St. Paul's Hospital Opioid Stewardship Program:

6 Month Program Report
January - June 2020

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BRITISH COLUMBIA CENTRE ON SUBSTANCE USE
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EXECUTIVE SUMMARY

In the midst of the overdose crisis within British Columbia (BC), and in response to the longstanding prescription opioid crisis, the St. Paul's Hospital (SPH) Opioid Stewardship Program (OSP) was established in January 2020. The goal of the OSP is to improve opioid prescribing at SPH to reduce adverse events and long-term dependence and avoid future opioid misuse, while maintaining or improving pain management for individuals receiving opioids during their acute admission. This is the first OSP within Providence Health Care and the Vancouver Coastal Health geographical area, and the third within BC.

In the first 6 months of the program, we have established an audit and feedback screening intervention through which we have provided a total of 589 interventions for 222 patient encounters. These included a variety of different interventions with the most common being stopping as needed (PRN) opioids (25.2%), adding or increasing a non-opioid analgesic (17.7%), educating patients about opioid use or providing educational materials (17.4%), and adjusting the dosage of the prescribed opioid (16.6%). In total, there has been a 92% acceptance rate of recommendations made by the OSP clinical team. We have also seen an increase in the number of requested consultations received each month from 1 in March to 9 in June 2020.

In addition to the audit and feedback screening, we have worked towards improving opioid prescribing through a number of educational initiatives across various departments including internal medicine, general surgery, orthopedic surgery, and pharmacy (such as orientation presentations to new internal medicine residents and orthopedic surgery fellows, nursing rounds for general and orthopedic surgery nurses, presentation to pharmacy staff). We have participated in quality improvement projects and guideline reviews, and are working with the Clinical Systems Transformation (CST) group to develop a process to review regional order sets to improve opioid prescribing.

We have also begun a number of research initiatives to learn more about areas for improvement for opioid prescribing at SPH as well as to evaluate the impact of the OSP on changes in key outcomes, including inappropriate opioid prescribing and adverse drug events.

Finally, we have brought together an interdisciplinary group of leaders at SPH to form the inaugural SPH Opioid Stewardship Advisory Committee. This committee has helped inform opportunities for improvement and collaboration for the OSP, reviewed and provided feedback on OSP activities, and disseminated information from the OSP to various departments and divisions across SPH.

The safe and effective use of opioid medications is an important issue we need to address in order to reduce the rapid increase in opioid related harms observed over the past 2 decades. This is an initiative that requires key stakeholders to promote the safe and effective use of opioids, and we are grateful for the support of all of the staff at SPH and their commitment to improving patient care.

This report describes key indicators for the first 6 months of the program.

BACKGROUND

Prescription opioid misuse and illicit use has become an increasing problem globally and is linked to an array of negative consequences including addiction, overdose and mortality.[1–3] Canada, the second highest opioid consumer in the world after the United States, demonstrated rates of prescription opioid use tripling over the past decade alone.[1,4,5] As rates of opioid prescribing increase, so too has the development of opioid misuse, addiction and prescription opioid related overdose deaths, as well as other related morbidities.[6–9]

Hospitals are a major contributor to the prescription opioid epidemic and related harms. Hospitals that use opioids most frequently have been shown to have increased rates of adverse drug events (ADEs) which can also have a negative impact on length of stay and related costs.[10-12] Past research has also documented inappropriate opioid prescribing practices in hospitals that can continue to various harms in the community, such as the development of opioid dependence and opioid use disorder, overdose, or opioid-induced hyperalgesia.[9, 13-15]

Despite this evidence, there have been relatively few initiatives put in place to target opioid prescribing within hospitals. Prescribing stewardship programs in the past have broadly focused on other medications, notably antimicrobial prescribing which has resulted in reduced antimicrobial use, reduced c. difficile infections, and significant cost savings.[16,17] From the small number of hospital-based opioid stewardship programs in North America, preliminary results show cost-savings, a reduction in opioid-associated rapid response calls and code blues, and successful interventions and consultations related to pain medication reconciliation.[18,19]

Opioid Stewardship at St. Paul's Hospital

The SPH OSP was implemented in January 2020. The clinical team consists of a clinical pharmacy specialist and an addiction medicine physician.

SPH is an optimal location for an inpatient opioid stewardship program. We are an acute care, teaching, and research hospital servicing the heart of downtown Vancouver. Every day, hundreds of patients are admitted for care at SPH and at least half of these patients are prescribed an opioid medication. We have a number of world class surgical programs (e.g. cardiac, colorectal, vascular, and orthopedic surgery) which often involve prescription of opioid medications. We are also a centre for internal medicine, urban health, and mental health services for downtown Vancouver which provide care for structurally vulnerable patients who may be more likely to have opioid dependence. In the midst of the overdose crisis, with Vancouver having the highest number of overdose deaths of any city in British Columbia, SPH has the opportunity to lead clinical practice in Vancouver with an innovative way to improve opioid prescribing and reduce adverse events and long-term dependence.[20]

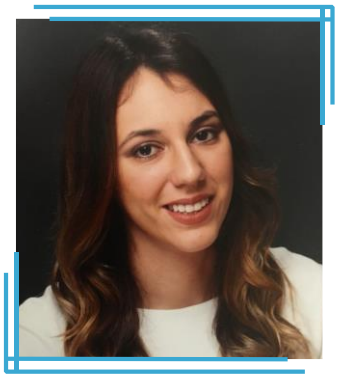
The goal of the program is to improve opioid prescribing, utilization, and monitoring at SPH in order to prevent and reduce adverse events, reduce risk of inappropriate long-term use and dependence, and improve or maintain adequate pain control.

Strategies to achieve this goal include a number of intervention initiative, including implementation of a prospective audit and feedback intervention for inpatient opioid use, development of tools and educational resources to support healthcare providers, provision of education and support for patients and caregivers, review of current guidelines and workflows, and evaluation of program impact and outcomes.

OSP Team Members

Clinical Team

The clinical team consists of the Opioid Stewardship Clinical Pharmacy Specialist (Dr. Tamara Mihic) and the Opioid Stewardship Physician Lead (Dr. Seonaid Nolan). Together, they work on the front line providing audit and feedback and clinical consultations, as well as education to SPH staff, review/development of clinical guidelines and protocols, and dissemination of program data. Dr. Nolan also supports Dr. Lianping Ti as part of the Research Team (see below).



Tamara Mihic, PharmD

Seonaid Nolan, MD

Operational Team

The operational team consists of Dr. Michael Legal (Pharmacy Manager) and Dr. Steven Shalansky (SPH Pharmacy Clinical Coordinator). They support the program by providing overall direction, logistics, and pharmacy management.

Michael Legal, PharmD

Steven Shalansky, PharmD

Research Team

The research component of the OSP is led by Drs. Lianping Ti and Seonaid Nolan from the BC Centre on Substance Use. They work to conduct research and evaluation initiatives related to review of the OSP, as well as research related to opioid prescribing in hospital settings.

Lianping Ti, PhD

Seonaid Nolan, MD

Opioid Stewardship Advisory Committee (OSAC)

The OSAC was developed by the OSP in order to bring together representatives form major stakeholder groups to provide advisory support, as well as to disseminate information from the OSP to their respective practice areas. Current OSAC members include:

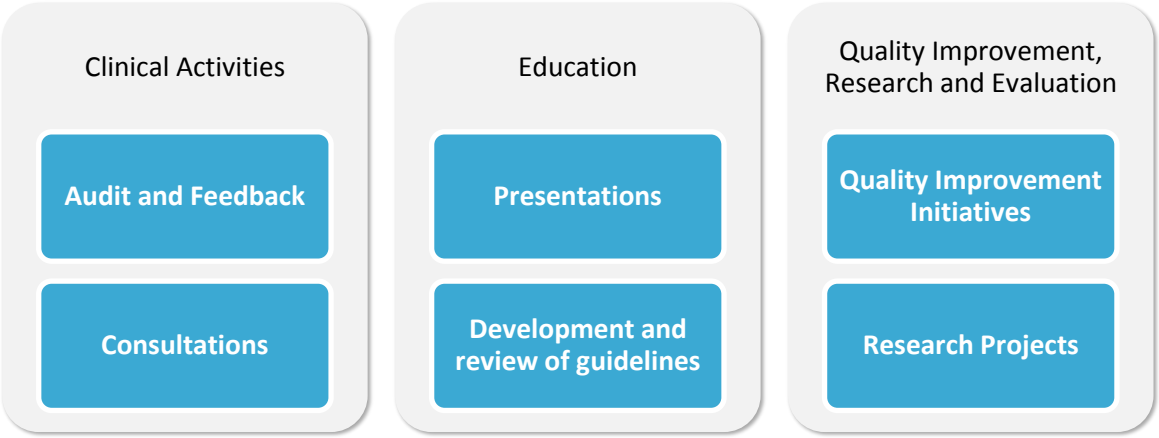
- Dr. Keith Ahamad (Regional Addiction Program)
- Dr. Geoffrey Cundiff (Obstetrics and Gynecology)
- Stephanie Chan (Medication Safety, Pharmacy)
- Isabel Diogo (Medication Safety, Nursing)
- Dr. Andrew Kestler (Emergency Department)
- Elizabeth Dogherty (Addictions Medicine, Nursing)
- Dr. Renee Janssen (Internal Medicine)
- Jennifer Lee (Nursing)
- Dr. Michael Legal (Pharmacy)
- PJ Matras (Acute Pain Service)
- Leslie McBain (Patient and Family Engagement)
- Dr. Tamara Mihic (Opioid Stewardship)
- Dr. Seonaid Nolan (Opioid Stewardship)
- Dr. Christopher Robertson (Complex Pain Service)
- Dr. Nadia Fairbairn (Addictions Medicine)
- Dr. Steve Shalansky (Pharmacy)
- Dr. Ainsley Sutherland (Acute Pain Service)
- Dr. Lianping Ti (BC Centre on Substance Use)
- Dr. Tamim Umran (Orthopedic Surgery)

> I lost my mother in 2002 to an accidental overdose. She was a pediatric nurse and a single parent who was kind, funny, resilient, and smart. She was prescribed Oxycontin in the 90s for fibromyalgia. My brother began stealing Oxycontin from her when he was around 14 years old and was addicted to opioids shortly after. He had been injecting drugs for at least 10 years when he passed away at age 36 in 2016.
>
> - *Dana Dmytro (Moms Stop the Harm)*

PROGRAM ACTIVITIES

Overview

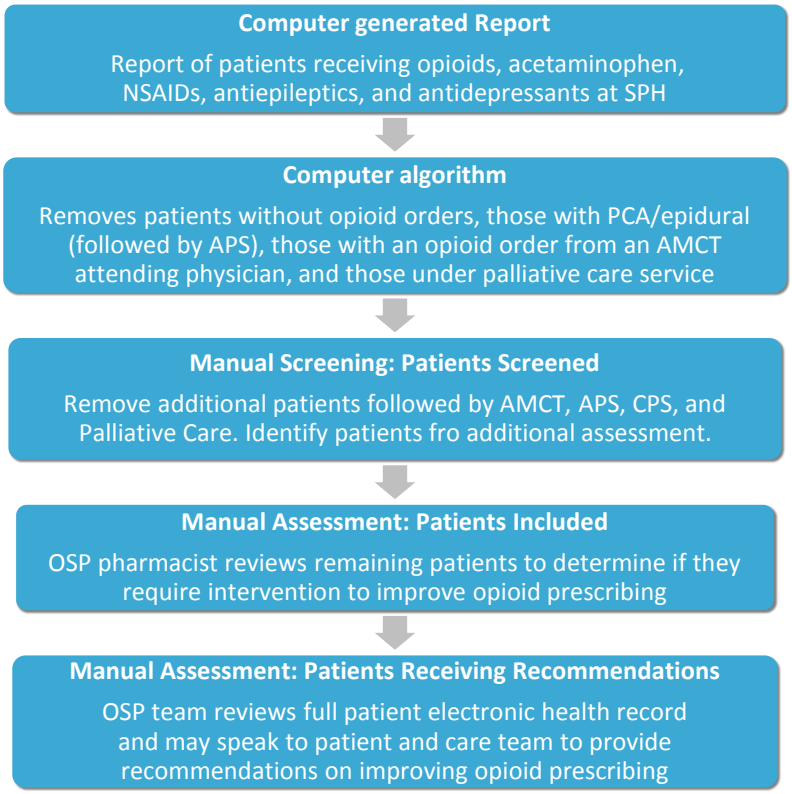
The program activities of the OSP can be divided into three sections: 1) clinical activities, 2) education, and 3) research and quality improvement. Below, activities and preliminary findings from each of the sections are described in detail.



Audit and Feedback Program

Audit and feedback is an evidence-based strategy to improve professional practice. It involves the review of specific professional performance (in this case opioid prescribing) and then feedback to the healthcare provider on opportunities to improve prescribing based on available guidelines and literature. The SPH OSP utilizes a screening list of patients on opioids (as described below) to identify those who would most benefit from re-assessment and intervention. Audit and feedback in opioid stewardship is often more time-intensive compared to other audit and feedback strategies (e.g. antimicrobial stewardship) as pain is multi-factorial and subjective, and requires a more in depth assessment with the patient to determine the most optimal areas for adjustment and improvement.

As an initial screening, the OSP clinical team extracts daily reports of patients who have been admitted to SPH (excluding emergency department, critical care areas, and palliative care unit) and have an active opioid order. Patients are then further assessed if they are not followed by another consulting service specializing in opioid prescribing (e.g. acute pain service [APS], complex pain service [CPS], addiction medicine consult team [AMCT], palliative care team).



**Abbreviations: NSAID – non-steroidal anti-inflammatory, SPH – St. Paul's Hospital, PCA – patient-controlled analgesia, APS – acute pain service, AMCT – addictions medicine consult team, CPS – complex pain service*

Patients are further assessed based on number of factors that increase the likelihood for opioid-related adverse events and long-term dependence including:

1. Use of parenteral opioids when orders suggest the patient is receiving a normal diet and taking nutrition orally[40]
2. High frequency opioid prescribing (< 4 hours)
3. Multiple different concomitant opioids prescribed for regular and as needed (PRN) use
4. Regular dosing of an opioid prescribed for PRN use
5. Long-acting opioid prescriptions within the first 5 days of a patient's hospital stay
6. High daily dose of an opioid, defined as a prescribed daily dose of 90 MME or greater
7. Long duration of opioid prescribing, defined as a patient on opioids on or beyond hospital day 5
8. Concurrent opioid and sedative (e.g., benzodiazepine) prescription
9. No adjunctive order for non-opioid analgesics including acetaminophen, NSAIDs, and/or medication for neuropathic pain (where appropriate)
10. Use of opioid medication in a patient who is opioid naive
11. Use of opioid medication in a patient with personal history of depressive disorder, anxiety disorder, and/or post-traumatic stress disorder
12. Use of opioid medication in a patient aged greater than 60 years

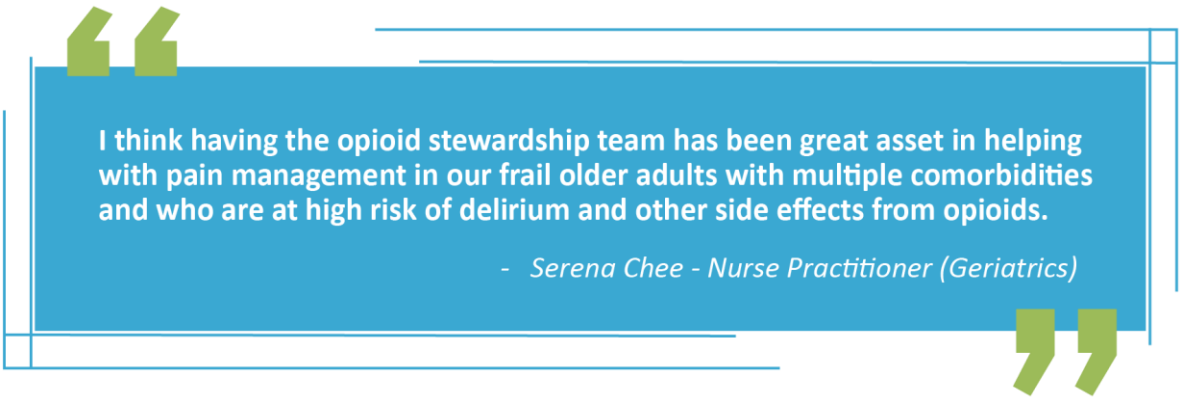
13. Use of an opioid medication where naloxone administration was required in the last 24 hours

A screening algorithm was developed by data analysts at the BC Centre on Substance Use (BCCSU) to assist with the risk factor identification process. The initial screening list is compiled using the Cerner electronic health record and includes all patients that are prescribed opioids or other target medications (e.g. antidepressants, anticonvulsants, benzodiazepines, zopiclone, acetaminophen, NSAIDs) who reside on an inpatient ward at SPH (excluding critical care and palliative care units). The screening algorithm then removes any patients without opioid orders, those with patient-controlled analgesia (PCA) or epidural order (as a marker of APS involvement), orders written by an attending physician from the addiction medicine consult team (AMCT). Following this, the screening algorithm then identifies patients appropriate for inclusion in the OSP based on any one of the factors listed above. Patient assessments are then triaged according to the number of factors present (i.e., patients with the highest numbers of factors present are assessed first).

During the chart review and/or patient encounter, a number of additional factors are screened for (e.g. history of substance use disorder, renal or hepatic dysfunction). These are not automatically screened for due to limitations within Cerner. Additional patients are excluded manually through screening by the OSP clinical team if they meet exclusion criteria and were not removed by the initial algorithm.

Based on a preliminary review of the electronic health record, patients are identified who may benefit from an intervention to optimize opioid prescribing. These patients then receive a full clinical assessment from the opioid stewardship pharmacist (including full review of electronic health record and often times discussion with the patient and clinical team) to determine how analgesic therapy can be optimized to improve or maintain pain management while improving opioid safety.

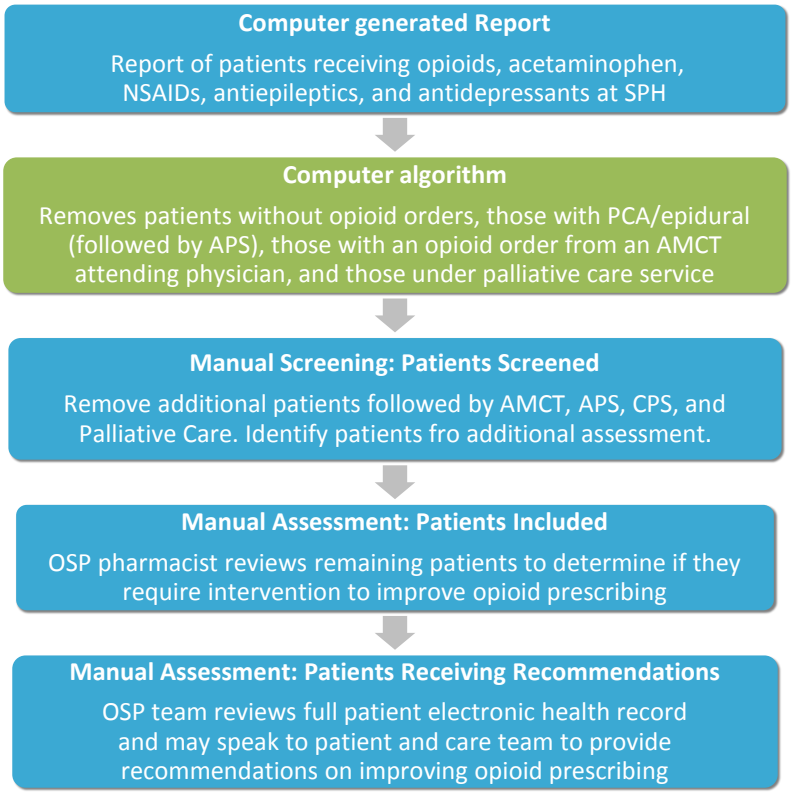
For patients who would benefit from an intervention, recommendations are delivered in any combination of the following four ways: (1) documenting a note in the patient's electronic medical record; (2) speaking to the patient; (3) speaking to the attending physician; and/or (4) speaking to the ward pharmacist. Multiple actions may be done for the same assessment (i.e. speaking to physician and documenting in note).



Review of Audit and Feedback Statistics

This section summarizes the baseline demographics, factors that increase the likelihood of adverse events, and opioids ordered for patients exposed to opioids at SPH from March 5, 2020 to June 30, 2020. While the program began in January 2020, March 5 was the date that the opioid stewardship screening algorithm was refined to automatically remove patients as described above (i.e., with a PCA or epidural order or orders written by an AMCT attending physician), and identify patients appropriate for inclusion in the OSP (based on the presence of any one factor listed above).

Furthermore, this section will also provide details regarding all patients screened for and assessed by the OSP as well as any interventions undertaken between January 13, 2020 (the start of the program) and June 30, 2020. A summary of the number of interventions, types of interventions, and the acceptance rate of those interventions is included below.



**Abbreviations: NSAID – non-steroidal anti-inflammatory, SPH – St. Paul's Hospital, PCA – patient-controlled analgesia, APS – acute pain service, AMCT – addictions medicine consult team, CPS – complex pain service*

Patient Baseline Demographics

Below, we have described patient characteristics, patient's admitting clinical service, and patient's history of opioid use prior to hospital admission among a total of 1571 unique patients who were exposed to opioids between March 5, 2020 to June 30, 2020 (with a break from March 17-May 1, 2020 due to the COVID 19 pandemic). These patients were identified after the computer algorithm was run on each daily report and prior to manual screening by the OSP team. Many patients appeared on

multiple daily reports during their hospital stay, but only the data from the first day is included in this review of patient baseline demographics.

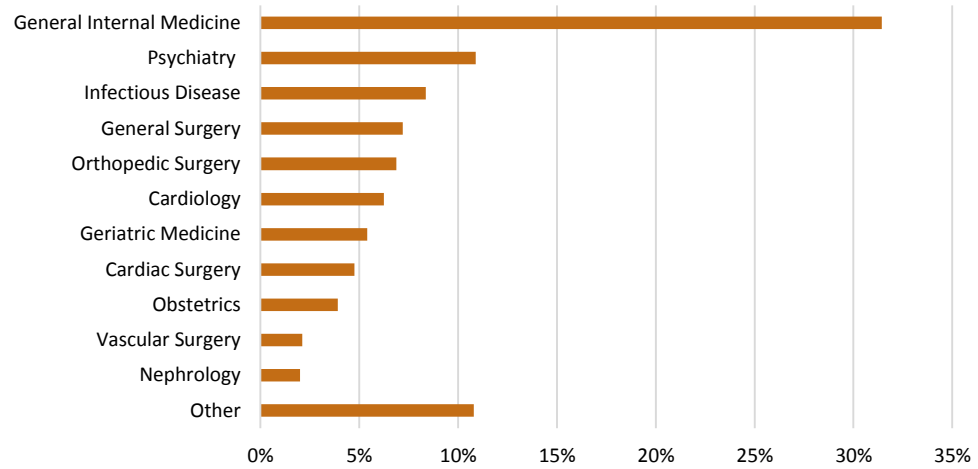
Age and Sex

Of the 1571 unique patients exposed to opioids from March 5, 2020 to June 30, 2020 that were included in the OSP screening list, 45% were female and 55% male. The mean age was 55 years for females and 60 years for males.

Admitting Clinical Service

Patients prescribed opioids (n=1571) were under the care of a variety of clinical services at SPH. The largest proportion of patients were admitted to General Internal Medicine (31.4%) Psychiatry (10.8%), and Infectious Diseases (8.4%). It is important to note that some of these patients may be prescribed opioid agonist therapy for opioid use disorder and would have been excluded from further assessment by the OSP during the next step of manual screening.

Figure 1. Admitting Clinical Service of Patients Prescribed Opioids at SPH (n=1571)



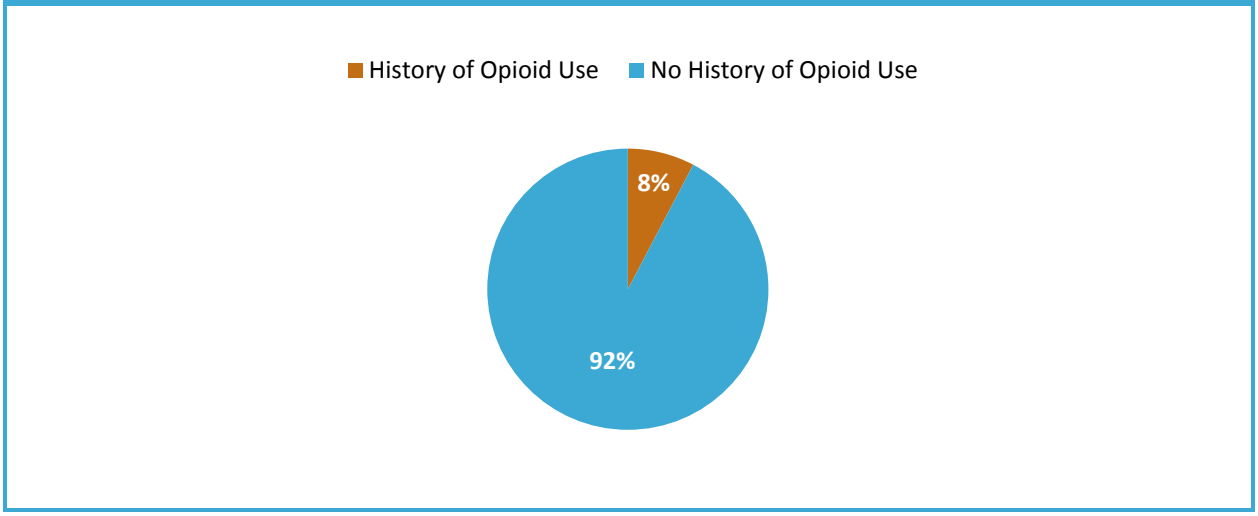
**Other includes: Palliative Medicine, Hematology, Otolaryngology, Physical Medicine and Rehabilitation, Plastic Surgery, Pain Medicine, Transplant, Gynecology, Gastroenterology, Respirology, and Urology.*

Opioid Use Prior to Admission

History of opioid use within 30 days prior to hospital admission was collected as a marker of whether the patient was opioid naïve or not. The majority of patients (92.3%) were opioid naïve at the time of opioid prescribing.

Patients prescribed opioids who are previously opioid naïve are at higher risk of adverse events from opioids due to lack of tolerance. This provides an opportunity for the Opioid Stewardship Program to provide recommendations to encourage safer use of opioids in this high risk population. For patients that have a history of opioid use, often times these patients may have a complex pain history, escalated doses of opioids in community, and may also be more at risk for poorly managed acute pain in hospital. There is an opportunity for the Opioid Stewardship Program to intervene and provide recommendations to improve acute pain management (including liaising with our pain teams at SPH) and reduce inappropriate, long-term use of opioids.

Figure 2. 30-day Opioid Use History of Patients Receiving Opioids at SPH (n=1571)



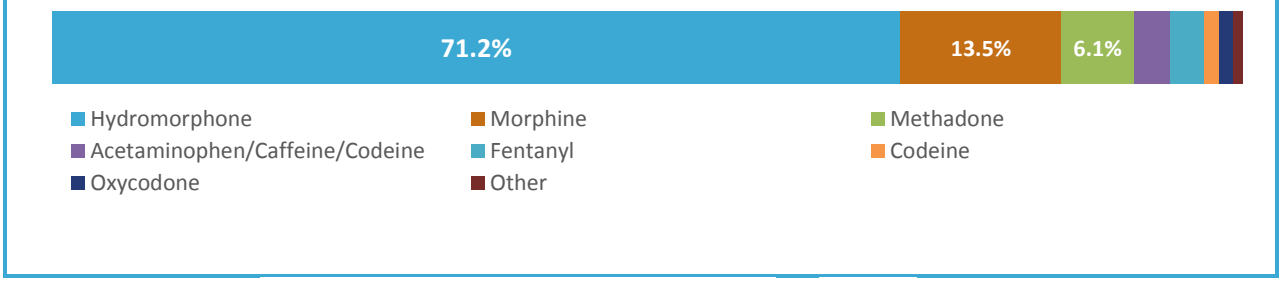
Review of Opioid Orders

Below, we have reported on active opioid orders among unique patients exposed to opioids from March 5, 2020 to June 30, 2020 that were included in the OSP screening list. Key indicators included: type of opioid(s) prescribed, whether opioids were prescribed regularly or as needed, and route(s) of administration.

Frequency of Opioid Prescribing

Numerous formulations of opioids were prescribed for patients at SPH. Hydromorphone made up the largest proportion of the opioid orders (71.2%).

Figure 3. Opioids Prescribed (n=1571)



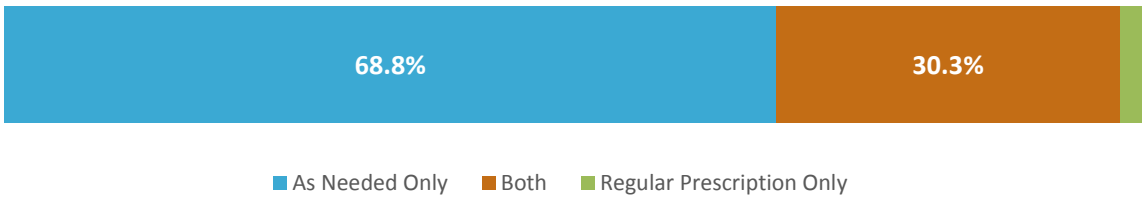
**Other category includes: Bupivacaine-Fentanyl, Bupivacaine-Hydromorphone, and Sufentanil*

Pattern of Opioid Prescribing

The majority of patients (68.8%) were exclusively prescribed as needed (PRN) opioids and 30.3% received a mixture of both PRN opioids and regularly prescribed opioids.

As the majority of opioids are prescribed as needed, this presents an opportunity to reduce or discontinue opioids that are no longer required (to avoid inappropriate long-term use) or to optimize pain control by recommending a change to a regularly scheduled regimen for those patients that require it.

Figure 4. Pattern of Opioid Prescribing (n=1571)

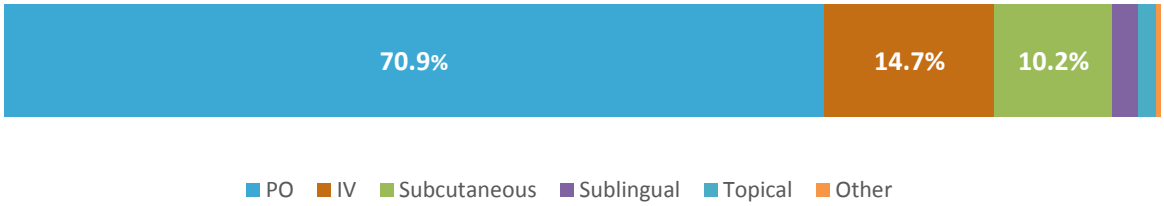


Route(s) of Administration for Opioid Prescribing

The most common route of administration for opioids prescribed included orally (70.9%) followed by intravenously (IV) (14.7%), subcutaneously (10.2%) and other (4.2%).

Although the most common route used is oral, a number of patients are still receiving parenteral opioids and in a number of cases this may be inappropriate use where they are able to take oral. This presents an opportunity for the OSP to intervene and reduce the unnecessary use of parenteral opioids which have been associated with increased risk of adverse events and medication erros.

Figure 5. Opioid Routes of Administration (n=1571)



**Other category includes: NG-tube, epidural, J-tube, PEG-tube, and intramuscular.*

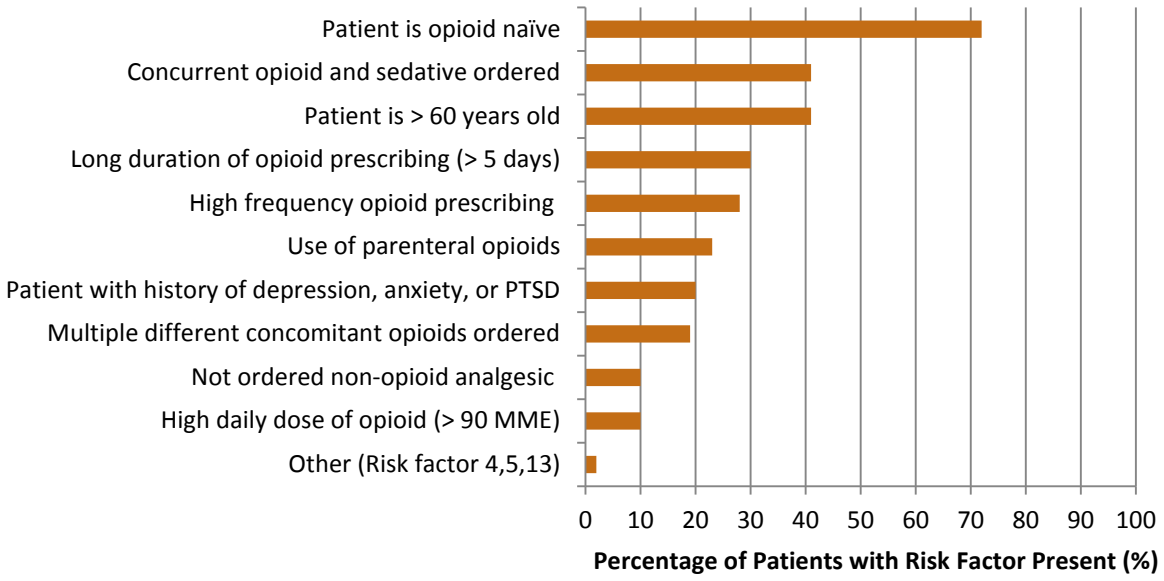
Identified Risk Factors

Identified Risk factors included:

1. Use of parenteral opioids when orders suggest the patient is receiving a normal diet and taking nutrition orally[40]
2. High frequency opioid prescribing (< 4 hours)
3. Multiple different concomitant opioids prescribed for regular and as needed (PRN) use
4. Regular dosing of an opioid prescribed for PRN use
5. Long-acting opioid prescriptions within the first 5 days of a patient's hospital stay
6. High daily dose of an opioid, defined as a prescribed daily dose of 90 MME or greater
7. Long duration of opioid prescribing, defined as a patient on opioids on or beyond hospital day 5
8. Concurrent opioid and sedative (e.g., benzodiazepine) prescription
9. No adjunctive order for non-opioid analgesics including acetaminophen, NSAIDs, and/or medication for neuropathic pain (where appropriate)
10. Use of opioid medication in a patient who is opioid naive
11. Use of opioid medication in a patient with personal history of depressive disorder, anxiety disorder, and/or post-traumatic stress disorder
12. Use of opioid medication in a patient aged greater than 60 years
13. Use of an opioid medication where naloxone administration was required in the last 24 hours

The screening algorithm identified 6322 risk factors for the 1571 patients exposed to opioids between March 5, 2020 and June 30, 2020. The most common included: no adjunctive order for non-opioid analgesics (17.9%; risk factor #9 above), long duration of opioid prescribing (14.2%; risk factor #7 above), and concurrent opioid and sedative prescription (11.9%; risk factor #8 above).

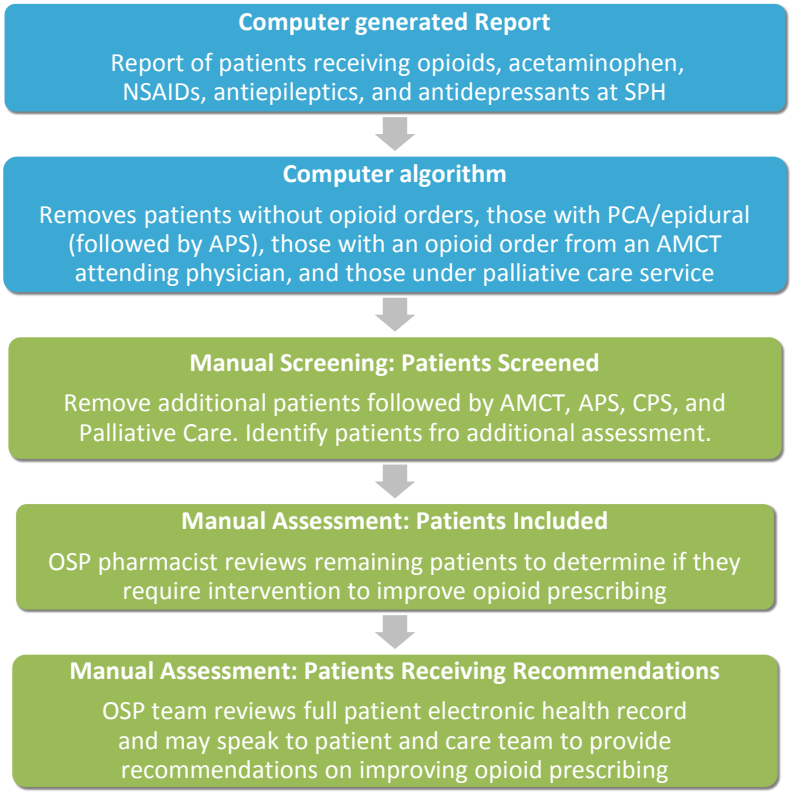
Figure 6. Identified Risk Factors for Patients Receiving Opioids at SPH (n=1571)



The top risk factors (i.e. opioid naïve, concurrent sedatives, age > 60 yearls old) are all associated with increased risk of adverse events from opioid use, and many patients presented with multiple risk factors that further increase that risk. Again, this presents opportunities to increase the safety around opioid prescribing at SPH with assessment and intervention by the OSP.

> **On our general surgery ward, the opioid stewardship program has helped our patients safely reduce opioid use post-operatively and minimize potential for adverse outcomes related to unecessary opioids both in hospital and when our patients return to the community.**
>
> *- Geoff Martinson, Clinical Pharmacist (General Surgery)*

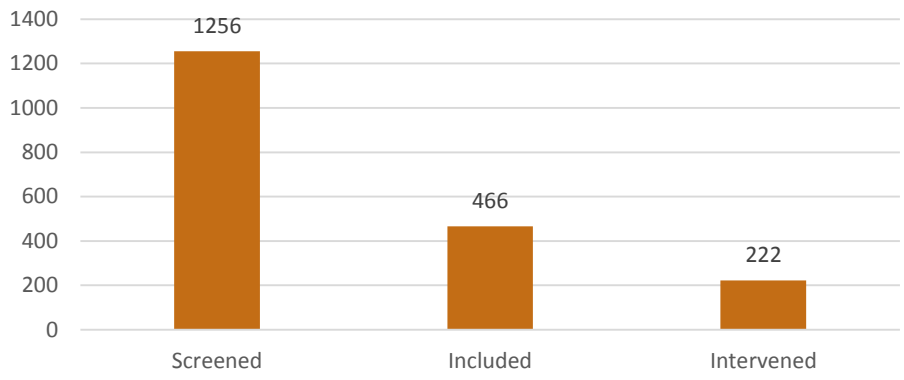
Patient Screening and OSP inclusion



**Abbreviations: NSAID – non-steroidal anti-inflammatory, SPH – St. Paul's Hospital, PCA – patient-controlled analgesia, APS – acute pain service, AMCT – addictions medicine consult team, CPS – complex pain service*

In the first six months of the program, the OSP clinical team screened 1256 patient encounters from 708 unique patients exposed to opioids. This was done on top of the computer generated report after the algorithm was run, and the number of "patient encounters" reflects that some patients were assessed multiple times during the course of their admission or over repeat admissions. Of these, 466 patient encounters from 304 unique patients met the criteria for inclusion (i.e. admitted to a non-critical care unit and not followed by addiction medicine, acute pain, complex pain, or palliative care services) and a subset of 222 patient encounters for 161 unique patients resulted in a recommendation for interventions The OSP audit and feedback program was on hold from March 17, 2020 to May 1, 2020 due to the COVID-19 pandemic. Individual consults were taken but audit and feedback screening, assessment, and recommendations were not made during this time.

Figure 7. Records Screened, Included, and requiring Interventions



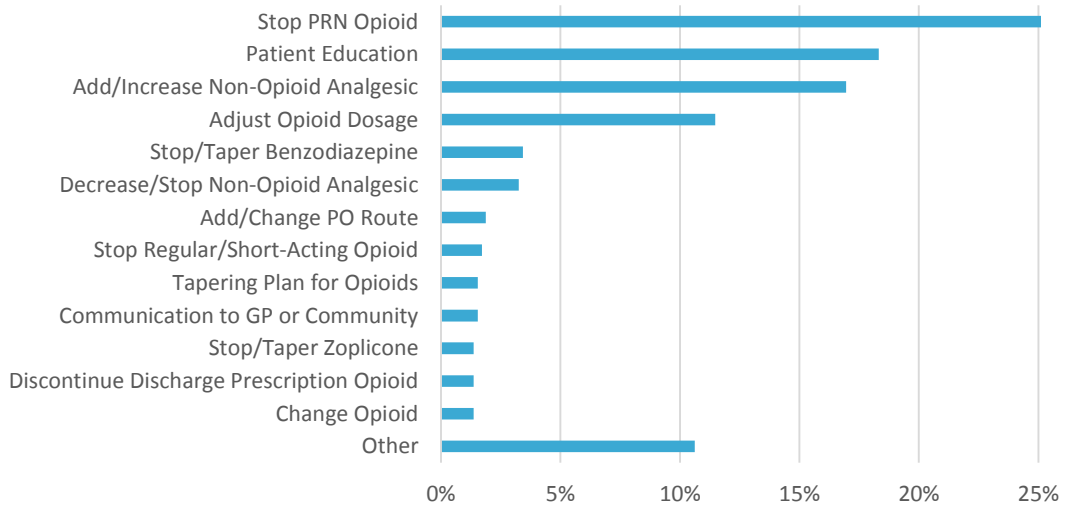
Recommended Interventions and Acceptance Rate

Below, we have reported on the different intervention recommendations, acceptance rate of these interventions, and number of consultations received.

Intervention Type

Of the 222 patient encounters from 161 unique patients that the OSP clinical team assessed, a total of 589 interventions were recommended. The four most common were: stopping as needed (PRN) opioids (25.2%), educating patients about opioid use or providing educational materials (17.7%), adding or increasing a non-opioid analgesic (17.4%), and adjusting the dosage of the prescribed opioid (16.6%).

Figure 8. Types of Interventions Provide by the OSP



**Other category includes: Add bowel medication, dispensing a naloxone kit, refer to acute pain service, discontinue discharge prescription opioids, stop regular or short-acting opioid.*

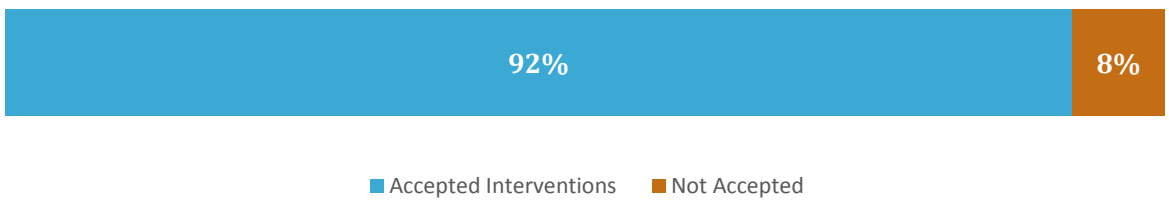
The top recommendations are indicative of the general overall approach to optimizing analgesia and reducing innappropriate opioid prescribing through optimizing non-opioid analgesia, educating patients on the use of opioid medications and associated adverse effects, and reducing or discontinuing opioids where appropriate.

Intervention Acceptance Rate

In the first six months of the OSP, we conducted a total of 589 interventions. The overall acceptance rate for the first six months of the OSP was 92%. Of the 8% of interventions that were not accepted (n=38), 8% were not accepted by the patient, and 92% were not accepted by the attending physician. The majority of recommendations "not accepted" by the prescriber were those that were only made through a note in the chart (not verbal discussion) and may have been due to the prescriber not seeing the note.

We note that the intervention rate has increased over time as prescribers become more familiar with the OSP and as we learn the most effective ways to communicate with various prescribers.

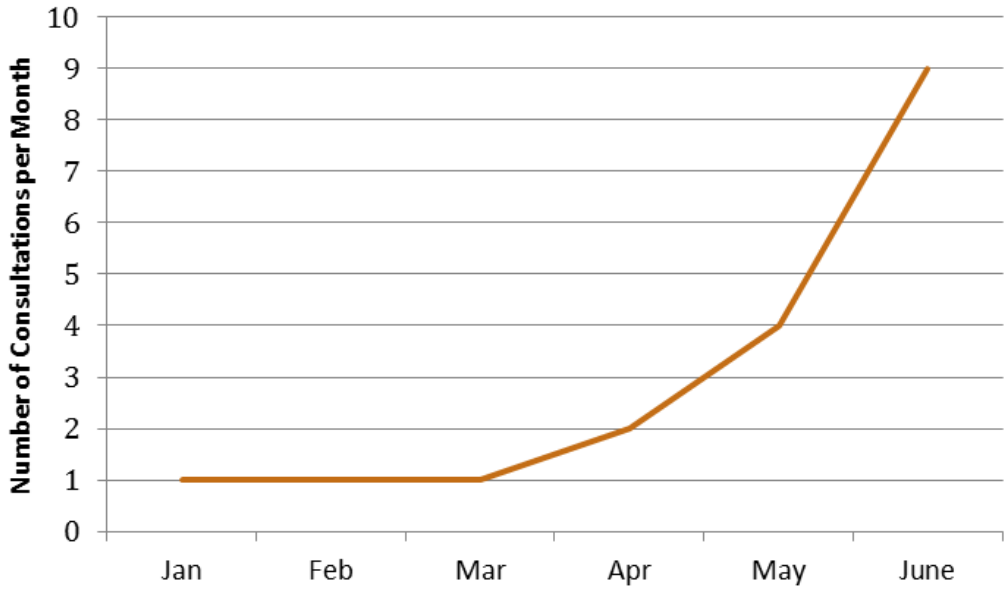
Figure 9. Overall Intervention Acceptance Rate

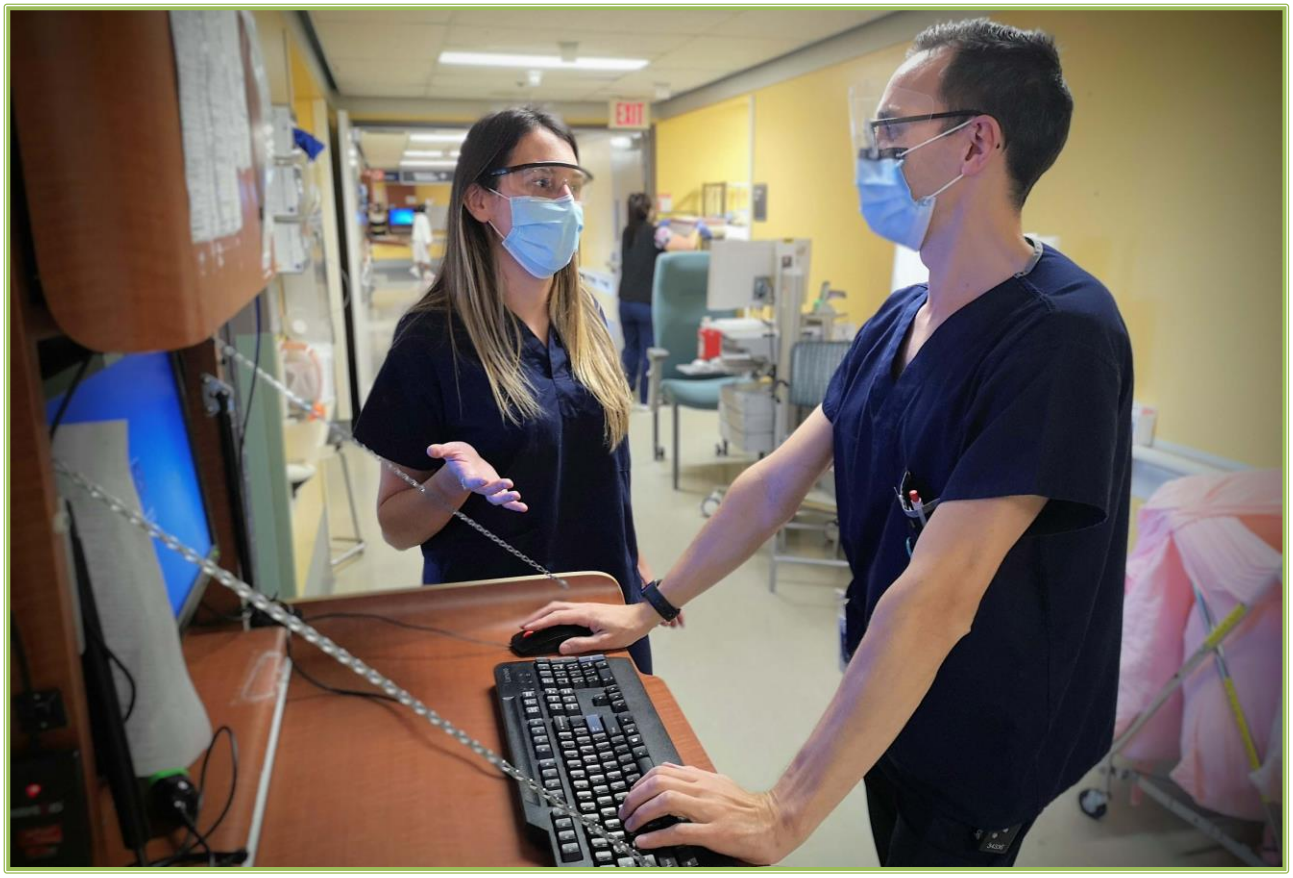


Consultations

The total number of consultations the OSP received in the first 6 months was 19. The number of consultations steadily increased over time, from a low of 1 in January to a high of 9 in June 2020. This not only indicates increased awareness about the OSP, but also increased clinician uptake and utilization of the services which OSP has to offer. These consultations are generally more complex and help the OSP identify patients who are at higher need of an assessment in a manner that is more timely than through general screening. It is our hope to further increase awareness of the program, increase consultations, and increase impact of the OSP on providing recommendations for patients who would most benefit from it.

Figure 10. Consultations Received by OSP





Education and Presentations

The OSP has been involved in a number of educational activities to improve the prescribing and use of opioids at SPH in a number of clinical areas including:

Date	Area	Presentation	Approximate number of attendees
February 11, 2020	Regional Pain Council	Overview of Opioid Stewardship Program	20
February 24, 2020	BCCSU Provincial Clinical Addiction Leads Meeting	Overview of Opioid Stewardship Program	40
March 12, 2020	Internal Medicine	Allied health orientation to OSP for internal medicine trainees (residents, medical students, etc.)	15
July 2 and 7, 2020	General and Orthopedic Surgery	Nursing rounds for nurses and nursing students on general surgery and orthopedic surgery wards	40
August 5, 2020	Orthopedic Surgery	Orientation for new orthopedic surgery fellows and nurse practitioner	
June 8 – July 3, 2020	Pharmacy	Clinical rotation for Lower Mainland Pharmacy Services Year 2 Resident	1
August 20, 2020	Pharmacy	Presentation for pharmacists at SPH on the OSP and opioid stewardship principles	15
October 7, 2020	Interdisciplinary Leaders in Substance Use Education, Research, Care, and Policy (AMERSA) conference	Poster presentation of opioid stewardship program and outcomes of audit and feedback for first 6 months	> 500
October 23, 2020	Pain BC and Providence Health Care: Interdisciplinary Pain Education Virtual Conference	Opioid Stewardship Panel Presentation	> 400

Quality Improvement

The OSP has been involved in a number of initiatives and quality improvement projects around opioid prescribing at SPH.

1) **Provider Satisfaction:** A cross-sectional questionnaire will be implemented to assess prescriber and clinical pharmacist satisfaction with the SPH OSP as well as determine the most impactful aspects of the program. The results of this study will inform future direction for the sustainability of the OSP. The expected date of completion for this study is Winter 2020.

2) **Guideline Review:** The SPH OSP has been involved in reviewing and providing feedback for new guidelines and order sets for obstetrics and gynecology. This is a regional initiative led by Dr. Geoffrey Cundiff that will impact multiple sites in the Lower Mainland. This collaboration aims to improve opioid prescribing within obstetrics and gynecology. We also hope that this can serve as a model for future opioid stewardship collaboration with individual departments to develop targeted initiatives to improve opioid prescribing in specific areas.

3) **Cerner Order Review**: The SPH OSP will be involved in reviewing future Cerner order sets that include opioids in order to increase safe and effective opioid prescribing, and reduce contribution of pre-printed orders to unnecessary opioid use. This is a collaboration between the CST group and the SPH OSP, and will impact multiple sites across Providence Health and Vancouver Coastal Health. Our goal is to provide a more systemic approach in improving opioid prescribing through optimization of regional order sets which will have a greater and more widespread impact.

> My 35 year old son died June 21, 2018. He got opioids from a friend who was prescribed opioids from a family GP and in hospital after a car accident. Left over pills from friends who did not take any, or all that they are prescribed, sit at home and can be used or stolen by others who do not have a prescription.
>
> - *Heather Boswell (Moms Stop the Harm)*

Research and Evaluation

Impact of Cerner on Opioid Prescribing

This retrospective point-prevalence study aims to look at the impact of the implementation of an electronic health record, Cerner, on opioid prescribing at SPH, with a focus on two key features that were introduced in Cerner in November 2019:

1) Removal of 7-day automatic stop dates on all opioid orders
2) Availability of multiple order sets with opioid orders

A review of opioid orders for patients admitted prior to Cerner implementation and post-Cerner implementation will be compared.

The results of this study will inform how to optimize opioid prescribing utilizing Cerner's electronic health record. The expected date of completion for this study is Spring 2021.

Opioid Post-Operative Discharge Prescriptions

This study is a collaborative effort between the OSP and the Department of General Surgery. Previous studies have shown that a large proportion of patients discharged from surgical units receive more opioids than they require and typically do not dispose of these leftover opioids after acute pain resolves. The objective of this study is to assess the appropriateness of discharge opioid prescriptions within the SPH general surgery department. These will be assessed in 2 ways:

1) To compare the discharge prescription to opioid use and requirements in hospital prior to discharge.
2) To contact patients after discharge to determine the amount of their opioid prescription utilized, how effective it was for pain management, any adverse effects they experienced, and how they stored and disposed of their remaining opioids.

This project will help inform future opioid prescribing within the Department of General Surgery. The estimated date of completion is Summer 2021.

Opioid Stewardship Program Beyond 6 months

In these first 6 months of the OSP, we were able to initiate a successful clinical program including audit and feedback and consultation services, provide educational content to staff at SPH, initiate a number of research and quality improvement initiatives, and establish an interdisciplinary opioid stewardship advisory committee.

We endeavor to further expand our clinical services and continue to identify more targeted areas for education and quality improvement as we continue to examine trends in opioid prescribing through the OSP. Furthermore, we hope to continue to promote SPH as a leader in the response to the overdose crisis through dissemination of our learning with other sites both locally and internationally.

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Providence Health Care and St. Paul's Hospital

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SPH Pharmacy

We would like to thank the SPH Pharmacy Department for management and resource contributions including administration support.

Clinical Systems Transformation group

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Fraser Health Opioid Stewardship Programs

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