

# The Canadian Opioid Epidemic

A focus on the rapidly growing killer: fentanyl.

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## Opioids

- Opioids are a class of medications that work on the opioid receptors in the brain to produce pain relieving effects.
- Opioids bind to receptors found principally in the central and peripheral nervous system, and due to this binding action one of the most significant side effects of these medications is respiratory suppression.
- Opioids are some of the most powerful pain management medications available. They are also highly addictive- leading to increased use and increased levels of addiction and fuelling the current opioid epidemic.
- Opiates create artificial endorphins in the brain which relieve pain, and produce pleasure. Over time, opiates cause the brain to stop the production of these endorphins naturally. At this point, the only way to receive these endorphins is to take the drug in question- this is why opiates are so addictive.

**Non-synthetic medication made from the resin of poppy plants.**

- Fentanyl**: Made from Completely synthetic compounds, and 50-100X more potent than other opiates.
- Heroin**: Made from the resin of poppy plants, originally manufactured as a treatment for TB. Often laced with synthetic fentanyl to reduce manufacturing time and costs.
- Methadone**: Methadone is a synthetic opiate manufactured for use as a painkiller and substitute for heroin in the treatment of addiction. It has similar effects to heroin.
- Oxycontin**

## Common Types of Opioids

**Scope of the problem**

- More people died from fentanyl than motor vehicle accidents in 2017
- Death rates in Canada are 8.8 per 100,000
- Death due to overdose is most common in those aged 30-39- making this a killer of the young.

**Deaths by overdose**

2008: 3 icons (representing 150 people)

2017: 2600% Increase (represented by 2600 icons)

Legend: 1 icon = 50 people, 1 icon = 80 people

## A BRIEF Explanation of the Rise of Opiates

**1960s**

Fentanyl first approved and synthesized by Janssen pharmaceuticals, and most often utilized as an alternative anesthetic, and not often as a pain killer.

**1990s**

Purdue pharmaceuticals releases Oxycontin, which is immediately a success. Promotional videos marketed this medication as a common use medication for the everyday individual, and as a nonaddictive alternative to other pain management therapies.

**2007**

Purdue pharmaceuticals settles for 600m in lawsuit for fraudulent marketing, misleading of regulators, patients and practitioners. Executives of Purdue also personally settled for 34.5m.

**Late 2000s**

Insys pharmaceuticals releases subsys for end stage cancer pain. Insurance companies receive coverage of Insys for several other conditions. The rise of prescription of fentanyl occurs as a result of deceptive marketing to providers, incentivizing practitioners to over prescribe, increased patient requests, and overall increase in consumption of opioids.

**Present**

In 2012 in Canada, Oxycontin was removed from the market due to its addictive properties, and this led to a direct increase in fentanyl prescription. Along with a combination of overprescription, demand, increasing market value, addiction, and consumption this has led to the current opioid epidemic. Fentanyl is involved in over 75% of opioid related hospitalizations and overdoses, and is one of the most commonly used painkillers.

## The Problem Landscape

Exports pure fentanyl to Canada, each 1kg of which is worth over 20million in street value

Exports chemical compounds to manufacture fentanyl to the drug cartel

**Production:** Due to the multinational lines of production, and the export of pure fentanyl from China to Canada, as well as the chemical derivatives required to Mexico, Canada's other large supplier tracing of illicit fentanyl is exceedingly difficult.

**Packaging:** Canadian border services are only permissible to search packages that weigh 0.3kg or more without supplier permission. With 1kg of search being up to worth 20m street value, packaging and transport allows for mass exportation and easy camouflage.

**Manufacturing:** Due to the manufacturing time and costs associated with production of non-synthetic fentanyl, fentanyl is more mass produced and exported, as well as often used as a filler in other opioids. Often, individuals taking other illicit substances are unaware they are laced with fentanyl, and this makes tracking and regulation even more difficult.

**Supply Chain:** There are mass corporations and individuals involved in all aspects of cartel and trafficking- this makes tracking and enforcing law and policy extraordinarily difficult.

**Hospitals**

- Lack of capacity and funding to provide comprehensive treatment programs.
- Judgement by healthcare providers that addiction is an individual fault/responsibility.
- Nonspecific treatment programs, not tailored to the complexities of opiate addiction. Disjointed, and short-term treatment options.

**Policy & Regulation**

- Pharmaceutical companies meet minimum safety standards and further regulation is voluntary.
- Policy related to harm reduction is ambiguous and often practitioner dependent.
- Regulatory bodies often fail to follow up with amended approval requests for new combinations of existing medications.

**Corporations**

- There is a lack of transparency by corporations in marketing and promotion of these very addictive drugs.
- Privatization of drug manufacturing companies allows less government and public involvement, and thus more financially driven manufacturing.
- Open- market allows significant market competition and allowance of continual marketing of the same medications as new molecular entities.

**Communities**

- Significant judgement from communities as to the cause and individual responsibility for addiction.
- Lack of community support and social programming for those who struggle with addiction.
- Mass social exclusion of individuals who are experiencing and living with addictions.

**Lethal Dose of Fentanyl**

You cannot see, taste, or smell fentanyl

**1 300%** Increase in opioid prescriptions since 1990. This is driven by overprescribing by physicians, pressure from pharmaceutical companies and patients, decreased acceptance of pain, the pharmaceuticalization of society, and increased surgical intervention in society requiring pain management.

**2 Over 100,000** Naloxone kits distributed across Canada thus far in 2018. An increase of over 220% since 2008.

Distribution of naloxone does prevent overdoses, however it is a bandaid solution that does not treat the underlying causes of overdose, and the increasing rates of addiction across Canada.

**3 1/16** Another measure of the toll the epidemic is taking is the number of admissions to Canadian hospitals for overdoses, these admissions have increased by 70% since 2008.

16 people per day and rising on average are admitted to hospital per day according to the Canadian Institute for Health Information. This has doubled since 2008. These figures do not include those treated in emergency departments and discharged.

**4 75%** Up to 75% of heroin is now laced with fentanyl.

Many individuals addicted to illicit drugs are unknowingly using products filled with fentanyl.

**5 100%** All overdoses resulting in death as a result of fentanyl are preventable with timely intervention, & proper regulation of potency and distribution.

## Potential Solutions Landscape

**CONSIDER**

- NGO's**
  - Lobbying governments to provide more funding for harm reduction models and education programming.
  - Fundraising in support of this programming, and creating community involvement and education programs.
- Hospitals**
  - Implementing more educational programming for healthcare providers.
  - Introduction of more stringent pain monitoring and opioid administration policies in order to have patients off medications as fast as possible.
  - More programs that provide health care providers with the education to quickly recognize and intervene in overdose.
- Social Programs**
  - Harm reduction programs with support from select individuals from government, healthcare, communities, and NGO's have created comprehensive social programming that makes a significant impact to addicted individuals. However, the scale of such programs is not sufficient. Examples include safeworks, and RN monitored safe injection sites.

## International Organizations & Governments

Due to the complexity of this issue, there is little that international governments and organizations can do to engage with and combat its growing epidemic without cross sectoral partnerships and international cooperation. Increasing regulation, imposing stringent manufacturing and marketing policies on corporations, and engaging in subsidized social programming to engage with those who are using illicit drugs are the most promising levers to continue progressive change and bridge current gaps.

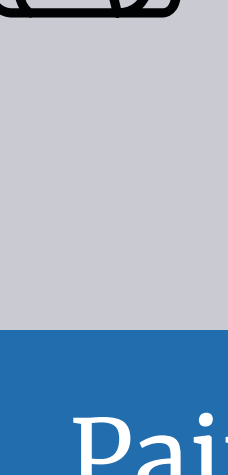
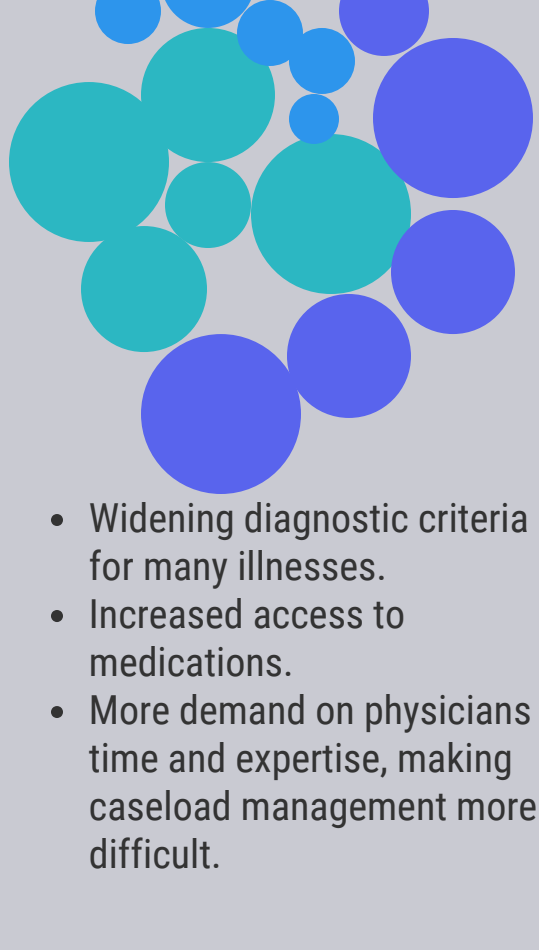
**The problem with cyclical Leadership**

- Government elected every four years.
- Evaluation of existing policies and frameworks
- Many existing programs are changed, reduced or cut
- Differing parties elected changing & reducing continuity based on ideologies
- New programs are introduced and evaluated
- Lobbying and promotion of programs until next election occurs

# Pharmaceuticalization & Perceptions of Pain



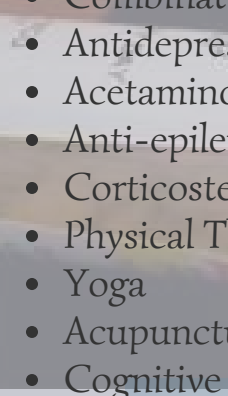
- Increasing advent of pharmaceuticals to treat a wide array of conditions.
- Pharmaceuticalization.
- Longer use of strong medications.



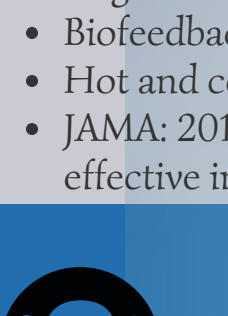
- Patients increasingly treated as consumers, thus can request medications more readily.
- Perceptions of pain have shifted, individuals less willing to live with any kind of pain.
- Increased uptake of medication consumption at individual and system level.

- Widening diagnostic criteria for many illnesses.
- Increased access to medications.
- More demand on physicians time and expertise, making caseload management more difficult.

## Pain management techniques

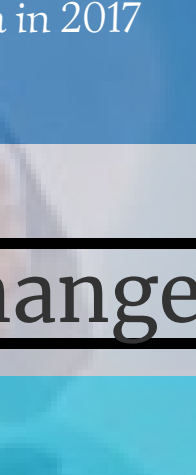
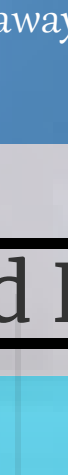


This problem becomes so difficult because pain is subjective, not objectively measurable, variable, and not well understood neurologically.



Healthcare professionals should always consider other therapies and pain management techniques with patients to provide the best outcomes.

- Non steroidal anti-inflammatories
- Combination medicines
- Antidepressants
- Acetaminophen
- Anti-epileptic medications
- Corticosteroids
- Physical Therapy
- Yoga
- Acupuncture
- Cognitive Behavioural Therapy
- Biofeedback
- Hot and cold therapies
- JAMA: 2016 study showing that ibuprofen and acetaminophen in combination can be as effective in management of non cancer pains as opiates.



Two people per day passed away from overdose in Alberta in 2017

## Gaps and Levers of Change

### Nongovernmental Organizations

**Gap:** Lack of cross-sectoral collaboration  
**Levers of Change:**

1. Create partnerships with local and international programs
2. Create platforms for lobbying & fundraising in support of programs
3. Leverage expertise to create partnerships and system change

### Hospitals

**Gap:** Lack of comprehensive tailored programs  
**Levers of Change:**

1. Partner with community, and NGO programs to provide continuity of care
2. Educate providers on available resources for all patients
3. Provide sensitivity training to correct misconceptions

### Corporations

**Gap:** Lack of Transparency & self regulation  
**Levers of Change:**

1. Engage in transparent reporting and investigation of product safety
2. Create honest marketing campaigns with proper warnings
3. Improve internal regulation and integrity

### Governments

**Gap:** Cyclical Leadership & lack of continuity  
**Levers of Change:**

1. Create partnerships with local and international addictions programs
2. Fund the upscaling of harm reduction and social programming for addictions.
3. Invest in early education programs in schools regarding the dangers of opioids.

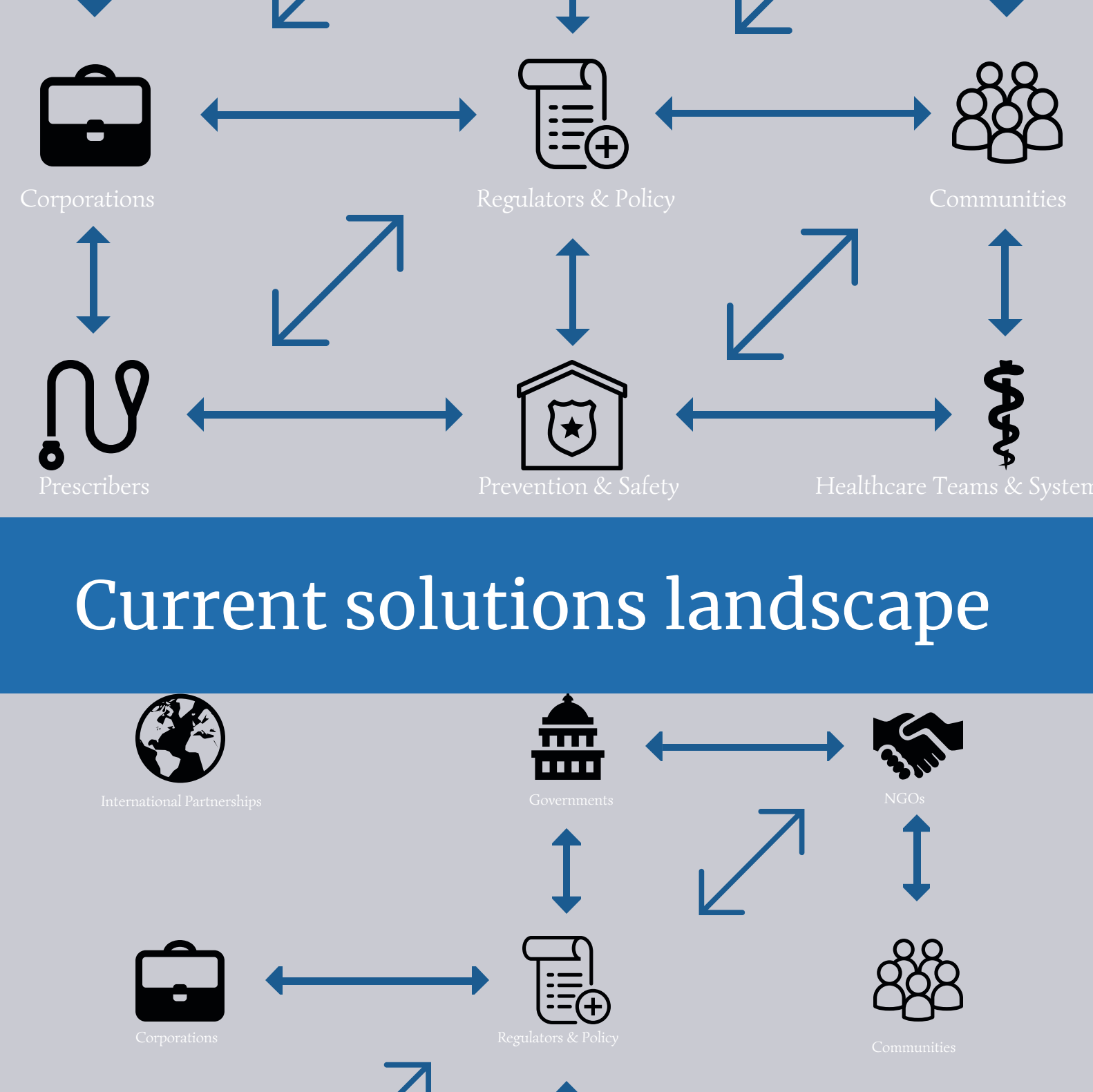
### Communities

**Gap:** Lack of Education & Support  
**Levers of Change:**

1. Engage with and support social programming
2. Disseminate education and research
3. Reduce social exclusion of individuals with addictions

## Ideal System

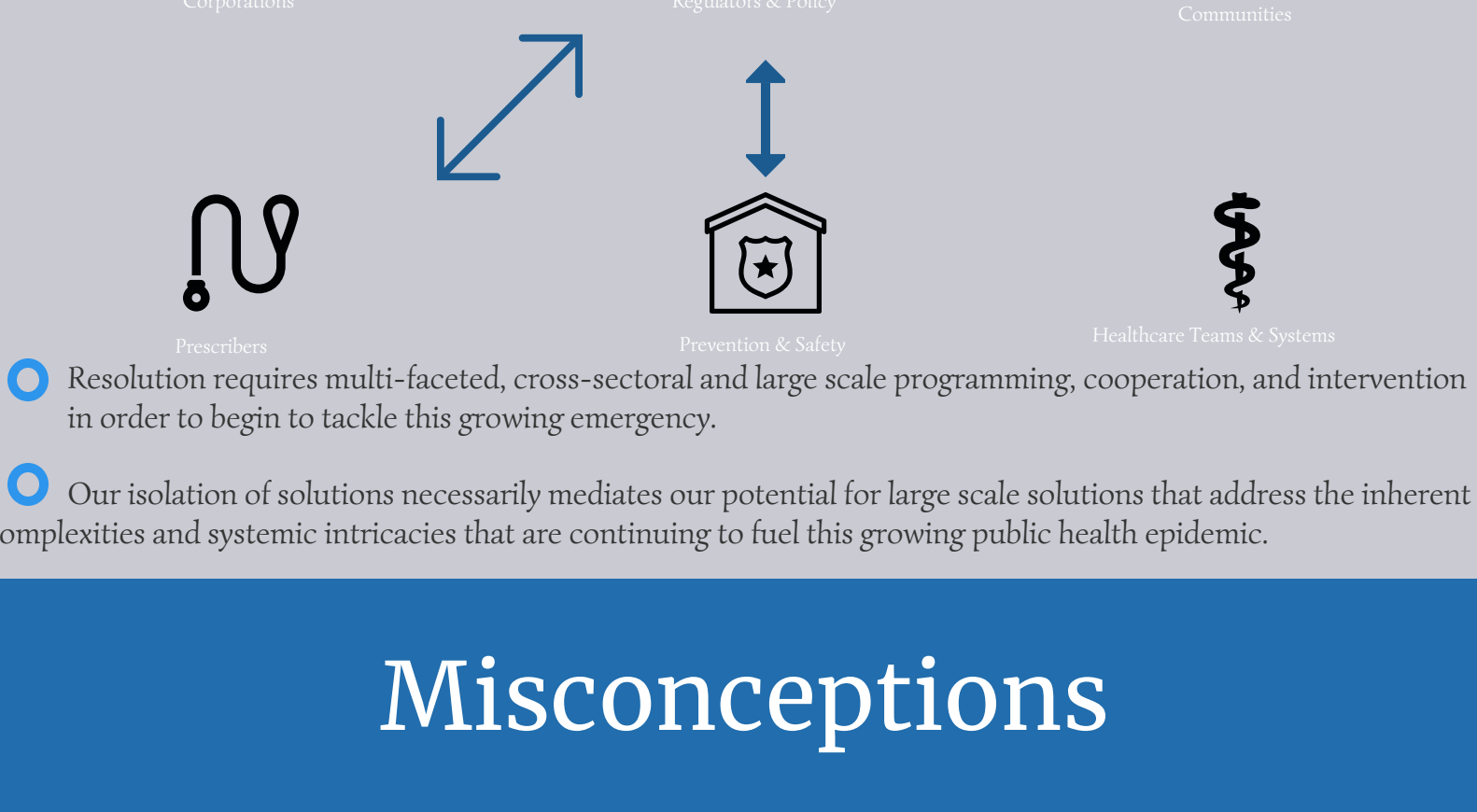
Ideal movement through the system of an individual with an opiate addiction- and the ideal system of collaboration with which these programs develop.



## What a full collaborative system solution should look like



## Current solutions landscape



- Resolution requires multi-faceted, cross-sectoral and large scale programming, cooperation, and intervention in order to begin to tackle this growing emergency.
- Our isolation of solutions necessarily mediates our potential for large scale solutions that address the inherent complexities and systemic intricacies that are continuing to fuel this growing public health epidemic.

## Misconceptions

**Individual fault is responsible for opioid addiction:**  
A complex system of factors creates and maintains addiction, and identifying the causes of the causes is paramount to improving the problem.

**Addicts are not strong enough to stop or simply don't want to:**  
Quitting Opiates when dependent is dangerous and often painful, and many addicts want to stop but lack the proper supports and education to do so.

**Everyone addicted to fentanyl chose to take it:**  
Many individuals who struggle with addictions to heroin or prescription drugs have unknowingly taken fentanyl in products that were laced. Many hospital patients receive opioids and develop dependence unknowingly

**Opioids can simply be stopped without medical intervention:**  
Withdrawing is painful and difficult and can be fatal and absolutely requires medical supervision, intervention & support.



Assumptions of what drug addiction looks like when addiction can take many different forms

## The Bigger Picture

We need to reevaluate our narrative of pain, encourage resilience, and acknowledge the limitations of modern medicine.

If this problem persists it is set to become a leading cause of death in developed nations.

## Signs & Symptoms of Overdose

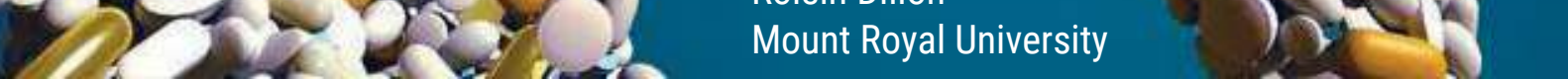
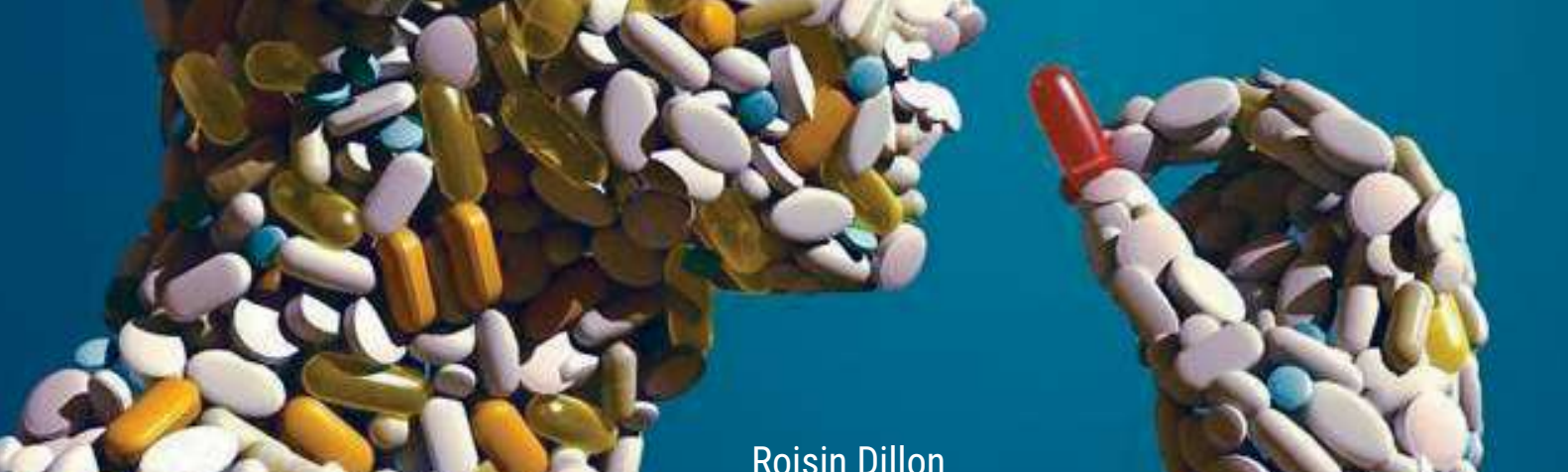
- Pinpoint pupils.
- Weak muscles.
- Dizziness.
- Confusion.
- Extreme sleepiness.
- Loss of consciousness.
- Profoundly slowed heart beat.
- Very low blood pressure.
- Dangerously slowed or stopped breathing.
- Bluish tint to nails and lips.

You can save a life: pick up your free naloxone kit at any pharmacy today.

All deaths are preventable- together we can save lives



## You can save a life.



## The Opioid Crisis in Canada

A Focus on the rapidly growing killer: fentanyl