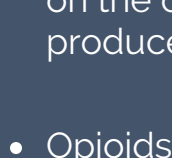


The Canadian Opioid Epidemic

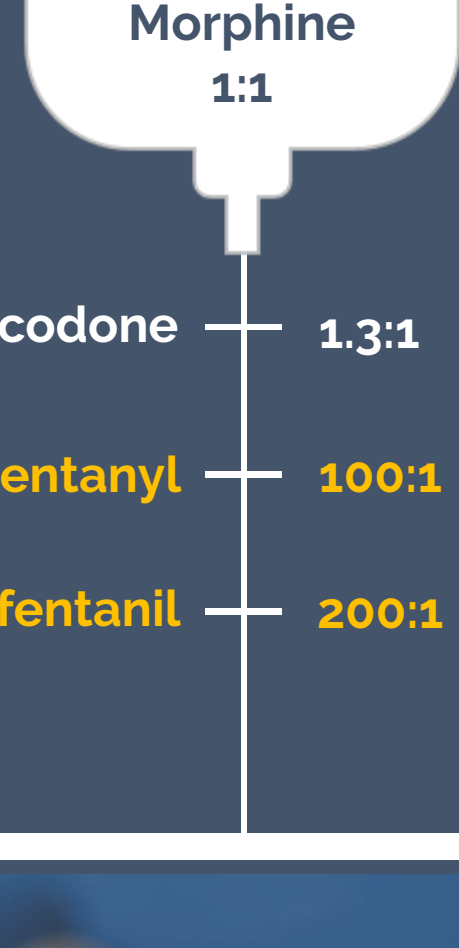
With a Focus on the Rapidly Growing Killer: Fentanyl



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What are Opioids?

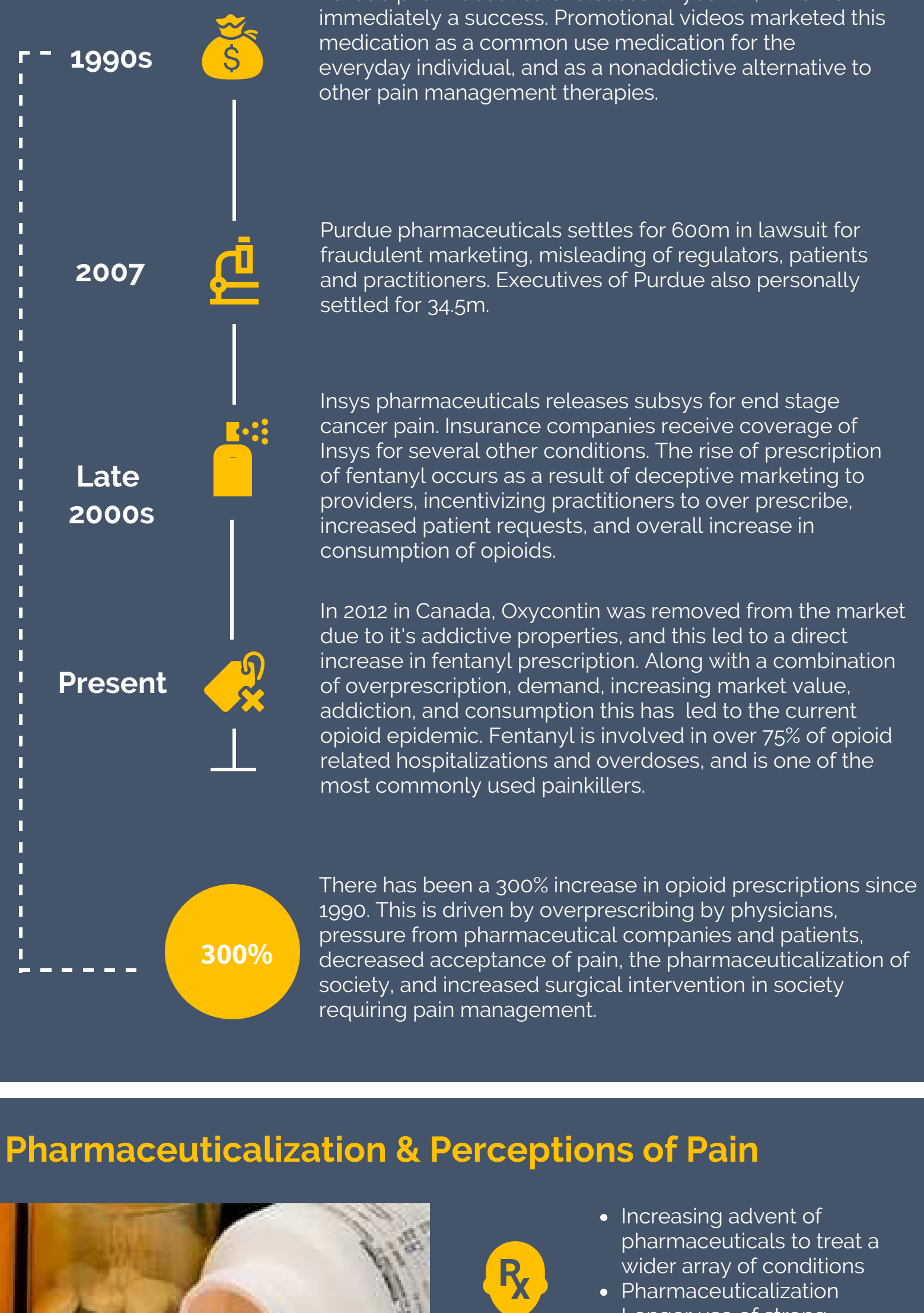
- Opioids are a class of medications that work on the opioid receptors in the brain to produce pain relieving effects
- Opioids bind to receptors found principally in the central and peripheral nervous system, and due to this binding action one of the most significant side effects of these medications 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



Common Types of Opioids

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

The Rise of Opiates: A Brief Explanation



There has been a 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.

Pharmaceuticalization & Perceptions of Pain



- Increasing advent of pharmaceuticals to treat a wider 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

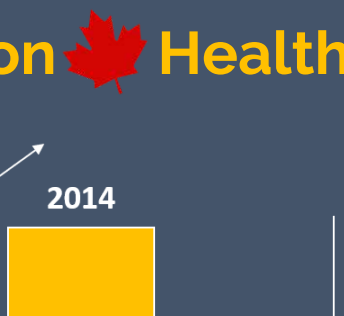
This problem becomes so difficult because pain is subjective, not objectively measurable, variable, and not well understood neurologically.

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

Legal vs. Illicit Fentanyl

Legal Fentanyl



- Distributed in patch or liquid form
- Used as an anesthetic
- Originally approved for end stage cancer pain

Illicit Fentanyl



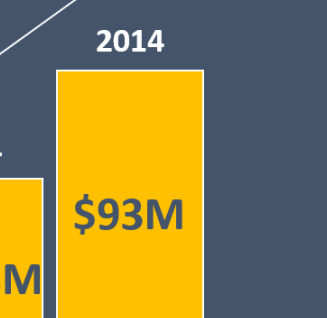
- Odourless, white, crystallized powder
- Sold in powder form or pressed into counterfeit pills
- Patches obtained via theft

Overprescription increasing patient dependency

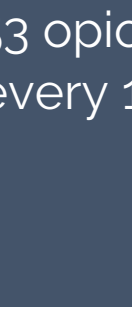
75% of other opiates are laced with fentanyl

Cost-cutting has led to fentanyl substitutions

Scope of the Problem



In 2017, more people from fentanyl overdoses than motor vehicle accidents



Deaths due to overdose are most common in those aged 30-39 - making fentanyl a killer of the young

Deaths by Overdose



■ = 80 ppl

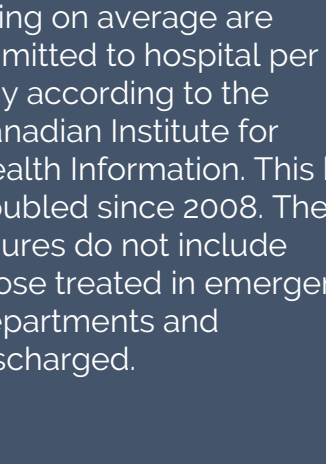
Stress on Healthcare System



Increase in spending on opioid addictions



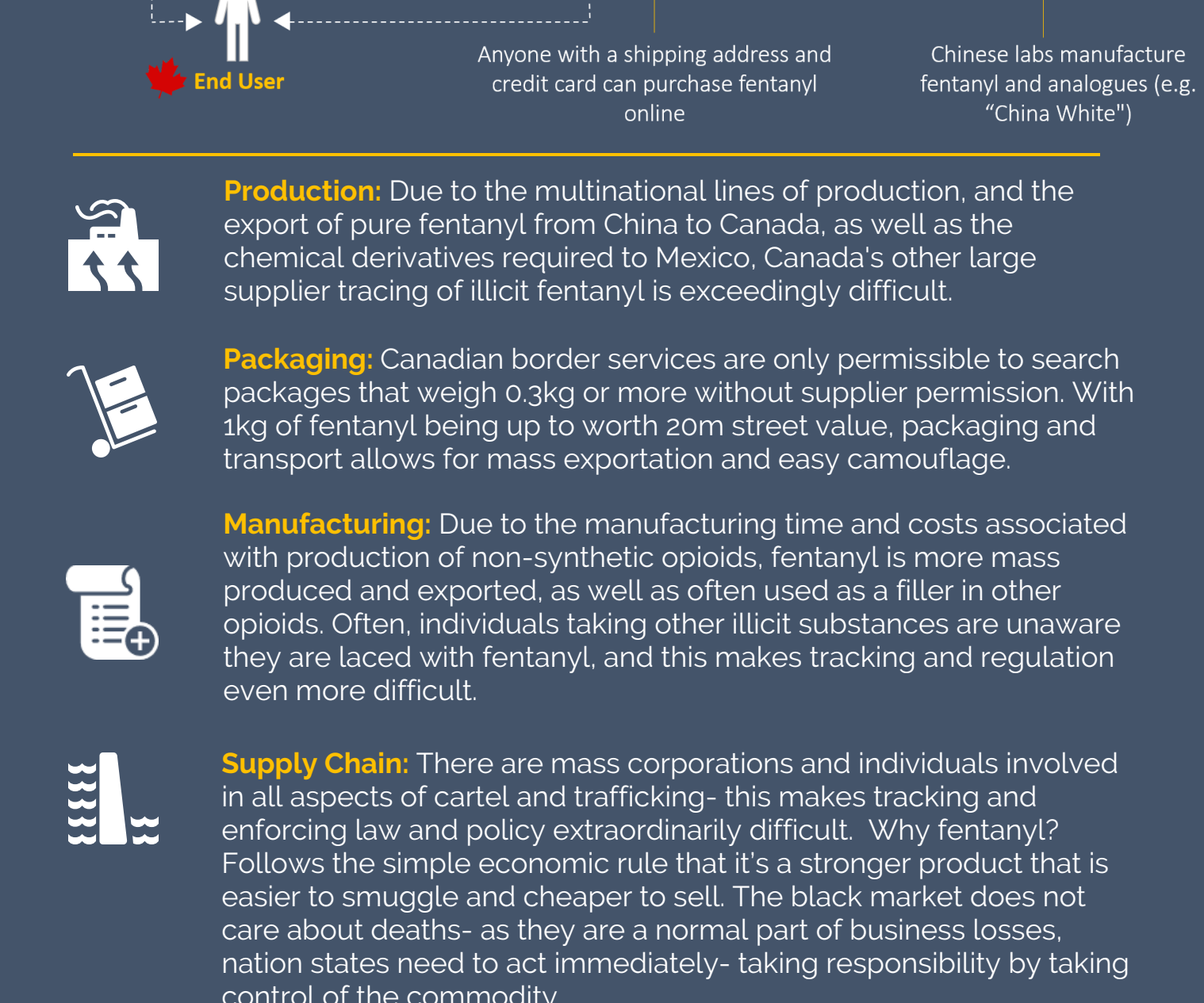
Increase in hospitalizations due to opioid poisoning



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.

2015 53 opioid prescriptions written for every 100 people in Canada

Production to Consumption



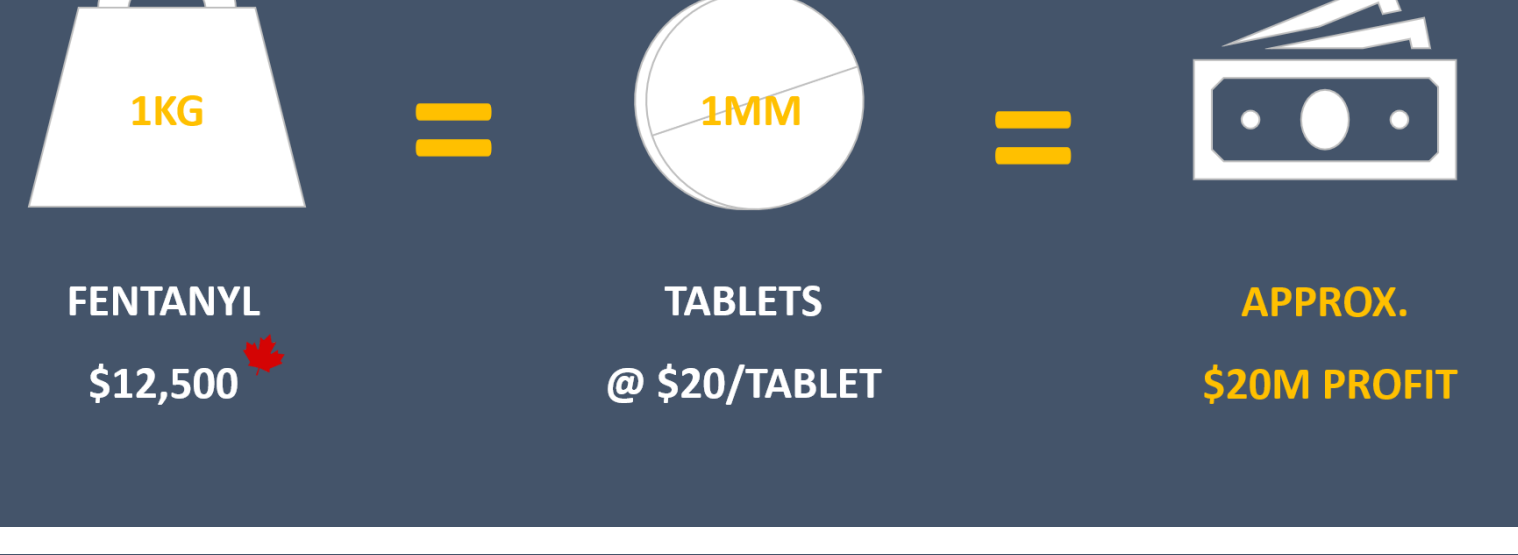
Production: Due to the multinational lines of production, and the export of pure fentanyl from China to Canada, as well as the chemical derivatives required to Mexico, Canada's other large supplier tracing of illicit fentanyl is exceedingly difficult.

Packaging: Canadian border services are only permissible to search packages that weigh 0.3kg or more without supplier permission. With 1kg of fentanyl 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 opioids, 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. Why fentanyl? Follows the simple economic rule that it's a stronger product that is easier to smuggle and cheaper to sell. The black market does not care about deaths- as they are a normal part of business losses, nation states need to act immediately- taking responsibility by taking control of the commodity.

Financial Incentive



Problems Landscape



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



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

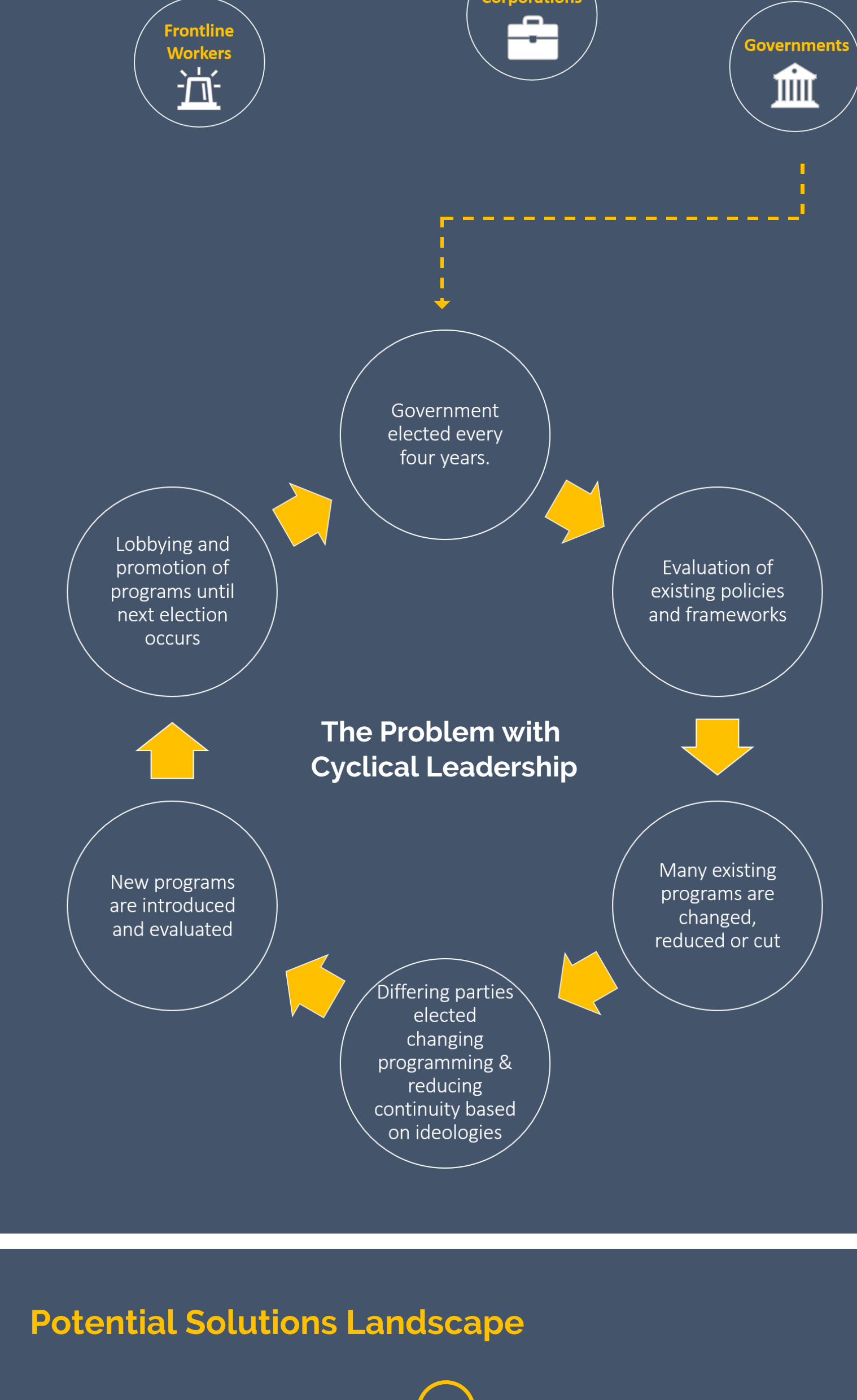


Policy & Regulation

- 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.

Key Stakeholders

Lack of Collaboration



Potential Solutions Landscape



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 this 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.

United Kingdom



The UK has had several heroin related overdose deaths in Hull and related areas already within 2018. This indicates that the heroin problem in the UK has been tainted by fentanyl. Several other European countries are also seeing increases in opiate related deaths- of which Estonia had the highest rate in 2017- with synthetic opioids implicated in the majority of these deaths.

The illicit supply from Chinese manufacturers and distributors is a prime source of the supply of both synthetic opioids and the precursor chemicals used to manufacture them in the UK.

Public health & drug policy experts have long cautioned that the opioid epidemic would reach UK shores- and the signs are arising that it has arrived with fentanyl related deaths being reported around the country in recent weeks and months. This is prompting significant fear that the drug is integrated into the UK heroin market.

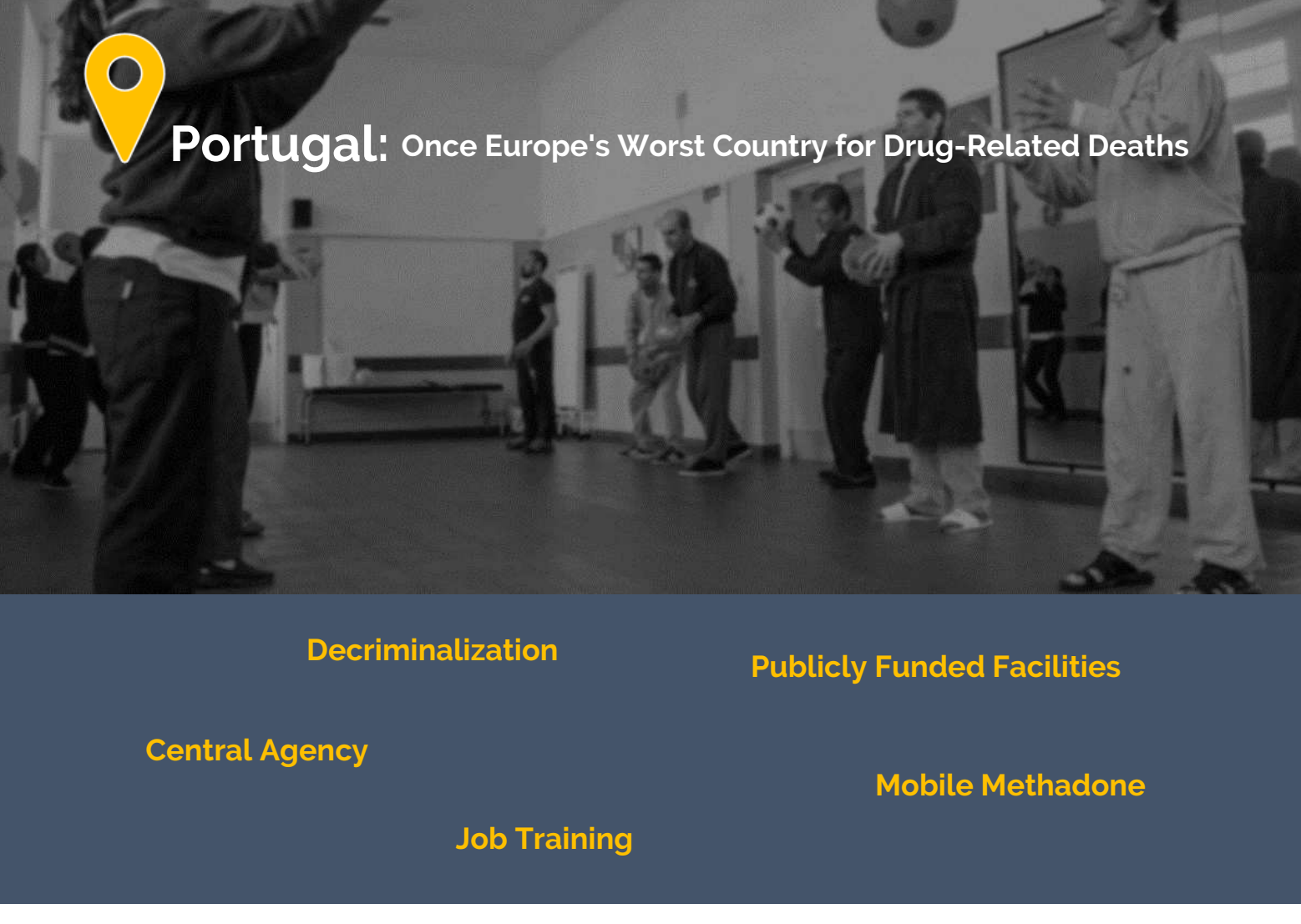
This is a hugely worrying development for the UK given that drug related deaths are already at record levels. The working government does not have time to prevaricate on the question of harm reduction or naloxone programming- they must learn from how slow this process was rolled out across the UK.

To delay would be to become responsible for even greater numbers of completely preventable deaths, and see an epidemic the scale of that which has plagued and taken over North America.

Solutions Landscape: Global Level

Portugal was once Europe's worst country for drug related deaths, in one of the worst drug epidemics in the world. In response to this Portugal decriminalized all drugs.

Starting in 2001, possession or use of any drug — even heroin — has been treated as a health issue, not a crime. Under the 2001 decriminalization law, drug dealers are still sent to prison. But anyone caught with less than a 10-day supply of any drug — including heroin — gets mandatory medical treatment through publicly funded central agencies.



Portugal: Once Europe's Worst Country for Drug-Related Deaths

- Decriminalization
- Publicly Funded Facilities
- Central Agency
- Mobile Methadone
- Job Training

Solutions Landscape: Federal Level

One of the largest gaps at present is a lack of real time data as only British Columbia has declared this a public health emergency.

Over 50% of funding is allocated to filling this gap in data

- Evidence-Based Treatment
- Equip Border Officers
- Address Stigma
- Inform & Evaluate Gov. Regulation
- Treatment & Prevention



Solutions Landscape: Provincial Level

In 2018, over 100,000 Naloxone kits have already been distributed across Canada - an increase of over 220% since 2008.



Naloxone / NARCAN®

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.

Naloxone is often requested by health care professionals for use when not in the healthcare setting if necessary.

There is a lack of utilization of Naloxone kits within those using and addicted to opiates.

Naloxone programs need to be swiftly implemented across the UK to prevent the same scale of the problem.

Solutions Landscape: Municipal Level



Safe Injection Sites

Allow individuals to use under the supervision of healthcare providers to be exposed to swifter intervention, and more frequent exposure to treatment options available



Fentanyl Test Strips

Test for presence, not amount of fentanyl. Not yet commercially licensed as company fears legal implication. Individuals 10x likely to use less if test is positive.



Pharmaceutical Recycling Programs

Safe and effective disposal of unused medications prevents self-medicating and experimentation

Gaps and Levers of Change

Our isolation of these solutions necessarily mediates our ability to come up with macro-level large scale interventions that take into account the systemic intricacies and complexities that all culminate to create this wide-spread issue, and as a result influence our collective ability to engage in meaningful solutions





NGOs

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.



Transparency of Big Pharma

Gap: Transparency of 'big pharmaceuticals'

Levers of Change:

1. Have more integrity in reporting processes, off label uses and manufacturing.

2. Conflict of interest in companies manufacturing fentanyl and narcans this should all be public info.

3. Regulation should be more stringent internally, and relating to publication of all available data.

****Five of the companies that manufacture fentanyl manufacture naloxone- it's antidote****



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:

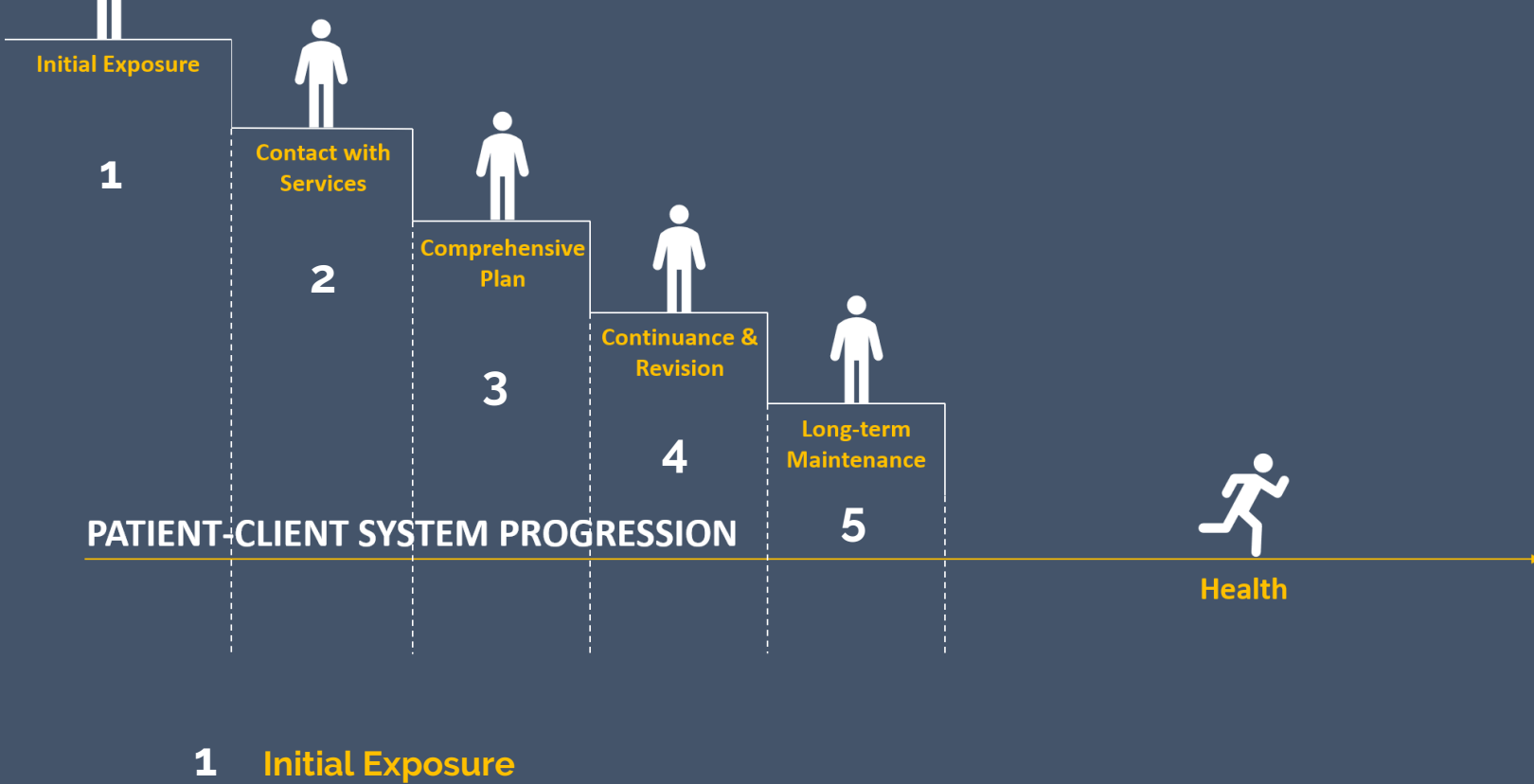
1. Engage with and support social programming.

2. Disseminate education and research.

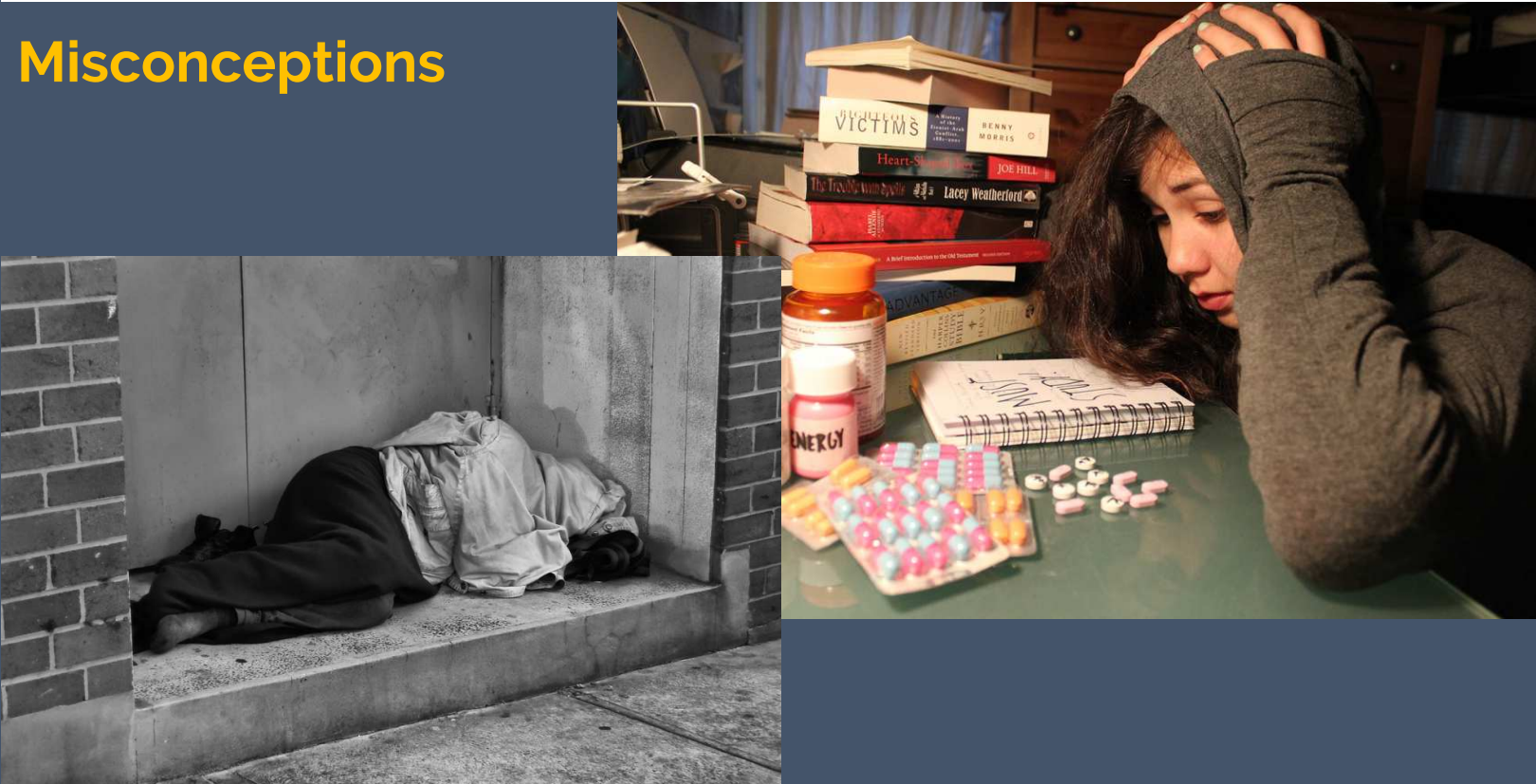
3. Reduce social exclusion of individuals with addictions, and meaningfully include them in solutions.

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.



Misconceptions



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

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.

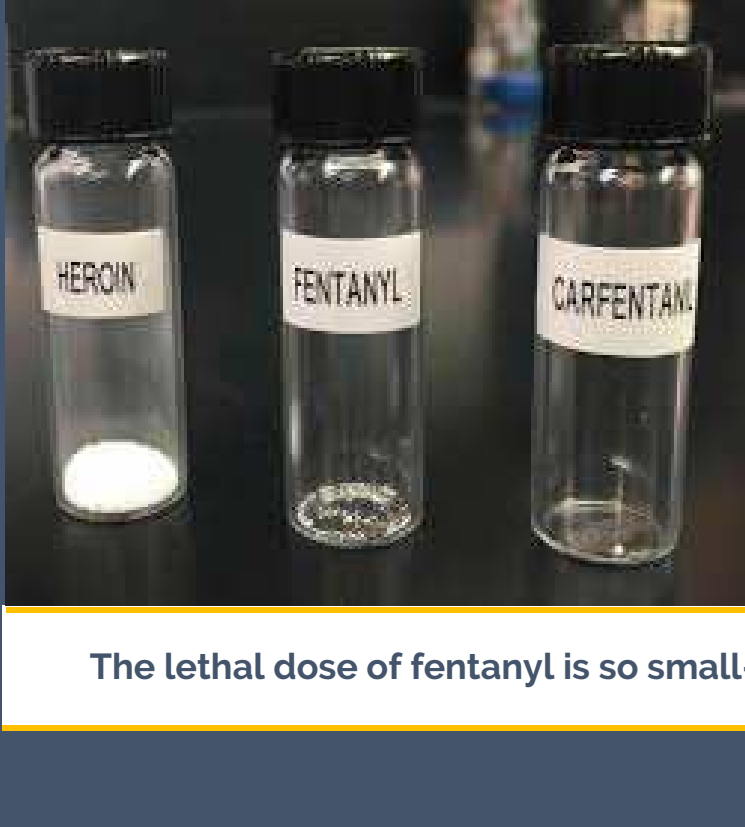
The Bigger Picture



We need to re-evaluate 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 and actually reduce overall life expectancy in developed nations.



The lethal dose of fentanyl is so small-equivalent to a couple of grains of table salt

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.



Naloxone/Narcan Kits

100%

of deaths as a result of fentanyl overdose are preventable

