenia. Patients who need ECT are often severely ill and need to access timely treatment with ECT to get better.

DESCRIPTION OF PROBLEM

Long wait-time for outpatient-ECT is not only due to amount of referrals but rather compounded by community physicians referring patients to the ECT program who would not benefit from ECT. Reasons for this could be unclear indication, vague description of our ECT-referral process or mismatch of patient characteristics and ECT as a care plan.

AIM STATEMENT

To decrease wait-time for ECT referrals by 66% from currently 12 weeks to 4 weeks for psychiatric patients referred for ECT with severe psychiatric diagnosis (psychosis, depression, catatonia) at the Neurostimulation Program at VGH Willow 6. Furthermore, our aim was to improve knowledge in the outpatient community on the suitability of ECT for certain patient populations by improving our referral and intake process.

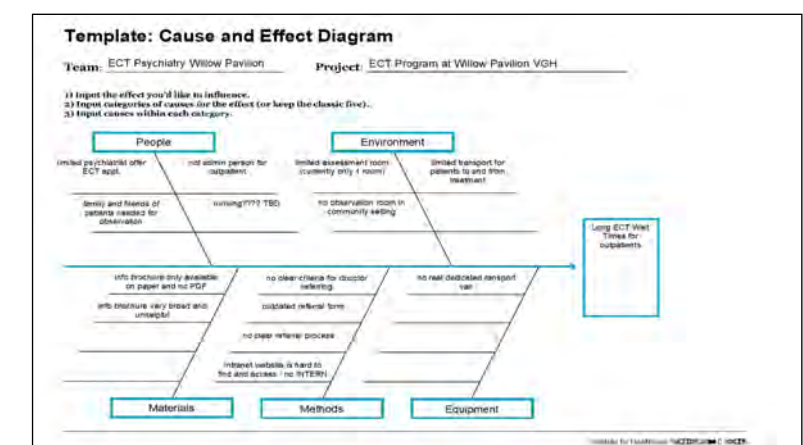
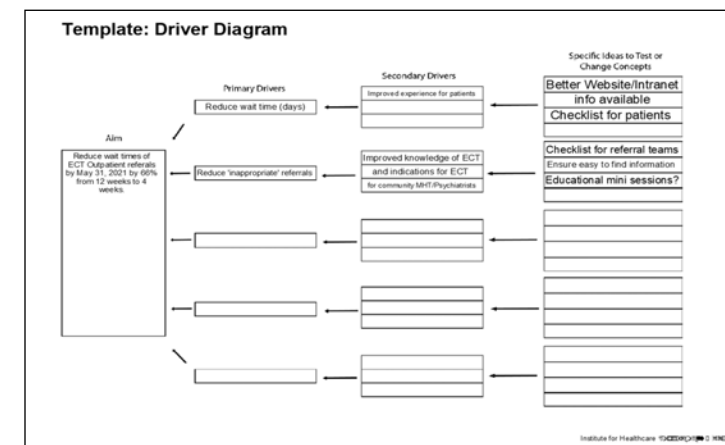
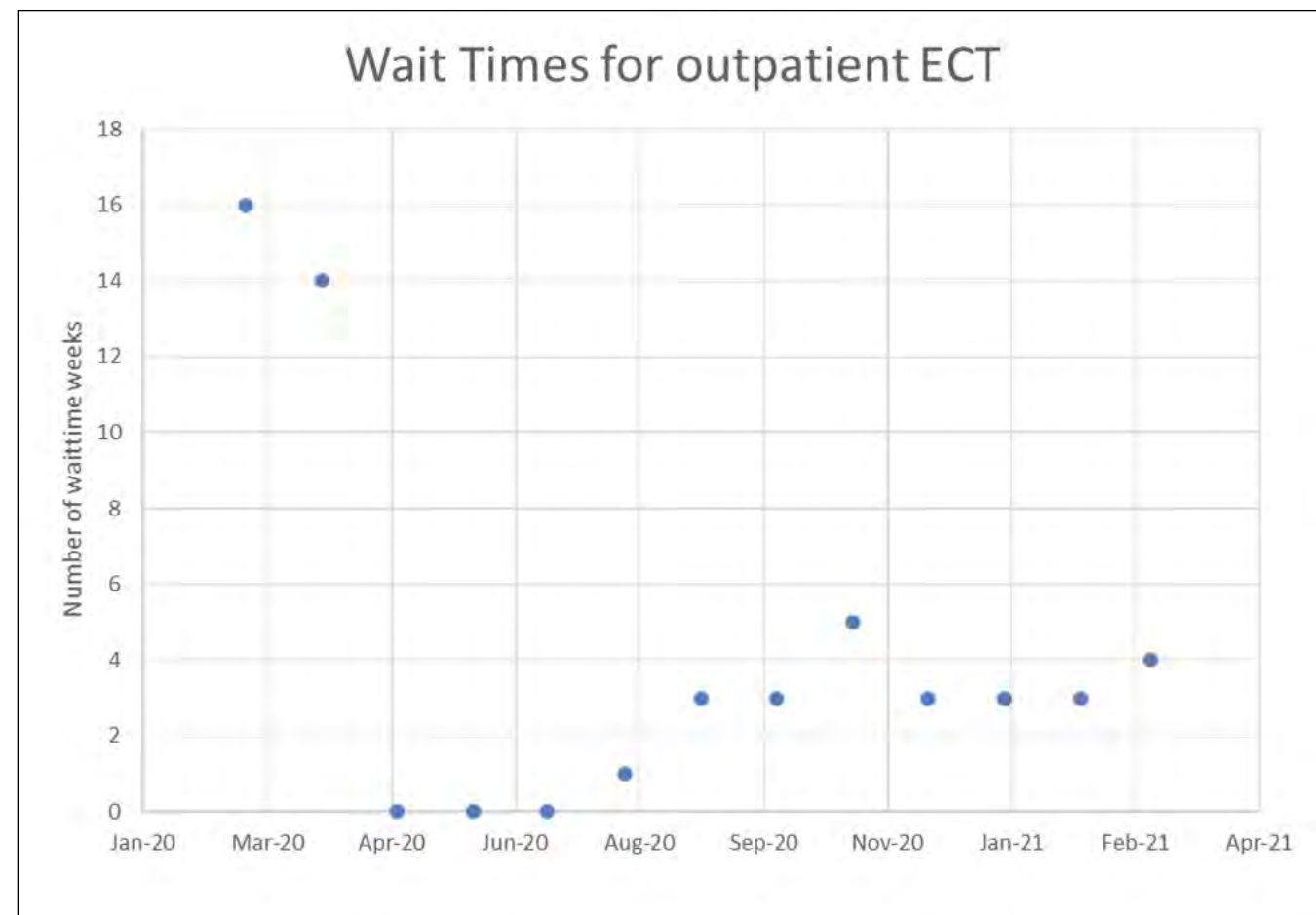
INTERVENTION

Our intervention's effect on-wait time was not clear (as program was on pause for some weeks due to the COVID pandemic in spring 2020 and referrals were slowed and impacted by the pandemic as well.) But: increase in awareness on how to refer to ECT (QR-code, website, referral form). Proposed changes in referral form, which will directly benefit patient care and family involvement.

MEASURES OF IMPROVEMENT

We measured the effects of change for waitlist and wait-time by counting weeks from incoming referral (first contact – often incomplete) until first treatment of ECT.

Effects of change for increased knowledge of referral process: Collection of feedback from Mental Health Team members and taking notes. Also collecting feedback from patient's family members about the referral experience.



LESSONS LEARNED

Change is doable, great to see it happening, but it's more work than I had assumed! Connect with team members, start working and then go from there. Remind myself frequently QI is not research! PLQI has been fun, supportive and interesting. Learned a lot, especially the theoretical underpinnings during the project duration (even your project might be stuck at that time).

SUSTAINABILITY

Discussions to disseminate information amongst team. Pending feedback, changes reflected in referral form. New referral form template will be stored with several key team members. Excellent team dynamics, leadership and communication as part of sustainability.

Acknowledgements

- Thank you to: SSC for their funding, and;
- Anne & Ivana & Lisa, ECT Team and other team members
- Dr. Peter Chan & Dr. Wilkins-Ho, ECT Team
- MHT Team physicians at Ravensong
- Families of patients J and A for feedback
- Amy Chang (thank you!!!), the PLQI Team

For questions or comments, contact Dr. Verena Langheimer at: verena.langheimer@vch.ca

EP-ED-iCare Handover Project

Dr. Kaitlin Lee



DESCRIPTION OF CONTEXT

The ED-iCare team is an emergency department based team that assists with the safe discharge of frail and elderly patients home, preventing unnecessary admissions. The team consists of an ED-iCare physician, CMLs, physiotherapists, and a quick response team including TST. Currently, if an emergency physician simply tags “CML” in computer without any standard additional information.

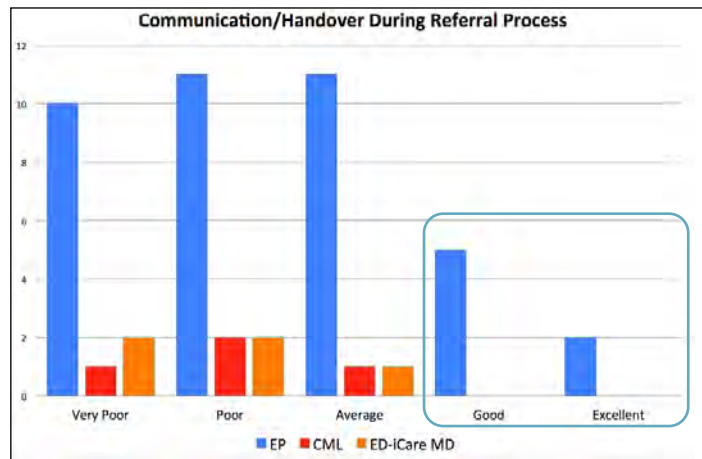
DESCRIPTION OF PROBLEM

- Lack of handover and communication between emergency physicians and the ED-iCare team
- Only 15% of providers rate handover/communication as “good to excellent”

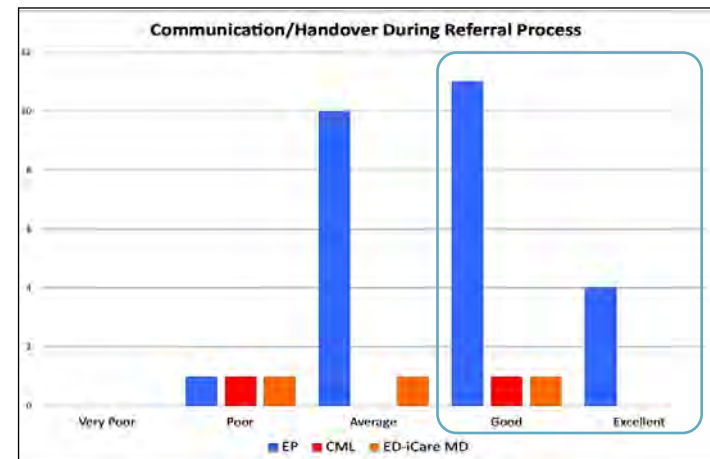
AIM STATEMENT

70% of providers will rate the communication/handover during the referral process between VGH emergency physicians and the ED-iCare team as “good to excellent” by May 31, 2021.

Pre-intervention:
15% providers rate handover/communication as “good to excellent.”



Post-intervention:
55% providers rate handover/communication as “good to excellent.”



CHANGE IDEA: ED-iCare Referral Form

- Development of ED-iCare referral form with various key stakeholders involving CMLs, ED Physicians, iCare Physicians
- Multiple PDSA cycles involving the creation and implementation of the referral form
- Implementation process involving infographics, “super” users, tracking board

EFFECTS OF CHANGE

ED-iCare team cites improved communication and clarity of referral question and issues at hand. EPs cite improved patient safety, especially with ability to refer directly to ED-iCare MD for patients who require medical reassessment.

MEASURES OF IMPROVEMENT

Outcome measure:

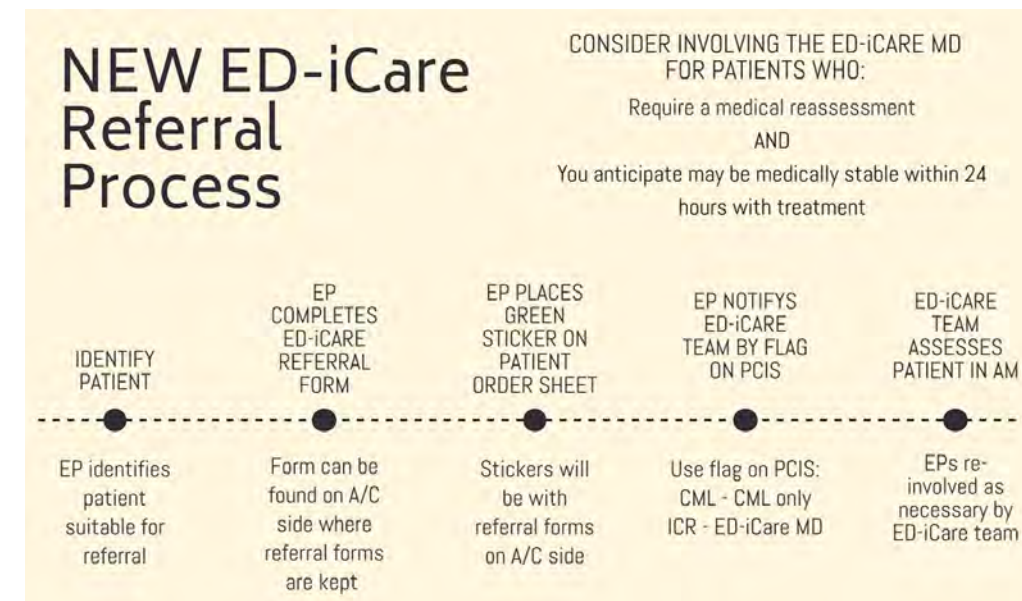
- Post intervention 55% of providers rate the handover and communication during the referral process as “good to excellent”

Process measure: Form usage

- March/April: 52%
- May: 68%

Balancing measure: Time to fill form

- 19% feel increased time demand to fill form



LESSONS LEARNED

- Multiple stakeholders, united vision
- When working with different departments you will have blind spots
- Give yourself permission to move forward and make decisions
- QI projects are rewarding

SUSTAINABILITY

- Standardized process for referral
- Ability to incorporate into Cerner

Glossary of acronyms

ED: Emergency Department
EP: Emergency Physician
CML: Care Management Leader
TST: Transition Services Team
VGH: Vancouver General Hospital
PDSA: Plan-Do-Study-Act

Acknowledgements

- Funded by the SCC
- Amy Chang, Dr. Marla Gordon (PLQI advisors)
- Drs. Judy Kwan, Leanna Lee, Heather Lindsay, Shiv Grewal
- CML: Zena Lind
- Operations/leadership: Lori Korchinski, Susan Seeman, Lori Quinn, Jen Petersen, Barb Harvey

For questions or comments, contact Kaitlin Lee at: kaitlin.lee@vch.ca

Creating Clinical Pathways for Timely Access to Quality Care for Patients with Retroperitoneal Sarcoma in BC

Dr. Andrea MacNeill



DESCRIPTION OF CONTEXT

Vancouver General Hospital (VGH) is the de facto provincial centre for the treatment of retroperitoneal sarcoma (RPS), performing a higher volume of RPS surgery than any other hospital and accepting complex cases that exceed the capabilities of other centres. Each year 20-30 primary RPS cases are carried out at VGH.



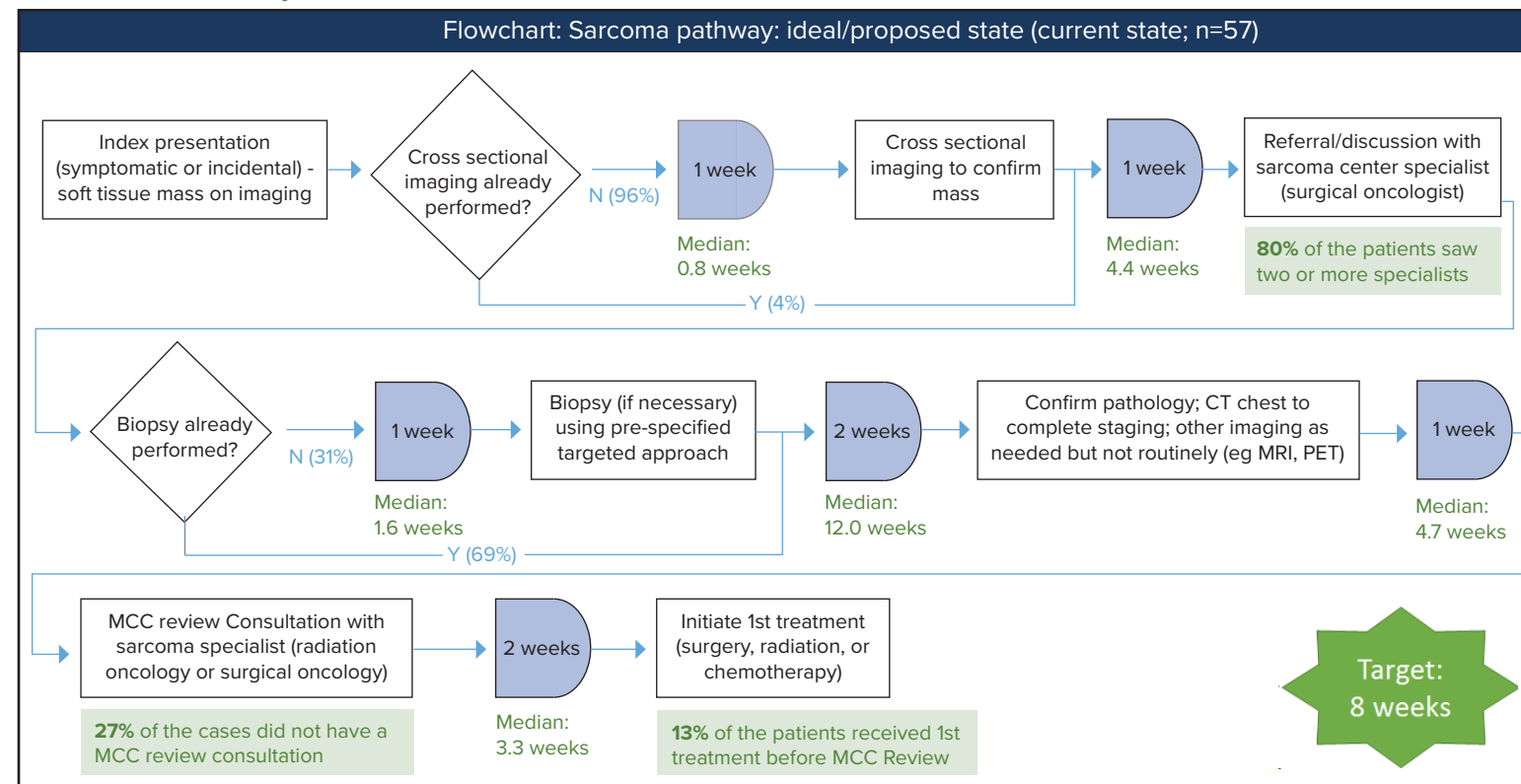
DESCRIPTION OF PROBLEM

- Patients with rare cancers face challenges in obtaining timely diagnoses and treatment. There is abundant evidence demonstrating improved oncologic outcomes in RPS with regionalization of care to high volume centres.
- Due to the rarity of this disease, most patients trace a circuitous route from presentation to definitive treatment, often undergoing unnecessary investigations and treatments.
- Patients typically see multiple specialists, undergo unnecessary imaging, sometimes have inappropriate biopsies performed, and occasionally undergo exploratory or incomplete surgery.
- These unnecessary steps lead to delays in care, increased patient anxiety, avoidable healthcare expenditures, and in some cases compromised oncologic outcomes.
- Preliminary data from 2016-2018 indicate that some patients saw up to 7 specialists, 27% underwent unnecessary surgery, and median time from presentation to definitive care was 14 weeks.

AIM STATEMENT

The aim of this project is to develop and disseminate a clinical pathway for patients presenting in BC with undifferentiated abdominal or retroperitoneal masses by May 2021. This pathway will aim to connect patients to the best possible definitive care provider as close to home as possible, with the goal of initiating treatment within 8 weeks of presentation.

RPS Patient Journeys



STRATEGY FOR CHANGE

1. Multidisciplinary Working Group to inform pathway development
 - a. Composed of representatives: sarcoma surgical oncologists, surgical oncology leadership, family practice leadership, sarcoma diagnostics, allied sarcoma providers, allied surgical disciplines
2. Consensus definition of regional centre & buy-in
 - a. Determine what is a regional sarcoma centre and define specific criteria around rare cancer surgical treatment
3. Implementation strategy
 - a. Currently focusing on a mechanisms for triage so that we can remote consultation to providers across the province
 - b. Exploring and utilize existing mechanisms such as Rapid Access to Consultative Expertise (RACE) and Surgical Oncology Transfer Network
4. Dissemination strategy
 - a. Focusing on primary care providers in BC
 - b. Strategy developed with family practice lead with focusing on primary care providers in BC
 - c. UBC faculty of medicine CPD – case based CMEs, demonstrated to be effective and uptake of guidelines is improved, administered through modules to family physicians in the province
5. Data reporting structure to capture effects
 - a. Current database turned into prospective registry on RedCap, co-op students will be doing data entry
6. Support for next iteration (guideline development)
 - a. Future work to create validated clinical practice guidelines

NEXT STEPS

- Await BC Cancer decision re: regional centre criteria
- Working group meeting to refine implementation strategy
- Activate dissemination strategy
- Partner with Doctors of BC Guidelines and Protocols Advisory Committee to develop approved clinical practice guideline

Clinical Pathway: steps to success

1. Multidisciplinary Working Group to inform pathway development
2. Consensus definition of regional centre & buy-in
3. Implementation strategy
4. Dissemination strategy
5. Data reporting structure to capture effects
6. Support for next iteration (guideline development)



An Influenza Vaccination Quality Improvement Project for Patients Receiving Gynecologic Oncology Surgery at a Major Quaternary Hospital



Dr. Justin M McGinnis, Dominique Barnes, Tara Smith, Sneha Jain, Allison Chiu, Cole Stanley

DESCRIPTION OF CONTEXT

- Influenza is a major cause of morbidity and mortality among patients with cancer
- International guidelines recommend annual influenza vaccination to all patients receiving chemotherapy
- Currently, there is no access to influenza vaccination at the BCCA and no vaccine history is routinely recorded
- Baseline survey of new gynecologic oncology patients at the Vancouver BCCA (Sep-Oct 2020) identified low rates of influenza vaccination



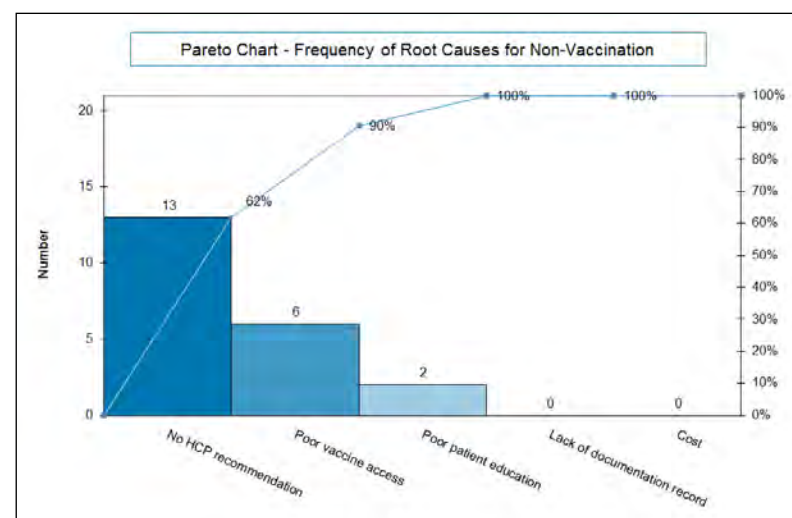
AIM STATEMENT

To increase the **influenza vaccination rate** among patients receiving **gynecologic oncology surgery** at **Vancouver General Hospital** to the national recommended target rate of **80%**¹ by June 2021.

¹ Public Agency of Canada

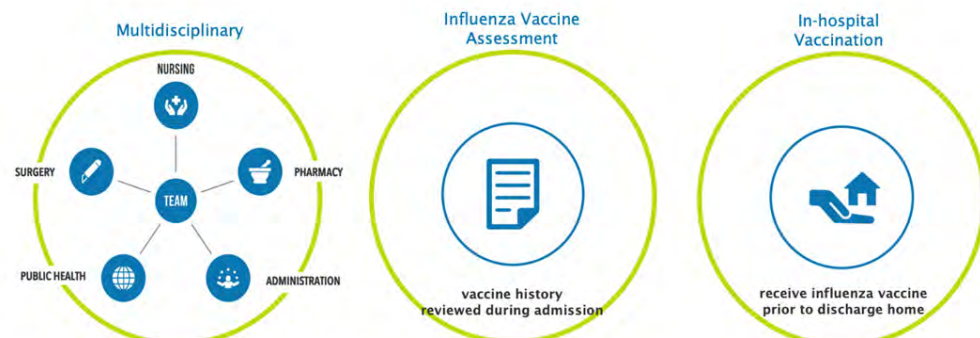
DIAGNOSTICS

- Ishikawa, 5-why's, and pareto analyses were performed to understand root causes for non-vaccination
- Lack of healthcare provider (HCP) recommendation** and **poor vaccine access** were the most influential barriers



INTERVENTIONS

- We implemented a multidisciplinary quality improvement project at VGH by:
 - Introducing VCH Influenza PPO to all inpatient GYN oncology patients (document vaccine history, assess eligibility, order vaccine, administration record)
 - Staff education (education rounds, posters, emails)
 - Patient education & direct recommendation

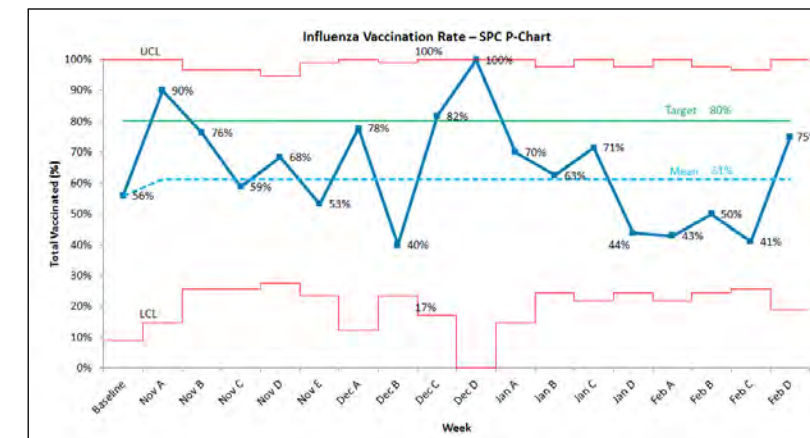


FAMILY OF MEASURES

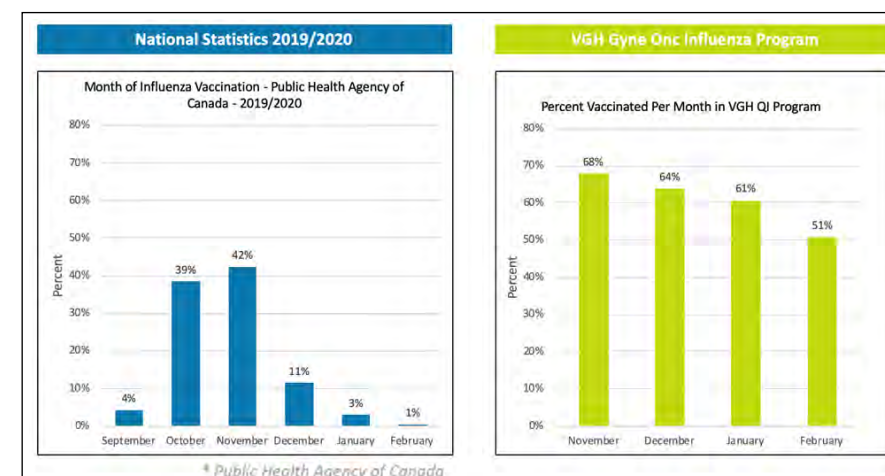
- Outcome measure:**
 - Influenza vaccination rate (weekly percent, evaluated on SPC – P chart)
- Process measure:**
 - Percent use of PPO (weekly)
- Balancing measure:**
 - Vaccine related adverse events

RESULTS

- Study period:**
 - Nov 1, 2020 – Feb 28, 2021 (16 weeks)
- Patients:**
 - n=229 eligible patients
 - 140 vaccinated (61%)
 - 100 vaccinated in community
 - 40 (29%) vaccinated through QI program
- Primary Outcome:**
 - We observed a 5% mean absolute increase in vaccination
 - Above previous baseline for 11/16 weeks.



- Monthly vaccination rates remained well above national rates and showed improved sustainability throughout the season
- Reasons for non-vaccination (n=89):**
 - Vaccine declined (35%), PPO missing (30%), Ordered not administered (22%), PPO not filled out (11%)
 - The proportion of patients declining vaccination increased over the study period



CONCLUSION

- Implementing a PPO and multimodal education were effective in improving rates of influenza vaccination
- 5% mean absolute increase in vaccination (61%)
- Rates were consistently above the national average (42%)
- Addressing vaccine hesitancy and improving inpatient processes could help to achieve the 80% target in future seasons

Acknowledgements

- This work was funded through the VCH Physician-Led Quality Improvement Program (PLQI) and the Doctors of BC Specialist Services Committee (SSC).
- This work would not have been possible without multidisciplinary support from the clerical and allied health staff on LB5 and T4C and the OBGYN residents and GYN Oncology fellows for their diligence with the program.

Glossary of acronyms

- BCCA:** BC Cancer Agency
- PPO:** pre-printed order
- SPC:** statistical process control chart
- GYN:** gynecology

For questions or comments, contact Dr. Justin McGinnis at: justin.mcginis2@vch.ca

Preventing Post-Operative Atrial Fibrillation (POAF) in Cardiac Surgery Patients

Dr. Sean McLean, Gurdip Bhatti, Dr. Sinead Egan, Dr. Shruti Chitnis, Eric Chu, Allison Chiu



WHO WAS INVOLVED AND WHERE?

This QI project was a collaboration between Anesthesia, nursing, cardiac surgery and pharmacy at the VGH Cardiac Services ICU and cardiac surgery wards.

WHY?

- Post-operative atrial fibrillation (POAF) incidence after cardiac surgery is very high (20-50%)
- POAF increases morbidity and mortality:
 - Hospital Length of Stay (1-2 days longer)
 - Permanent AF (8x more likely)
 - Long term mortality (2x worse)
- POAF prophylaxis is well studied but underused

AIM STATEMENT

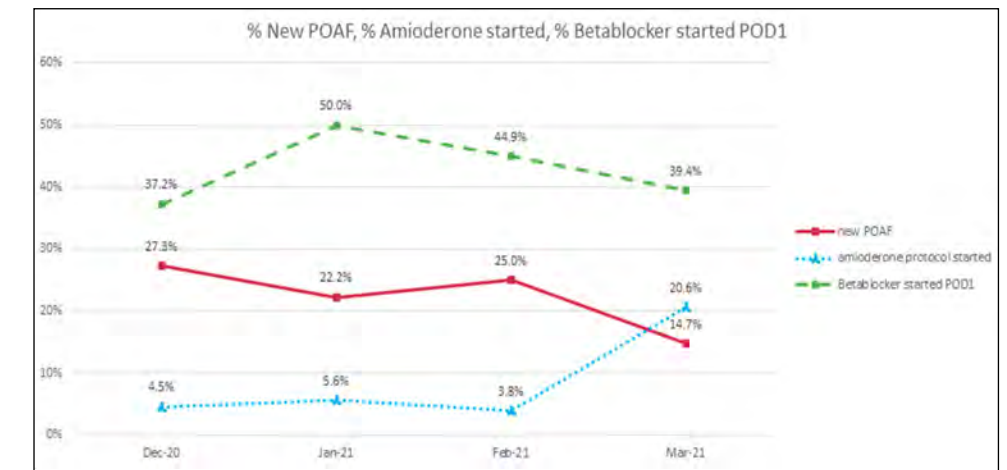
- Increase adherence to recommended POAF preventative measures by 50% by May 2021
- Decrease the incidence of POAF at VGH from 23% to 15% by May 2021

HOW DID WE DO IT?

- Developed a PPO for POAF prophylaxis to bring POAF to forefront of post-operative care and provide guidance for those reluctant to order amiodarone or beta blockers to prevent POAF
- Involved inputs from cardiac surgery, anesthesia, nursing, and pharmacy
- We then audited the results across CSICU and cardiac surgery ward

WHAT DID WE MEASURE? WHAT WERE THE OUTCOMES?

1. Incidence of POAF in the CSICU for all cardiac surgery patients
 - Reduced from 24% to 15%
2. Use of prophylactic amiodarone
 - Started in 20% of eligible patients
3. Incidence of early beta blocker start (POD1)
 - Remains unchanged at 40%



SUSTAINABILITY

- Ongoing audit of POAF incidence and prophylaxis use
- Established connections across CSICU and LB10 for future QI initiatives
- Working to implement POAF into standard cardiac surgery post-op orders in Cerner

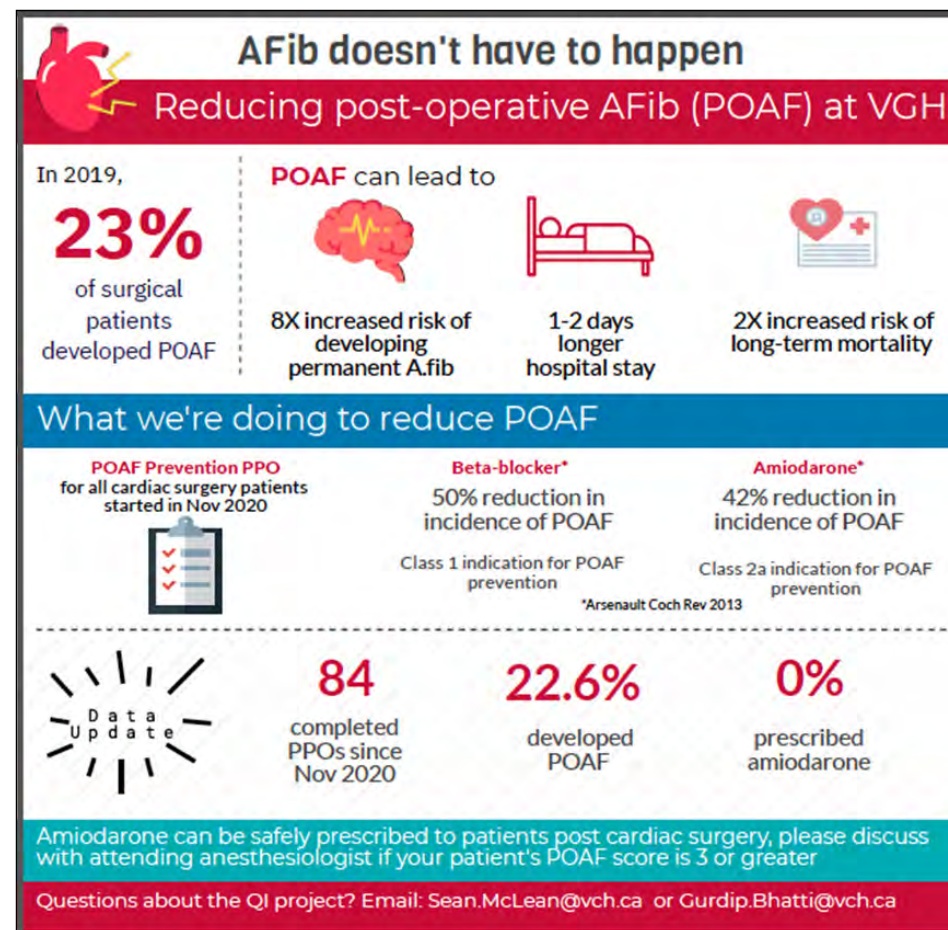
Glossary of acronyms

POAF: Post-operative Atrial Fibrillation
HLOS: hospital length of stay
CSICU: cardiac surgery intensive care unit
PPO: pre-printed order
POD: post-operative day

Acknowledgements

- VGH Cardiac Surgeons
- Dr. T. Chong
- Dr. Darren Mullane
- Patty Choy (NP)
- Dr. Jason Andrade
- Mary Neiforth
- CSBC data support
- Dr. Kelly Mason

For questions or comments, contact Dr. Sean McLean at: sean.mclean@vch.ca



POAF Infographic posted in CSICU

Improving Post Anesthesia Care Unit Handovers with a Standardized Handover Tool at VGH



Dr. Cristin McRae

DESCRIPTION OF CONTEXT

- Patient handovers from the operating room to the recovery room involve a complex transfer of information and responsibility of care
- Structured handover tools have been shown to improve the reliable transfer of information, improve patient care planning patient outcomes, and teamwork among healthcare providers

CURRENT STATE AT VGH

An assessment of current PACU handovers via a voluntary survey showed:

- 93% agree handover quality varies with provider
- ONLY 25% agree it is free of unnecessary interruptions
- ONLY 49% agree patient care planning is adequately discussed

WHAT PROVIDERS WANT

Survey results - top themes for a great handover:

- Complete, relevant patient information, including anticipated issues & plans
- Systematic, efficient, clear organized
- Staff available, ready, attentive
- Avoid unnecessary duplications & distractions

STANDARDIZED SOLUTION

A new standardized handover process has been created to achieve these goals:

- Ensures all team members are present and ready for report, including a Surgical Physician
- Includes a streamlined OR RN report
- Prompts discussion of expected outcome, management and disposition
- Optimizes provider workflow, allowing more time for direct patient care

IMPLEMENTATION

- Collaboration with the VCH Simulation Team was an invaluable experience to trial the Handover Tool in a simulation session prior to roll out, to gather important feedback from all stakeholders: OR & PACU Nursing, Anesthesia, Surgery & Perioperative Healthcare Assistants.
- Handover Tool rolled out to:
 - ✓ Complex Spine Cases January 2021
 - ✓ All spine cases by May 2021
 - ✓ ENT Complex Flap cases May 2021



*modified from Dr. Patel @ BCCH PICU

OUTCOME & PROCESS MEASURES

% of survey respondents who Agree & Strongly Agree the New Handover Process:

- 94% Improved teamwork**
- 87% More complete handover**
- 83% Decreased unnecessary duplications**
- 69% Decreased unnecessary interruptions**

SUSTAINABILITY

*Huge support & motivation from key stakeholders:

- ✓ Spine & ENT Anesthesia & Surgical Champions
- ✓ OR & PACU Nurse Clinicians & Educators
- ✓ Anesthesia Executive & Department
- ✓ Plan to present project to Surgical Executive for support & endorsement

NEXT STEPS

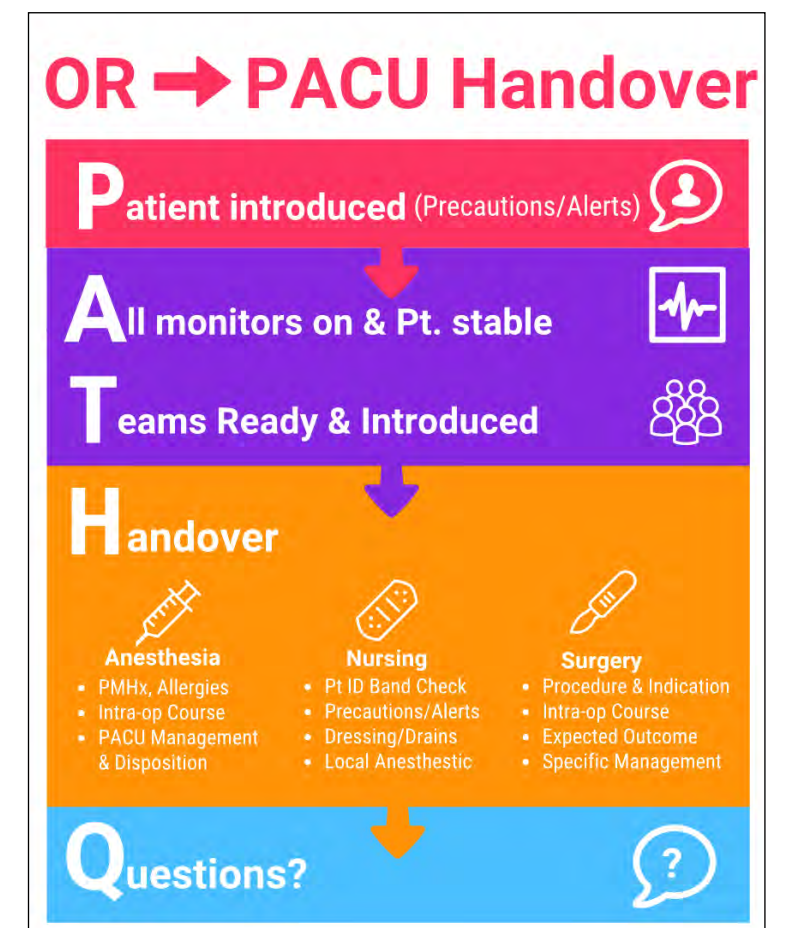
- Expansion to all Surgical services
- OR to ICU Handover
- Transferable to other units & centres

Acknowledgements

- PLQI, with special thanks to: Dr. Kelly Mayson, Hing Wong & Allison Chiu
- Dan O'Connor RN, Nurse Clinician
- Diane Thow & Rea Blyth, PACU Charge RNs
- Jas Mahli & May Leung, RN Educators
- Dr. John Street, Spine Surgeon
- Dr. Mary Sun, PGY 2 Orthopedics
- Spine Fellows: Nick, Chris, Charolette
- Anna Lee, VCH Simulation
- Dr. Don Young, Anesthesiology
- Allison Muniak, Andrea Bisailon
- Drs. Umedaly, Baxter, Redekop & Garraway

Glossary of acronyms

PACU: post-anesthesia care unit
OR: operating room
RN: registered nurse
ENT: ear, nose, throat
VGH: Vancouver General Hospital
ICU: intensive care unit



For questions or comments, contact Dr. Cristin McRae at: cristin.mcrae@vch.ca



DESCRIPTION OF CONTEXT

The safety of early transition from IV to PO antibiotics in many clinical syndromes is well established. Clear guidelines have been established by the NHS (Fig 1). Transition to PO antibiotics reduces the adverse outcomes associated with IV therapies such as thrombophlebitis and nosocomial infections. IV to PO transition also can reduce length of stay and decrease health care costs.

PROGRESS

During my time in PLQI, I developed an automated method (Python script) for sorting through monthly pharmacy reports with thousands of entries. With this tool I am now able to generate run charts for months worth of data in minutes (Fig 2). This tool will allow for review of past prescribing patterns and monitoring of future antimicrobial stewardship interventions.

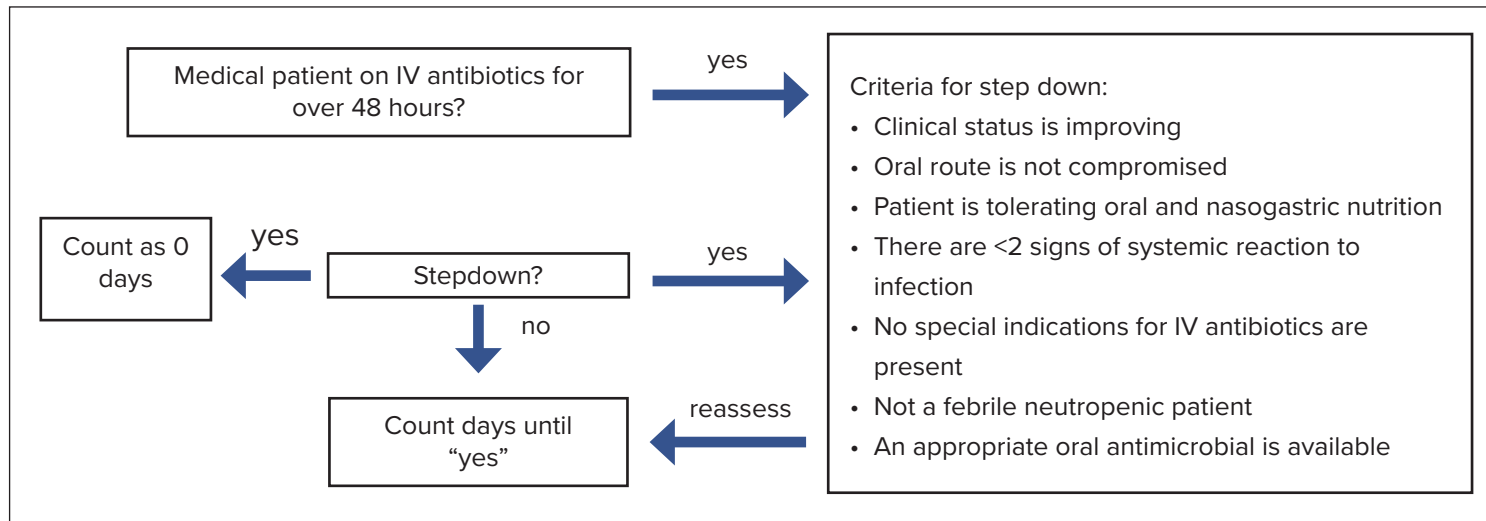


Fig 1. Example of NHS guidelines for IV to PO antimicrobial stepdown



Fig 2. Example of Python script and run chart from 4 weeks of data – generated in approximately 10 minutes

Glossary of acronyms

- IV:** intravenous
- PO:** oral
- NHS:** National Health Service
- CTU:** clinical teaching unit
- VGH:** Vancouver General Hospital

For questions or comments, contact Matthew Michaleski at: michaleski@alumni.ubc.ca

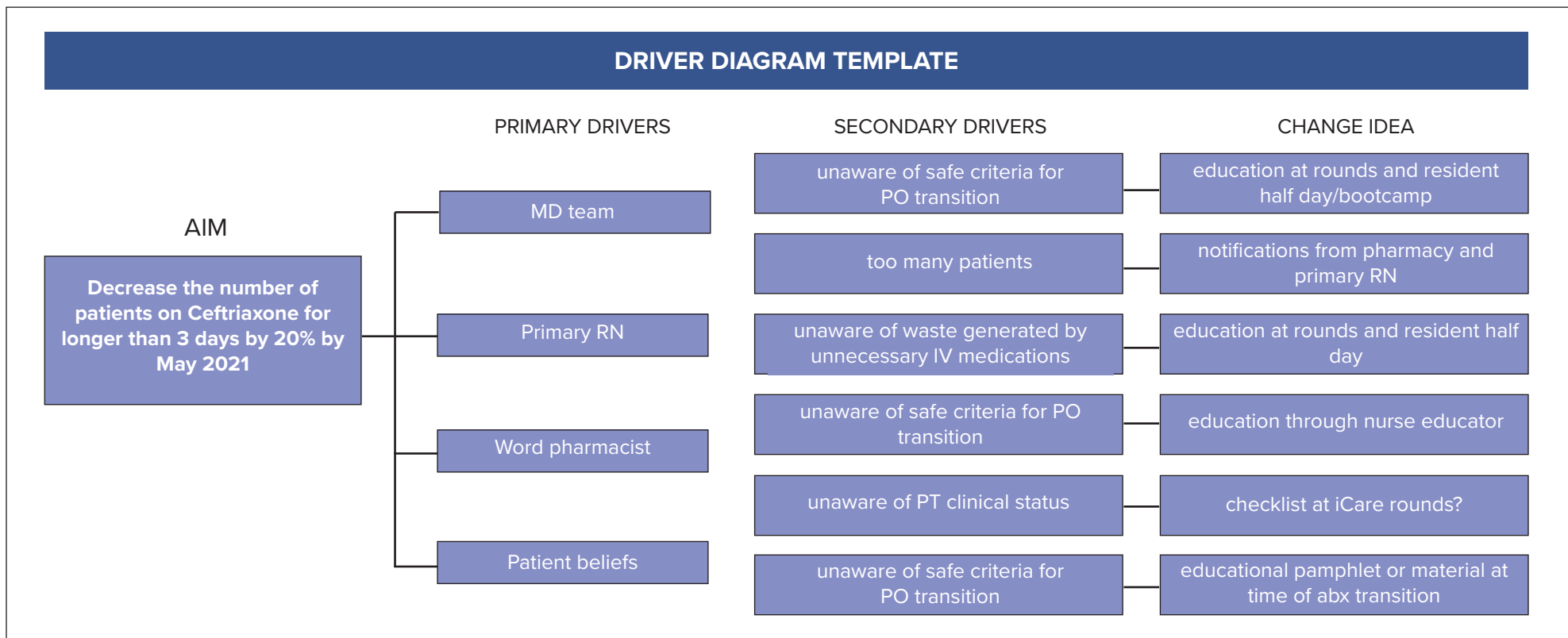


Fig 3. Driver diagram that will be used to guide future interventions for improved IV to PO stepdown

Increasing Cervical Cancer Screening at Heatley Community Health Centre

Dr. Jade Koide



DESCRIPTION OF CONTEXT

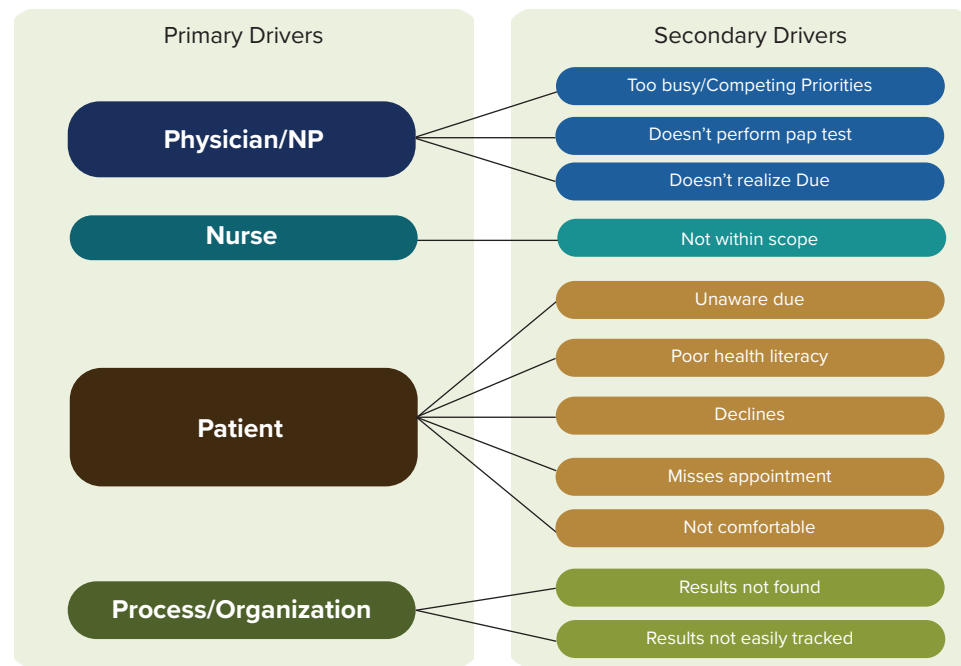
Location: Heatley Community Health Centre (HLY), Vancouver BC's Downtown Eastside (DTES)



- Interdisciplinary team with primary care providers (MD/NP), RNs, LPNs, social workers, counselors, peer support workers, embedded mental health team and some specialty care
- Serving DTES residents with complex psychosocial needs and substance use

THE PROBLEM

Most of our patients lack up-to-date, routine preventive health measures such as cancer screening.



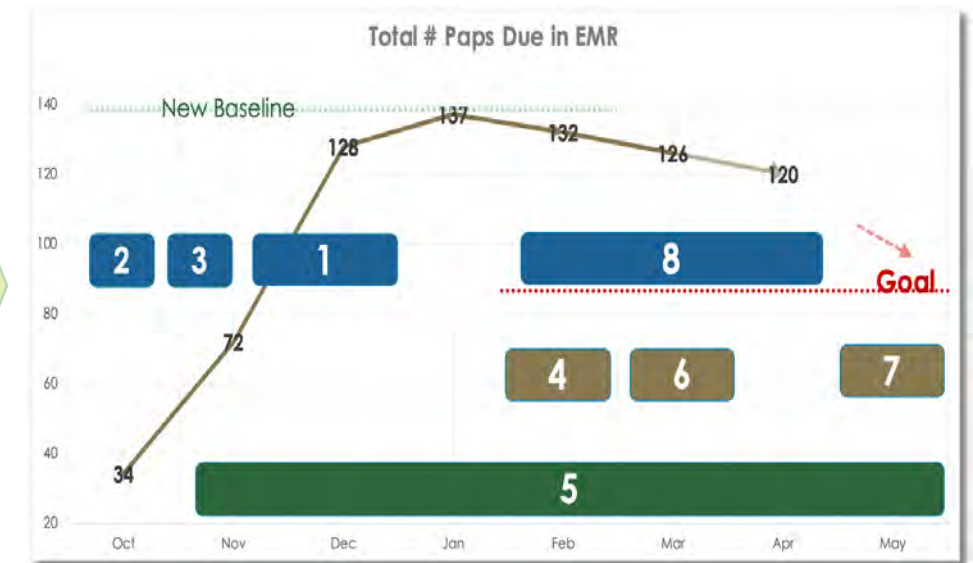
AIM STATEMENT

The aim is to increase the rate of cervical cancer screening in HLY patients by 50% by May 2021.

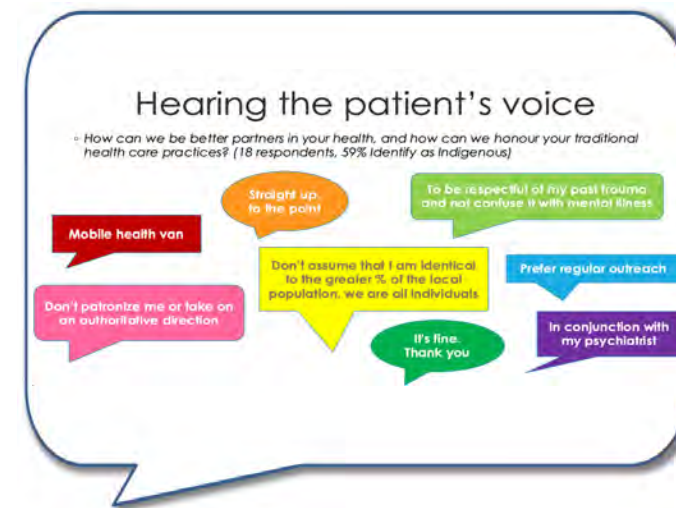
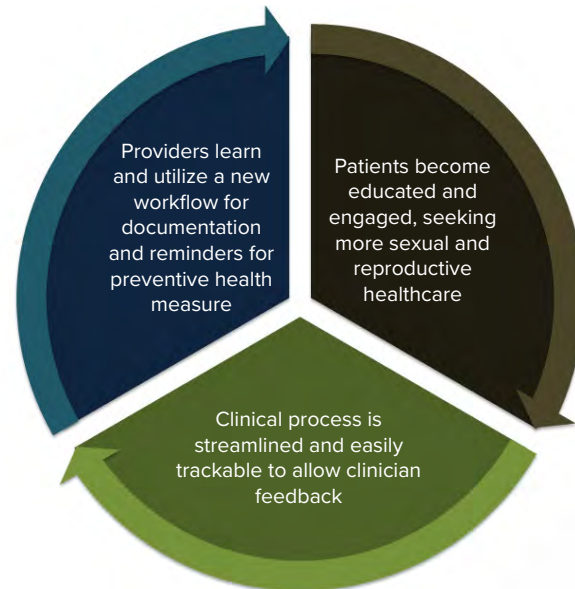
This particular area of focus has the potential to reach into multiple realms of patient care, with a focus on women specifically, as well as sexual, and reproductive health care. Discussing this evidenced based cancer screening with a trauma-informed approach will hopefully address some of the health inequities we see with our vulnerable patient population.

INTERVENTIONS AND CHANGES

1. Obtain baseline data – all pap results for eligible patients with an assigned provider
 - BCCA sends pap results for all HLY patients age 25-69 assigned to an MD/NP
2. Understand provider drivers
 - NP hosted a round table during staff meeting to understand current MD/NP process for preventive health screening
3. Educate providers on existing EMR tools to set reminders and track outcomes
 - RN Educator discussed utility of EMR "intervention" tool and providers encouraged to use this regularly; MD met one-on-one with each provider to ensure comprehension and uptake of tool usage
4. Develop and distribute a gender-neutral, patient-friendly handout and poster to improve education and awareness
 - MD developed pictogram with feedback from NP and RN around language
5. Develop and implement an electronic tool for tracking preventive health measures
 - MD met with EMR developers to create a form to easily input and keep track of various cancer screenings
 - MD obtained feedback from other HLY providers re: form design and content
 - Awaiting final steps to launch form and spread use
6. Administer patient survey to understand facilitators and barriers to sexual and reproductive health care
 - Simple questions with attention to any specific Indigenous ways of healing
 - Provided small gift card for completion
7. Reinstitute a Women's Health Clinic to consolidate care
 - Weekly Women's Night clinic was on pause during pandemic, but through patient engagement tools, felt that we should bring clinic back
 - Safe space with multitude of healthcare providers and psychosocial support
 - Evening hours to increase access
8. Utilize panel management data to identify those most in need of cervical cancer screening
 - Obtained a report of patients due for screening; highlighted those overdue for testing >5 years or with a recent abnormal result
 - Created teams of RNs and peer support to outreach these patients, educate, build rapport, and invite to come into HLY for screening



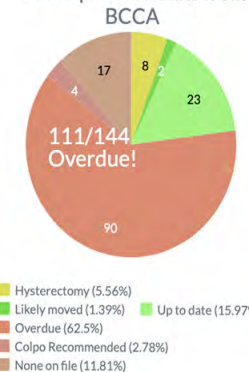
EFFECTS OF CHANGE



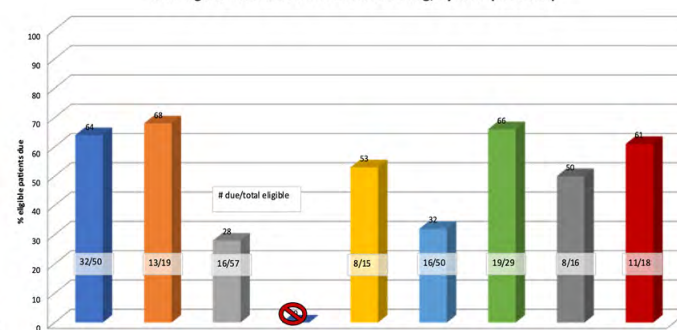
LESSONS LEARNED

- Quality improvement is becoming more of a culture at Heatley (just need to talk about it at every meeting)
- Utilize existing tools (Let the computer do the hard work)
 - Beneficial to utilize outcomes that are easily measurable
 - Providers appreciate individualized patient reports
- It takes an individualized approach to reach those with trauma, severe mental health and substance use disorders (Healthcare equity is hard but important work)
- QI work has been a fun way to engage our whole clinic team (team engagement is crucial for positive change)

144 Pap Test Results from BCCA



% of Eligible Panel Due for Cervical Screening, by MRP (Feb 2021)



Glossary of acronyms
HLY: Heatley Clinic
DTES: Downtown East Side
BCAA: BC Cancer Agency
MRP: Most Responsible Provider

Acknowledgements

- Funding from SSC
- Allison Chiu, PLQI Advisor
- Cole Stanley, MD, PLQI Physician Coach
- HLY Clinic Team: Jess Peart, NP; Kirsten Locher, RN; Lauren Chant, RN; Rebecca Anthony, RN; Andrea Godding, CLW; Steph Wang, CLW; Brenda Smith, BCCA
- EMR IT team

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DESCRIPTION OF PROBLEM

The VCOAMHSUS does not have, but would benefit from, a service-specific QR process.

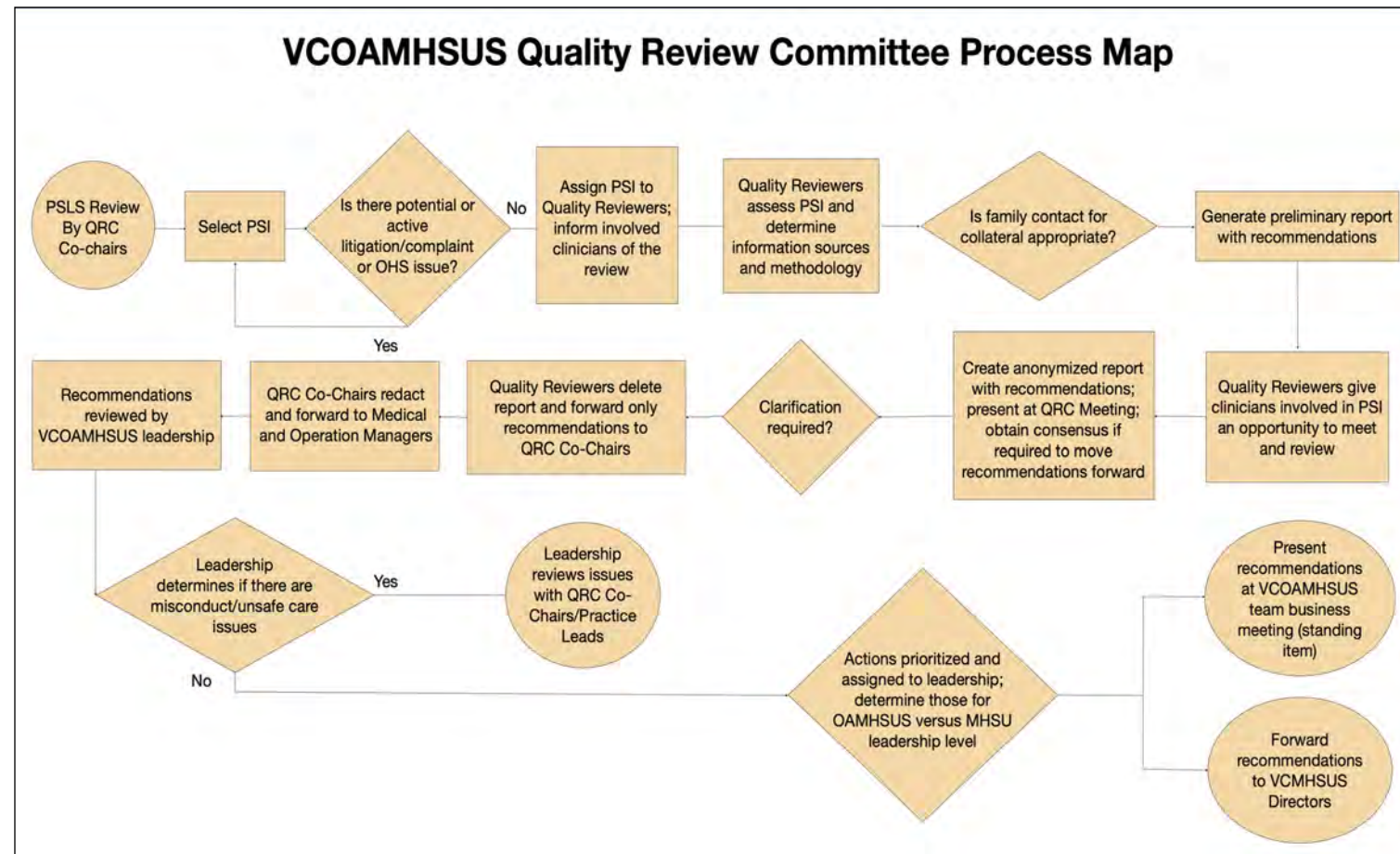
AIM STATEMENT

To create an interdisciplinary QR process and complete one such review of a PSI.

STRATEGY FOR CHANGE

This project will require:

- Development of a QRC
- Creation of a Terms of Reference aligned with the Vancouver Coastal Health Incident Management Policy
- Creation of a Process Map
- Modification of Root Cause Analysis format for application to mental health PSI

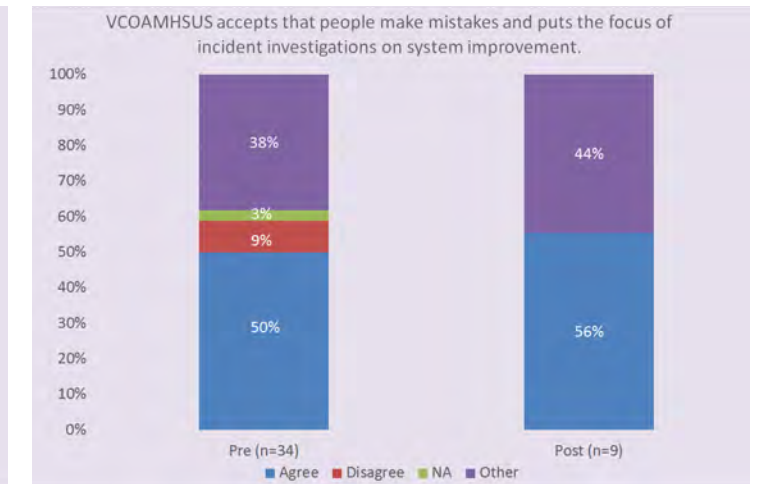
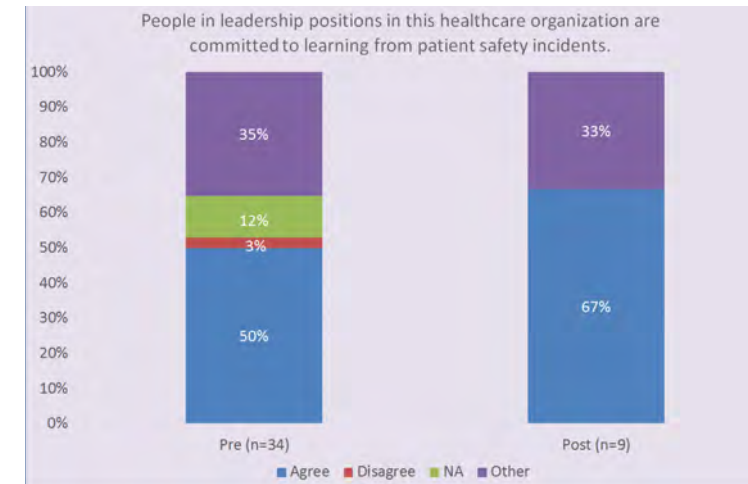


EFFECTS OF CHANGE

- QR recommendations to be presented at monthly business meeting for discussion
- There was unexpected but needed and overdue validation of good work that had been done by the clinicians
- The unquantifiable value of the QR process can be seen in the discussions and awareness it generates, with a few recommendations already implemented

MEASURES OF IMPROVEMENT

A pre and post-implementation survey was administered to the VCOAMHSU team members to identify changes in opinions regarding the QR process. Two sample results as follows:



Root Cause Analysis for Mental Health PSI	
Factor type	Influencing and contributory factors
1. Politics	Legislative, regulatory and economic context Resource management; aims and priorities; organisational structure, policy standards and development, interagency links; communication
Institutional/organisational and managerial	<ul style="list-style-type: none"> • What broader institutional or outside factors may have played a role in the event? • What are the interdepartmental dynamics? • Are there recent regulations that have led to a shift in care? • Think about recent events, both within and outside of the institution.
2. Place	Real estate; equipment, support services and human resources
Environmental	<ul style="list-style-type: none"> • Were there workplace environmental factors that may have contributed to this event? • Is there an appropriate degree of staffing for the clinical volume? • Does the physical layout of the environment contribute to consistent and safe care or its inverse?
3. Personnel	Structure; aims; communication; leadership; management; supervision; monitoring; morale; Training; knowledge; skills, competence; health
Team/individual	<ul style="list-style-type: none"> • What are the personnel or staff-related factors that may have contributed to the event? • Did they have the appropriate knowledge and skills to care for the patient in this setting? • What degree of supervision was present? • Was an impaired clinician involved? • It is important to think beyond "bad apples" or blame in order to consider the mechanisms by which good people can create less than optimal results.
4. Policy and procedures	Delegation; communication; understanding; availability and utility of policies and procedures
Task and process	<ul style="list-style-type: none"> • Are there written policies for this type of event? • Are they accessible and known throughout the organization? • Were the policies followed? If not, why not? • Are there standard procedures that should be used in handling this type of clinical scenario? • Were there deviations from this standard approach in this case? If so, why?
5. Patient	Condition (physical, psychological and social); forensic history; culture; language and communication
	<ul style="list-style-type: none"> • What are the patient-related factors that may have contributed to the event? • Was the patient impulsive, violent, or cognitively impaired? • Was he or she intoxicated or in withdrawal? • Were there language barriers that limited effective communication? • The goal is not to blame the patient but rather to identify risk factors that may predispose similar future patients to the same outcome.

SUSTAINABILITY

The structure and process for QR have been established. Sustainability would largely rely on determining who would perform the duties of the Co-Chairs moving forward.

LESSONS LEARNED

Persistent engagement with frontline clinicians, leadership and all disciplines, the use of a clear framework and process, and a commitment to a safe and supportive environment, are all essential for service-level quality improvement to be effective.

Glossary of acronyms

VCOAMHSUS: Vancouver Community Older Adult Mental Health and Substance Use Services

QR: Quality Reviews

PSI: Patient Safety Incidents

QRC: Quality Review Committee

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- Sneha Jain/Enrique Fernandez Ruiz (Program Advisors)
- Cole Stanley (Physician Coach)
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- Randallhite (Medical Director)
- Kristen Farquharson (Operations Director)
- Josanne Dubeau (Clinical Nurse Educator)
- Tristan Wayte (Director, Client Relations and Risk Management)

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Fonts

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All other text (Headers, subheaders, body text): Proxima Nova

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Helvetica

Aa

Proxima Nova

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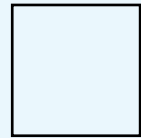
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HEX: #141035

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CMYK: 100, 31, 0, 32

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