

# BC OPIOID SUBSTITUTION TREATMENT SYSTEM

*Performance Measures  
2014/2015 - 2015/2016*



**Office of the Provincial Health Officer**

**With contributions by:**

Medical Beneficiary & Pharmaceutical Services Division &  
Population and Public Health Division  
British Columbia Ministry of Health

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# 1. INTRODUCTION

On April 14, 2016, under the *Public Health Act*, the Provincial Health Officer declared a public health emergency due to an unprecedented number of opioid-related overdose deaths. In July 2016, Premier Christy Clark announced the establishment of the Joint Task Force on Overdose Prevention and Response to provide expert leadership and advice on actions to prevent and respond to the crisis. The opioid substitution treatment (OST) system represents an important component of the health system response. The province continues to collect and use this data to inform and improve treatment options for people with opioid use disorder.

**The opioid overdose crisis falls outside the reporting period of this report. Future versions will incorporate measures on the opioid overdose crisis.**

Opioid use disorder is a chronic, recurrent medical illness often associated with co-morbid mental illness, transmission of infectious diseases (such as HIV/AIDS and hepatitis C), and premature mortality.<sup>1</sup> Opioid substitution treatment (also referred to as opioid agonist treatment) is widely regarded as both a highly effective treatment for opioid use disorder and an evidence-based harm reduction intervention to prevent the transmission of blood-borne pathogens. Additionally, numerous studies have found that opioid substitution treatment reduces harms associated with non-medical opioid use, including injection-related risks, opioid overdose deaths<sup>2,3</sup> and criminal activity, and increases the social functioning and quality of life of patients.<sup>4,5</sup>

The Government of British Columbia uses the term “opioid substitution treatment” (OST) to include the use of methadone and buprenorphine/naloxone (also referred to as Suboxone) for maintenance treatment. This report includes overall OST data, along with separate methadone and buprenorphine/naloxone data where relevant, but does not include data on patients receiving supervised injectable OST (i.e., diacetylmorphine and hydromorphone). During the period covered by this report, the only patients receiving supervised injectable OST were those attending the Crosstown Clinic, operated by Providence Health Care/Vancouver Coastal Health in downtown Vancouver.<sup>a</sup> Crosstown has enrolled approximately 135 patients who had not responded well to first-line

opioid use disorder treatment (i.e., methadone and/or buprenorphine/naloxone), but responded well to hydromorphone or diacetylmorphine originally offered in a research setting.

The effectiveness of the province’s OST system depends on a multidisciplinary approach with three key components: prescribing, dispensing, and ancillary psychosocial supports. Two professional regulatory bodies are responsible for the prescribing and dispensing components of the OST system: the College of Physicians and Surgeons of British Columbia (CPSBC) and the College of Pharmacists of British Columbia (CPBC). However, in December 2016, the College of Registered Nurses of British Columbia (CRNBC) approved the expansion of nurse practitioners’ scope of practice to include the continuation of existing prescriptions for buprenorphine/naloxone patients.<sup>b</sup> CRNBC, as of 2017, will be added as a professional regulatory body responsible for the prescribing and dispensing components of the OST system.

CPSBC oversees the methadone and buprenorphine/naloxone prescribing component through its Methadone Maintenance Program, composed of physicians with expertise in addictions medicine and OST.

<sup>a</sup> For further information on the Crosstown clinic: <http://www.providencehealthcare.org/hospitals-residences/providence-crosstown-clinic>.

<sup>b</sup> Continuation prescribing of buprenorphine/naloxone came into effect January 6, 2017, and is a first step in expanding nurse practitioners’ scope of practice to include buprenorphine/naloxone initiation and methadone continuation and initiation during 2017.

## INTRODUCTION

The objective of CPSBC's program is to support physicians to safely and effectively prescribe methadone for maintenance purposes. CPSBC develops guidelines and provides education to physicians for prescribing methadone and submits applications on behalf of physicians to the federal Minister of Health for exemptions to the *Controlled Drugs and Substances Act* so that methadone can be legally prescribed. The CPSBC Methadone Maintenance Treatment Handbook was revised in July 2016,<sup>c</sup> and is available at <https://www.cpsbc.ca/files/pdf/MBMT-Clinical-Practice-Guideline.pdf>.

CPBC licenses and regulates pharmacists, pharmacy technicians and the places in which they practice. CPBC provides policy guidance and training for pharmacists who purchase and dispense methadone. Pharmacists must complete the College's Methadone Maintenance Treatment training as identified in the 2010 CPBC Policy Guide, and meet the necessary practice requirements prior to providing methadone and buprenorphine/naloxone-related pharmacy services.

This report presents data related to the prescribing and dispensing components of British Columbia's OST system. The reported indicators reflect available Ministry of Health provincial-level data, and may not capture all aspects of methadone and buprenorphine/naloxone substitution treatment services. The data do not include health services accessed through the Non-Insured Health Benefits program by Status First Nations residing either on reserve ("at home") or off reserve ("away from home"), or health services provided to patients in the provincial or federal corrections systems. The PharmaNet data do not include OST provided to hospitalized patients.

Data related to buprenorphine/naloxone prescribing and dispensing are available from 2010, when the Ministry of Health added buprenorphine/naloxone to the PharmaCare formulary. On October 13, 2015, buprenorphine/naloxone became available as a regular

coverage benefit under PharmaCare. Patients no longer require special approval for access to buprenorphine/naloxone through PharmaCare.

The performance measures in this report are provided on a fiscal year basis (April 2014 – March 2015 and April 2015 – March 2016), and are based in part on the methodology in *An Evaluation of Methadone Maintenance Treatment in British Columbia: 1996-2007*, by Nosyk et al.<sup>1</sup> The methods used to calculate a number of components of this year's report (e.g., established patients, new patients, dosing, retention) have been adjusted for improved accuracy; thus, some of the data in this report may not be congruent with that presented in previous years.

Access to OST for providers and patients remains a priority for the province and is an important component of the province's response to the opioid overdose crisis. Access to OST services ensure those with opioid use disorder are effectively treated.

## Data Sources

Data in this report were drawn from the Ministry of Health, HealthIdeas Data Warehouse. Ministry program area data were drawn from the following databases:

- i. PharmaNet (records of prescription drug claims dispensed at community pharmacies).
- ii. MSP Genesis (Medical Services Plan fee-for-service claims).
- iii. DAD (hospital discharge abstract data).
- iv. HealthIdeas Client Registry (client age, gender, date of death).

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<sup>c</sup> Effective June 5, 2017, the British Columbia Centre on Substance Use's *Guideline for the Clinical Management of Opioid Use Disorder* will become the provincial guideline for the treatment of opioid use disorder. It is available at [www2.gov.bc.ca/assets/gov/health/practitioner-pro/bc-guidelines/bc\\_oud\\_guidelines.pdf](http://www2.gov.bc.ca/assets/gov/health/practitioner-pro/bc-guidelines/bc_oud_guidelines.pdf).

# 2. OPIOID SUBSTITUTION TREATMENT – SYSTEM MEASURES

This section reports on indicators about the reach of BC's Opioid Substitution Treatment (OST) system. The indicators are as follows: the number of patients 18 years of age and older<sup>d</sup> with methadone or buprenorphine/naloxone maintenance prescriptions (whose medication is covered by PharmaCare); the number of physician prescribers of methadone or buprenorphine/naloxone for maintenance purposes; and the number of methadone or buprenorphine/naloxone-dispensing pharmacists and pharmacies. This section also includes a summary of the direct costs of methadone and buprenorphine/naloxone maintenance in BC.

## 2.1 Opioid Substitution Treatment Patients

Figures 1a and 1b (see page 4 and 5) show the number of OST patients per 1,000 population in each Local Health Area across the province in 2014/2015 and 2015/2016. Overall, urban areas like the Lower Mainland have higher rates of OST (more than 10 patients per 1,000 in some areas). However, some smaller population areas, such as Powell River, Lake Cowichan and Castlegar have high rates. The relative rates of OST across Local Health Areas are similar to those seen in 2013/2014.

Please note that the health authority totals do not necessarily add up to the provincial total for each year. Patients may access OST in more than one health authority in a given year. Similarly, physicians and pharmacists may practice in more than one health authority and pharmacies occasionally move to a different location.

<sup>d</sup> Patients under 18 years of age constitute less than 1 per cent of the underlying patient population.

Figure 1a. Opioid Substitution Treatment Patients by Local Health Area, 2014/2015

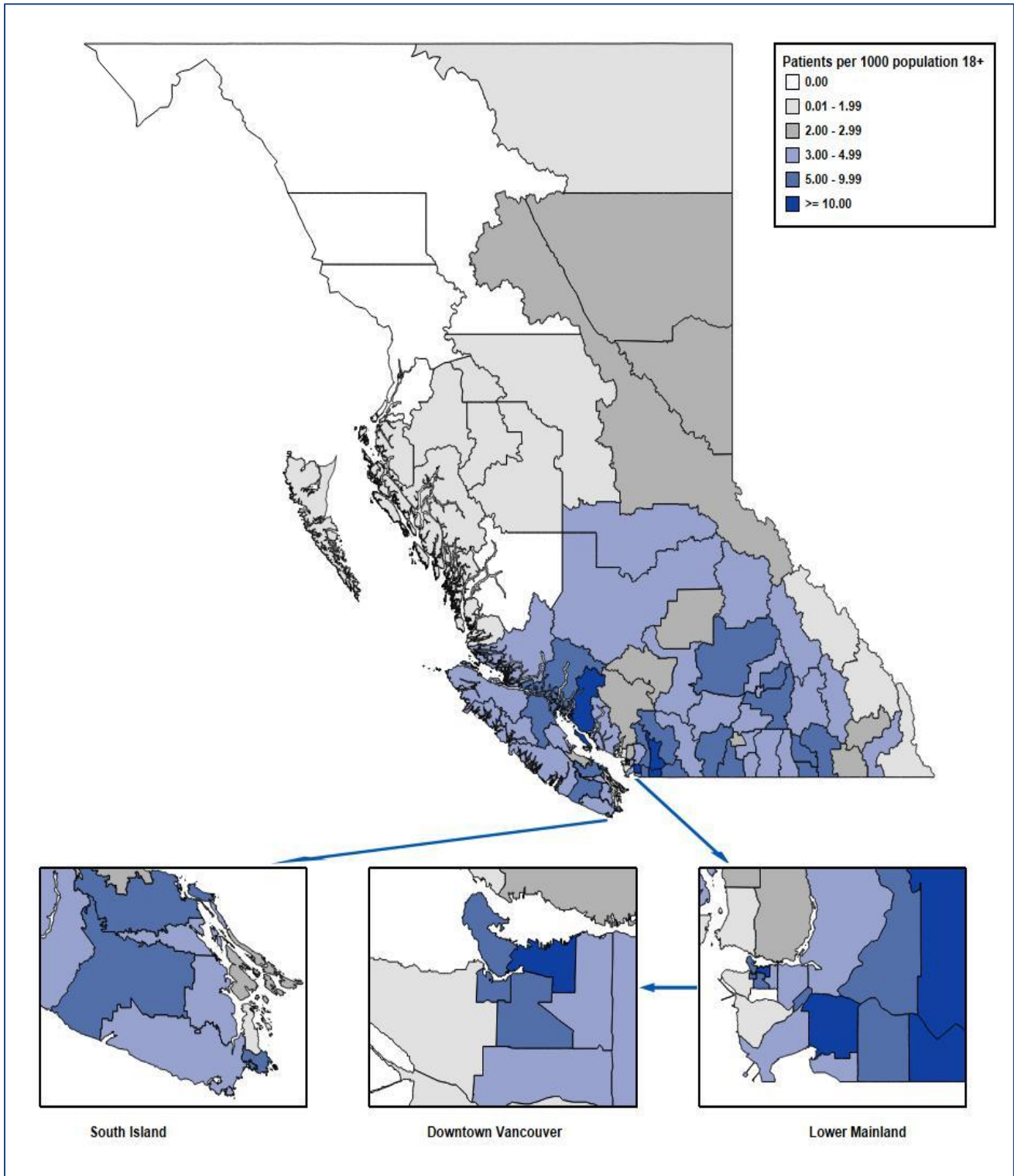
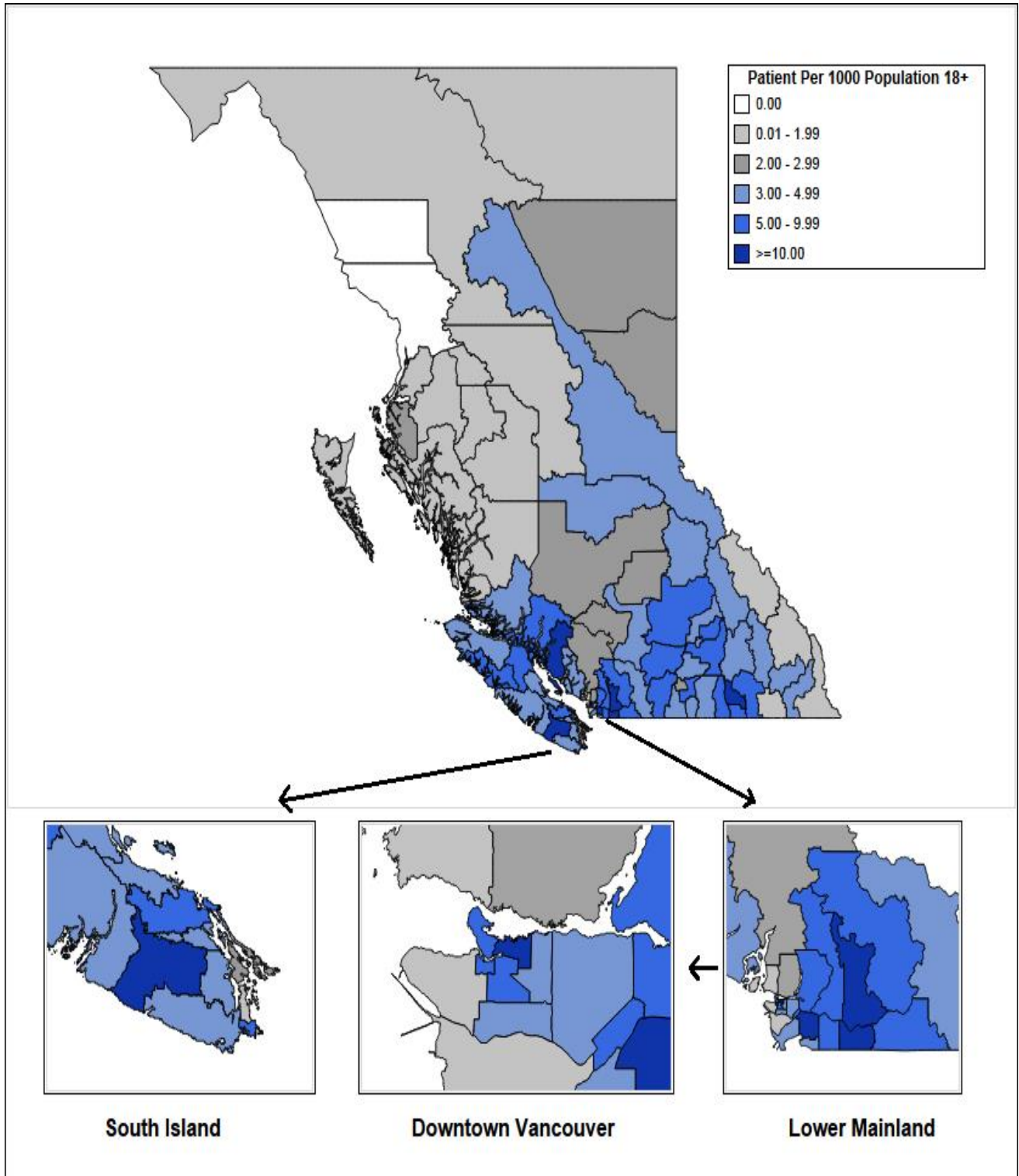
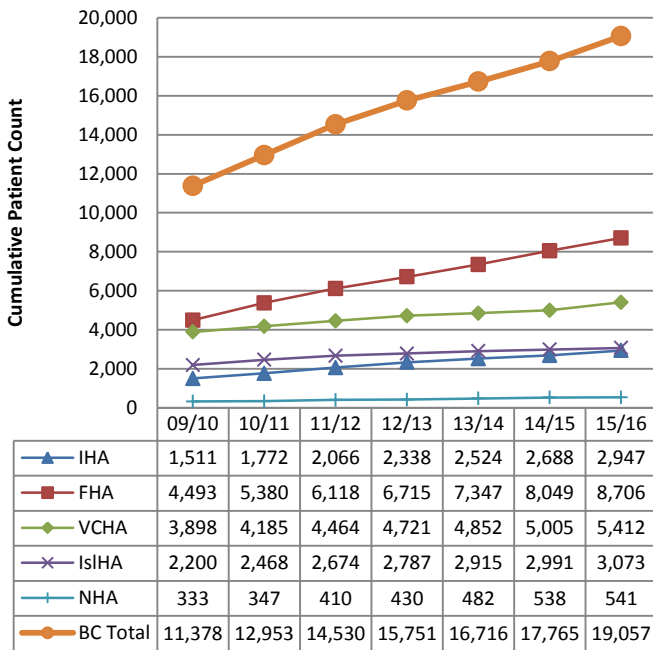


Figure 1b. Opioid Substitution Treatment Patients by Local Health Area, 2015/2016





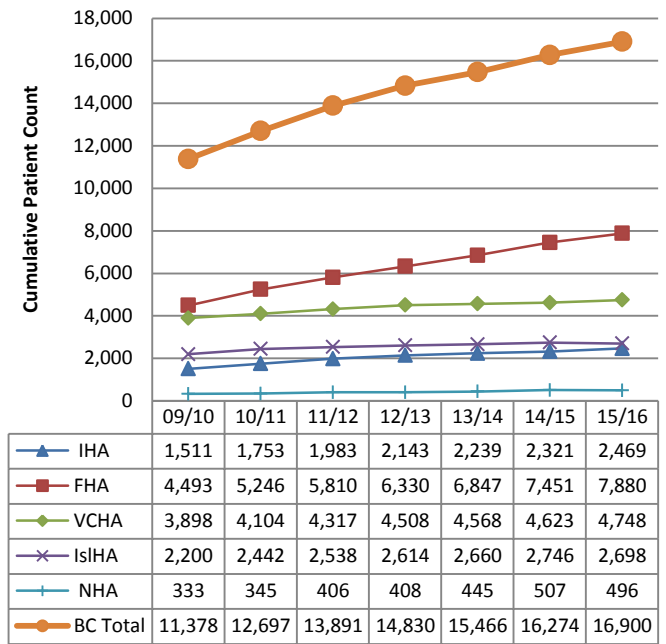
**Figure 2. Opioid Substitution Patients by Health Authority, BC, 2009/2010 to 2015/2016<sup>e</sup>**



BC’s OST program continues to expand. Between 2014/2015 and 2015/2016, the number of patients increased from 17,765 to 19,057 (see Figure 2), a 7 per cent increase from 2014/2015 and a 67 per cent increase from 2009/2010. Interior Health had the largest increase in the number of patients—approximately 95 per cent since 2009/2010.

Most patients receiving OST are prescribed either methadone or buprenorphine/naloxone. Figures 3 and 4 show the number of patients receiving each type of medication as a treatment for opioid use disorder.

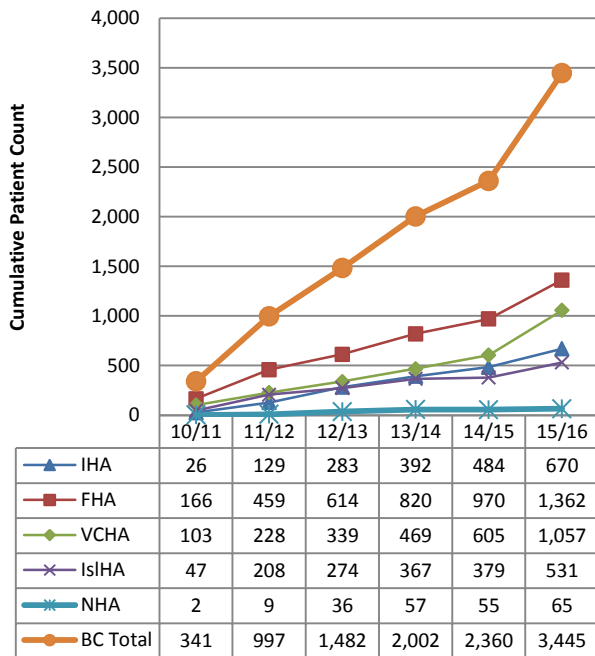
**Figure 3. Methadone Substitution Treatment Patients, by Health Authority, BC, 2009/2010 to 2015/2016**



Between 2014/2015 and 2015/2016, the number of methadone substitution treatment patients increased from 16,274 to 16,900, an increase of 626 patients or 4 per cent (see Figure 3). All health authorities have had notable increases in the number of patients. Fraser Health has seen the biggest expansion in methadone patient numbers, with a 75 per cent increase since 2009/2010. This trend continues in 2015/2016, with a total increase of 429 patients in Fraser Health from the previous year, making up 69 per cent of the total increase in BC in 2015/2016.

<sup>e</sup> IHA=Interior Health; FHA=Fraser Health; VCHA=Vancouver Coastal Health; IslHA= Island Health; NHA=Northern Health

**Figure 4. Buprenorphine/Naloxone Treatment Patients, by Health Authority, BC, 2010/2011 to 2015/2016**



The number of patients on buprenorphine/naloxone has increased steadily since 2010 in all health authorities (see Figure 4). The most notable increase in uptake at 46 per cent occurred between 2014/2015 and 2015/2016. This is likely, in part, as a result of changes in buprenorphine/naloxone’s status as a regular coverage benefit under PharmaCare in October 2015.

**Figure 5. New Opioid Substitution Treatment Patients, by Health Authority, BC, 2009/2010 to 2015/2016**

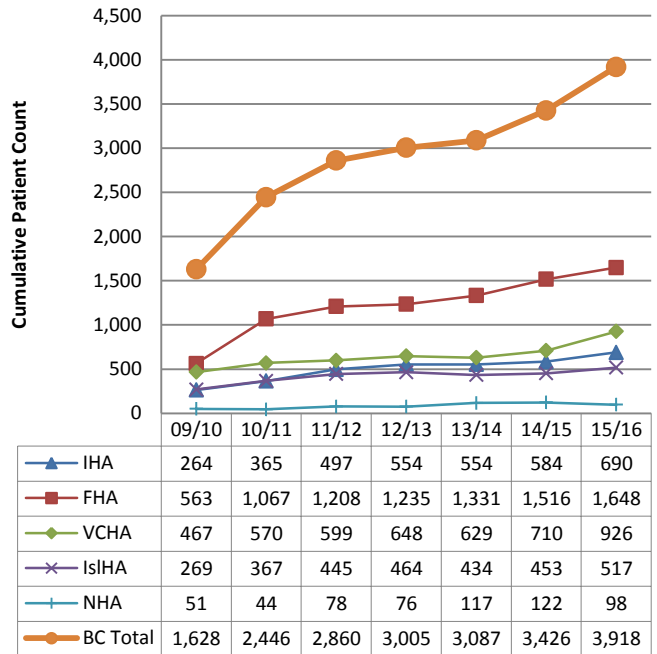
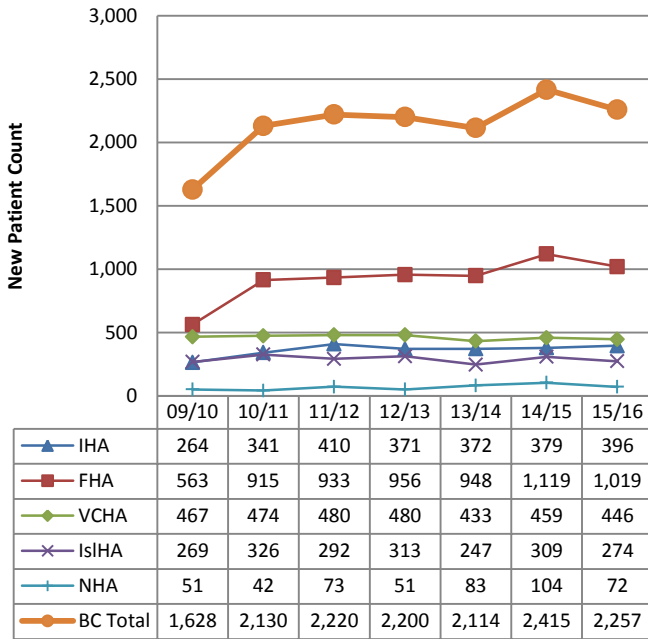


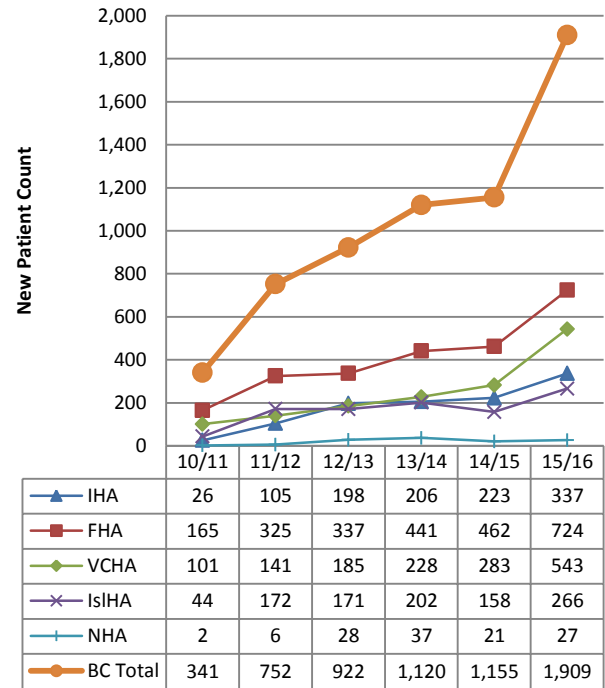
Figure 5 shows the number of new patients entering opioid substitution treatment. A new patient is someone who begins OST for the first time, according to PharmaNet data. This may include patients who have been on OST in another province and continue treatment when they relocate to BC, and patients who have started OST in the corrections system or while in hospital and continue treatment upon release. Additionally, as of 2014/2015, the data now include patients who are new to the drug and, therefore, capture patients who switch from methadone to buprenorphine/naloxone and vice versa. Someone who simply discontinued the program and subsequently re-entered it would not be counted as a new patient.

**Figure 6. New Methadone Substitution Treatment Patients, by Health Authority, BC, 2009/2010 to 2015/2016**



The number of patients entering methadone substitution treatment has been relatively consistent over the last few years, with the exception of 2015/2016, where a decrease is noted (see Figure 6). This is likely the result of new patients starting on or switching to buprenorphine/naloxone. In the case where a patient switches to methadone from buprenorphine/naloxone, the patient would be counted as a new methadone patient as long as they had not been prescribed methadone in the past.

**Figure 7. New Buprenorphine/Naloxone Treatment Patients, by Health Authority, BC, 2010/2011 to 2015/2016**



The number of new buprenorphine/naloxone patients has increased every year since 2010/2011, when buprenorphine/naloxone was approved as a limited coverage benefit in PharmaCare (see Figure 7). In 2015/2016, there is a notable increase in patients as a result of changes in buprenorphine/naloxone’s status as a regular coverage benefit under PharmaCare. As well, a buprenorphine/naloxone patient who switched from methadone to buprenorphine/naloxone would be counted as a new buprenorphine/naloxone patient as long as they had not been prescribed buprenorphine/naloxone in the past.

## 2.2 Prescribers of Opioid Substitution Treatment

In order to prescribe methadone for treatment of opioid use disorder, physicians need authorization from the College of Physicians and Surgeons of British Columbia (CPSBC). Physicians seeking this authorization must attend a day-long certification course, complete a preceptorship, undertake annual continuing medical education in addiction medicine, and re-certify on an ongoing basis.

During the time the data were collected for this report, physicians still required authorization from CPSBC to prescribe buprenorphine/naloxone.

Effective July 1, 2016, however, physicians no longer require an exemption to prescribe buprenorphine/naloxone, although an exemption is still necessary for methadone prescribing.

**Figure 8. Opioid Substitution Treatment Active Prescribers, by Health Authority, BC, 2009/2010 to 2015/2016**

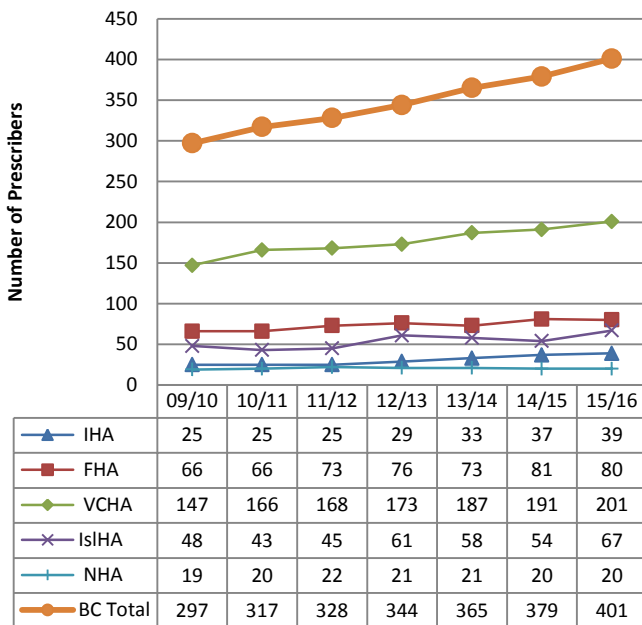


Figure 8 provides the annual physician prescriber count by health authority since 2009/2010. The number of BC physicians prescribing OST has been increasing in recent years, with 401 physicians prescribing this treatment in 2015/2016. As reported in previous years, about half of OST prescribers were in Vancouver Coastal Health.

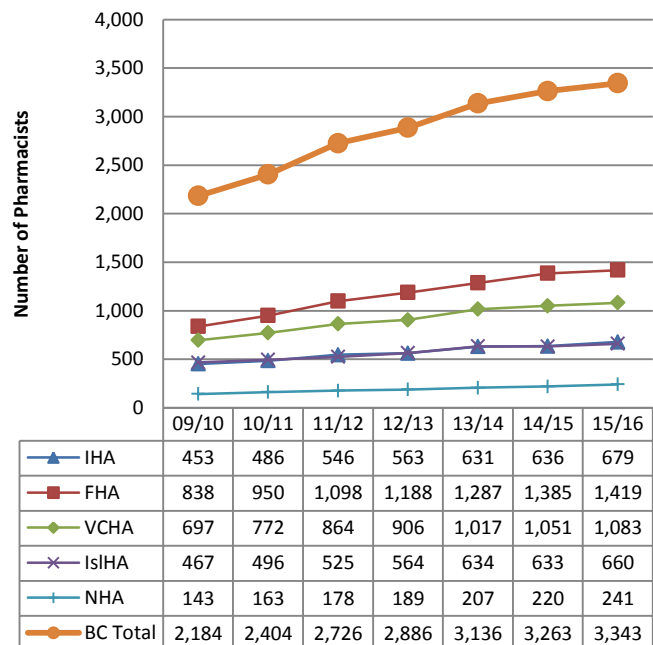
In 2015/2016, there were 104 more OST prescribers than in 2009/2010. This number also includes hospitalist and temporary exemptions, so the actual number of physicians providing regular ongoing medical care for OST patients is estimated to be fewer than 300. Prescribing capacity for OST in some parts of the province, especially rural and remote regions, remains a challenge for the provincial health system. In an effort to remove barriers to patient access, physicians, as of July 2016, are no longer required to hold a special exemption (required for methadone) to prescribe buprenorphine/naloxone.

## 2.3 Opioid Substitution Pharmacists and Pharmacies

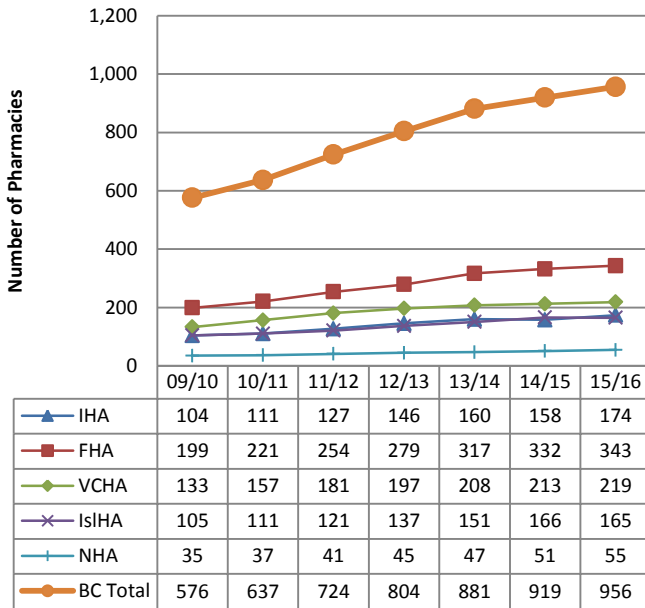
Pharmacists in BC must undergo training and certification in order to dispense opioids for substitution treatment.<sup>6</sup> Pharmacists dispense doses of liquid methadone (in a concentration of 10 mg/ml formulation called Methadose®) for patients to drink while in the pharmacy, or provide in carry-out packaging when patients are deemed stable enough by the prescribing physician. Pharmacists dispense buprenorphine/naloxone as a sublingual tablet, which may or may not be provided in carry-out doses (as determined by the physician).

The number of pharmacies and pharmacists dispensing methadone or buprenorphine/naloxone for maintenance purposes has been increasing since 2009/2010. Figure 9 shows the number of pharmacists dispensing methadone or buprenorphine/naloxone. Figure 10 is the number of pharmacies (locations) where patients can get their methadone and/or buprenorphine/naloxone prescriptions filled. For more information about methadone and buprenorphine/naloxone provision and remuneration in BC, see *Methadone Maintenance Payment Program Review*.<sup>7</sup>

**Figure 9. Opioid Substitution Treatment Pharmacists, by Health Authority, BC, 2009/2010 to 2015/2016**



**Figure 10. Opioid Substitution Treatment Pharmacies, by Health Authority, BC, 2009/2010 to 2015/2016**



## 2.4 Opioid Substitution Treatment Expenditures

In BC, pharmacy costs for OST are paid from three sources: the province (PharmaCare), patients and private insurers. PharmaCare is a provincial program that helps British Columbians with the cost of eligible prescription drugs and designated medical supplies. PharmaCare reimburses opioid substitution medication ingredient costs and dispensing fees, as well as interaction fees for pharmacists who witness methadone ingestion on-site. The level of reimbursement patients receive for the costs of opioid substitution medication depends on their individual PharmaCare plan and private insurance coverage.<sup>f</sup> If patients have private insurance that covers prescription drugs, this insurance may cover OST pharmacy costs. The patient pays out-of-pocket for any amounts not eligible for reimbursement from either PharmaCare or a private insurer.

It is important to note that the federal Non-Insured Health Benefits program lists methadone and buprenorphine/naloxone on their drug benefit list, but no data from that program are presented in this report.

<sup>f</sup> As of February 1, 2017, under PharmaCare’s Plan G Psychiatric Medications Plan, individuals who qualify for Medical Services Plan premium assistance are eligible for no-cost buprenorphine/naloxone or methadone. For more information about PharmaCare coverage, see [www2.gov.bc.ca/gov/content/health/health-drug-coverage/pharmacare-for-bc-residents](http://www2.gov.bc.ca/gov/content/health/health-drug-coverage/pharmacare-for-bc-residents).

In BC, this program is administered as the First Nations Health Authority Health Benefits Program. Any BC patients accessing OST through that program only would not be represented in this report, and any associated pharmacy costs are not included in this analysis.

Pharmacy costs for BC’s OST system totaled nearly \$58 million in 2015/2016, \$48 million of which was paid by PharmaCare. The balance (approximately \$10 million) was paid by patients or private insurers. Figure 11a summarizes the trends in provincial costs over time. The increase in overall costs may, in part, be due to patient population growth and the addition of buprenorphine/naloxone as a limited coverage benefit in November 2010 and a regular coverage benefit in October 2015.

**Figure 11a. Total Pharmacy Opioid Substitution Costs, BC, 2009/2010 to 2015/2016**

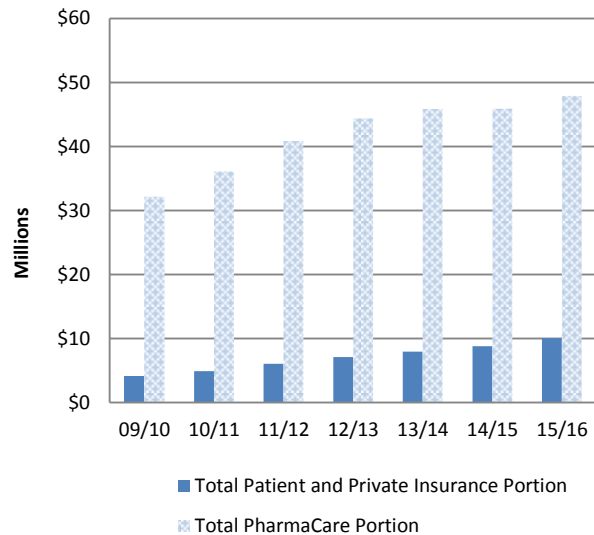
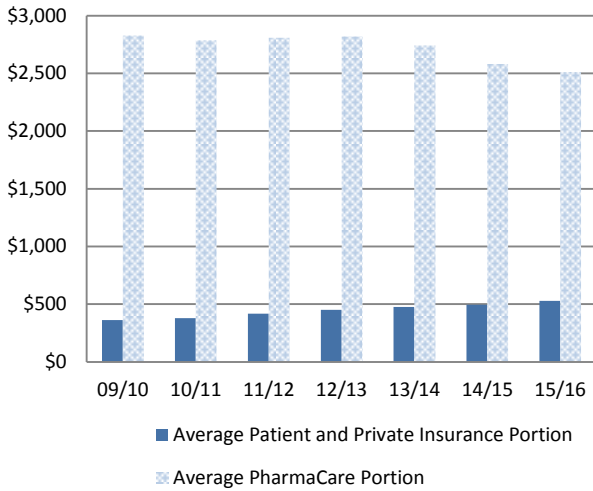


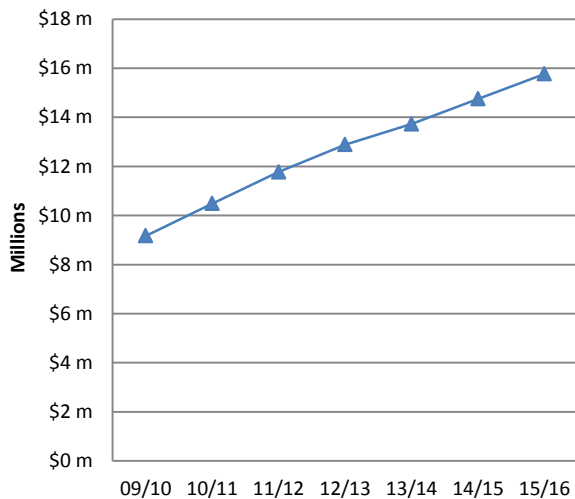
Figure 11b shows average annual per patient pharmacy costs. The average cost per patient has decreased between 2014/2015 and 2015/2016. In 2015/2016, the average annual cost of OST per patient was \$3,041, an average decrease of \$146 per patient since 2009/2010. On average, PharmaCare paid \$2,512 or 83 per cent of this cost, and patients or private insurers paid the remaining \$529, or 17 per cent.

**Figure 11b. Average Pharmacy Opioid Substitution Costs per Patient, BC, 2009/2010 to 2015/2016**



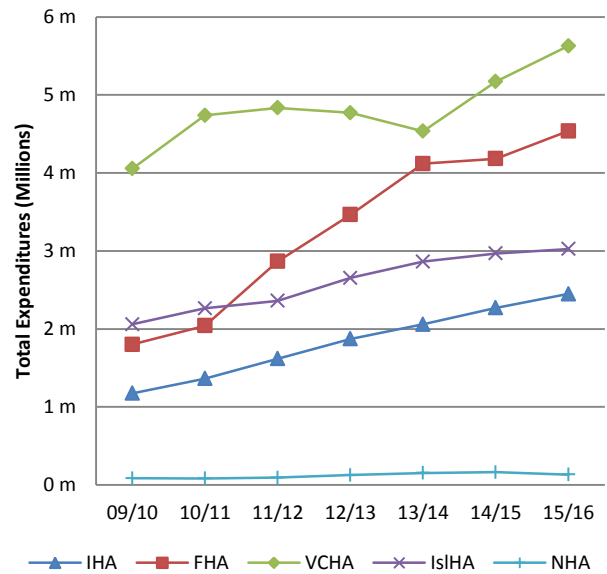
The Medical Services Plan (MSP) pays physicians on a fee-for-service basis for providing OST. These costs have continued to rise as patient numbers have increased since 2009/2010 (see Figure 12). Island Health, Fraser Health and Interior Health regions have seen the sharpest rise in MSP costs (see Figure 13). Costs in Vancouver Coastal Health have also increased since 2013/2014. In total, the Medical Services Plan spent \$15.77 million for physician fees related to OST in 2015/2016.

**Figure 12. Medical Services Plan Expenditures for Opioid Substitution Treatment (Fee Item “Methadone or Buprenorphine/Naloxone Treatment Only”),<sup>a</sup> BC, 2009/2010 to 2015/2016**



<sup>a</sup> This fee item was previously called “Methadone Maintenance Treatment Only”.

**Figure 13. Medical Services Plan Expenditures for Opioid Substitution Treatment (Fee Item “Methadone or Buprenorphine/Naloxone Treatment Only”), by Health Authority, BC, 2009/2010 to 2015/2016**



The Ministry of Social Development and Social Innovation provides a supplement of up to \$500 per year to assist with the cost of substance use counselling or related services. Ministry clients can use the supplement to pay fees charged by methadone clinics, as these fees are generally not billable to MSP. In total, the Ministry of Social Development and Social Innovation expended \$2.5 million for this supplement in 2014/2015, and \$2.7 million in 2015/2016.

# 3. OPIOID SUBSTITUTION TREATMENT – OUTCOME MEASURES

This section summarizes outcome measures that are indirectly associated with BC’s opioid substitution treatment (OST) system: retention in treatment, use of health services and mortality rate. The outcome measures presented are for episodes of methadone maintenance treatment, including additional doses supplied as take-away carries. A treatment episode is defined as the continuous usage of a treatment, which only stops if the patient discontinues the medication for more than 30 days.

It is important to note that the outcome measures in this section were obtained without an attempt to determine whether or to what degree opioid substitution treatment affected outcomes like mortality and use of health services. Therefore, the material presented here is intended to be hypothesis-generating and may initiate further analysis, but is not meant to demonstrate a cause-and-effect relationship between opioid substitution treatment and health outcomes.

## 3.1 Duration and Retention on Opioid Substitution Treatment

The length of time a patient spends in opioid substitution treatment (number of days per episode of treatment) is an important indicator of treatment effectiveness. More time in treatment is associated with better outcomes.<sup>1</sup> For the purposes of this report, treatment retention is defined as an episode initiated within each fiscal year that lasted greater than six or 12 months.

Dosing level seems to be an important factor in retaining patients in treatment. The probability of a patient staying in treatment is highest for patients taking at least 100 mg of methadone per day.<sup>1</sup> The College of Physicians and Surgeons of British Columbia’s 2016 *Methadone and Buprenorphine: Clinical Practice Guideline for Opioid Use Disorder*<sup>8</sup> states that most patients will achieve stability on maintenance doses of between 60 and 120 mg of methadone daily.

**Figure 14. Percentage of Patients Receiving a Stabilization Dose of Methadone >60 mg, by Health Authority, BC, 2009/2010 to 2015/2016**

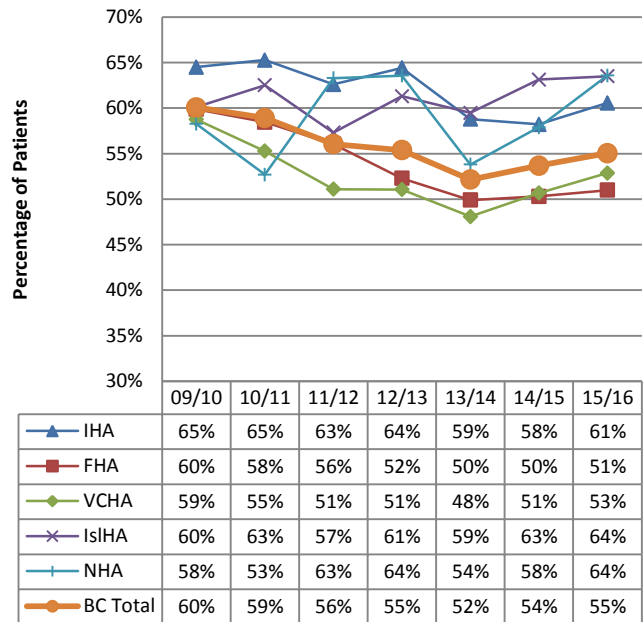


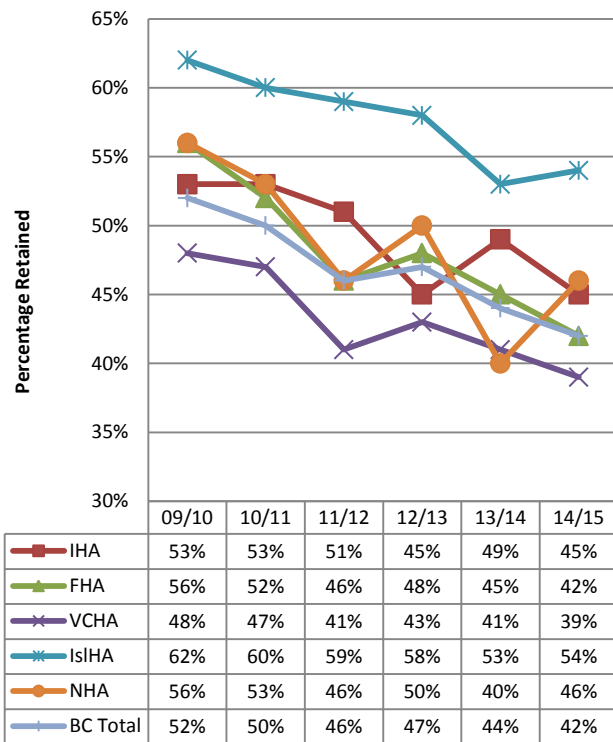
Figure 14 shows the percentage of BC’s methadone patients receiving a stabilization dose of more than 60 mg of methadone daily. This percentage has been stable at slightly over 50 per cent, with a small increase over the last few years from 52 to 55 per cent in 2015/2016.

People who stay longer in OST generally have better long-term health outcomes. The number of patients in treatment at the 6-month and 12-month mark differs on average by about 10 per cent (see Figures 15a and 15b). A little more than one-third (32 per cent) of new patients are still in methadone maintenance treatment after 12 months (see Figure 15b). By comparison, between 2003 and 2013, Ontario’s 12-month retention rate for different regions in the province varied between 39 per cent in the south-urban region and 49 per cent in the north rural region.<sup>9</sup>

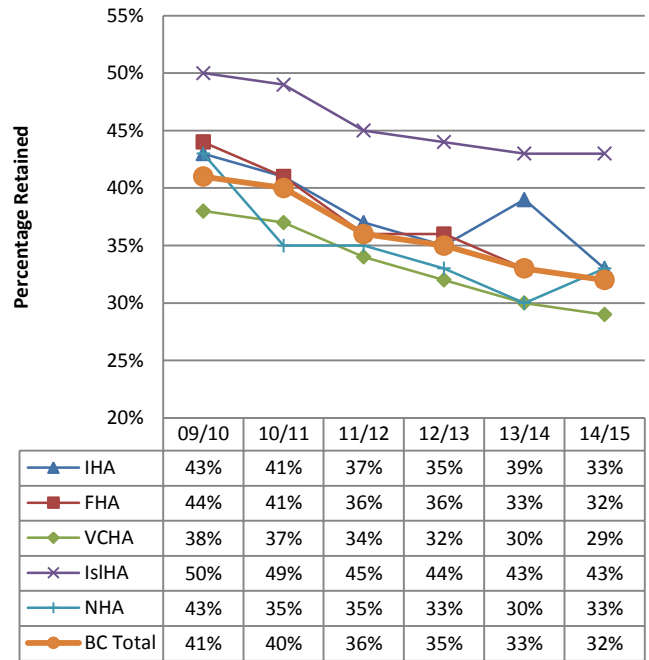
Possible reasons for these low retention rates in BC include the following:

- a) People who receive methadone maintenance treatment care in hospitals or jails may count as different treatment episodes in the community upon release.
- b) Transitioning between methadone and buprenorphine/naloxone will result in different treatment episodes.

**Figure 15a. Percentage of People Started on Methadone Maintenance Treatment Retained at 6 Months, by Health Authority, BC, 2009/2010 to 2014/2015**



**Figure 15b. Percentage of People Started on Methadone Maintenance Treatment Retained at 12 Months, by Health Authority, BC, 2009/2010 to 2014/2015<sup>h</sup>**



<sup>h</sup> Patients in this category are methadone patients only and did not switch between methadone and buprenorphine/naloxone during the episode.



### 3.2 General Practitioner Visits and Hospitalization Costs for People on Opioid Substitution Treatment

On average, people on OST visited a general practitioner 24.3 times per year in 2015/2016 (see Figure 16). This includes visits not related to OST. Many OST patients have complex health needs so they require more care from physicians than the general population.

**Figure 16. Number of General Practitioner Visits per Person-Year in Treatment, by Health Authority, BC, 2009/2010 to 2015/2016**

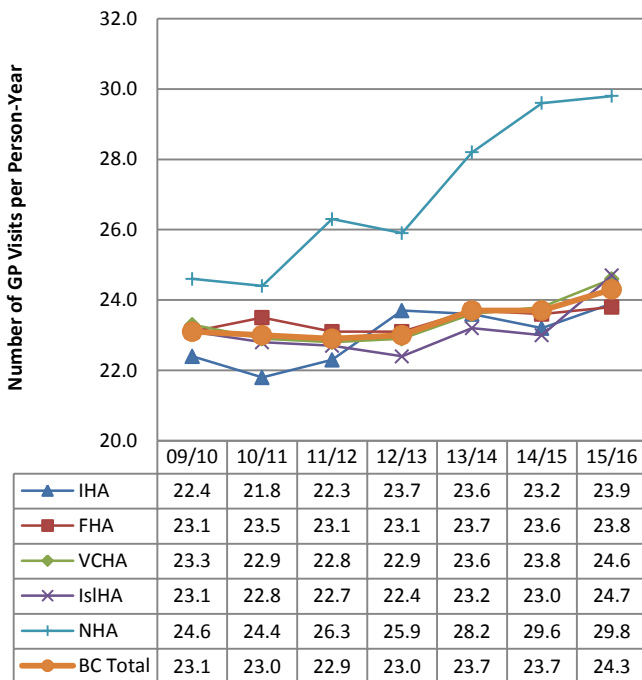


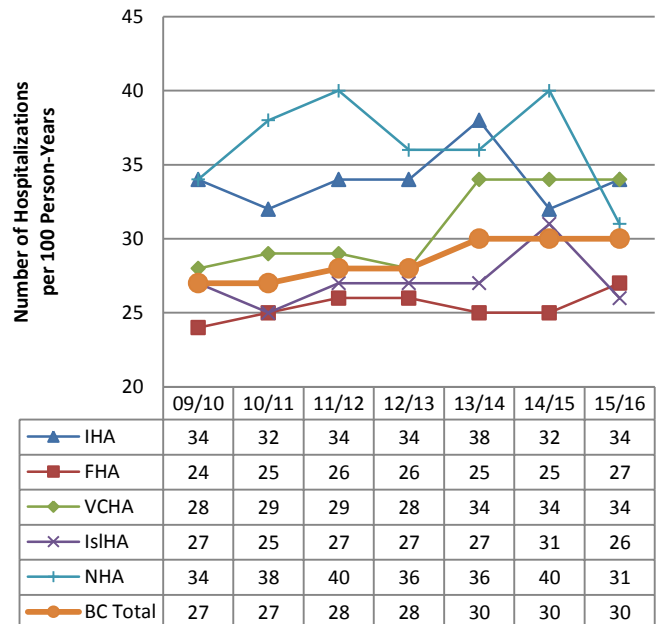
Table 1 summarizes the number and cost of hospitalizations while patients are engaged in OST. As the number of people on OST grows, the total hospital costs increase. However, the average cost of hospitalization per patient has mostly been declining since 2009/2010.

**Table 1. Hospitalizations and Costs during Opioid Substitution Treatment, by Fiscal Year, 2009/2010 to 2015/2016**

	No. of Admissions		Hospital Cost	
	Total	Rate per 100 Person-Years	Total	Average per Patient
09/10	2,464	27	\$12,102,440	\$1,012
10/11	2,728	27	\$13,220,841	\$981
11/12	3,113	28	\$14,322,857	\$951
12/13	3,319	28	\$15,155,450	\$931
13/14	3,732	30	\$16,763,626	\$973
14/15	3,870	30	\$17,140,152	\$934
15/16	4,173	30	\$19,685,353	\$999

One of the goals of OST is to improve a patient’s overall health. Increasing rates of hospitalization could indicate poorer overall health among OST patients. Figure 17 shows the number of hospitalizations per 100 person-years for OST patients. The BC rate has been stable over the last three years, although Northern Health and Vancouver Island Health had decreases in 2015/2016.

**Figure 17. Hospitalizations per 100 Person-Years during Opioid Substitution Treatment, by Health Authority, BC, 2009/2010 to 2015/2016**

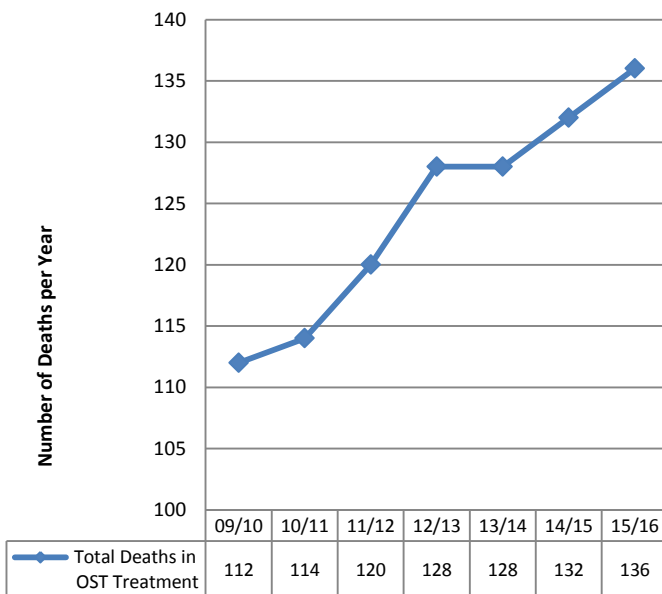


### 3.3 Mortality

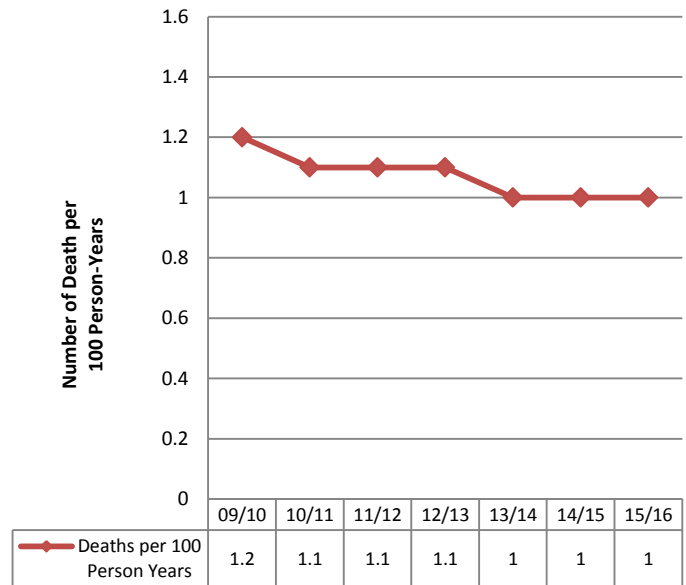
This section includes information about mortality during OST. Mortality is measured in terms of deaths from any cause recorded while the patient is on OST and within 30 days of the end of an episode of OST.

The number of patients in OST continues to increase, and over the last few years the number of deaths has also increased (see Figure 18a). The mortality rate, measured in deaths per 100 person-years, fell slightly in 2013/2014 and levelled off between 2013/2014 and 2015/2016 (see Figure 18b). We cannot draw conclusions about the risks or effectiveness of OST from these unadjusted rates. It is reassuring, however, that the number of patients in OST is increasing without a proportional increase in mortality among OST patients. The mortality rate among OST patients is substantially lower than the mortality rate among regular or dependent users of opioids such as heroin or illegally acquired fentanyl, which is estimated to be 2.09 per 100 person-years.<sup>2</sup> Figure 19 shows each health authority’s OST patient all-cause mortality rate (deaths per 100 person-years).

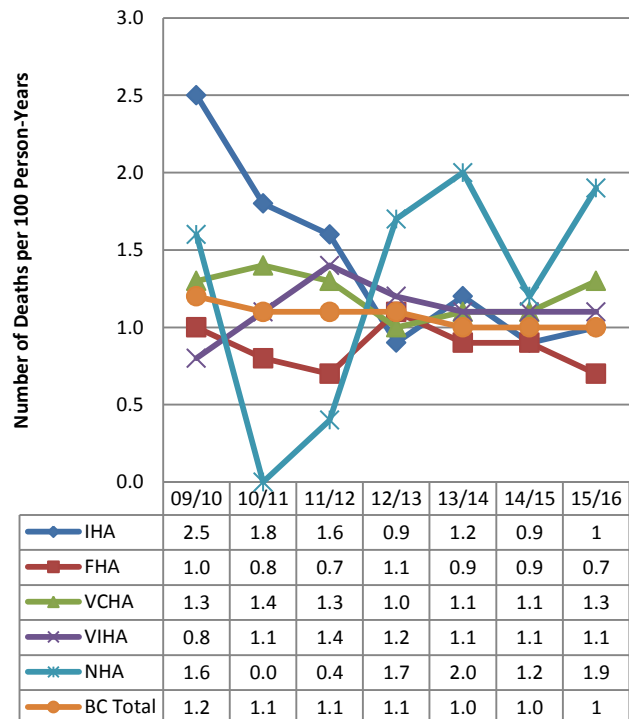
**Figure 18a. All-cause Mortality during Opioid Substitution Treatment, by Fiscal Year, BC, 2009/2010 to 2015/2016**



**Figure 18b. Mortality Rates per 100 Person-Years during Opioid Substitution Treatment, by Fiscal Year, BC, 2009/2010 to 2015/2016**



**Figure 19. Deaths by Any Cause per 100 Person-Years during Opioid Substitution Treatment, by Health Authority, BC, 2009/2010 to 2015/2016**



Northern Health has a small number of OST patients, which contributes to the large variation in the annual all-cause mortality rate.

# 4. CONCLUSION

British Columbia's methadone and buprenorphine/naloxone substitution treatment program for opioid use disorder continues to expand. Most of the 2014/2015 and 2015/2016 increase in number of patients is attributable to additional buprenorphine/naloxone patients rather than additional methadone patients. While informative about the overall state of OST in BC, the data presented in this report do not allow us to draw strong conclusions about all aspects of OST. Further hypotheses and possible interpretations were identified through consultation with the College of Physicians and Surgeons of British Columbia for the previous version of this report. These hypotheses remain relevant and will inform future versions of the report. They include the following suggestions:

- It is unclear the degree to which lower than recommended average maintenance dose levels for methadone are the result of low-threshold or periodic OST prescribing.
  - It is unclear how much the OST retention data may be affected by patients becoming hospitalized or incarcerated. In either case, patients may appear as having discontinued treatment, when in fact they may have continued treatment in those institutions. Hospital and correctional institution prescription medication data are not included in the PharmaNet datasets used for this report.
  - Future analyses on treatment retention should link to Vital Statistics data, which would ensure retention estimates do not conflate people who die while receiving OST with people who simply discontinue treatment.
  - Information is not available on the contribution of addictions to prescribed opioid medication to the demand for OST. We do not know how many new OST patients are transitioning into substitution treatment from prescription pain medication.
  - Future analyses should consider the impact of the addition of buprenorphine/naloxone as a regular coverage benefit under PharmaCare (effective October 2015) and the transition to a multi-treatment OST system.
- In addition, substantial changes occurred during the writing of this report. These changes, although not within the scope of this report, will inform future versions.
- Declaration of the opioid overdose public health emergency in April 2016.
  - Introduction of new prescribing guidelines by the College of Physicians and Surgeons of British Columbia in July 2016.
  - Removal of the requirement for physicians to have a special federal exemption in order to prescribe buprenorphine/naloxone. This is still required for methadone prescribing.
  - A review of the Methadone Maintenance Payment Program by the Ministry of Health, Medical Beneficiary and Pharmaceutical Services Division.
  - Inclusion of opioid substitution therapies (i.e., methadone and buprenorphine/naloxone) under PharmaCare's Plan G Psychiatric Medications Plan in February 2017.
  - Review of the federal Non-Insured Health Benefits program.
  - Creation of the BC Centre on Substance Use and release of the *Guideline for the Clinical Management of Opioid Use Disorder*: [http://www2.gov.bc.ca/assets/gov/health/practitioner-pro/bc-guidelines/bc\\_oud\\_guidelines.pdf](http://www2.gov.bc.ca/assets/gov/health/practitioner-pro/bc-guidelines/bc_oud_guidelines.pdf).

Over the last decade, greater access to opioid substitution treatment, in addition to other harm reduction initiatives, has contributed to reduced HIV infection incidence among people who inject drugs.<sup>10</sup> Access to OST in rural and remote areas remains a challenge for the health system. The measures in this

report are important indicators of the status of BC's OST system. Further work is needed on aspects of the OST system not included in this report (such as psychosocial supports). The information in this report is important for maintaining and improving service delivery and patient outcomes in BC.

# 5. RESOURCES

## British Columbia Methadone Program Websites

The websites listed below provide relevant information about BC's opioid substitution treatment system.

### BC Ministry of Health

[www2.gov.bc.ca/gov/content/health/managing-your-health/mental-health-substance-use/mental-health-and-substance-use-information-and-publications](http://www2.gov.bc.ca/gov/content/health/managing-your-health/mental-health-substance-use/mental-health-and-substance-use-information-and-publications)

### College of Physicians & Surgeons of British Columbia

<http://www.cpsbc.ca/programs/drug-programs/mmp>

### College of Pharmacists of British Columbia

[www.bcpharmacists.org/methadone-maintenance-treatment-mmt](http://www.bcpharmacists.org/methadone-maintenance-treatment-mmt)

### BC Centre on Substance Use

[http://www2.gov.bc.ca/assets/gov/health/practitioner-pro/bc-guidelines/bc\\_oud\\_guidelines.pdf](http://www2.gov.bc.ca/assets/gov/health/practitioner-pro/bc-guidelines/bc_oud_guidelines.pdf)

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