



## Naloxone Resistant Fentanyl – caution needed about reports

October 2018

### OVERVIEW

Recent media reports in Ontario have raised concerns and questions about ‘naloxone resistant fentanyl’. Should we be concerned?

- Probably not. The media have frequently reported that ‘naloxone resistant fentanyl’ may be circulating, prior to knowing the drugs involved for a particular overdose and without properly researching how naloxone and fentanyl work in the body.
- Naloxone resistant fentanyl does not necessarily mean that naloxone will not work, but that multiple doses may be needed. There are cases where more naloxone doses have been necessary.
- The illicit drug supply is increasingly unpredictable and toxic – and caution is needed. However, there is no credible reason to believe that fentanyl (or its analogues) is not able to be treated with naloxone.
- If you suspect an opioid overdose:
  1. Shout and Shake the person – see if you can wake the person up.  
*If they do not respond:*
  2. Call 911 for paramedics
  3. Give naloxone
  4. Perform rescue breathing if the person is not breathing and chest compressions if their heart has stopped (as trained)
  5. If they have not responded after three minutes repeat steps 3-5.



### BACKGROUND

- Fentanyl is an opioid drug. In high doses, opioid drugs can slow down or stop a person’s breathing. When breathing stops, there is only a short time until the person’s heart stops beating (cardiac arrest), which results in death.
- Naloxone is a safe, non-psychoactive medication that can temporarily reverse the effects of opioid drugs (such as heroin or fentanyl). Naloxone is given to someone who has overdosed by injecting them, or spraying the medication up their nose, allowing the person to breath normally again.
- Fentanyl can be produced pharmaceutically or illicitly – there are numerous chemical variations known as ‘fentanyl analogues’ being illicitly produced. There are potentially hundreds of different analogues – examples include acryfentanyl, cyclopropylfentanyl, furanylfentanyl, and carfentanil. Lab-based testing of illicit drug samples in Ontario has identified several different analogues already in circulation (see below).

- We do not know what effects each fentanyl analogue may have in different people. Anecdotally, people react differently when taking the same batch of 'fentanyl'. Specifically:
  - Some people have expected (or typical) presentations – they 'go down' (overdose) – with slow breathing and loss of consciousness.
  - Less frequently, people have unexpected presentations – stimulant-type responses and behaviours – they may seem awake, make jerking body movements, or may experience psychosis.
  - We do not know if these differences are the results of how individual people respond to different drugs, or the result of other substances in the drugs (e.g., contamination from stimulants, for example).
  
- Illicit street level drugs have no quality control and may contain any number of drugs or other components. Lab-based testing in Ontario has shown that drugs sold as 'fentanyl' often contain multiple fentanyl analogues in one sample, commonly with a wide range of other adulterants and cutting or bulking agents. Caffeine is often found in combination with fentanyl(s) – could large doses of caffeine account for some stimulant-type reactions?
  
- People who 'go down' (overdose) typically respond well to stimulation, assisted breathing/provision of oxygen and/or naloxone administration. Reputable sources agree that naloxone reverses overdoses caused by opioids, including from fentanyl and its analogues, if it is administered soon after an overdose – time is of the essence. ([Source](#))
  
- There are cases where people have required more than one – and sometimes several – doses of naloxone. There are many factors why multiple naloxone doses may be needed in some cases:
  - What dosage of opioids the person took – higher doses might require more naloxone
  - What other substances were in the 'fentanyl' (adulterants, cutting agents)
  - What other drugs or medications the person has taken, that may have synergistic effects or other interactions
  - The size and body weight of the person
  - How soon after using the drugs was naloxone administered
  - If the naloxone administered properly and how long did responders wait between administering naloxone doses

All individuals have unique biology, reasons for using, tolerance to drugs, potentially other substances or medications in their body that could cause interactions, or potentially underlying health issues. Many people may not have eaten or slept in days, or maybe dehydrated, which can compound effects and reactions. Some people have overdose multiple times in the past which may have put additional stresses on their body.

## **WHY THE CURRENT ATTENTION?**

Current reporting comes after **ONLY ONE SINGLE** incident in Ottawa. A person well known to staff at a Supervised Consumption Site required medical attention after multiple episodes of using within a short time period. Paramedics were on site and attended to the person. The person received close monitoring but did not respond to standard overdose response protocols and, after they were non-responsive, the person was transported to hospital where they died. Cause of death is currently unknown.

No toxicology (which investigates the drugs in the person's body) has yet been performed, so it is impossible to know what drugs or other health issues may have been factors in this death. Given that many factors may have contributed to this case, and that many elements are still unknown, it is too early to speculate about 'naloxone-resistant fentanyl'.

Some media are also reporting on two other deaths that occurred in Ottawa recently, and conflating these 2 deaths with the one noted above – these were separate incidents where people died alone and naloxone was not used.

## **KEY MESSAGES:**

- Continue to respond to overdoses as normal. Initial reports from media are often sensational and make unverified assertions. We know of no verified cases where naloxone did not work.
- People are not harmed by naloxone administration – if you suspect an opioid overdose, the best thing to do is call 911, give naloxone, and begin rescue breathing or chest compressions as appropriate and trained.
- Encourage people to not use alone and to access Supervised Consumption and Overdose Prevention Sites when possible.
- If there was a naloxone resistant fentanyl analogue in circulation, we would likely be seeing several cases of people not responding to naloxone administration.
- Given the complexity of each individual case, the toxicity of the current illicit drug supply, and the never-ending appearance of novel chemicals and drugs, it is likely we will continue to see more and ever increasingly toxic drugs. Until the Federal Government changes drug prohibition laws, the illicit drug supply will have no quality control and will remain highly toxic. In the meantime, we can advocate for more programs that aim to transition people to a pharmaceutical supply of drugs with known potency and ingredients.

*See additional resources below.*

## BACKGROUND ON ACRYLFENTANYL

Results from the Drug Checking Service at Sandy Hill Community Health Centre's Supervised Injection Site (SIS) in Ottawa have recently found a specific fentanyl analogue known as 'acrylfentanyl', or 'acryloylfentanyl'.

Source: [www.shchc.ca/programs/oasis/drug-checking](http://www.shchc.ca/programs/oasis/drug-checking)

Acrylfentanyl is known to respond to naloxone, though higher doses may be needed and the half-life (how long it stays in the body) is longer than actual fentanyl.

Reports:

**Report on the risk assessment of N-(1-phenethylpiperidin-4-yl)-N-phenylacrylamide (acryloylfentanyl) in the framework of the Council Decision on new psychoactive substances (EMCDDA December 2017)**

[www.emcdda.europa.eu/system/files/publications/6701/20176081\\_TDAK17001ENN\\_PDF.pdf](http://www.emcdda.europa.eu/system/files/publications/6701/20176081_TDAK17001ENN_PDF.pdf)

**Acrylfentanyl and naloxone effectiveness** (*Executive office of the President Office of National Drug Control Policy, Washington, DC, 2017*)

[www.ndews.umd.edu/sites/ndews.umd.edu/files/pubs/ondcp-press-release-naloxone-effectiveness-july2017.pdf](http://www.ndews.umd.edu/sites/ndews.umd.edu/files/pubs/ondcp-press-release-naloxone-effectiveness-july2017.pdf)

## RECOGNIZE AND TEMPORARILY REVERSE AND OPIOID OVERDOSE

[www.ontario.ca/page/get-naloxone-kits-free](http://www.ontario.ca/page/get-naloxone-kits-free)

## TOOLKIT FOR ONTARIO PUBLIC HEALTH UNITS

[www.eenet.ca/initiatives/naloxone](http://www.eenet.ca/initiatives/naloxone)

## CONTACT

For questions or follow-up, email: [admin@ohsutp.ca](mailto:admin@ohsutp.ca)

# Drug Checking Results

DRUG SAMPLES ANALYZED AT SANDY HILL SIS

SEPTEMBER 2018

20 SAMPLES DESCRIBED AS "HEROIN/FENTANYL/DOWN"

Fentanyl : 5

Fentanyl, Acrylfentanyl, U-49900 : 9

Fentanyl, Acrylfentanyl, U-49900, Diphenhydramine : 2

Fentanyl, Acrylfentanyl, U-49900, Caffeine : 2

Fentanyl, U-49900 : 1

Heroin, Caffeine : 1

16 SAMPLES DESCRIBED AS "SPEED" / "CRYSTAL METH"

Methamphetamine : 6

Meth., Fentanyl : 4

Meth., Caffeine : 5

Fentanyl : 1

9 SAMPLES DESCRIBED AS "COCAINE/CRACK-COCAINE"

Cocaine : 7

Cocaine, Fentanyl : 1

Inconclusive : 1

### IMPORTANT

Drugs analyzed at Sandy Hill SIS are not necessarily reflective of the drugs sold across the city. Descriptions here are for reference only and should not be used to indicate the content of other samples. The only way to know what is in your sample is to have it analyzed and receive results directly.



Drug Checking Services are available at Sandy Hill CHC SIS Program Monday to Friday 9AM-12PM, 1PM-4PM For questions, call 613-569-3488.

