

# System and Community Perspectives on Opioid Overdose

November 20, 2017  
PHSJCC conference – Toronto ON

presented by

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# Learning Objectives

- *Have an increased awareness of:*
  - The opioid overdose crisis;
  - The naloxone kit and its pharmacological elements; and
  - Safety strategies that may be useful in community, justice, and housing settings;
  - Supervised injection facilities.



# Opioid Consumption

- Canada and the USA
  - Lead all nations per capita mg/MED
    - **Canada – 812 (1)**
    - USA – 750
    - Denmark – 483
- Ontario Oxycodone RXs (2)
  - 1991 – 2007 increased 850%
  - 5 fold increase in oxycodone related mortality

1. United Nations Office on Drugs and Crime. *World drug report 2014*. New York: The Office; 2014. Available: [www.unodc.org/documents/wdr2014/World\\_Drug\\_Report\\_2014\\_web.pdf](http://www.unodc.org/documents/wdr2014/World_Drug_Report_2014_web.pdf)

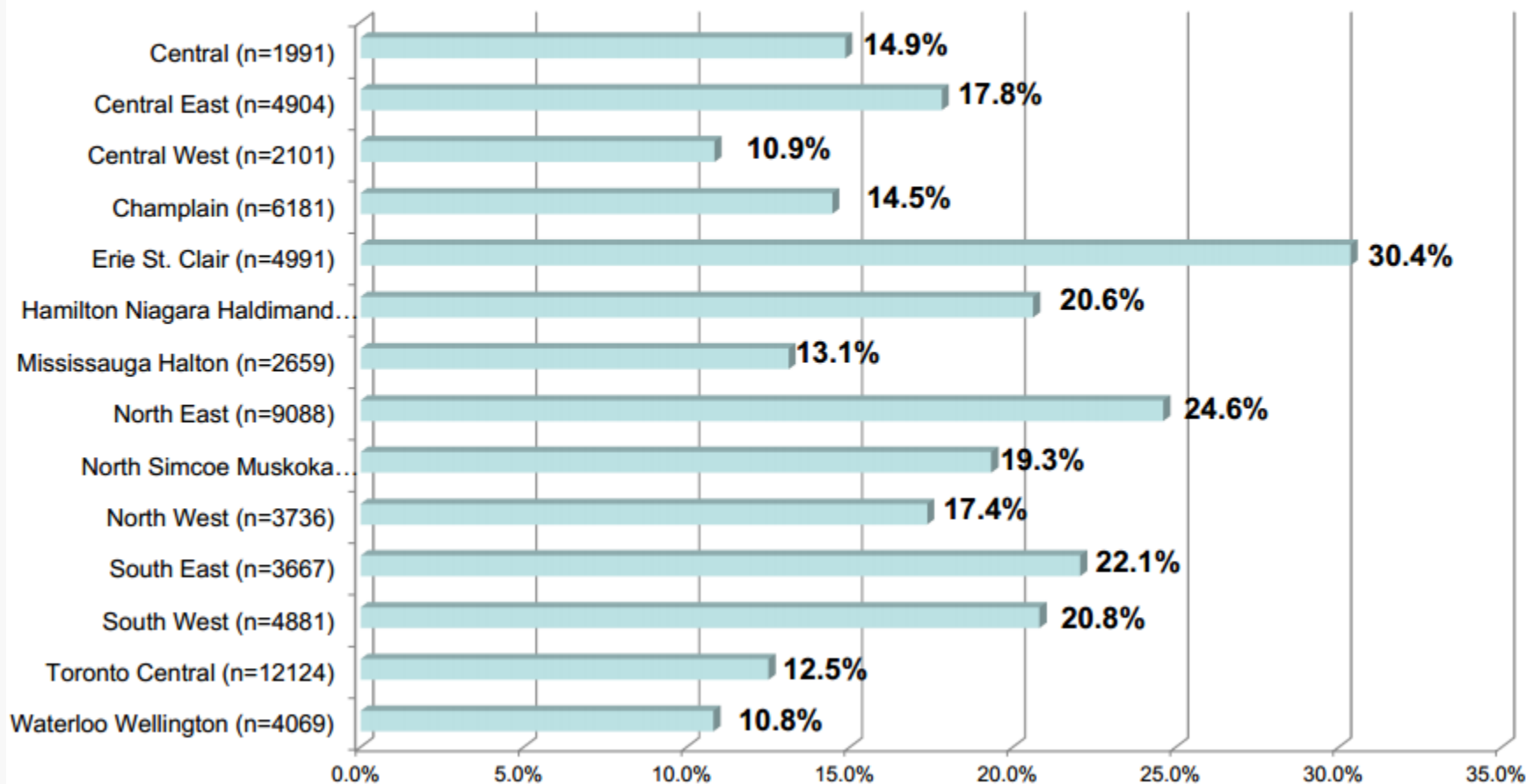
2. Municipal Drug Strategy Co-ordinator's Network of Ontario, 2015

Medication Class	No. (%) of Incidents *
Total no. of category I cases	115 (100%)
Opioids	54 (47%)
Psychotherapeutic agents	28 (24%)
Anticoagulants	24 (21%)
Cardiovascular agents	11 (10%)
Insulin	8 (7%)

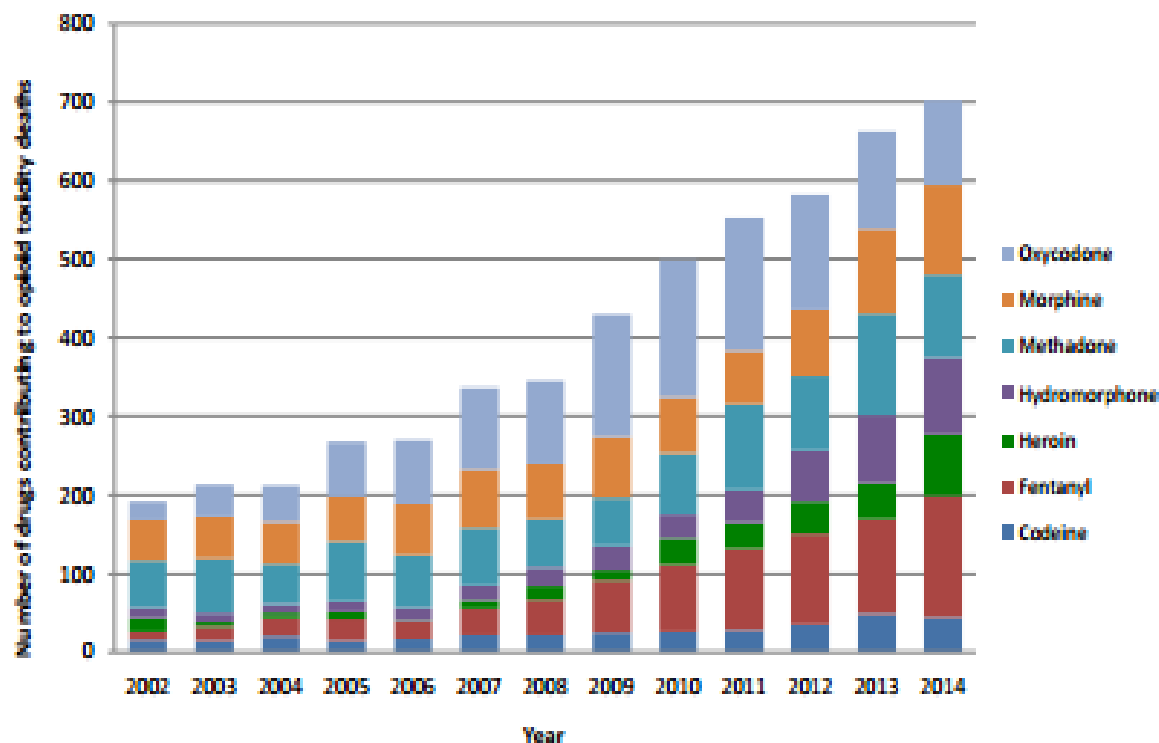
\*Some incidents involved more than one medication class.

**ISMP Canada Safety Bulletin – [www.ismp-canada.org/ISMPCSafetyBulletins.htm](http://www.ismp-canada.org/ISMPCSafetyBulletins.htm)**

## Percentage of all new SA admissions with prescription opioids as a problem substance by LHIN

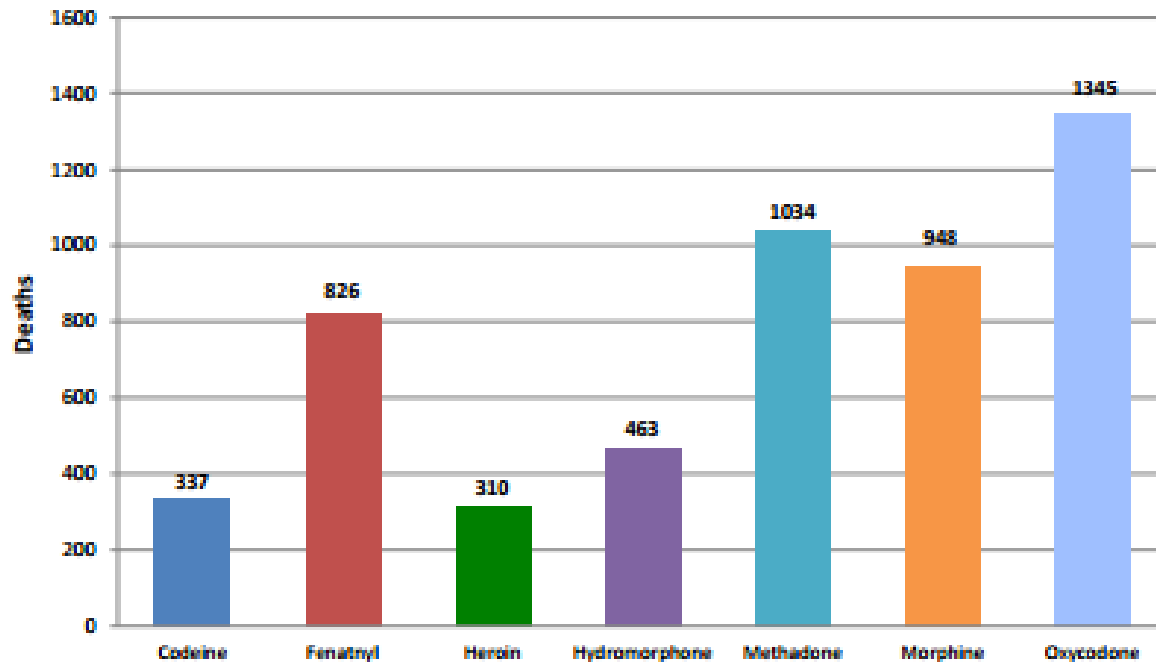


## Number of drugs contributing to opioid toxicity deaths in Ontario, by year from 2002-2014



The total number of opioid toxicity associate deaths in Ontario annually from 2002 to 2014. Some deaths can be attributed to multi-drug toxicity, therefore the total number of opioid toxicity deaths per year displayed in this graph does not equal the number of unique individual deaths from opioid toxicity in Ontario for that year.

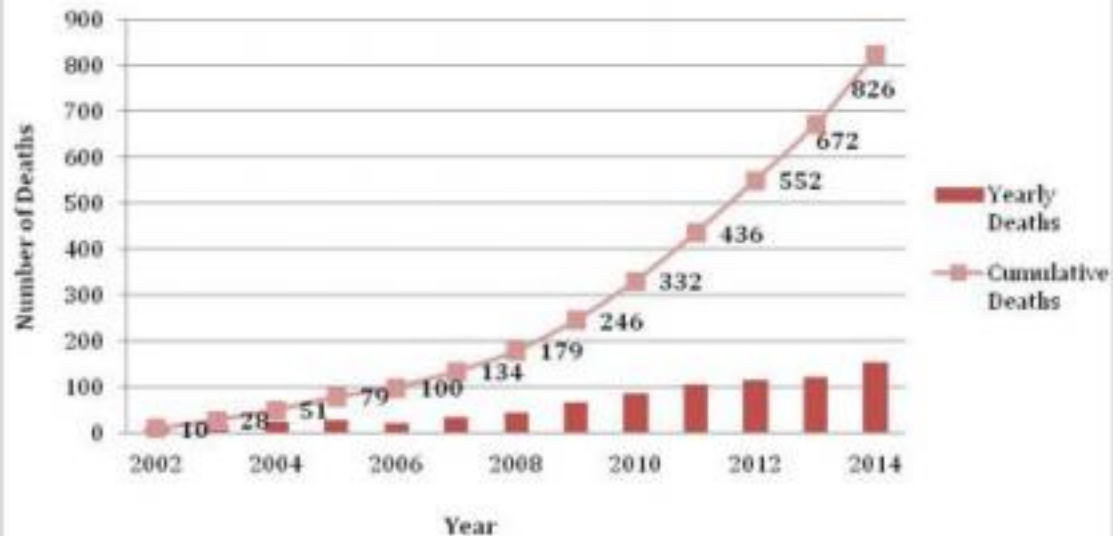
### Drugs related to opioid toxicity deaths in Ontario, 2002-2014



The total number of deaths related to opioid toxicity in Ontario from 2002 to 2014. Some deaths can be attributed to multi-drug toxicity, therefore a single decedent may have more than one opioid related to death.



## Fentanyl Related Deaths in Ontario, 2002-2014



The yearly and total cumulative opioid toxicity deaths in Ontario from 2002-2014 involving the drug Fentanyl.

## Number of Opioid Toxicity Deaths and Opioid + Alcohol Toxicity Deaths by Drug in Ontario from 2002 to 2014

Year	Codeine*	Fentanyl	Heroin	Hydromorphone	Methadone	Morphine	Oxycodone	TOTAL Decedents**
2002	18	10	23	18	69	62	31	210
2003	17	20	7	14	74	64	45	225
2004	23	28	8	13	65	66	55	246
2005	21	30	10	16	85	73	90	299
2006	20	26	2	21	75	80	107	292
2007	28	36	10	25	81	81	123	341
2008	24	50	19	31	69	80	133	355
2009	33	73	15	42	63	87	202	449
2010	34	91	39	46	92	86	211	514
2011	39	112	45	53	118	85	217	548
2012	45	140	57	85	118	96	189	598
2013	56	136	60	111	147	129	154	633
2014	60	176	100	127	127	139	146	673
<b>TOTAL</b>	418 (413-428)	928 (925-934)	395 (389-407)	602 (599-608)	1183 (1182-1185)	1128	1703	<b>5383</b>

\*For years where the number of deaths was reported as "<5" the number of deaths was assumed to be 2 for the purposes of summing and displaying the data. In the total number of deaths column, the minimum and maximum number of deaths possible are given in brackets.

\*\*Some deaths can be attributed to multi-drug toxicity, therefore a single decedent may account for more than one drug in each row. The Total Decedents column gives the total number of unique individual opioid toxicity deaths per year.

Source: Office of the Chief Coroner.

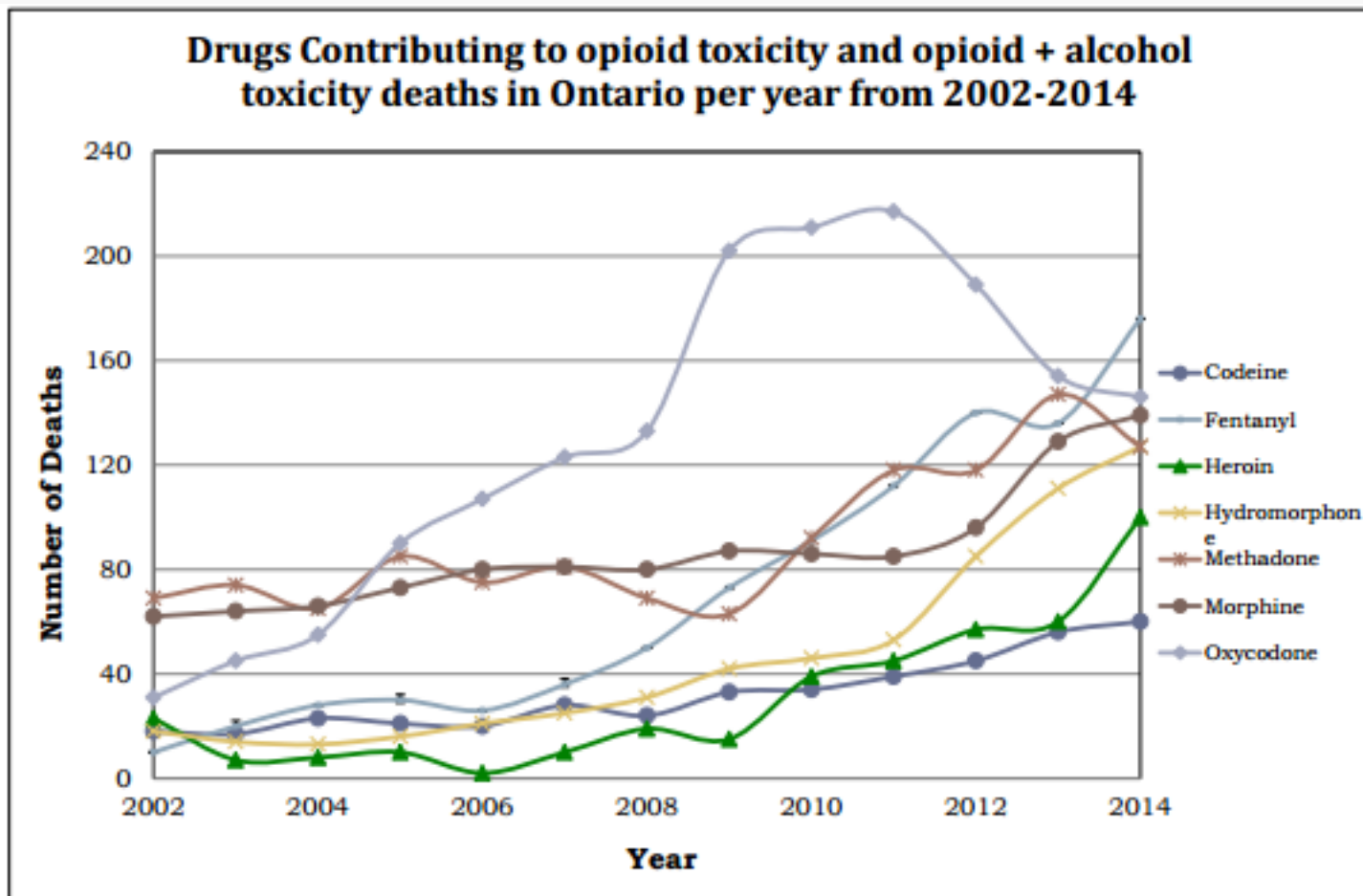


Figure 3: The total number of deaths with which a drug was associated for opioid toxicity deaths and opioid + alcohol toxicity deaths in Ontario from 2002 to 2014. For years where the number of deaths associated with a drug were reported as "<5" the number of deaths was assumed to be 2.

Source: Office of the Chief Coroner,

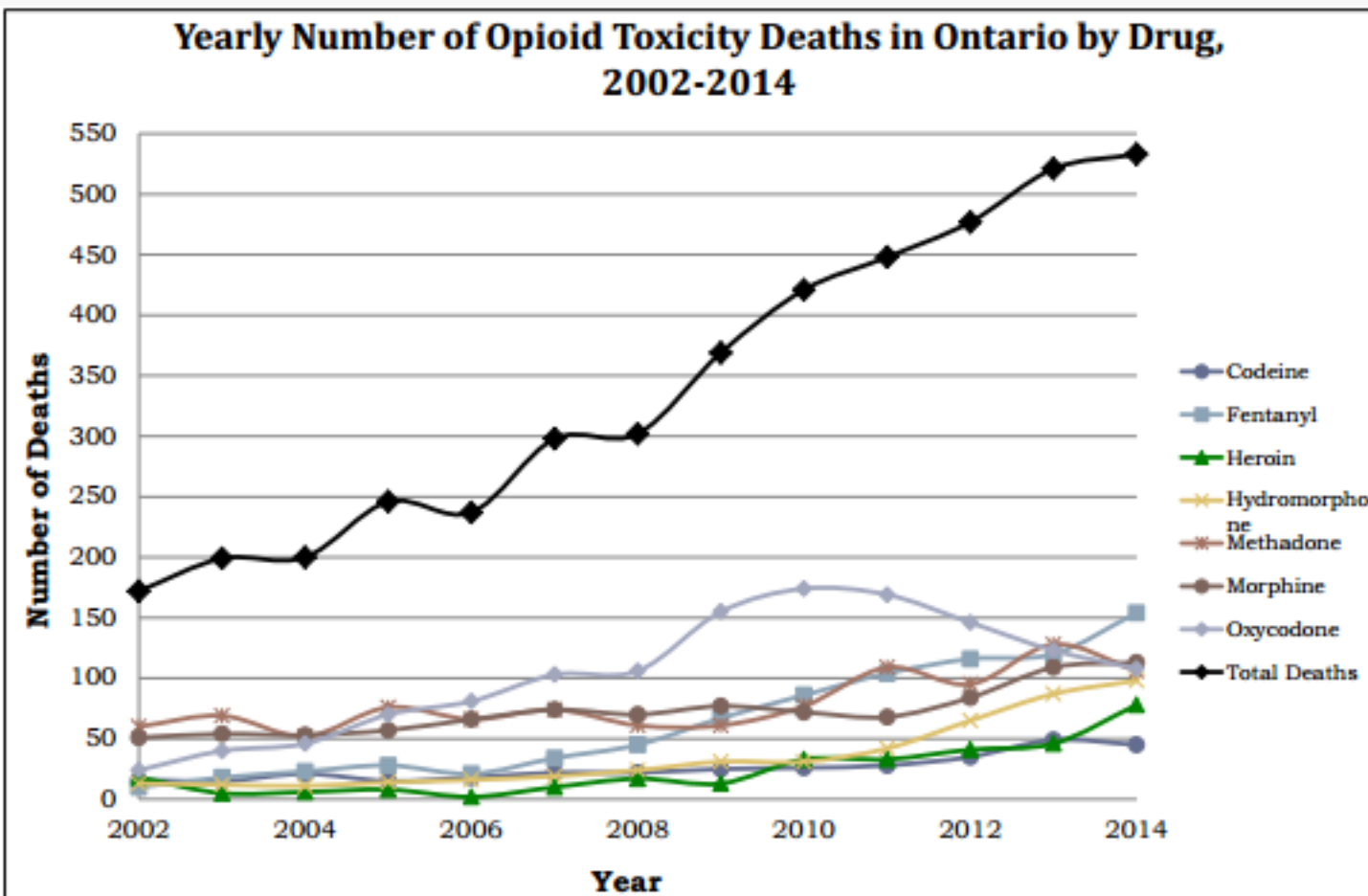


Figure 4: The total number of deaths with which a drug was associated and the total number of unique individual opioid toxicity deaths annually in Ontario from 2002 to 2014. Some deaths can be attributed to multi-drug toxicity, therefore a single decedent may have more than one opioid contributing to death.

Source: Office of the Chief Coroner,

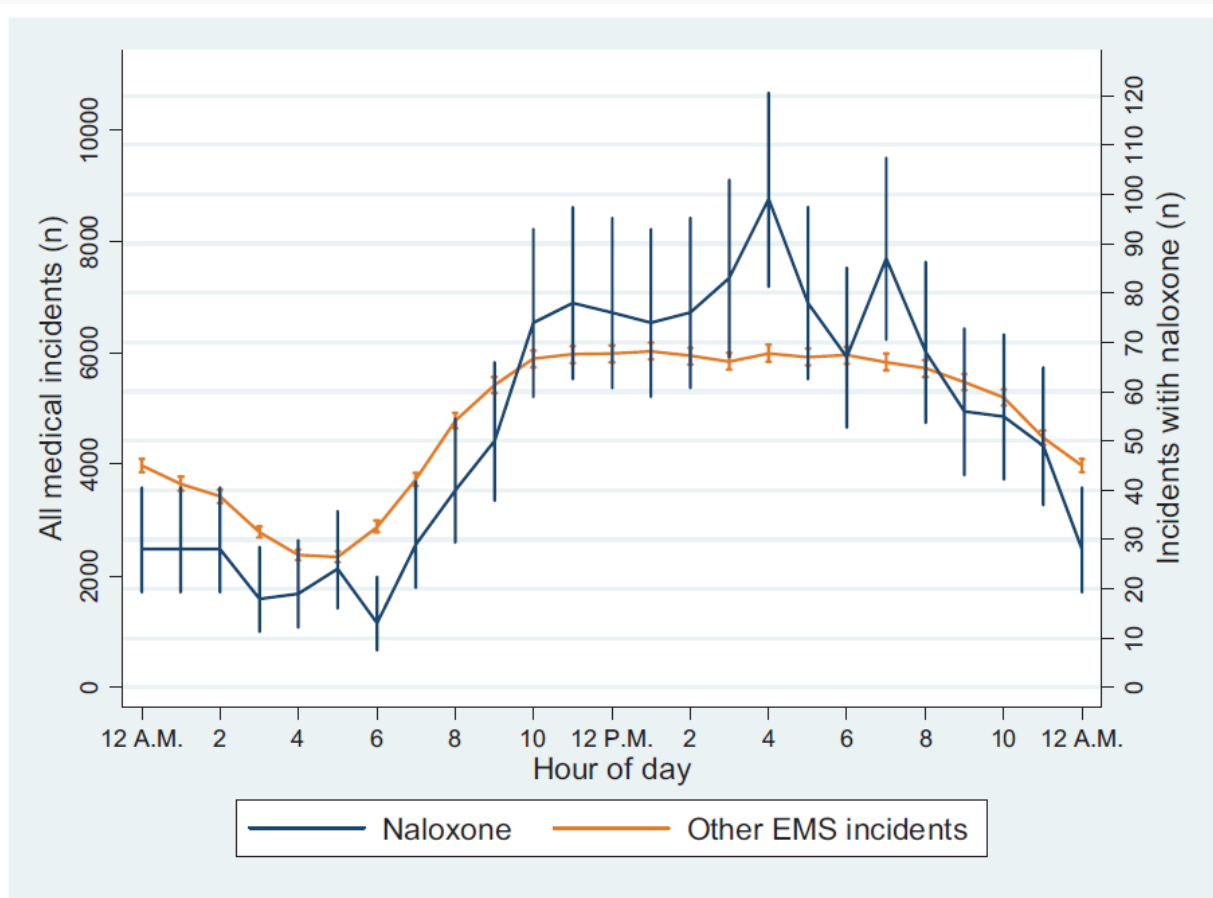
# What is Driving the Increases in Overdose?

- New Drug Use Patterns
  - New Recruits to prescription drugs;
  - Percocet, oxycodone >>> heroin.
- Heroin Availability, Purity, Lethal Mixture
  - Heroin is the leading drug threat;
  - Combination with fentanyl.
- Prescribing Patterns
  - Opioid prescriptions increased more than 4 fold from 1999-2010

# Some Risk Factors for Prescription Overdose

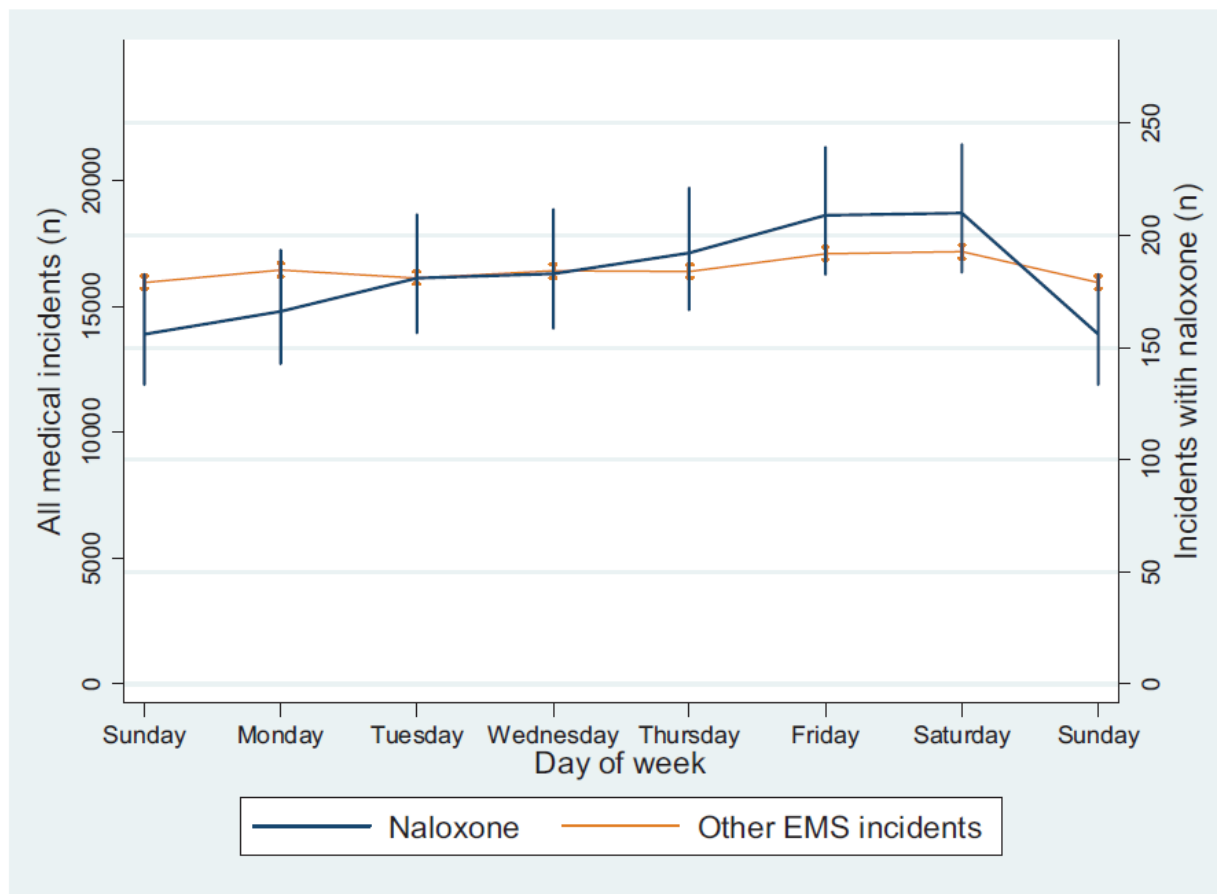
- Male gender;
- Older age;
- Lower socioeconomic status;
- Mental health diagnoses;
- Higher doses  $\geq 100\text{mg}$  morphine equivalents daily;
- Polypharmacy.

# Most Likely Time of Day



Knowlton A. Prehospital Emergency Care. 17; 2013

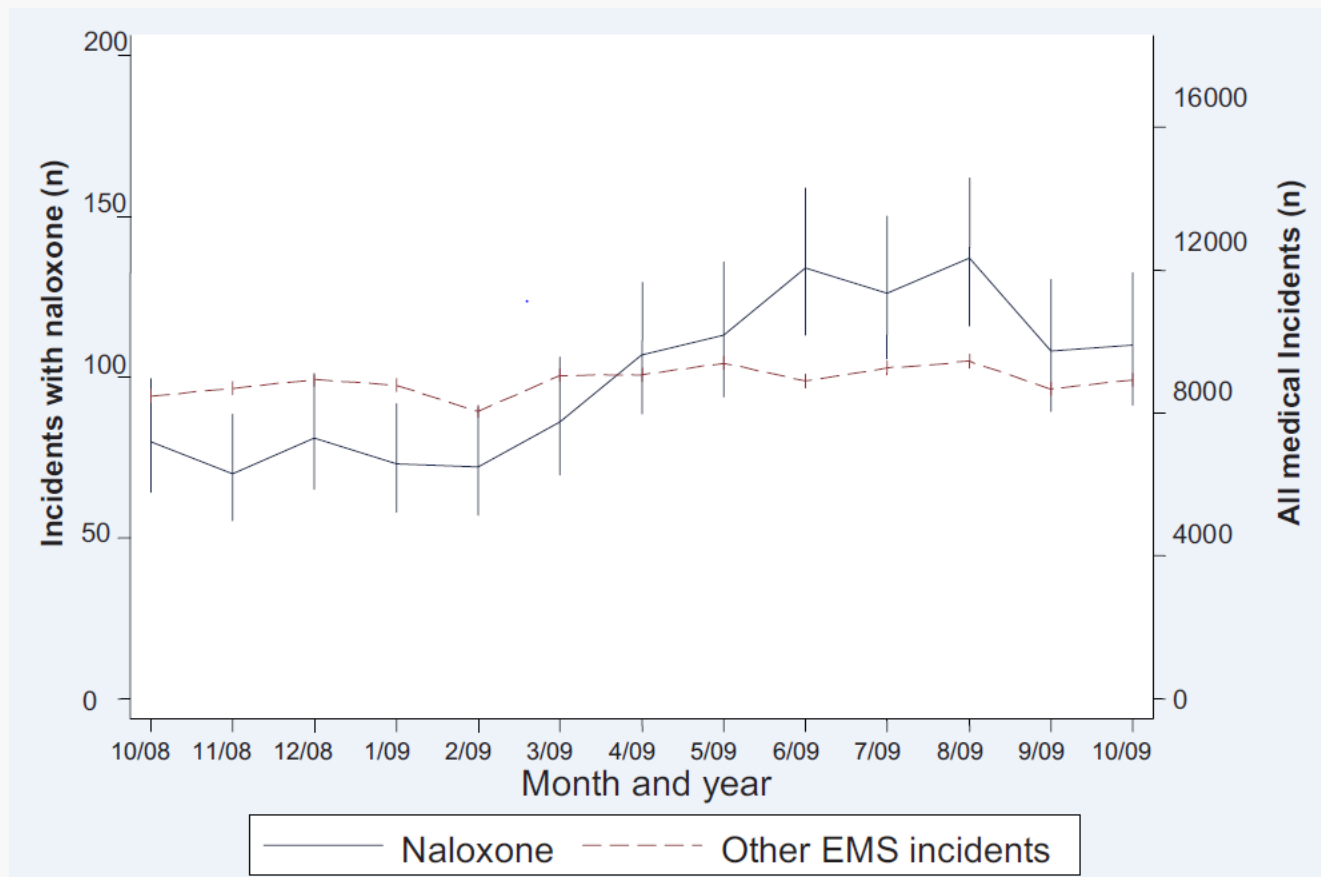
# Most Likely Day of the Week



Knowlton A. Prehospital Emergency Care. 17; 2013



# Most Likely Time of Year

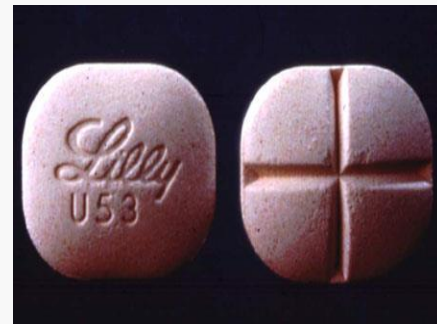


Knowlton A. Prehospital Emergency Care. 17; 2013



# Opioids

- Natural opioids: contained in resin of opium poppy (morphine, codeine)
- Semi-synthetic opioids: created from natural opioids such as hydromorphone, hydrocodone, oxycodone, heroin, etc.
- Fully synthetic opioids: methadone, fentanyl



**Naturally produced in the body**

**Endorphins**



**Opiates, derived from opium poppy**

**Codeine**

**Morphine**



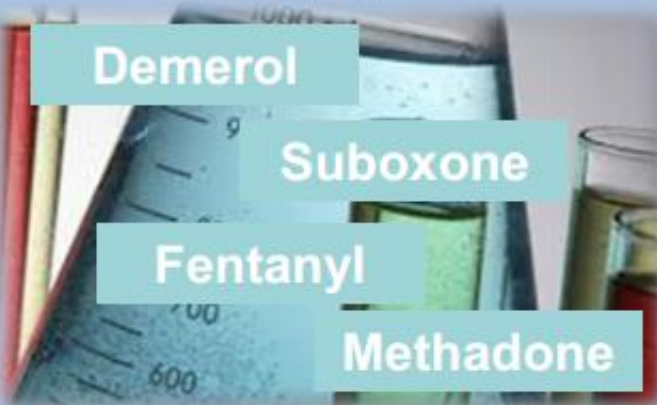
**Fully synthetic**

**Demerol**

**Suboxone**

**Fentanyl**

**Methadone**



**Semi-synthetic**

**Percocet**

**Heroin**

**OxyNeo**

**Dilaudid**

**Percodan**

**Oxycodone**



# Opioids

- Methadone +++++ (24-32 hours)
- Heroin +++++ (6-8 hours)
- Oxycontin +++++ (3-6 hours)
- Codeine + (3-4 hours)
- Demerol ++ (2-4 hours)
- Morphine +++ (3-6 hours)
- **Fentanyl +++++ (2-4 hours)**

+ *Potency*

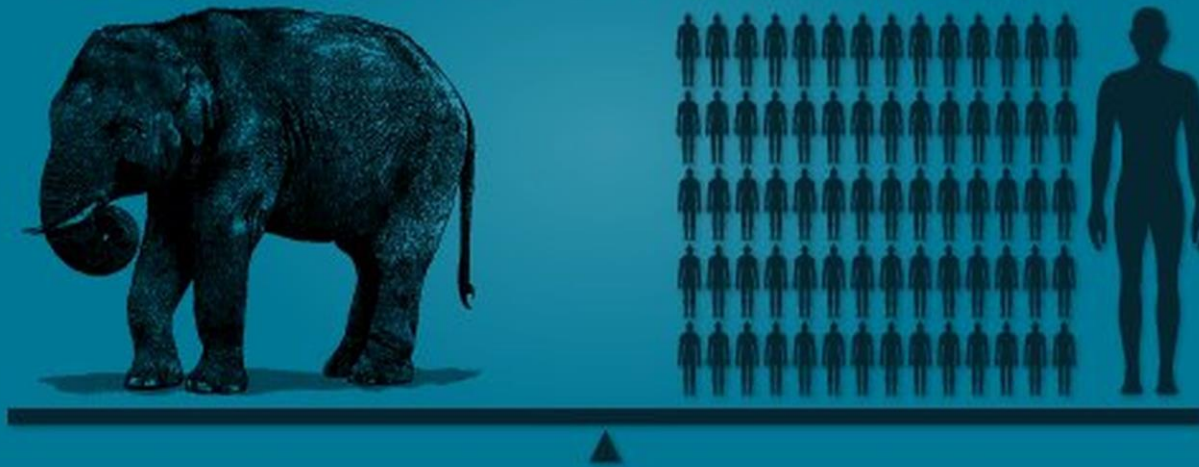
# What is Fentanyl?

- Synthetic;
  - Opioid analgesic;
  - Several fentanyls, salts, derivatives, analogues.
- Rapid acting;
- Potent;
- Controlled drug;
- Therapeutic uses.





To put this in perspective, wild African elephants—an animal that Carfentanil is used on—weigh between **5,000 and 14,000 lbs** as reported by National Geographic, which is roughly **26 to 72 times** the weight of your average adult male of **195.5 lbs**.



# Non-Medical Use (or Illicit Use)

- Street names:
  - Apache, China Girl, China White, Dance Fever, Friend, Goodfella, Jackpot, Murder 8, TNT, and Tango and Cash
- Street prices (per patch)



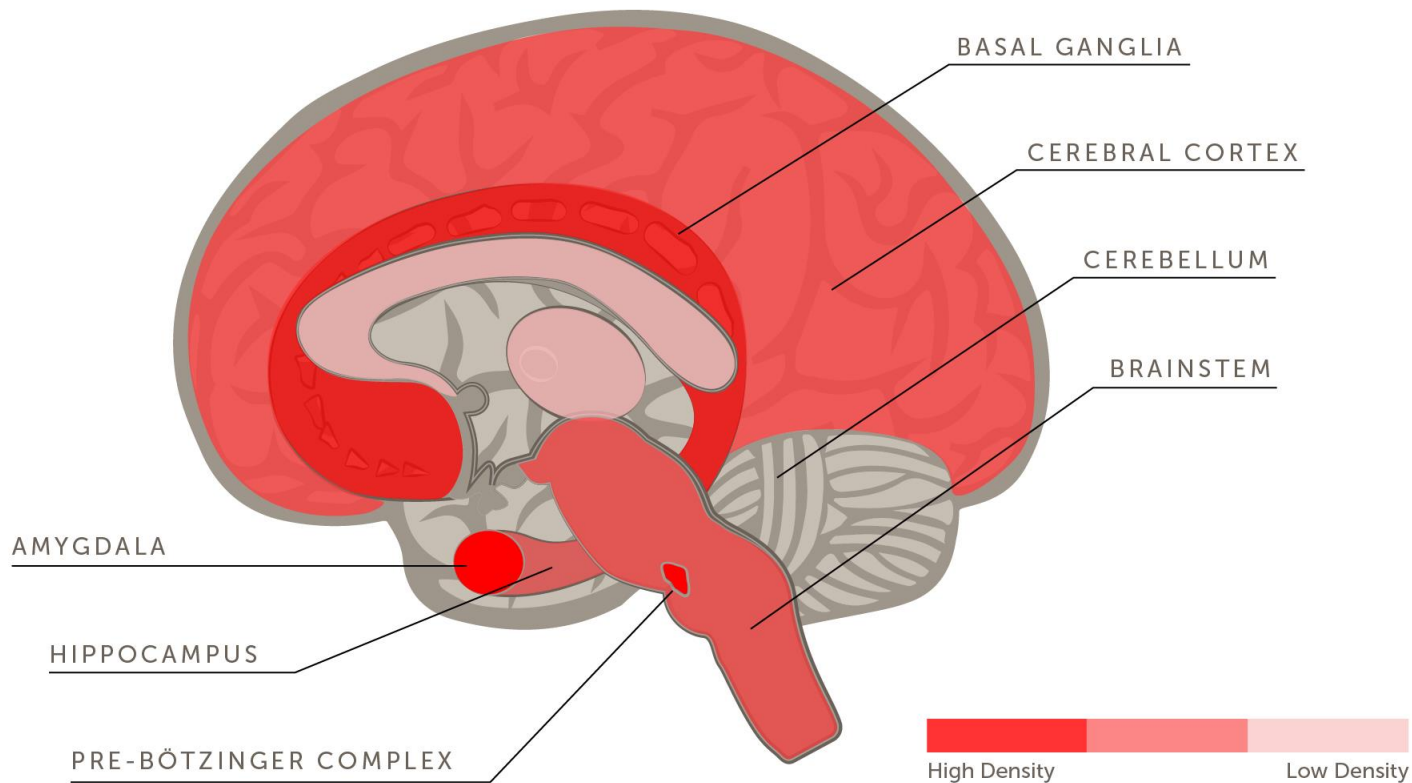
# Risk Factors for Opioid Overdose

- **Patient factors**
  - Loss of tolerance;
  - Comorbidities;
  - Previous overdose;
  - Using alone.
- **Opioid factors (prescribed and non-prescribed)**
  - Dose;
  - Potency;
  - Contaminants;
  - Routes of administration.
- **Polysubstance use**

# What is an Opioid Overdose?

- Rarely instantaneous;
- Can happen 1-3 hours after use;
- Body has ingested more than it can handle;
- Opioids attack receptors that control breathing;
- Oxygen can't get to the brain;
- Heart stops;
- Unconscious, Coma, Death;
- Long-term Brain/Nerve/Physical Damage.

# OPIOID RECEPTORS



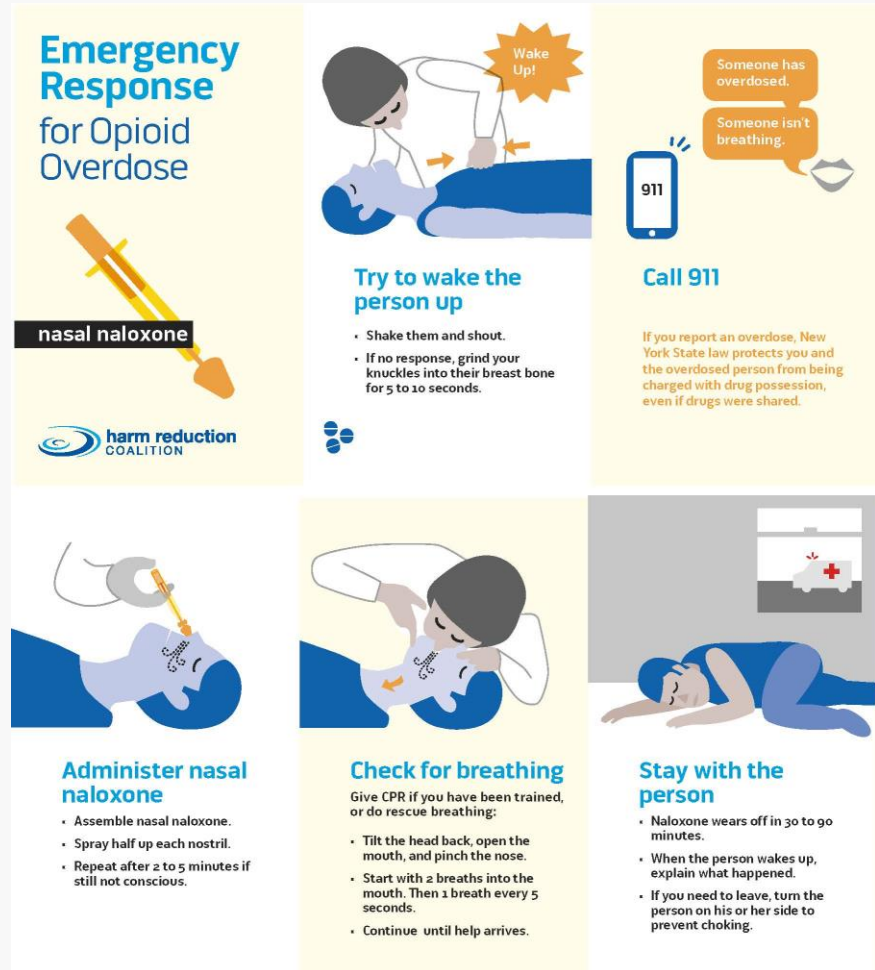
# Recognizing Opioid Overdose

- Shallow/no breathing;
- Vomiting/gurgling;
- Skin cold/pallor;
- Blueing under fingernails;
- UNRESPONSIVE;
- Pain – sternal rub;
- Auditory stimuli – yelling their name;
- Shaking their shoulders.

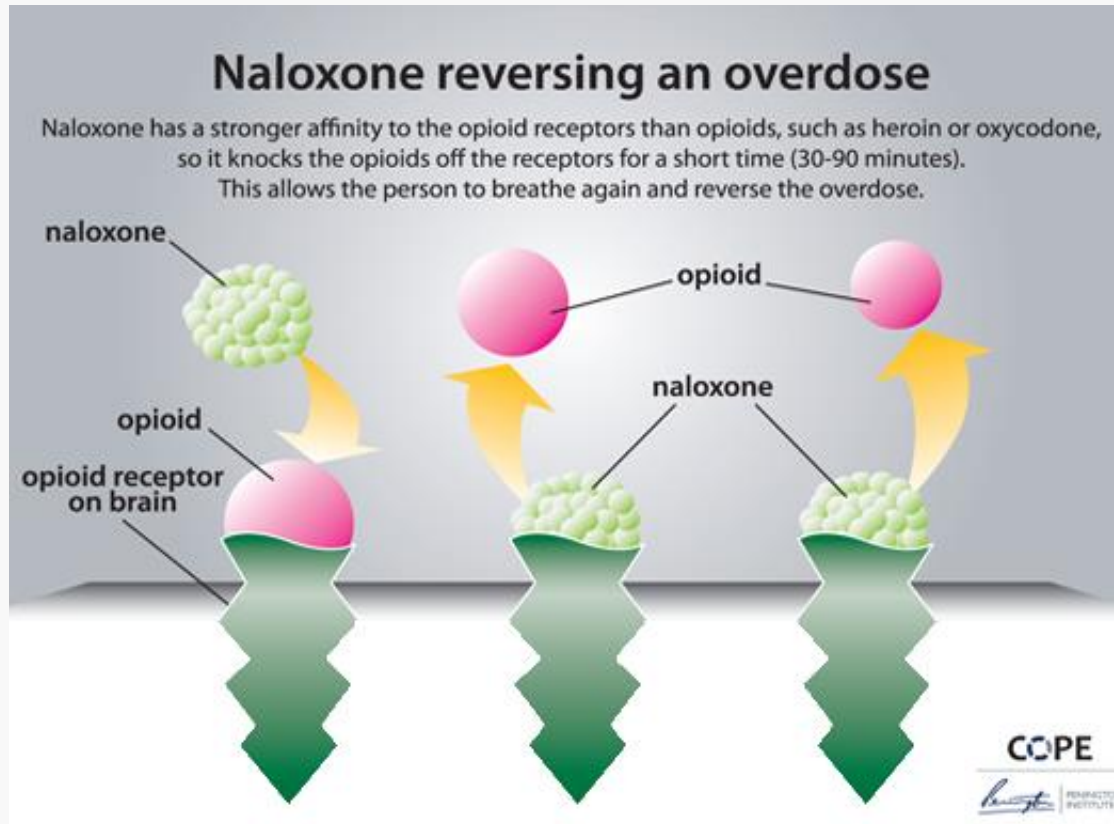
REALLY HIGH	OVERDOSE
Muscles become relaxed	Deep snoring or gurgling (death rattle)
Speech is slowed/slurred	Very infrequent or no breathing
Sleepy looking	Pale, clammy skin
Nodding	Heavy nod
Will respond to stimulation like yelling, sternal rub, pinching, etc.	No response to stimulation
	Slow heart beat/pulse

# Response Myths

- Salt Water;
- Suboxone;
- Ice On Body;
- Cold Shower;
- Cocaine;
- Milk;
- Burning Skin;
- Punching;
- Slapping.



# What is Naloxone?



# Why is Naloxone needed?

- Opioid Antagonist;
- Medication that reverses only OPIOID overdose;
- Cannot produce intoxication;
- Cannot result in overdose;
- Stays active for 20-90 minutes depending on metabolism, amount of drug used.

# Who would benefit from Opioid Overdose Response Education & Naloxone Training?

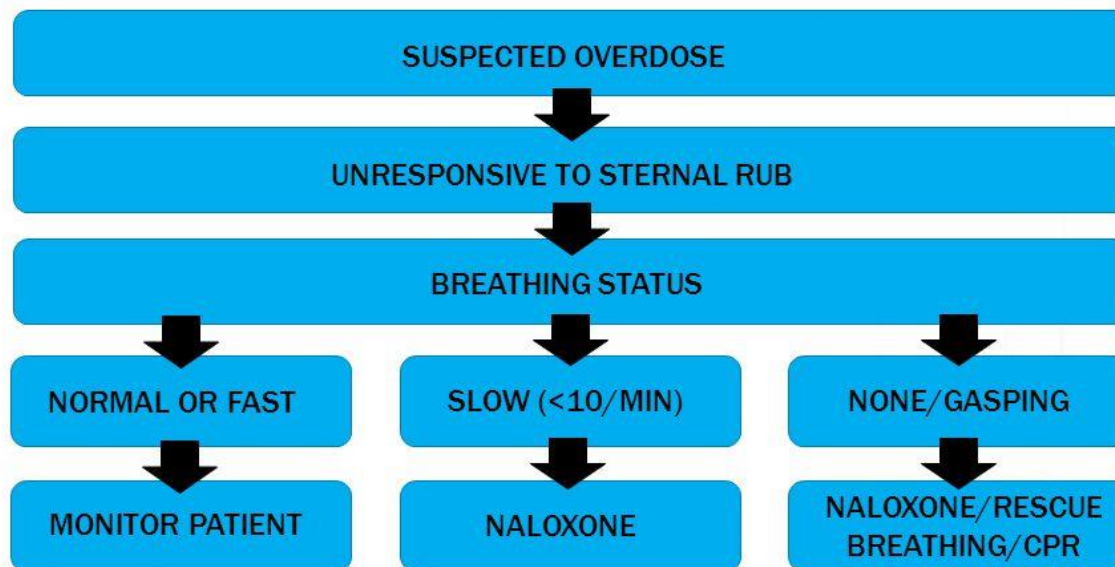
- Anyone currently using opioids;
- Past opioid users at risk of returning to opioid use;
- **Anyone privately using prescription opioids or heroin;**
- **Patients who have required emergency care for opioid overdose;**
- **Persons enrolled in opioid dependence treatment programs;**
- **Persons with a history of opioid dependence who are being released from institutionalized settings;**
- **Patients receiving prescription opioid therapy with risk factors for adverse effects;**
- **Family members or friends, or anyone living with or in frequent contact with any of the above.**



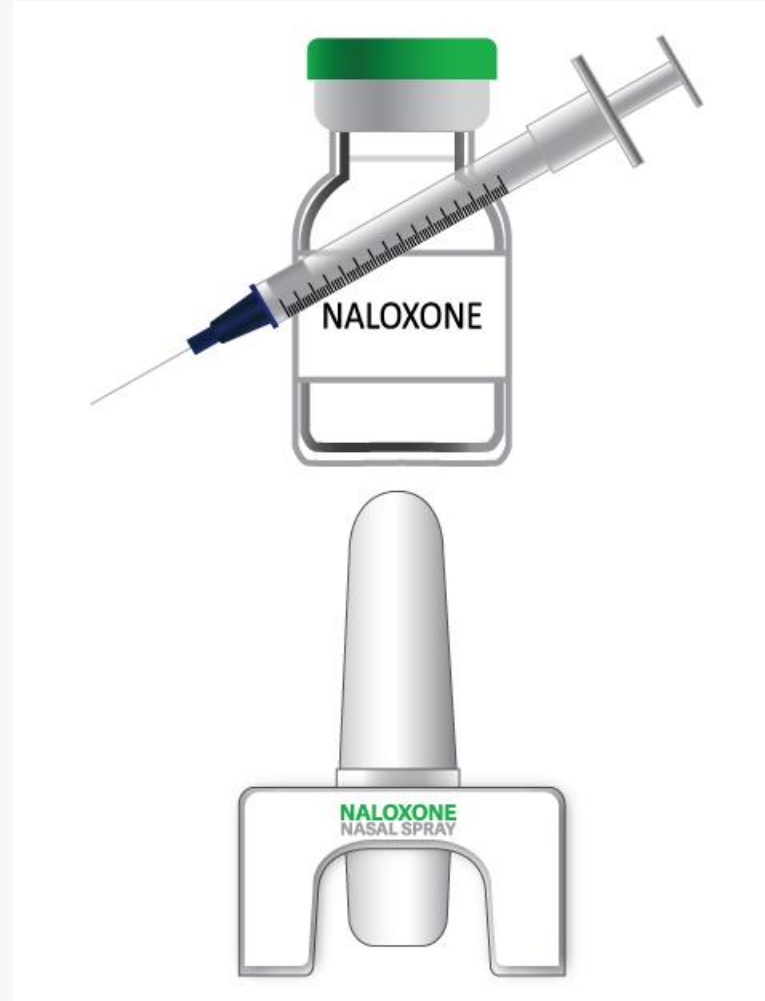
# **Using Naloxone in an Opioid Overdose – 4 steps**

1. Recognizing overdose;
2. CALL 9-1-1;
3. Prepare/administer naloxone;
4. Aftercare.

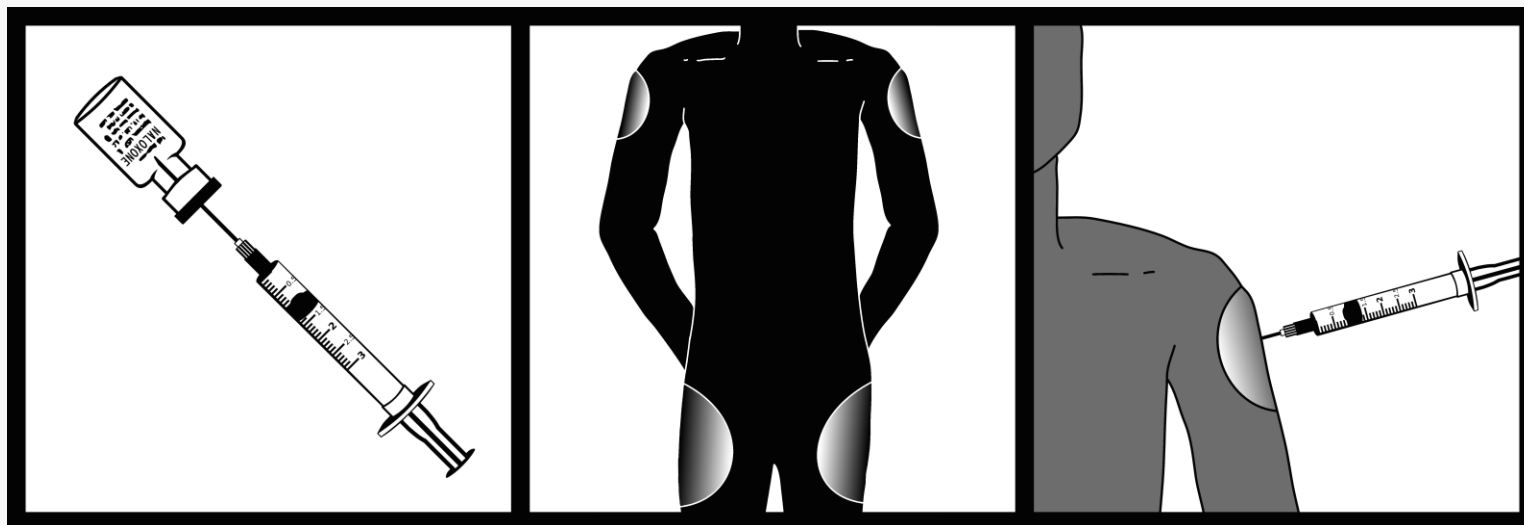
## When to use Naloxone



# Naloxone: Intramuscular & Intranasal













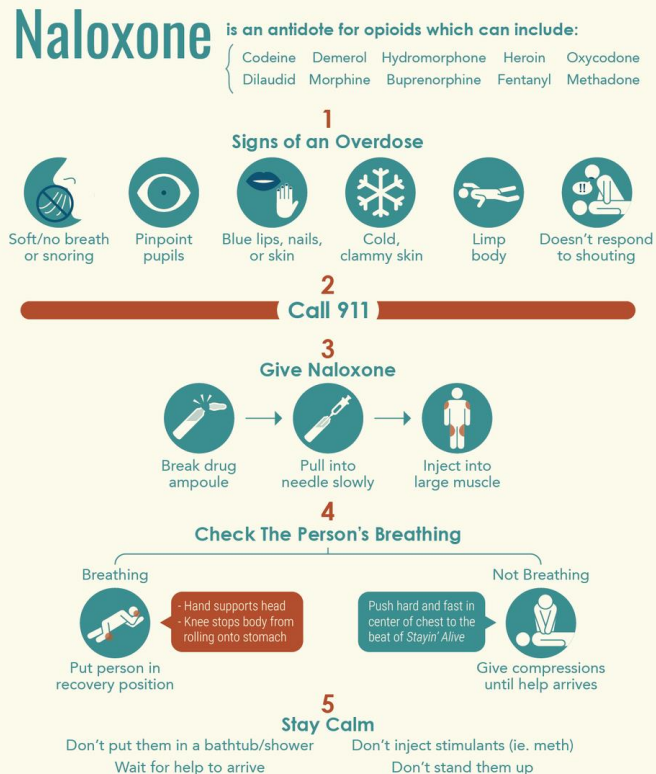
# Aftercare

## *When the person wakes up*

- Stay with them until ambulance arrives;
- They will likely be confused, shocked, or upset - explain that they overdosed;
- Do not let them use more substances;
- Withdrawal symptoms will dissipate rapidly;
- Be prepared to give more naloxone if necessary.



# Current organic strategies, approaches, and capacity building



More info:  
 1. <http://harmreduction.org/issues/overdose-prevention/overview/overdose-basics/>  
 2. <http://www.ccsa.ca/Resource%20Library/CCSA-CCENDU-Take-Home-Naloxone-Canada-2016-en.pdf>  
 3. <http://www.albertahealthservices.ca/info/page12491.aspx>  
 4. <http://www.cdsc.gov/pressroom/preview/pressroom.html?news42362.htm>



# Naloxone Take Home Kits

- Health Canada rescheduled to Schedule II (OTC) March 22 2016
- In Ontario:
  - Schedule II, available free through pharmacies;
  - Available through numerous harm reduction sites;
  - Schedule 2 because training needed for administration of medication.
- Currently IM formulation dominantly available in Canada:
  - Ampoules or vials;
  - Intranasal formulation coming soon, already in distribution at community health centres in Toronto.
- OHIP vs. non-OHIP and acquisition of kits.


<http://www.ccsa.ca/Resource%20Library/CCSA-CCENDU-Take-Home-Naloxone-Canada-2016-en.pdf>

# The Works is doing three main things to aid in overdose prevention and response in the City of Toronto:

- POINT (Preventing Overdose in Toronto);
- Overdose Education, Prevention, and Response training;
- Naloxone Distribution Program.

June 3 2016 Please end alert June 15

## OVERDOSE ALERT




**HEROIN**

**What we have heard:**  
AT LEAST 8 OVERDOSES DOWNTOWN OVER THE PAST 3 DAYS

- Moss Park area: 6 or more overdoses (with 1 death, 1 hospitalization confirmed)
- Parkdale: 2 overdoses
- ALL INVOLVED HEROIN


**What you should know:**

- Use the "Buddy System" (use with people you trust, not alone)
- Avoid mixing (especially alcohol, heroin and other opiates)
- Know your dope (does it smell/taste/look right?)
- Try smoking some before injection (do a tester)
- Have an overdose response plan: get naloxone, learn CPR



**Toronto Public Health**

**ALWAYS Call 911 for an overdose**  
**GET NALOXONE from The Works**  
Call 416 392 0520 for info



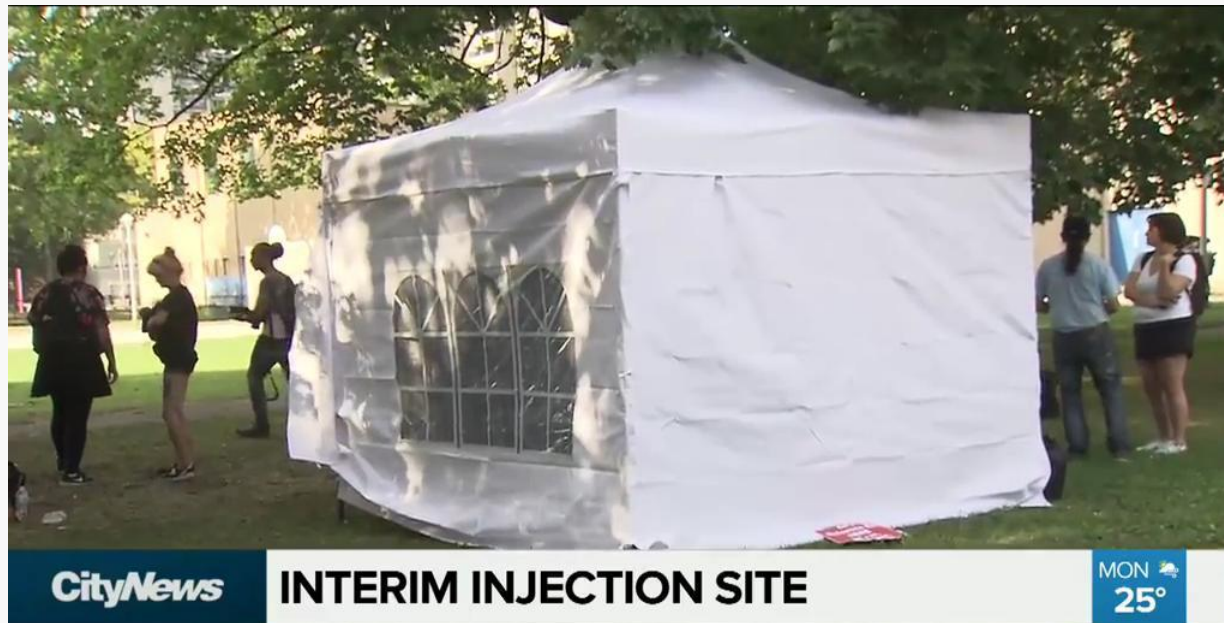
# **Naloxone kits and overdose training are also available at the following Community Health Centres in Toronto:**

- Regent Park;
- Sherbourne;
- South Riverdale;
- Queen West Central Toronto.

*Group classroom training is also provided, naloxone kits are not distributed at these trainings.*

# Are Supervised Injection Sites Legal?

Yes. In Canada, legal operation of a supervised injection service requires an exemption under Section 56 of the *Controlled Drugs and Substances Act* (CDSA). Exemptions are granted by the federal Minister of Health. In 2015, the federal government passed the *Respect for Communities Act*, which outlines the process and criteria for applicants seeking a Section 56 exemption.



# Supervised Injection Sites in Toronto

- Toronto Public Health (The Works);
- Queen West-Central Toronto Community Health Centre;
- South Riverdale Community Health Centre;
- Fred Victor Housing, 145 Queen St. E.

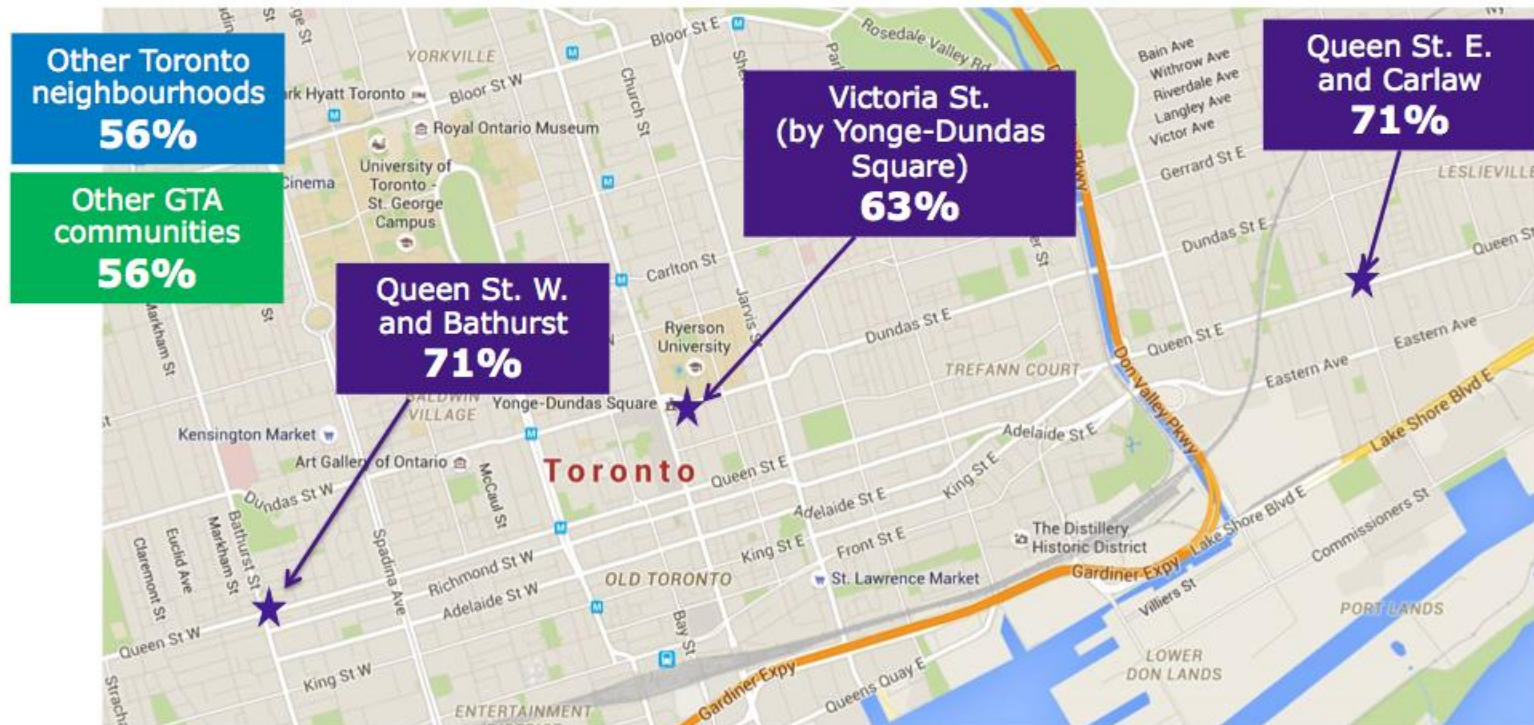


# As of August 30, 2017, there were:

- 78 visits to the supervised injection site at 277 Victoria Street;
- 2,500 naloxone kits distributed by Toronto Public Health;
- Over 1,200 people trained by Toronto Public Health in administering naloxone.



# Support for proposed safe injection sites in Toronto and the GTA



- % of those who strongly or somewhat agree -

Q46 Do you agree or disagree that these are appropriate locations for supervised injection sites?



# Why invest in Overdose Prevention?

- Accidental overdoses are the 3<sup>rd</sup> leading cause of unintentional death in Ontario - a comparable figure to traffic fatalities;
- Oxycontin and other opioids tied to 1 in 8 deaths in young adults (Ontario study);
- Prescriptions for high-dose opioids on rise (Canadian study);
- Drug migration patterns are predictable;
- Proactivity on new substances (i.e. W-18).

# Let's Talk

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