



# Methadone Toxicity

## How & How Many

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ONTARIO METHADONE PRESCRIBERS conference

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Centre de toxicomanie et de santé mentale



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- None

## Faculty and Presenter Disclosure:

- **Faculty:** Dr. Paul Dungey
  - Regional Supervising Coroner, MCSCS
- **Grants/Research Support:** None
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- **Consulting Fees:** None
- **Other:** Department of Emergency Medicine, Queen's university



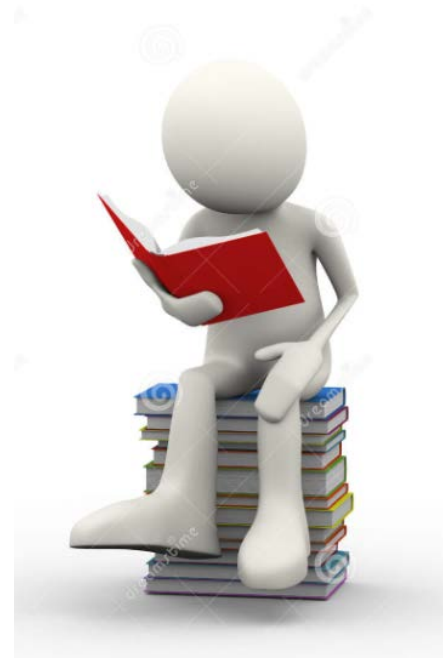
# Methadone Toxicity

## HOW ?

### Cases

### Most common Scenarios

- Naive User
- Diversion
- Chronic User
- Cardiotoxicity





## Methadone Toxicity Cases

- **Naïve User + Diversion:**
  - 34 Male, released from custody 2 days ago
  - Girlfriend returns from work to find him without vitals on floor
  - 911 and transport to hospital with eventual termination of resuscitation



# Naïve User + Diversion

<u>ITEM</u>	<u>DESCRIPTION</u>	<u>RESULTS</u>	<u>NOTES</u>	<u>FATAL REFERENCE</u>
3	Blood (femoral)	Morphine: 360 ng/mL Methadone: 0.17 mg/L Clonazepam: traces Mirtazapine: traces Alcohols: not detected Barbiturates: not detected Cocaine metabolite: not detected No other significant findings by an opioid method No other significant findings by a benzodiazepine method No other significant findings by a GC and GC-MS screen	D, I T, I	> 120 ng/mL > 0.22 mg/L

Cause of death: Mixed Drug toxicity (Morphine and Methadone)



# Methadone Toxicity Cases

- **Chronic User:**
  - 39 male found deceased by landlady
  - LSA 10 days ago
  - Hx of opiate abuse and on MMT x 5 years
  - 40 mg / day weekly carries





# Chronic User:

- Toxicology testing:
  - Morphine 352 mg/L - (fatal ref > 60mg/L)
  - Methadone 1.9 mg/L - (fatal ref > 0.22mg/L)
  - Also positive for Dextromethorphan, Chloroquine, Hydrocodone, Hydromorphone & Benzodiazepines
  - Urine positive for 6 Monoacetylmorphine (Heroin)

Cause of death: Mixed Drug Toxicity (Heroin and Methadone)



# Methadone Toxicity Cases

- **Cardiotoxicity:**

- 54 F Methadone 35 mg daily x years
- COPD, C. Diff, Toxic Megacolon, Colectomy
- Admissions for Dehydration + Electrolyte AbN
- Found collapsed by Street health worker
- \*Scene information important





# Cardiotoxicity / Adverse Drug reaction

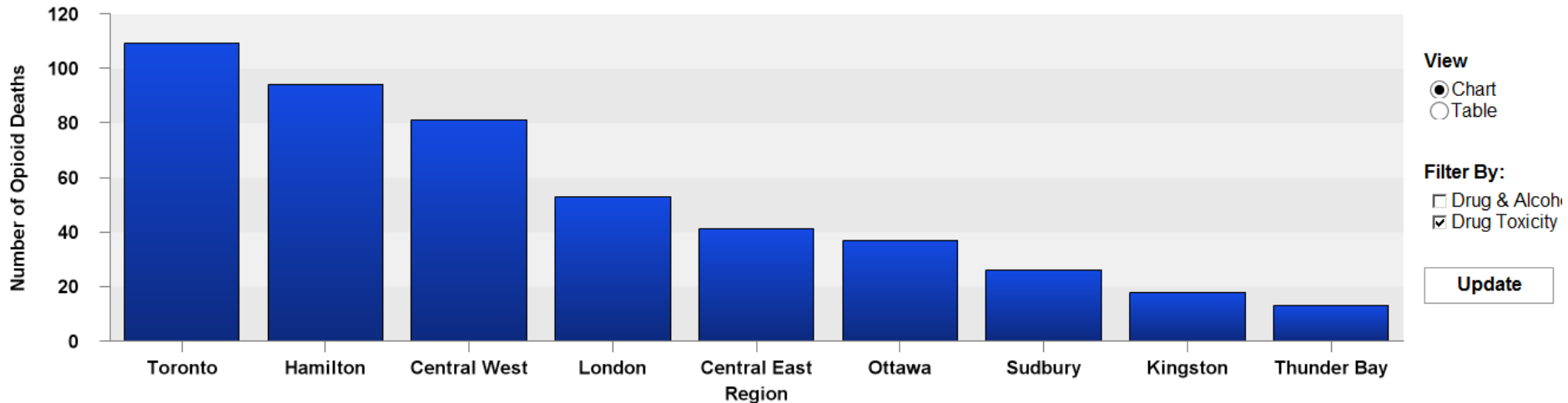
<u>ITEM</u>	<u>RESULTS</u>	<u>MU</u>	<u>NOTES</u>	<u>FATAL REFERENCE</u>
2 Femoral Blood	Methadone: 0.58 mg/L Bupropion: 0.71 mg/L Nordiazepam: traces Diazepam: not detected Alcohols: not detected	± 0.08 mg/L ± 0.06 mg/L	D, I T, I	> 0.22 mg/L > 4 mg/L
1 Heart Blood	Cocaine metabolite: not detected Codeine: not detected Fentanyl: not detected Hydrocodone: not detected Hydromorphone: not detected Levorphanol: not detected Morphine: not detected Oxycodone: not detected			

Cause of Death: Mixed Drug Toxicity (Methadone & Bupropion)



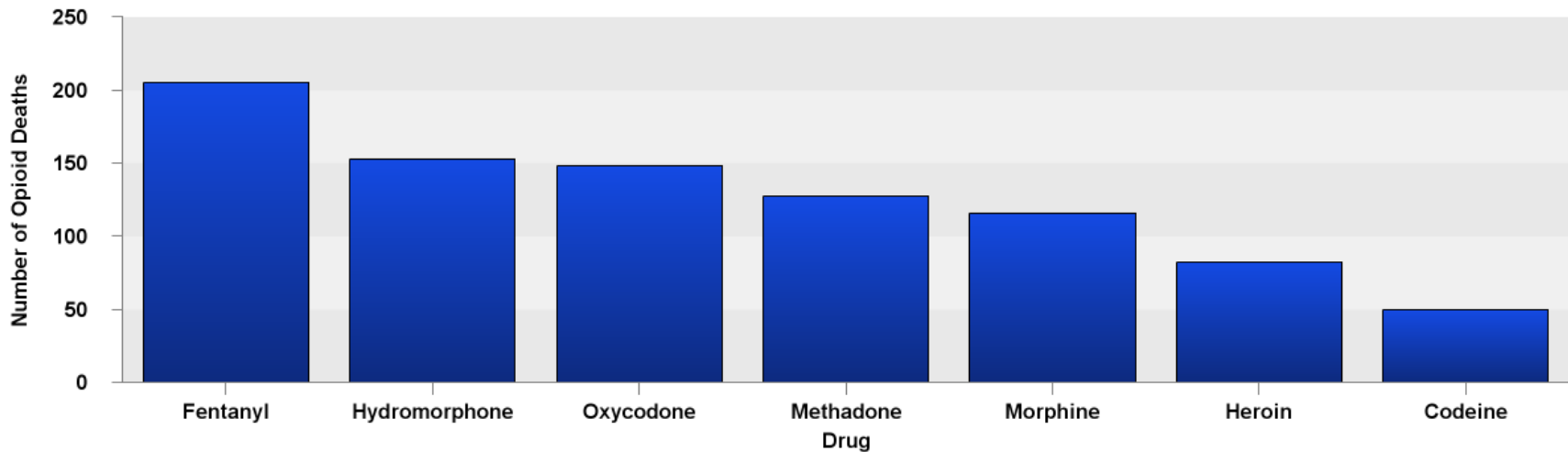
# Methadone Toxicity: How Many?

Opioid Deaths Reported by Region

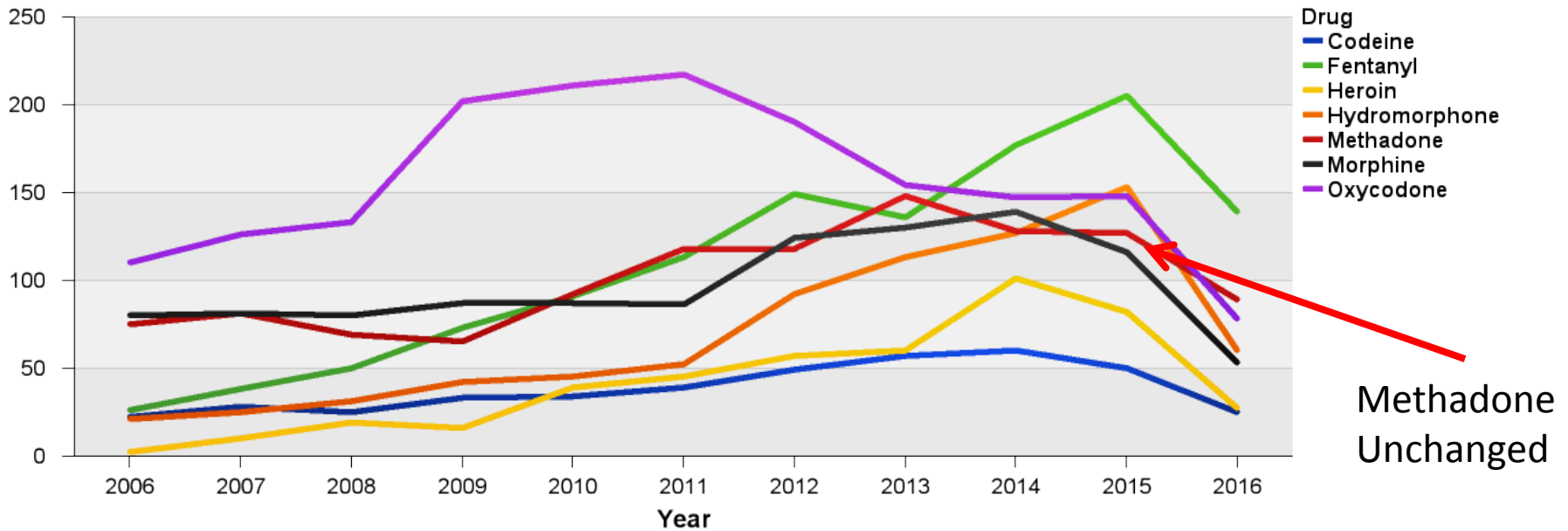


# Drug Category 2015

Opioid Deaths by Drug



# Trending





## Number of Opioid Toxicity Deaths by Drug in Ontario from 2010 to 2015

Number of Opioid Toxicity Deaths by Drug in Ontario

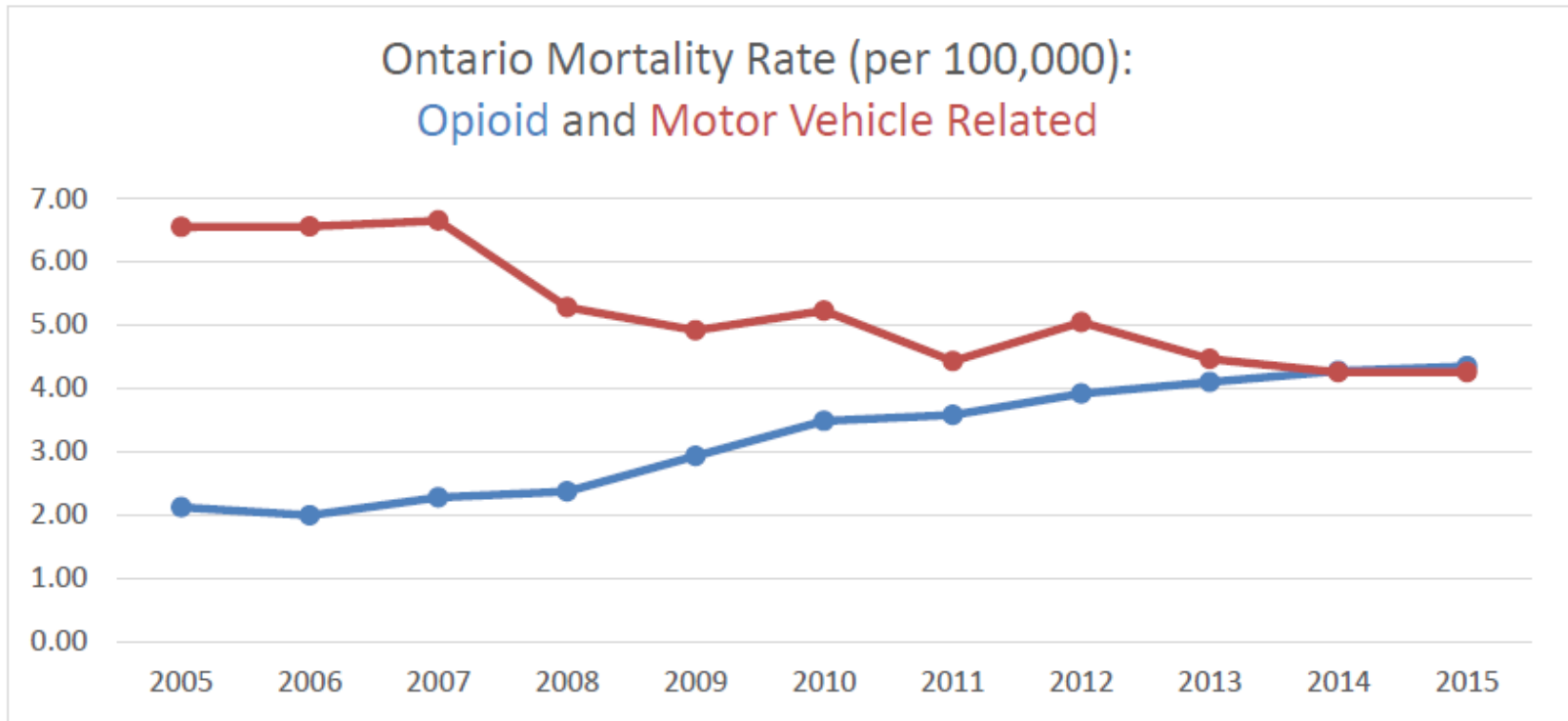
Year	Codeine	Fentanyl	Heroin	Hydromorphone	Methadone	Morphine	Oxycodone	Decedents
2010	26	86	33	31	77	72	174	421
2011	28	104	33	42	109	68	169	448
2012	35	116	41	65	95	84	146	477
2013	50	120	46	89	129	110	123	525
2014	45	153	79	98	106	113	107	533
2015*	38	162	59	112	97	92	108	529



Stable



# Harm Reduction





# Thank You



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