

St. Paul's Hospital Opioid Stewardship Program:

2 Year Program Report
January - December 2021

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TABLE OF CONTENTS

EXECUTIVE SUMMARY	1
BACKGROUND	4
Opioid Stewardship at St. Paul's Hospital.....	5
OSP Team Members	6
<i>Clinical Team</i>	6
<i>Operational Team</i>	6
<i>Research Team</i>	7
PROGRAM ACTIVITIES	8
Overview	8
Audit and Feedback Program	8
<i>Review of Audit and Feedback Statistics</i>	13
<i>Patient Baseline Demographics</i>	13
<i>Review of Opioid Orders</i>	15
<i>Identified Risk Factors</i>	16
<i>Patient Screening and OSP inclusion</i>	17
<i>Recommended Interventions and Acceptance Rate</i>	18
Education and Presentations	23
Quality Improvement and Research	24
<i>Patient Satisfaction Survey</i>	24
<i>Change to PRN Opioid Medication Administration Policy</i>	25
<i>Controlled Prescription Program Update Infographic</i>	27
<i>Procedural PowerPlan Discontinuation</i>	27
<i>Opioid Post-Operative Discharge Prescriptions</i>	28
<i>Impact of Cerner on Opioid Prescribing</i>	28
Opioid Stewardship Program Beyond Year 2	29
ACKNOWLEDGEMENTS	30
REFERENCES.....	31

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, 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 the Providence Health Care (PHC) and the Vancouver Coastal Health (VCH) authority geographical areas, and the third within BC. Following its inaugural year, the program secured sustained funding from PHC beginning in 2021.

In the second year of the program, the OSP has continued to provide audit and feedback and consultation services to numerous clinical programs at SPH. Other initiatives at SPH have included a number of educational presentations, clinical trainee rotations, patient and provider satisfaction evaluations, and continued convening of the established Opioid Stewardship Advisory Committee (OSAC).

Through our audit and feedback approach, the second year of the OSP provided a total of 2,014 recommendations for improving opioid prescribing among 645 patient encounters. This represents a 26% increase from the number of recommendations offered in year 1. Examples of the most common recommendations provided include: patient education (19%), adding or increasing a non-opioid analgesic (16%), and stopping as needed (PRN) opioids (15%). In total, the program has demonstrated continued success with 96% of recommendations offered being accepted and integrated into clinical practice (an increase from 93% in year 1).

In addition to the program's clinical activities, a number of educational initiatives have been undertaken to improve opioid prescribing. More specifically, the OSP team has successfully delivered presentations at 19 educational events to increase awareness of the program and disseminate results regarding its effectiveness. The range of educational events is substantial and ranges from hospital-based (e.g., medicine resident teaching, orthopedic surgery fellow training, general surgery nursing rounds, hospital grand rounds), to regional (e.g., obstetrics and gynecology regional rounds), and national (e.g., Western Canada Pain Rounds and the British Columbia Centre on Substance Use Conference).

Furthermore, the OSP team has been actively participating in research and quality improvement initiatives. Examples of these include: patient and health care provider OSP satisfaction surveys, educational infographic development for the BC Controlled Prescription Program, and evaluation of opioid use following discharge from general surgery

Finally, the SPH Opioid Stewardship Advisory Committee, a group of interdisciplinary health care providers at SPH, convened 6 times throughout the year to review system level changes that may be required to optimize opioid prescribing in the hospital setting. Activities have included submitting requests to modify PowerPlans containing potentially unsafe opioid and

benzodiazepine orders as well as requesting changes to regional medication administration policies to allow for safer administration of as needed (PRN) medications.

To date, the OSP has demonstrated tremendous success at improving patient care and safety with regards to opioid prescribing in the hospital setting. Such success could not have occurred without the incredible support of all of the staff at SPH and their commitment to improving patient care. The OSP team are committed to ensuring that the changes we make today have an equally substantial, positive impact moving forward.

This report describes key indicators for the second year (e.g., January – December 2021) of the St. Paul's Hospital Opioid Stewardship Program.



St Paul's Hospital OPIOID STEWARDSHIP PROGRAM

January 2021 – December 2021



Objective: To improve opioid prescribing practices to reduce adverse events and long-term dependence and avoid future misuse, while maintaining or improving pain management for individuals receiving opioids during their acute admission.

Program Activities

Clinical Activities

- Consultations
- Audit & Feedback

Education

- Presentations
- Guideline Development

Quality Improvement, Research & Evaluation

- Research Projects
- Quality Improvement Initiatives

15,867

patient encounters identified to be potentially prescribed opioid inappropriately



In the second year...

2,991

identified patient encounters that were screened

1,032

screened patient encounters that were reviewed

645

reviewed patient encounters that were offered an intervention



96% recommendations accepted



68%
opioid naïve



51%
> 60 years

5 most common recommendations



19% patient education

16% add/increase non-opioid pain medication

15% stop as-needed opioids

13% adjust opioid dosage

6% stop/taper other sedating medications

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 lead 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. The SPH OSP is the third OSP within acute care in the Lower Mainland and in Canada. Other programs within Canada are focused on community prescribing. Furthermore, the SPH OSP is the only acute care program that includes both a physician and a pharmacist along with a significant research program running concurrently with the clinical program.

SPH is an optimal location for an inpatient opioid stewardship program as it is 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. SPH has a number of world class surgical programs (e.g. cardiac, colorectal, vascular, and orthopedic surgery) which often involve the prescribing of opioid medications. It is also a centre for internal medicine, urban health, and mental health services for downtown Vancouver which provides care for structurally vulnerable patients who may be more likely to have opioid addiction. With Vancouver being at the epicentre of North America's overdose crisis, SPH has an important opportunity to lead clinical practice locally and beyond by demonstrating a commitment to improve opioid prescribing to reduce adverse events and long-term dependence.²⁰

In the second year of the program, the primary goal of the OSP remains to improve opioid prescribing, utilization, and monitoring at SPH in order to prevent or reduce adverse events, risk of inappropriate long-term use and dependence, and to improve or maintain adequate pain control for SPH patients.

This is accomplished through: (1) clinical activities including implementation of a prospective audit and feedback intervention as well as clinical consults; (2) quality improvement and research initiatives including evaluation of the program and outcomes as well as collaborative projects around opioid use in various departments; and (3) education including development of clinical tools, presentations to various departments and health disciplines.

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 collaborates with 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



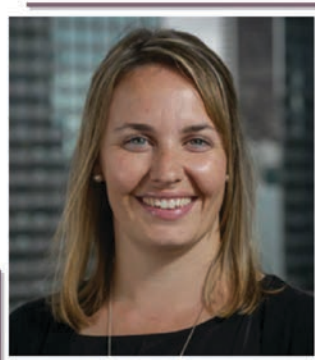
Steven Shalansky, PharmD

Research Team

The research component of the OSP is led by Drs. Lianping Ti (Research Scientist at the BC Centre on Substance Use [BCCSU]) and Seonaid Nolan (Clinician Scientist at the BCCSU and holder of UBC's Steven Diamond Professorship in Addiction Care Innovation). 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 from 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:

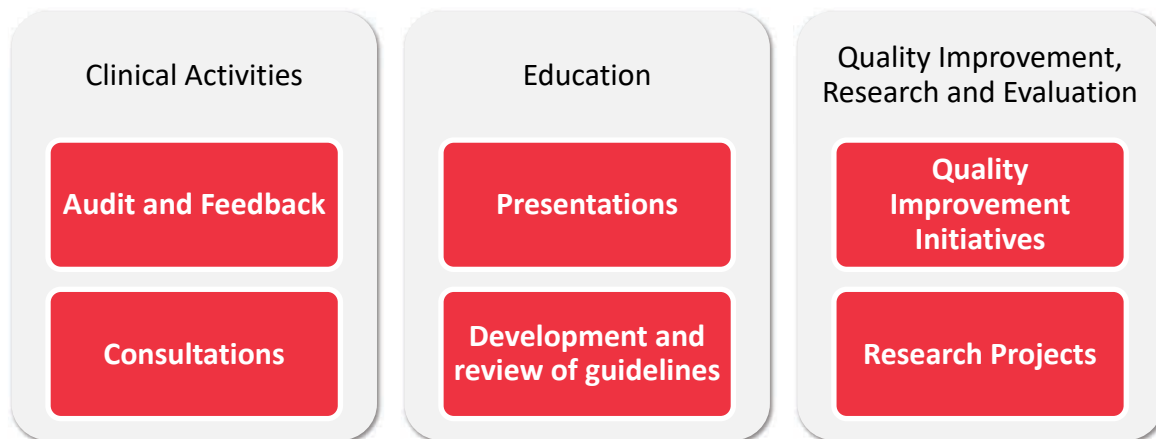
- Dr. Keith Ahamad (Regional Addiction Program)
- Elizabeth Dogherty (Addictions Medicine, Nursing)
- Naomi Watt (Addictions Medicine, Nursing)
- Dr. Joan Ng (Addiction Medicine)
- Dr. Nadia Fairbairn (Addiction Medicine)
- Dr. Andrew Kestler (Emergency Department)
- Dr. Renee Janssen (Internal Medicine)
- Stephanie Chan (Medication Safety, Pharmacy)
- Teresa Hsieh (Medication Safety, Pharmacy)
- Isabel Diogo (Medication Safety, Nursing)
- Derreck Lee (Medication Safety, Nursing)
- Courtney Symes (Medication Safety, Nursing)
- Dr. Geoffrey Cundiff (Obstetrics and Gynecology)
- Dr. Tamim Umran (Orthopedic Surgery)
- PJ Matras (Acute Pain Service)
- Dr. Ainsley Sutherland (Acute Pain Service)
- Dr. Christopher Robertson (Complex Pain Service)
- Dr. Michael Legal (Pharmacy)
- Dr. Steve Shalansky (Pharmacy)

- Leslie McBain (Patient and Family Engagement)
- Dr. Tamara Mihic (Opioid Stewardship)
- Dr. Seonaid Nolan (Opioid Stewardship)
- Dr. Lianping Ti (BC Centre on Substance Use)

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) then provision of 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, thus requiring 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 from pharmacy 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). Full details regarding the screening process are included below.

STEP 1: Computer generated report

Pharmacy generates a daily report of patients receiving opioids, acetaminophen, NSAIDs, antiepileptics, and antidepressants at SPH



STEP 2: Computer algorithm

Patients are removed if: (1) they are without an opioid order; (2) they have a PCA/epidural (followed by APS); (3) have an opioid order from an AMCT attending physician; or (4) they are admitted by the palliative care service
High risk opioid orders are flagged.



STEP 3: Manual Screening: Patients screened

OSP team then manually remove any remaining patients followed by AMCT, APS, CPS, and Palliative Care and identifies a final list of patients eligible for inclusion in the OSP.



STEP 4: Manual Assessment: Patients included

OSP pharmacist triages the final list according to the number of high-risk opioid orders (e.g., a patient with 4 high-risk opioid orders would be seen preferentially over a patient with 1)



STEP 5: Manual Assessment: Patients receiving recommendations

OSP team reviews full patient electronic health record and may speak to patient and care team, if felt appropriate, and provides recommendations on improving opioid prescribing

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

The steps listed above are reviewed in more detail:

STEP 1: Computer Generated Report

An initial screening list is compiled by the OSP Clinical Pharmacy Specialist 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).

STEP 2: Computer Algorithm

A separate screening algorithm then removes any patients without an opioid order, those with patient-controlled analgesia (PCA) or epidural orders (as a marker of APS involvement), and orders written by an attending physician from the addiction medicine consult team (AMCT).

Following this, the screening algorithm then identifies the number and type of high-risk opioid orders for each patient. The 13 criteria used to identify a high-risk opioid order were developed based on a comprehensive literature review and consultation with physicians with expertise in chronic pain and addiction management. These include:

Patient-related Risk Factors:

1. Use of opioid medication in a patient who is opioid naïve
2. Use of opioid medication in a patient with personal history of depressive disorder, anxiety disorder, and/or post-traumatic stress disorder
3. Use of opioid medication in a patient greater than 60 years old

Prescription-related Risk Factors:

4. Use of parenteral opioids when orders suggest the patient is receiving a normal diet and taking nutrition orally
5. High frequency opioid prescribing (<4 hours)
6. Multiple different opioids prescribed concomitantly for regular and as needed (PRN) use
7. Regular dosing of an opioid prescribed for PRN use
8. Long-acting opioid prescriptions within the first 5 days of a patient's hospital stay
9. High daily dose of an opioid, defined as a prescribed daily dose of 90 morphine milligram equivalent (MME) or greater
10. Long duration of opioid prescribing, defined as a patient on opioids on or beyond day 5 of hospitalization
11. Concurrent opioid and sedative (e.g. benzodiazepine) prescription
12. No adjunctive order for non-opioid analgesics including acetaminophen, NSAIDs, and/or medication for neuropathic pain (where appropriate)
13. Use of an opioid medication where naloxone administration was required in the last 24 hours

Of note, there are other evidence-based criteria that increase the risk of opioid-related adverse events (e.g. renal and hepatic impairment, history of or active substance use disorder) that we were unable to include due to limitations with our screening list. However, these are assessed during STEP 4 by the Opioid Stewardship Clinical Team.

STEP 3: Manual Screening: Patients Screened

The OSP Team manually screens through the list and patient charts to remove additional patients followed by AMCT, APS, CPS, and palliative care.

STEP 4: Manual Assessment: Patients Included

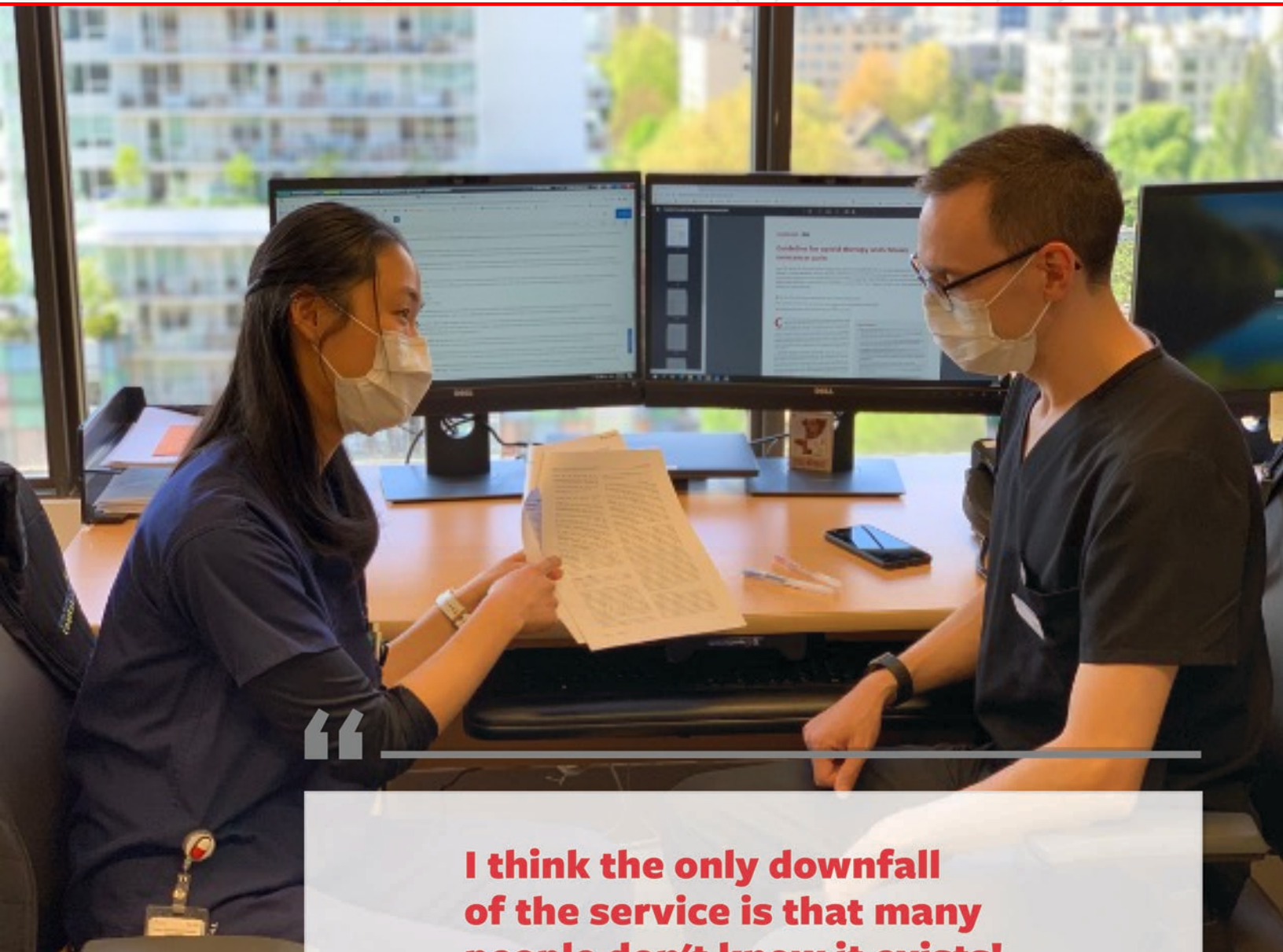
The OSP pharmacist triages the final list of patients according to the number of high risk opioid orders (i.e. a patient with 4 high-risk opioid orders would be seen preferentially over a patient with 1).

Based on a preliminary review of the electronic health record, patients are identified who may benefit from an intervention to optimize opioid prescribing.

STEP 5: Manual Assessment: Patients Receiving Recommendations

Patients identified in STEP 4 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).



“

**I think the only downfall
of the service is that many
people don't know it exists!**

”

Review of Audit and Feedback Statistics

This section summarizes the baseline demographics, risk factors, and opioids ordered for patients exposed to opioids at SPH from January 04, 2021 to December 31, 2021. The patients included in this analysis are from “STEP 2: Computer Algorithm” of the screening process listed on page 10.

Furthermore, this section will also provide details regarding all patients screened for and assessed by the OSP as well as the number and type of recommendations and acceptance rate of these recommendations between January and December 2021.

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 6,719 unique patients who were exposed to opioids between January and December 2021. These patients were identified by pharmacy’s daily generated 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.

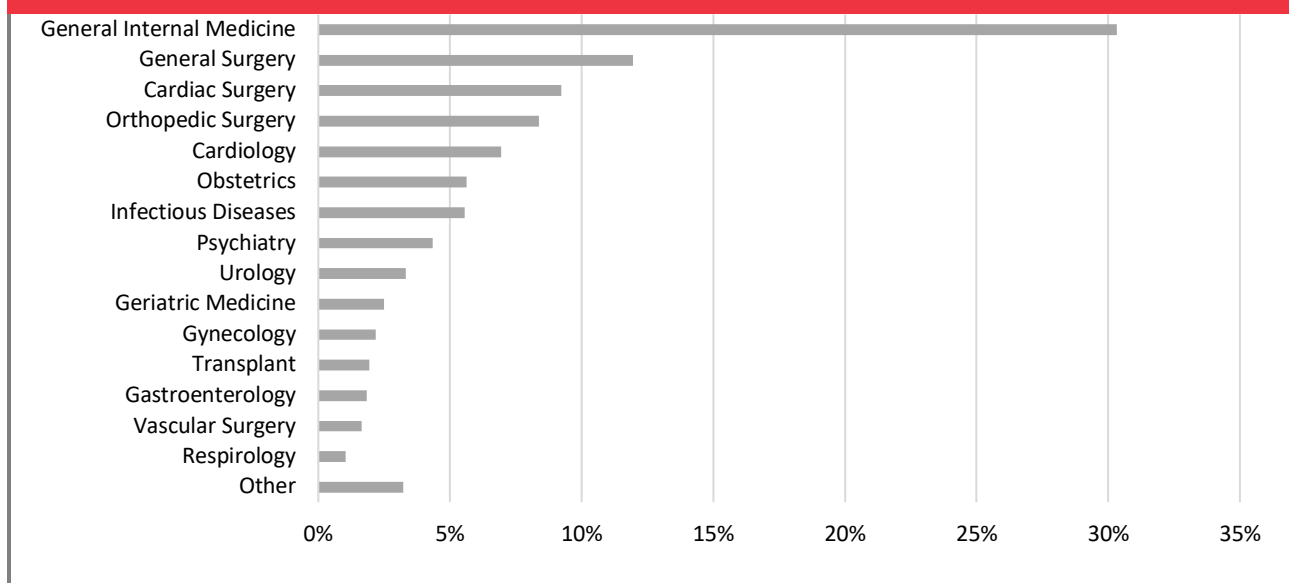
Age and Sex

Of the 6,719 unique patients exposed to opioids from January to December 2021: 43% were female, 57% male, and less than 1% were unknown. The mean age was 54 years for females, 58 years for males, and 42 years for those with unknown sex.

Admitting Clinical Service

Patients prescribed opioids (n=6,719) were under the care of a variety of clinical services at SPH. The largest proportion of patients were admitted to General Internal Medicine (30%), General Surgery (12%), and Cardiac Surgery (9%). 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 the screening process. Also, the distribution of patients prescribed opioids by various services does not necessarily reflect suboptimal prescribing practices on these services, rather it may relate to the volume of patients admitted under these services.

Figure 1. Admitting Clinical Service of Patients Prescribed Opioids at SPH (n=6,719)



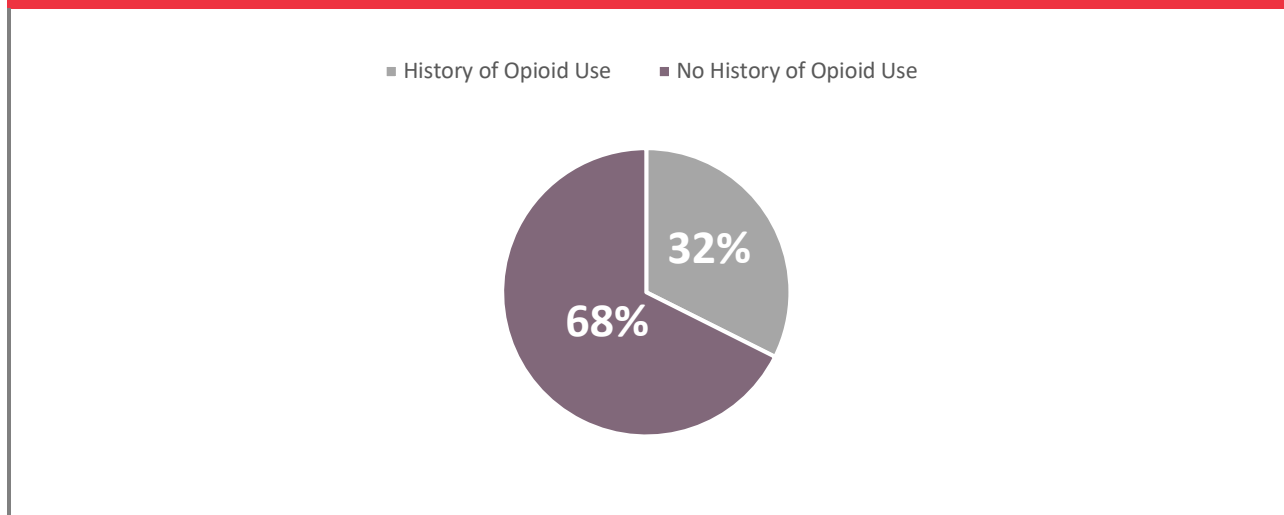
* Other includes: Plastic Surgery, Critical Care, Pain Medicine, Nephrology, Hematology, Otolaryngology, Neurology, and Ophthalmology.

Opioid Use Prior to Admission

History of opioid prescription within 30 days prior to hospital admission was collected as a marker of whether the patient was opioid naïve or not. This information was collected for nearly all patients included in the dataset, with the exception of dates where the data was not available (n=6,554). The majority of patients (68%) were opioid naïve at the time of hospital admission.

Patients prescribed opioids who are previously opioid naïve are at higher risk of adverse events from opioids due to a lack of tolerance. This provides an opportunity for the OSP to provide recommendations to encourage safer use of opioids. Patients who do have a history of opioid use often times have a complex pain history, escalated doses of opioids in community, and may be at higher risk for poorly managed acute pain in hospital. There is an opportunity for the OSP to intervene and provide recommendations to improve acute pain management (including liaising with our pain teams) and reduce inappropriate, long-term use of opioids for both patient populations.

Figure 2. 30-day Opioid Use History of Patients Receiving Opioids at SPH (n = 6,654)



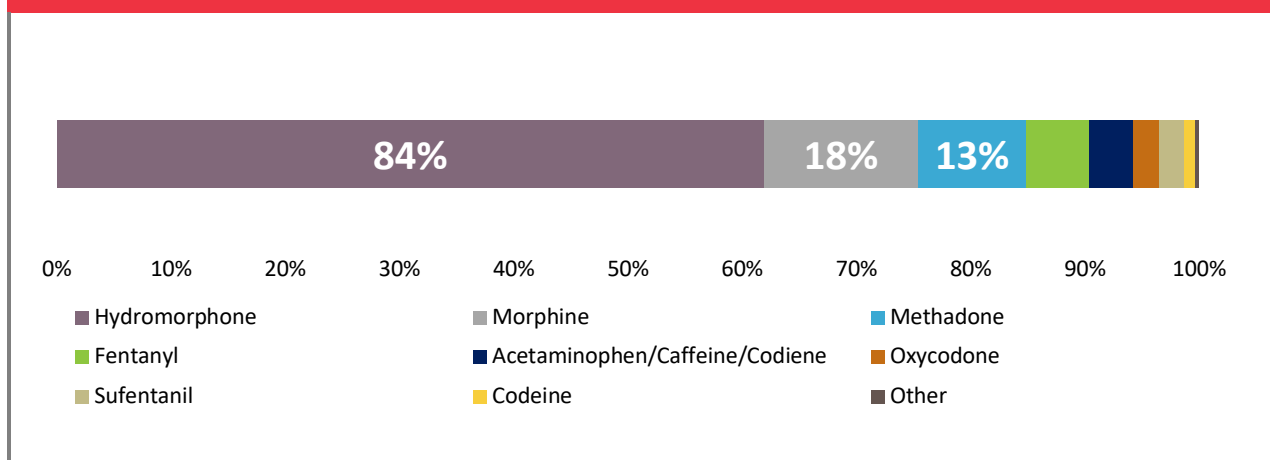
Review of Opioid Orders

Below, we have reported on active opioid orders among unique patients exposed to opioids from January to December 2021 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.

Type of Opioid Prescribing

Numerous formulations of opioids were prescribed for patients at SPH. Hydromorphone was the most common opioid prescription and the majority of patients received hydromorphone during their hospital stay (84%) with morphine as the second most common (18%). Patients could have multiple opioids prescribed; thus, the sum of the percentages is greater than 100%.

Figure 3. Type of Opioid Prescribed (n=6716)



**Other category includes: Acetaminophen-Codeine, Oxycodone-Acetaminophen, Meperidine, Opium-Belladonna, Tramadol, Diacetylmorphine, and Tapentadol.*

Frequency of Opioid Prescribing

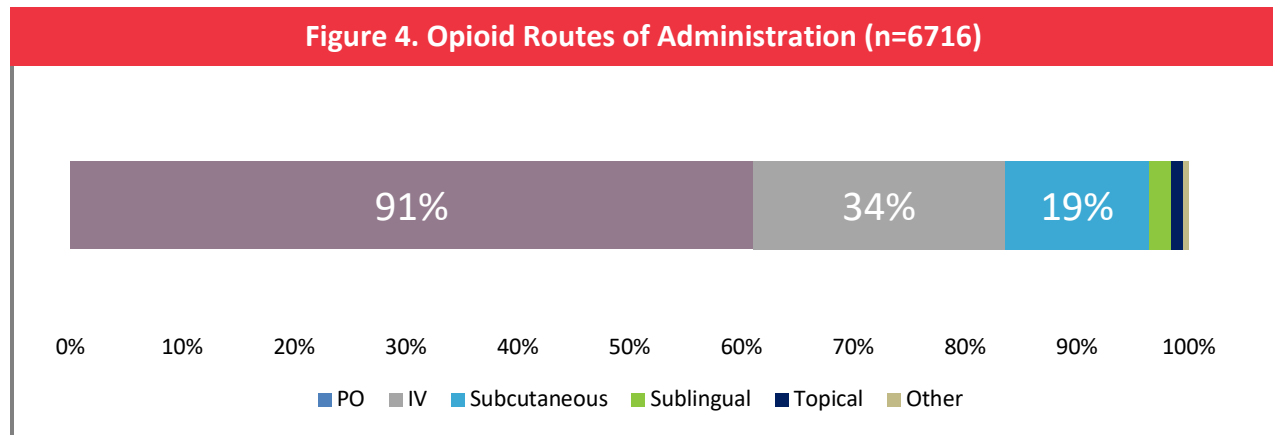
The majority of patients (65%) were exclusively prescribed as needed (PRN) opioids, 35% received a mixture of both PRN opioids and regularly prescribed opioids, while none were prescribed only regularly scheduled opioids.

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 exposure) or to optimize pain control by recommending a change to a regularly scheduled regimen for patients that require it.

Route(s) of Administration for Opioid Prescribing

For patients exposed to opioids, the majority of patients were prescribed at least one opioid with an oral administration route (91%). About one-third of patients (34%) were prescribed an intravenous opioid and 19% had a subcutaneous opioid order. Patients could have multiple treatment routes; thus, the sum is greater than 100%.

Although the most common route of opioid prescribing is oral, several patients were still receiving parenteral opioids. This may represent an example of inappropriate use if patients were able to take an oral formulation. Accordingly, an opportunity arises 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 errors.

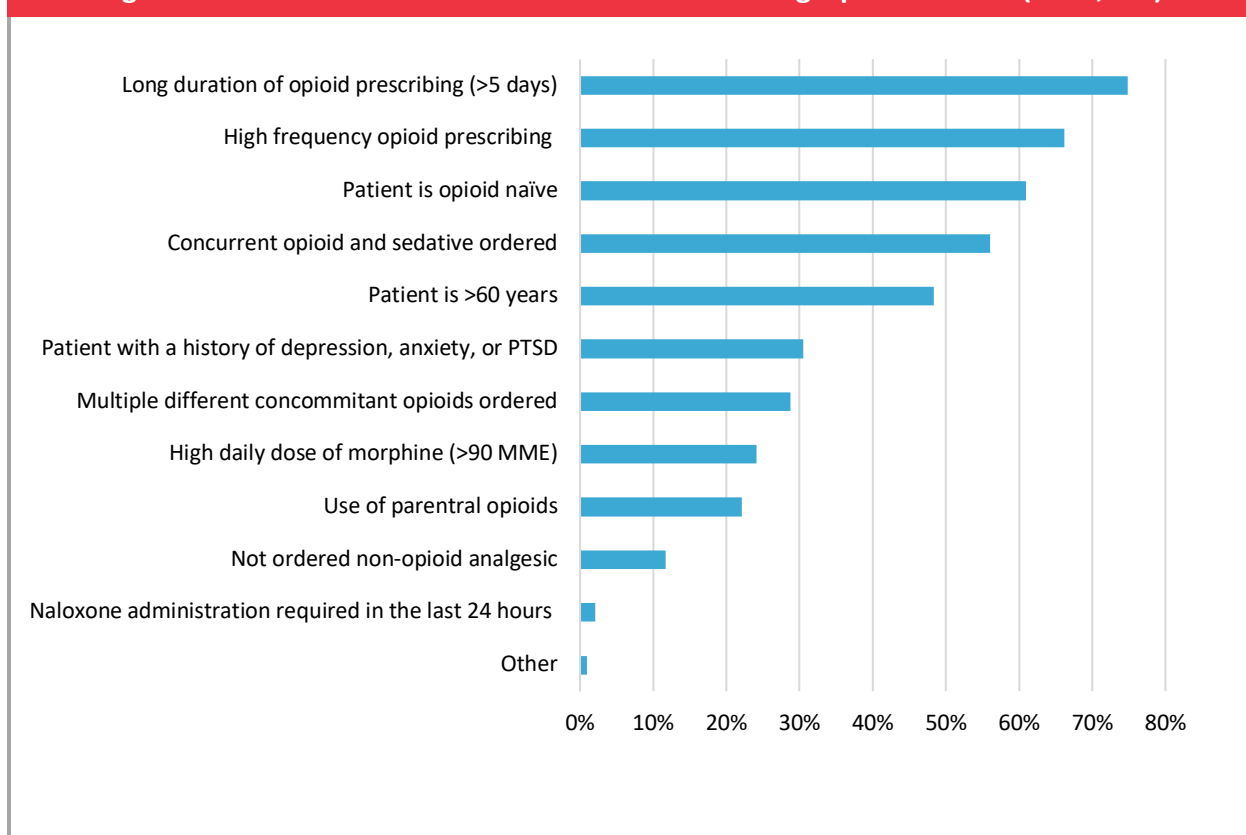


* Other category includes: Intramuscular, NG-tube, PEG-tube, J-tube, NJ-tube, ND-tube, OG-tube, rectal, and buccal

Identified Risk Factors

The screening algorithm identified risk factors for 15,867 patient encounters among 6,022 unique patients exposed to opioids between January to December 2021 (data was unavailable for n = 694 patients). The most common risk factors identified included: long duration of opioid prescribing (75%; risk factor #7 above), high frequency opioid prescribing (66%; risk factor #2 above), and use of opioids for patients who are opioid naïve (61%; risk factor #10 above).

Figure 5. Identified Risk Factors for Patients Receiving Opioids at SPH (n=15,867)

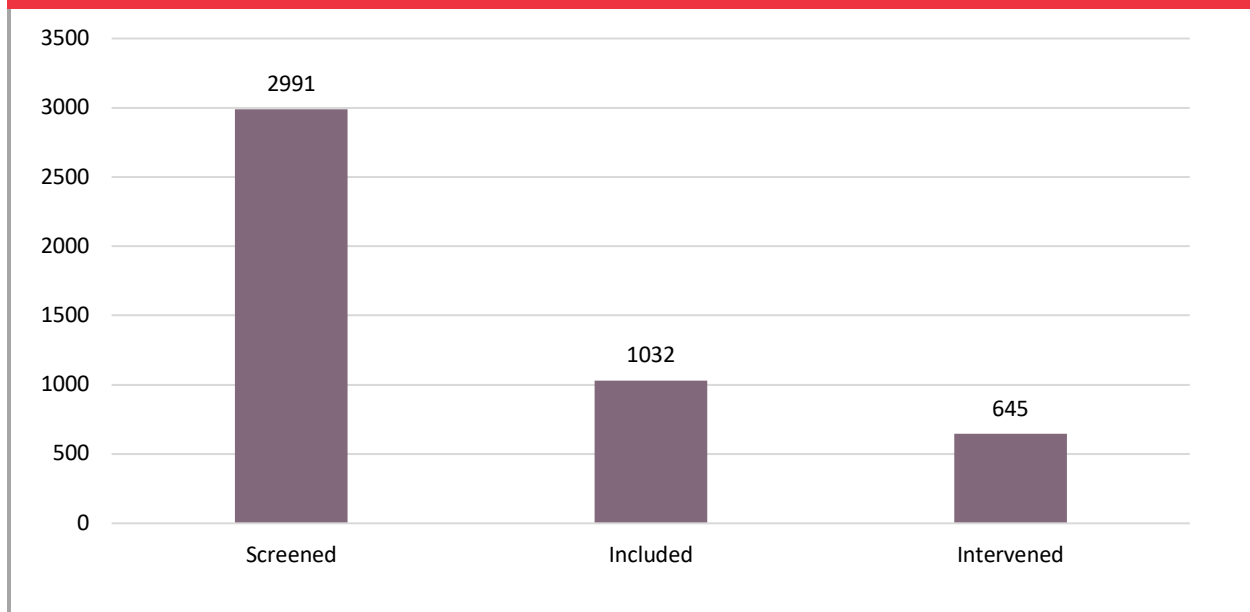


A number of the most common risk factors are modifiable and can be intervened on to reduce the risk of adverse events. Additional risk factors such as patient being opioid naïve or age >60 years further increase risk of adverse events and allow for opportunities for the OSP to provide targeted interventions to those who would benefit most. The most common risk factor (i.e., long duration of opioid prescribing) is also associated with increased risk of long-term dependence and provides a major opportunity for intervention that could have a long-term impact beyond acute care.

Patient Screening and OSP inclusion

In the second year of the of the program, the OSP clinical team screened 2,991 patient encounters from 1,337 unique patients who were exposed to opioids (STEP 3: Manual Screening: Patients Screened). 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, 1,032 patient encounters from 552 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 received further assessment to determine if intervention to improve opioid prescribing was required (STEP 4: Manual Assessment: Patients Included). A subset of 645 patient encounters for 328 unique patients resulted in recommendations for interventions being offered (STEP 5: Manual Assessment: Patients Receiving Recommendations).

Figure 6. Patient Encounters Screened, Included, and Interventions Offered by OSP (n=1,337 unique patients)

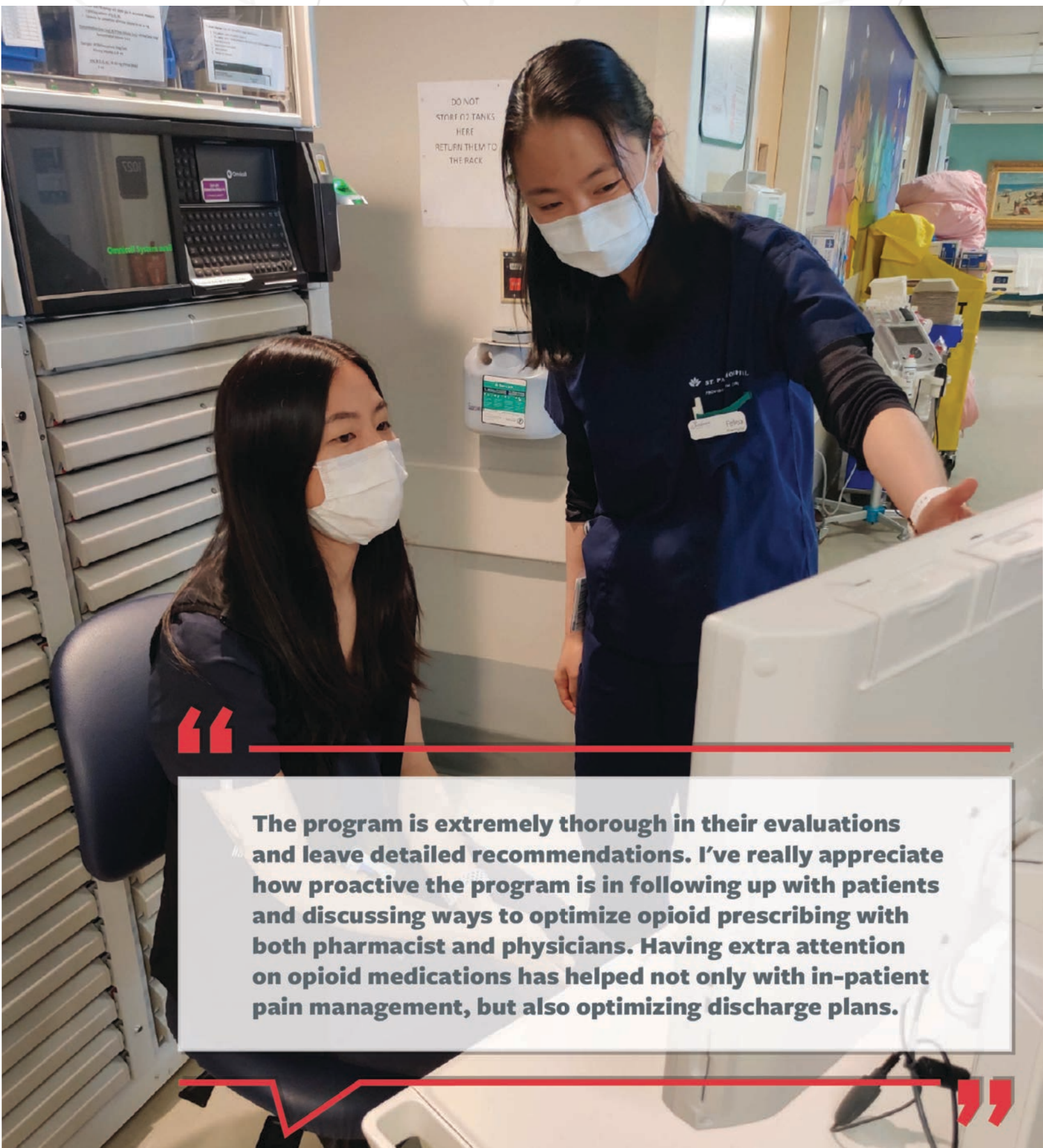


Recommended Interventions and Acceptance Rate

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

Type of Recommended Intervention

Of the 645 patient encounters from 328 unique patients that the OSP clinical team assessed, a total of 2,014 interventions were recommended. The three most common were: patient education (19%), adding or increasing a non-opioid analgesic (16%), and stopping as needed (PRN) opioids (15%).

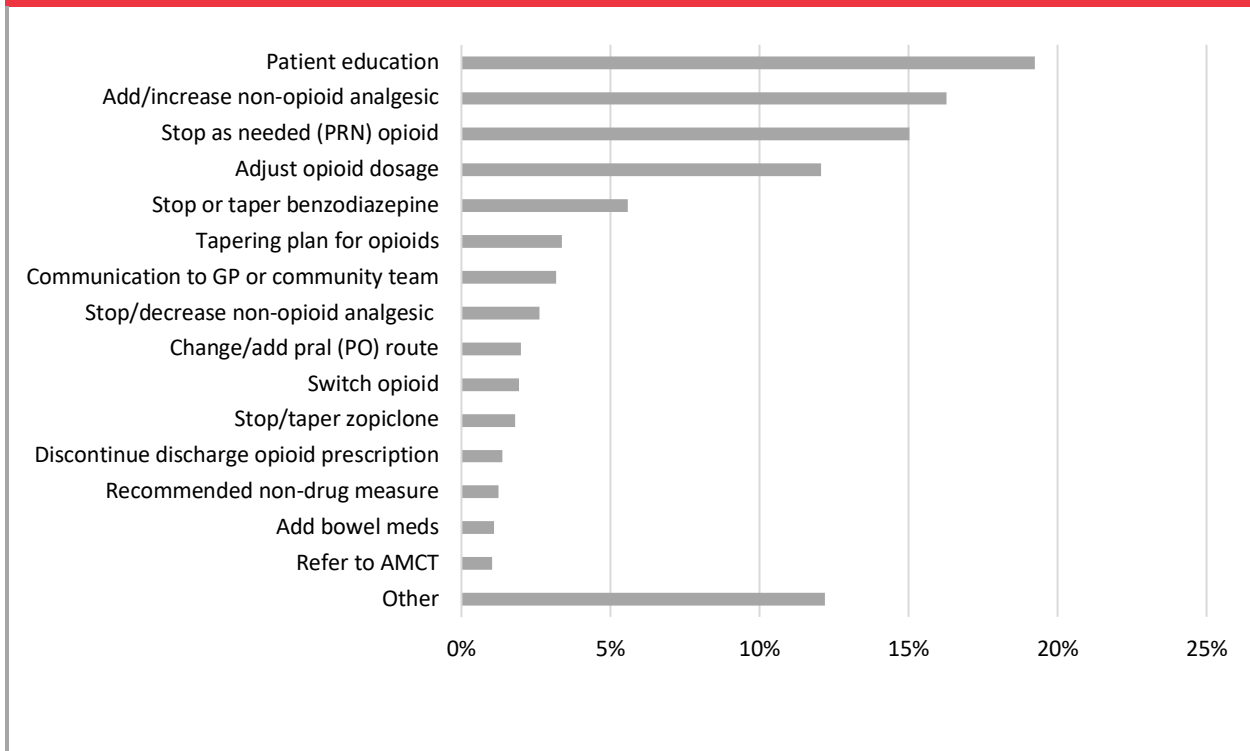


“

The program is extremely thorough in their evaluations and leave detailed recommendations. I've really appreciate how proactive the program is in following up with patients and discussing ways to optimize opioid prescribing with both pharmacist and physicians. Having extra attention on opioid medications has helped not only with in-patient pain management, but also optimizing discharge plans.

”

Figure 7. Types of Interventions Provide by the OSP (n=2,014)



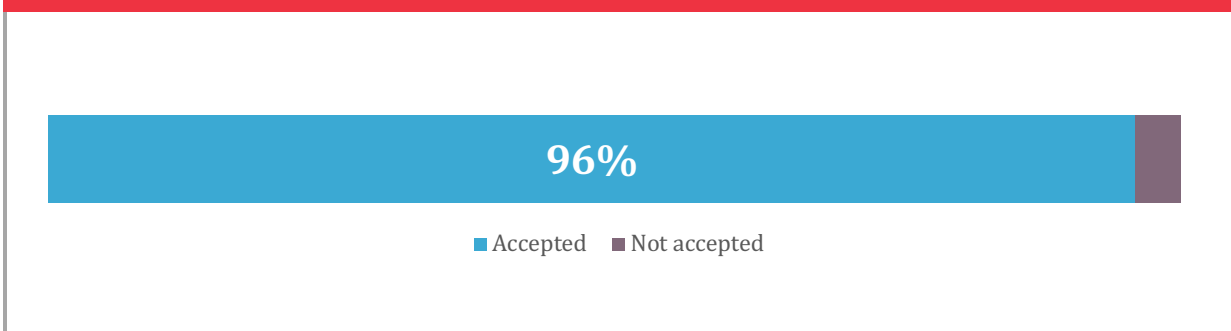
* Other category includes: Ordering inpatient naloxone or a naloxone kit on discharge, referral to acute or chronic pain service, or palliative care service, change or discontinue discharge opioid, stop regular long acting opioid, refer to palliative care, and stop short acting opioid.

The most common recommendations are indicative of the general overall approach to improving 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. The recommendations correspond to the most common risk factors described above (i.e. long-duration of opioid prescribing may lead to discontinuation of PRN opioid, use of opioid in opioid naïve patient or patient > 60 years of age may lead to adjustment in dose).

Acceptance Rate of Recommended Interventions

In the second year of the OSP, we offered a total of 2,014 recommended interventions. The overall acceptance rate for the second 12 months of the OSP was 96%. Of the 4% of recommended interventions that were not accepted (n=73), 18% were not accepted by the patient, and 63% were not accepted by the prescribing physician (or their team). Reasons for not accepting were not provided for the remaining 19%. 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.

Figure 8. Overall Acceptance Rate of Recommended Interventions (n=2,014)



Consultations

The total number of consultations the OSP received over year two of this project was **127**. This figure is equal to the previous year and shows that the program is has had sustained uptake. The number of consultations remained relatively constant throughout the year, from a low of 1 in January to a high of 9 in June 2021, averaging at about 4 consultations per month. This not only indicates increased awareness about the OSP, but also increased appetite among clinicians to involve the program in patient management. These consultations are generally more complex and help the OSP identify patients at higher need of an assessment in a timelier manner 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. As the OSP is one of a number of consult services available at SPH in regards to opioid prescribing (in addition to the Acute and Complex Pain Services, Addiction Medicine Consult Team, and Palliative Care Service) we also anticipate that we may continue to act as a bridge to facilitate appropriate consultations to other services for more comprehensive, targeted interventions and longitudinal follow-up.



They helped me understand the different effect of different types of drugs that were less evasive than others. You guys rock.



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
January 8, 2021	Regional Department of Obstetrics and Gynecology Rounds	Opioid Stewardship Program	20 + posted online
February 22, 2021	Medicine Grand Rounds	Opioid Stewardship in Internal Medicine	30
March 10, 2021	UBC Medicine – Internal Medicine Students Club	Opioid Stewardship in Internal Medicine	20
March 10, 2021	PHC Acute Nursing Practice Council Meeting	Opioid Stewardship Program	30
March 23, 2021	PHC Nurse Educator and Clinical Nurse Leader Meeting	Opioid Stewardship Program	20
March 29 – April 30, 2021	Pharmacy	Clinical rotation for University of Toronto PharmD student	1
April 8, 2021	Department of Medicine Grand Rounds	Opioid Stewardship Program	30
April 13, 2021	SPH Inpatient Renal	Nursing rounds for nurses and nursing students on 6B	10
June 28 – August 6, 2021	Pharmacy	Clinical rotation for University of Alberta PharmD student	1
July 14, 2021	UBC Obstetrics and Gynecology Resident Academic Seminar	Opioid Stewardship Program	20
July 21, 2021	General and Orthopedic Surgery	Nursing rounds for nurses and nursing students on general surgery and orthopedic surgery wards	40
July 26, 2021	Orthopedic Surgery	Orientation for new orthopedic surgery fellows	10
July 28, 2021	SPH Acute Medicine Clinical Leadership Meeting	Opioid Stewardship Program	15

Date	Area	Presentation	Approximate number of attendees
August 4, 2021	Pharmacy	PharmD Student Presentation: Pain Assessment	20
October 4 – 15, 2021	Pharmacy	Clinical rotation for Lower Mainland Pharmacy Services Year 2 Residents	2
October 13, 2021	GI Fellow Academic Day	Opioid Stewardship	10
October 20, 2021	Anesthesiology Grand Rounds	Opioid Stewardship	40
October 18 – Nov 12, 2021	Pharmacy	Clinical rotation for Lower Mainland Pharmacy Services Year 1 Resident	1
November 3, 2021	Pharmacy	Pharmacy Resident Presentation: Duloxetine for Osteoarthritic Pain	20

The OSP has also presented at regional meetings and international conferences to educate others on the importance of opioid stewardship and share lessons we have learned from the SPH OSP.

Date	Area	Presentation	Approximate number of attendees
June 17, 2021	BCCSU Conference	Opioid Stewardship Program Poster (review of 6 month data)	10 + posted online
October 27, 2021	Western Canada Pain Rounds	Opioid Stewardship	30
November 4, 2021	Canadian Society of Hospital Pharmacists – BC Chapter, Island Health Conference	Opioid Stewardship	80 + posted online

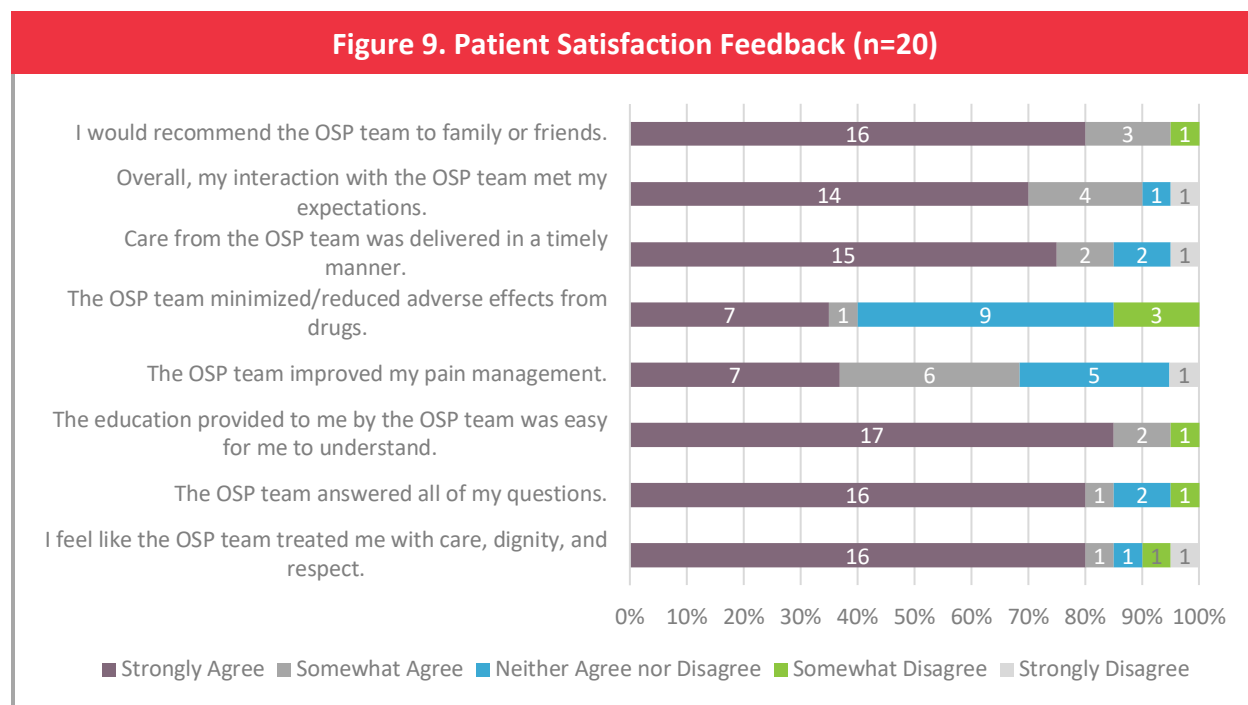
Quality Improvement and Research

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

Patient Satisfaction Survey

The SPH OSP undertook a quality improvement study to assess the satisfaction of patients who interacted with the OSP clinical team during the study period in May 2021. The survey queried how patients felt about the overall care, education, and pain management provided by the OSP team. Additionally, open-ended questions were asked to allow participants to provide qualitative feedback on the OSP.

During the study, 20 participants consented to be interviewed. Participants had been admitted to hospital for emergency surgery (40%), chronic medical conditions (25%), acute medical conditions (25%), elective surgery (5%), and other reasons (5%). A majority of patients reported that they were treated with care, dignity and respect (80%) and that they would recommend the OSP team to family or friends (80%). Results are shown in Figure 9.



Qualitative responses showed positive feedback with respect to care from the clinical team, improved pain management, and patient education. Participants identified that communication and time management could be improved to enhance the patient experience with the OSP team.

Limitations of this study include the small sample size, the short study period which may have resulted in participants being asked for feedback close to the intervention, and indication that some participants may have provided feedback on their overall clinical care rather than the OSP interactions specifically.

Change to PRN Opioid Medication Administration Policy

The OSP and OSAC committee were successful in requesting a change to the Vancouver Coastal Health, Provincial Health Services Authority, and Providence Health Care (VPP) medication administration policy that better allows patients to receive safe and appropriate opioid doses for their pain. Previously, patients were only able to receive a single PRN dose within the prescribed time interval and were more likely to receive the maximum available dose (as to minimize need to contact prescriber for additional opioid orders). Nursing staff are now able to administer PRN opioids at the lower end of the prescribed range with an opportunity to assess for efficacy and safety before giving additional doses, so long as the cumulative dose does not exceed the maximum amount prescribed.

MEDICATION SAFETY PRACTICE POINTER

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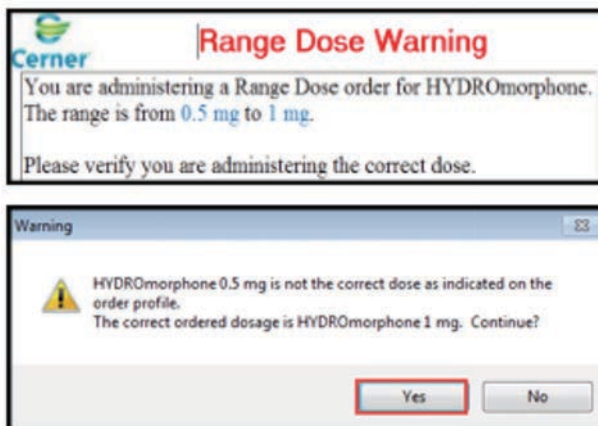
RANGE DOSE ORDERS

In Cerner, the highest dose in a range order will always auto-populate as the default dose. The nurse may have to **modify** this to reflect the actual dose they are administering.

Example: HYDROmorphone 0.5 mg to 1 mg PO q2h

*HYDROmorphone: mg Volume: ml


The nurse administers HYDROmorphone 0.5 mg PO



***A series of alerts
will display if the
lower dose in the
range is being
administered.***

***These alerts must
be acknowledged.***

The new **Medication Administration Policy** states that when a dose from a range order is administered, the total dose amount cannot be exceeded within the specified time interval starting from each individual dose, rather than the first dose.



PRACTICE IMPLICATION:

Provider order: HYDROmorphone 0.5 mg to 1 mg PO q2h PRN

The clinician administers HYDROmorphone 0.5 mg at 0800; at 0845, patient reports 0.5 mg dose ineffective. Can the clinician administer a supplemental dose?

The clinician must ensure that the dose about to be administered does not cumulatively exceed the maximum amount prescribed (1 mg) in the previous two hour period (0645-0845). If the dose to be administered exceeds the cumulative maximum amount prescribed in the previous two hour period, the clinician must contact the provider for a new order.

Controlled Prescription Program Update Infographic

The OSP was also involved in creating an infographic highlighting updates to the new harmonized BC Controlled Prescription Program forms for prescribing controlled substances (including opioid agonist therapy [Figure 10]). The document is undergoing final revisions and will be distributed to SPH prescribers in 2022.

Figure 10. Controlled Prescription Program Updated Infographic

2021 UPDATE TO BC CONTROLLED PRESCRIPTION PROGRAM

Previously, the Controlled Prescription Program (CPP) included TWO different prescription forms

1. Controlled substances
2. Methadone for opioid agonist therapy (OAT)

Now, CPP has rolled out a new, harmonized prescription for all controlled medications!

This box is only required for OPIOID AGONIST TREATMENT (OAT) for opioid use disorder (OUD). These are:

- Methadone
- Suboxone (buprenorphine/naloxone)
- Kadian (slow release oral morphine)

Area must be completed in full for OAT; or else prescription will be void after 5 days

Not required for other narcotic prescriptions, including opioids for analgesia (e.g. methadone or Suboxone for pain), off-label OAT (e.g. injectable OAT (iOAT), fentanyl patch) or risk mitigation supply

Unless checked off, pharmacy can deliver OAT as per professional judgement

In this box, clarify

- Direction for use
- Indication for therapy (e.g. *prn for pain, for risk mitigation*)
- Dates of dispense (if not specified elsewhere)
- Special instructions (e.g. *daily dispense and/or witness, specify brand for methadone*)

EXAMPLES

Borrowed from: College of Pharmacists of British Columbia. Controlled Prescription Program. British Columbia, 2022. Available from: https://www.bcpharmacists.org/cpp#CPP_Form

Example for OAT

Example for non-OAT

Helpful links

- 1) https://www.bcpharmacists.org/cpp#CPP_Form
(more sample prescriptions available for reference)
- 2) <https://www.cpsbc.ca/registrants/programs/drug-programs/cpp>

Procedural PowerPlan Discontinuation

Through audit and feedback, the OSP has found that patients who undergo various procedures are often left with inappropriate orders for opioids and/or benzodiazepines from PowerPlans meant for procedural use only. These orders place patients at risk of adverse events from receiving medications inappropriately outside of procedural sedation (especially if patients are receiving other CNS depressants). Furthermore, the extraneous orders result in cluttering of the MAR and increased risk of errors with other medications. Examples include IV fentanyl and midazolam from the GI Endoscopy Procedural Sedation Module as well as lorazepam from the Peripherally Inserted Central Catheter (PICC) Insertion module.

The OSAC was able to collaborate with stakeholders in both IV therapy and Gastroenterology (GI) clinical teams to discuss issues, potential solutions and prepare Situation, Background, Assessment and Recommendation (SBAR) documents for submission to request system changes. Proposed solutions will allow for automatic discontinuation of orders after procedures have been completed, and are currently being reviewed.

Additional PowerPlans with inappropriate orders identified by the OSP include those for bronchoscopy and interventional radiology – nursing education was performed in these cases to ensure appropriate discontinuation of opioid and benzodiazepine orders.

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 properly 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, determine if there are any target areas for improvement and/or establishment of standardized protocols, and provide baseline data for any future comparison. Data collection was completed in 2021, data analysis and final results are expected in Spring 2022.

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. Data collection for this study will start in Summer 2022 and be completed in Fall 2022.

Opioid Stewardship Program Beyond Year 2

The second year of the OSP held continued success and uptake for the program. Importantly, the OSP received guaranteed funding for continued operations from PHC in the Fall of 2021. The OSP maintained its strong focus on education, teaching, and knowledge translation.

In the third operational year of the program, the OSP will continue to engage in knowledge translation to increase awareness of the OSP at SPH including rounds, conferences, and other educational presentations. The team will also work to continue to scale up the OSP with in PHC and to support the creation of other OSP or OSP-like programs in other regional hospital settings.

ACKNOWLEDGEMENTS

The OSP would like to offer thanks to the participants of its program.

Providence Health Care and St. Paul's Hospital

Additionally, we would like to acknowledge and thank senior leadership at SPH for its support of the OSP as well as the amazing staff and healthcare teams at SPH and their continued willingness to work with the OSP team. We would also like express our gratitude to Providence Health Care who assumed permanent financing for the OSP in the Fall of 2021.

BC Centre on Substance Use

We would like to thank the BCCSU for their continued financial and resource contributions including research expertise, administrative and analytical support.

SPH Pharmacy

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

Opioid Stewardship Advisory Committee

We would like to express our gratitude to all the members of the OSAC for generously donating their time to tackle issues related to opioid prescribing.

Clinical Systems Transformation group

We would also like to thank the CST group for their support of the OSP and working with us to develop a screening report to increase efficiency of our audit and feedback program.

Vancouver Foundation

The OSP was originally made possible by a grant from the Vancouver Foundation.

Fraser Health Opioid Stewardship Programs

We would like to thank the OSPs at Royal Columbian Hospital and Surrey Memorial Hospital for sharing their experience and expertise, and for the work that they do to improve opioid prescribing in the Fraser Region.

SPH Antimicrobial Stewardship Program

We would like to thank the Antimicrobial Stewardship Program (AMS) for sharing their support and guidance as we worked to establish the OSP modelled around the success of AMS.

Providence Health Care Communications

We would like to thank PHC Communications for their support in preparing this second year report.

Suggested citation: James H, Mihic T, Ti L, Yang F, Legal M, Shalansky S, Nolan S. (2022). St. Paul's Hospital Opioid Stewardship Program: Second Annual Program Report January – December 2021. British Columbia Centre on Substance Use and Providence Health Care. Vancouver, Canada.

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