



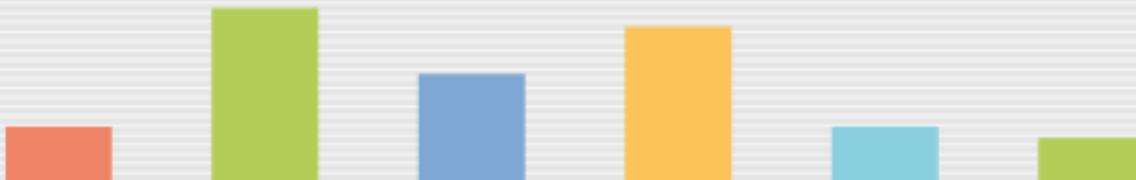
European Monitoring Centre  
for Drugs and Drug Addiction

# Fentanils in Europe: perspective from the EU EWS

Rita Jorge

Lisboa, 19 September 2017

DRD Expert Meeting



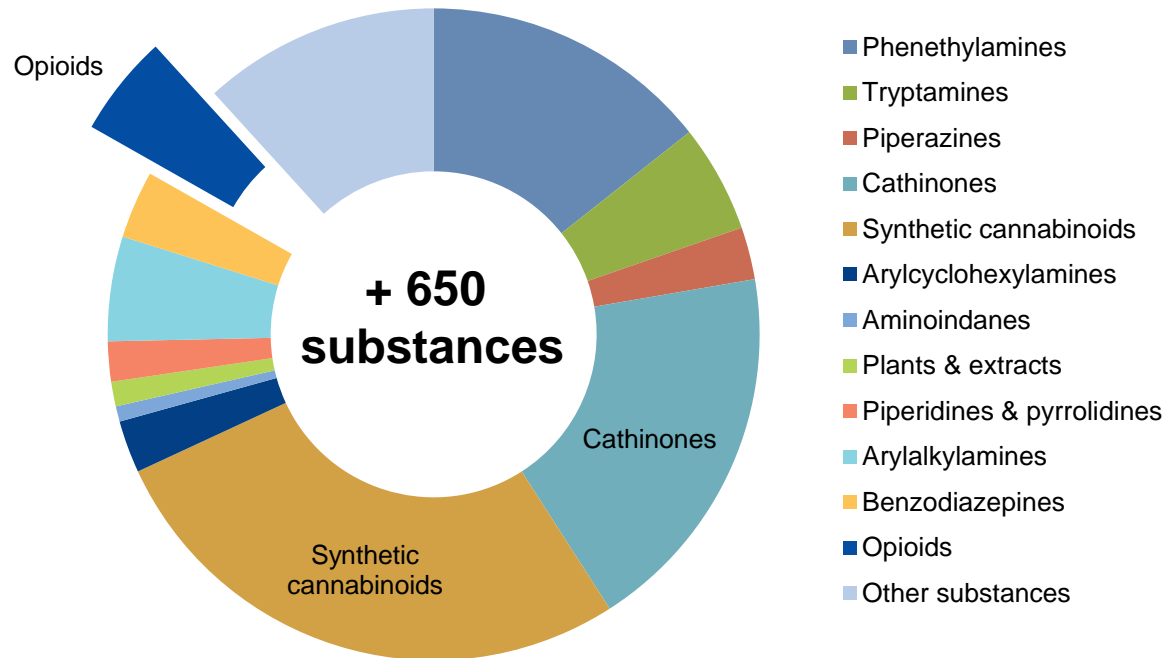
# This presentation

- **The EU EWS**
  - **The fentanils family**
  - **Emergence of fentanils in the EU**
  - **Outbreaks**
  - **Public health risks associated with fentanils**
- ❑ CASE STUDY : CARFENTANIL (Helgi Danielsson)

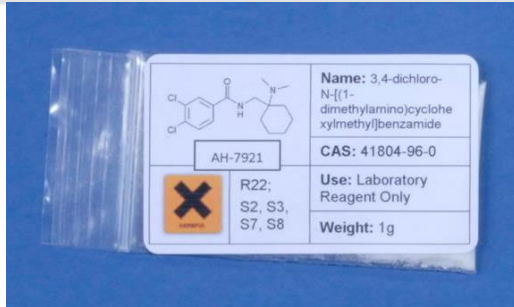


# EU Early Warning System

- since 1997
- event based data: spontaneous, solicited, stimulated reporting
- open source monitoring (internet, scientific and patent literature...)
- toxicovigilance, including outbreak investigation
- risk assessment and risk communication

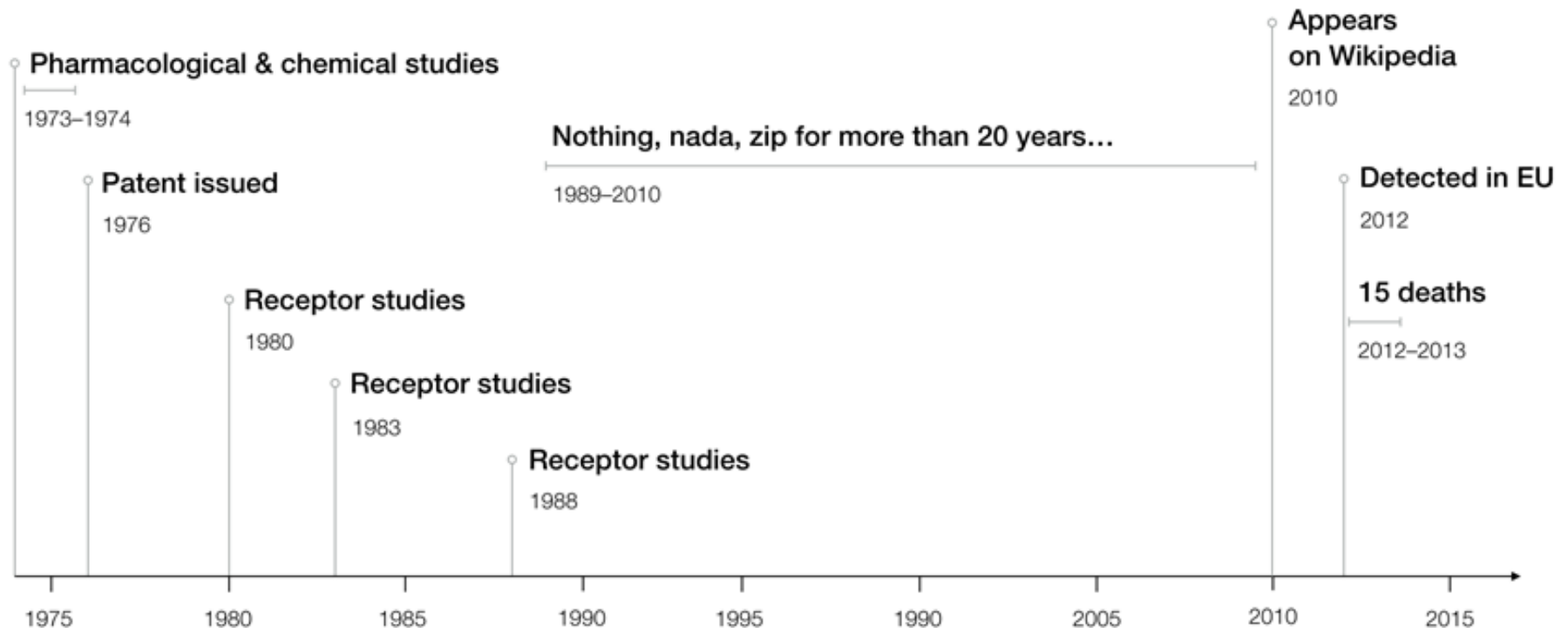


# 'New' opioids are not necessarily new



## AH-7921

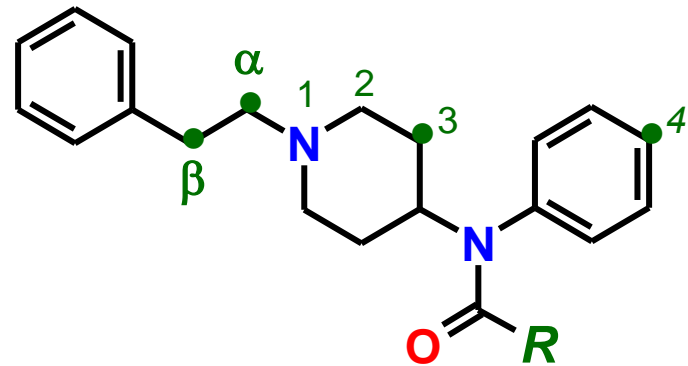
- $\mu$ -opioid receptor agonist
- analgesic potency close to that of morphine
- sold as a 'research chemical'
- Detections in at least 9 countries



# Not fentanyl: fentanils

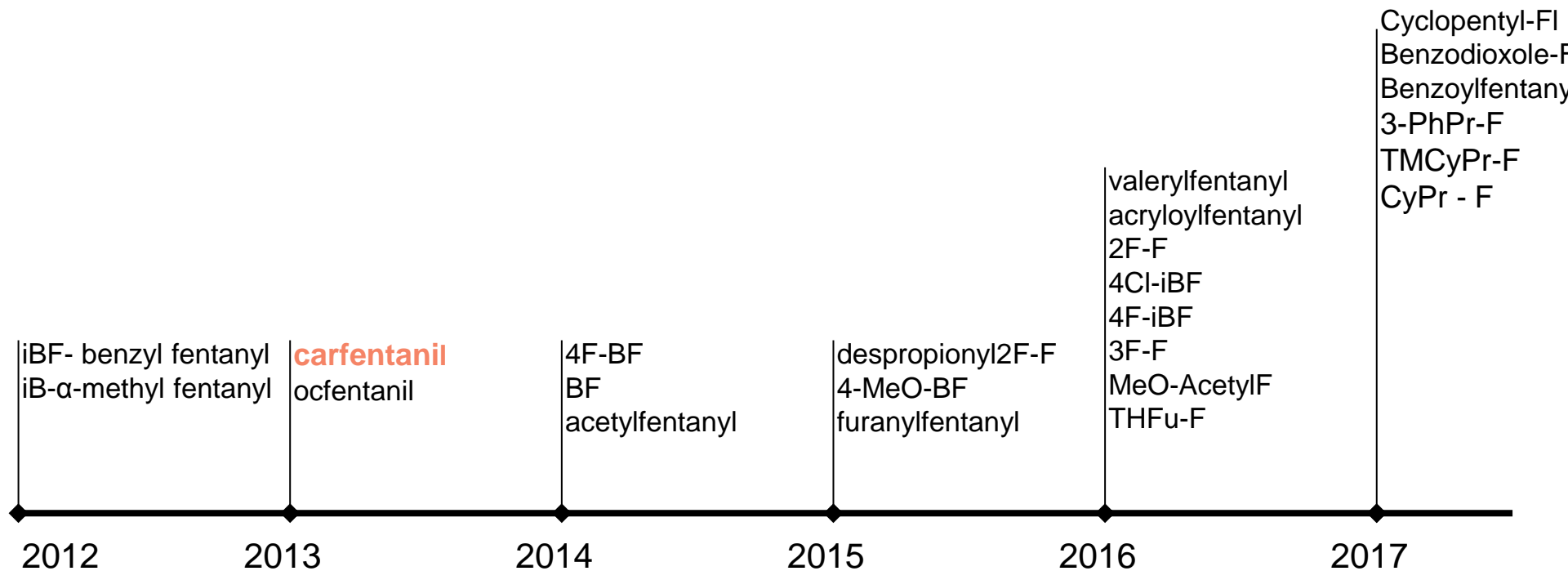


Paul Janssen (1926 – 2003)



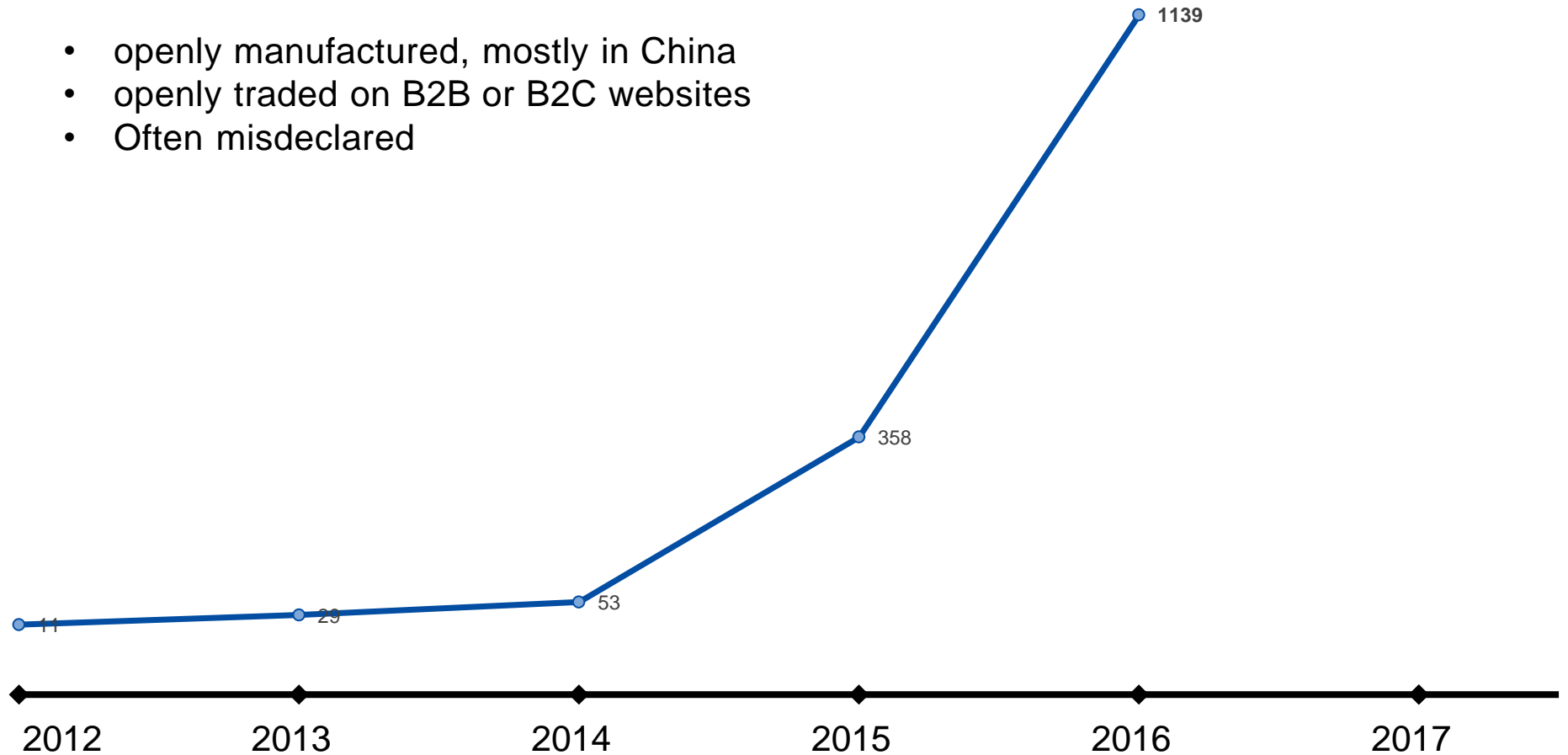
$R = -\text{CH}_2\text{CH}_3$       fentanyl

# 1<sup>st</sup> reported detection in the EU market



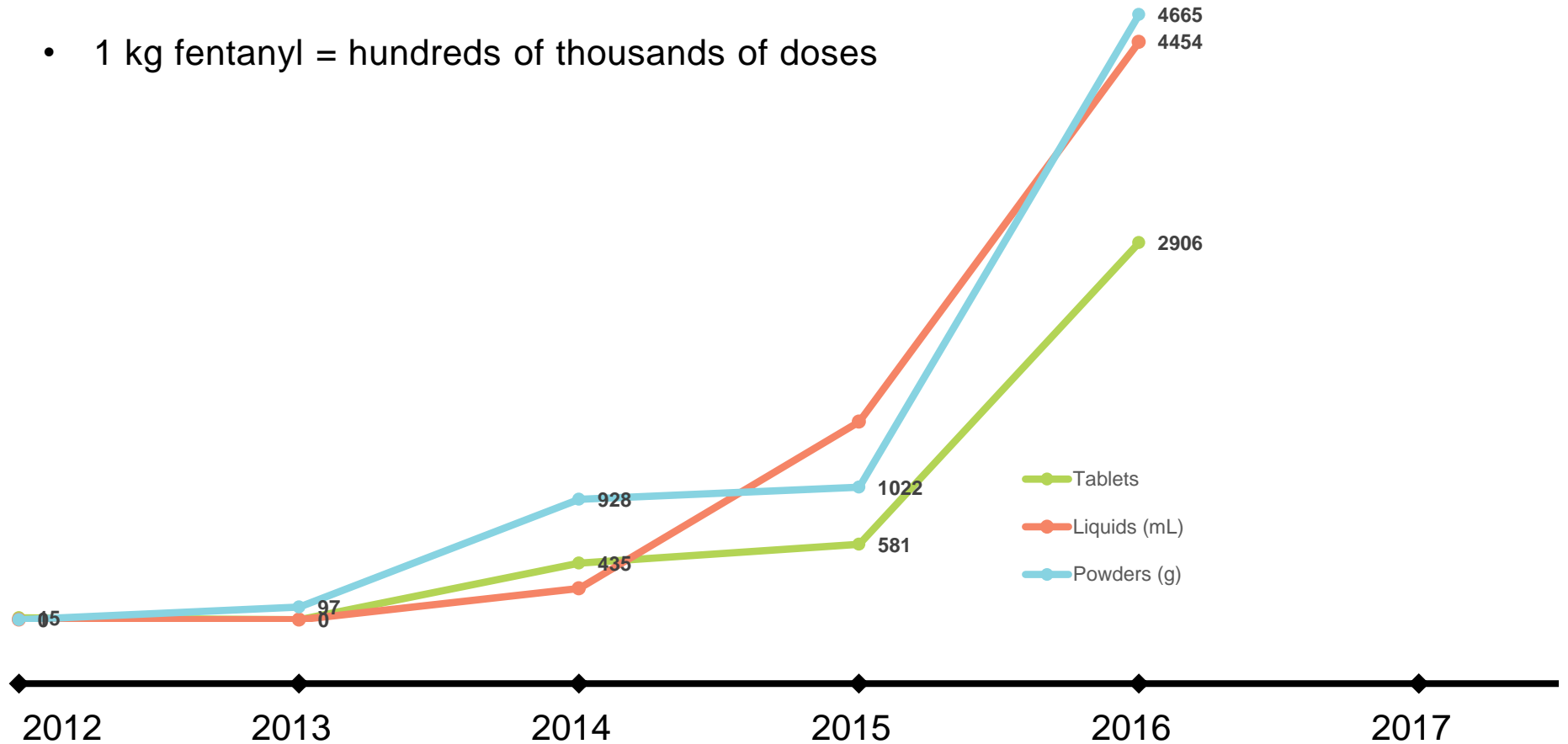
# More seizures being reported

- openly manufactured, mostly in China
- openly traded on B2B or B2C websites
- Often misdeclared



# Larger amounts seized

- 1 kg fentanyl = hundreds of thousands of doses



# Increased availability marked by

## Surface web and darknet sales

- Fentanils sold as 'legal' replacements to illicit opioids on the surface web and on anonymous marketplaces on the darknet.
  - e.g: acryloylfentanyl €1.4/g ; 1g may be enough for several thousand doses

## Interactions with the illicit opioid market

- Unknown to users, fentanils sold
  - as/in heroin,
  - as/in counterfeit medicines
  - as/in other illicit drugs such as **cocaine**



# Novel products and dosage forms



Nasal spray bottles w/ acryloylfentanyl  
Police seizure, Sweden, 2016



Nasal spray bottles w/ furanylfentanyl  
Found in a postal shipment, Norway, 2017

Concentration (mg substance/mL solution)



1 kg powder = 50,000 bottles

# Novel products and dosage forms

## Product Description

The bottle contains solution of Furanyl-fentanyl in propylene glycol + glycerine.

Furanyl-fentanyl is a fentanyl analogue, giving a short acting opioid high.

Mixes of Furanyl-fentanyl or other fentanyl analogues with mannitol are known as China White (check our other listings).

Bottle contains 5 ml of liquid and 150mg of Furanyl-Fentanyl. /  
One millilitre contains 30mg Fu-F. /

Route of administration:

O-Liquid is perfect for filling your e-cigarette!

A few smokes give a nice euphoric high.

If you have no e-cigarette, you can put ~6 droplets on a regular cigarette.

Now you can smoke Fu-F even on your way to work :-)

It can also be used intranasally or iv after mixing with water (not recommended).

Check our profile for listings of pure Furanyl-fentanyl.

\*\*\*

If you want to encrypt your address, send it encrypted in PGP, please!

Reship guaranteed only for lost mail with tracking.

Non-registered orders are shipped on your own responsibility.

No refund or reship when you order without tracking!



e-liquid for use in electronic cigarettes  
containing furanylfentanyl  
*Test-purchase, France, October 2016*

# The problem(s) with fentanils

**Serious acute from profound and rapid respiratory depression, which can lead to apnoea, respiratory arrest, and death**

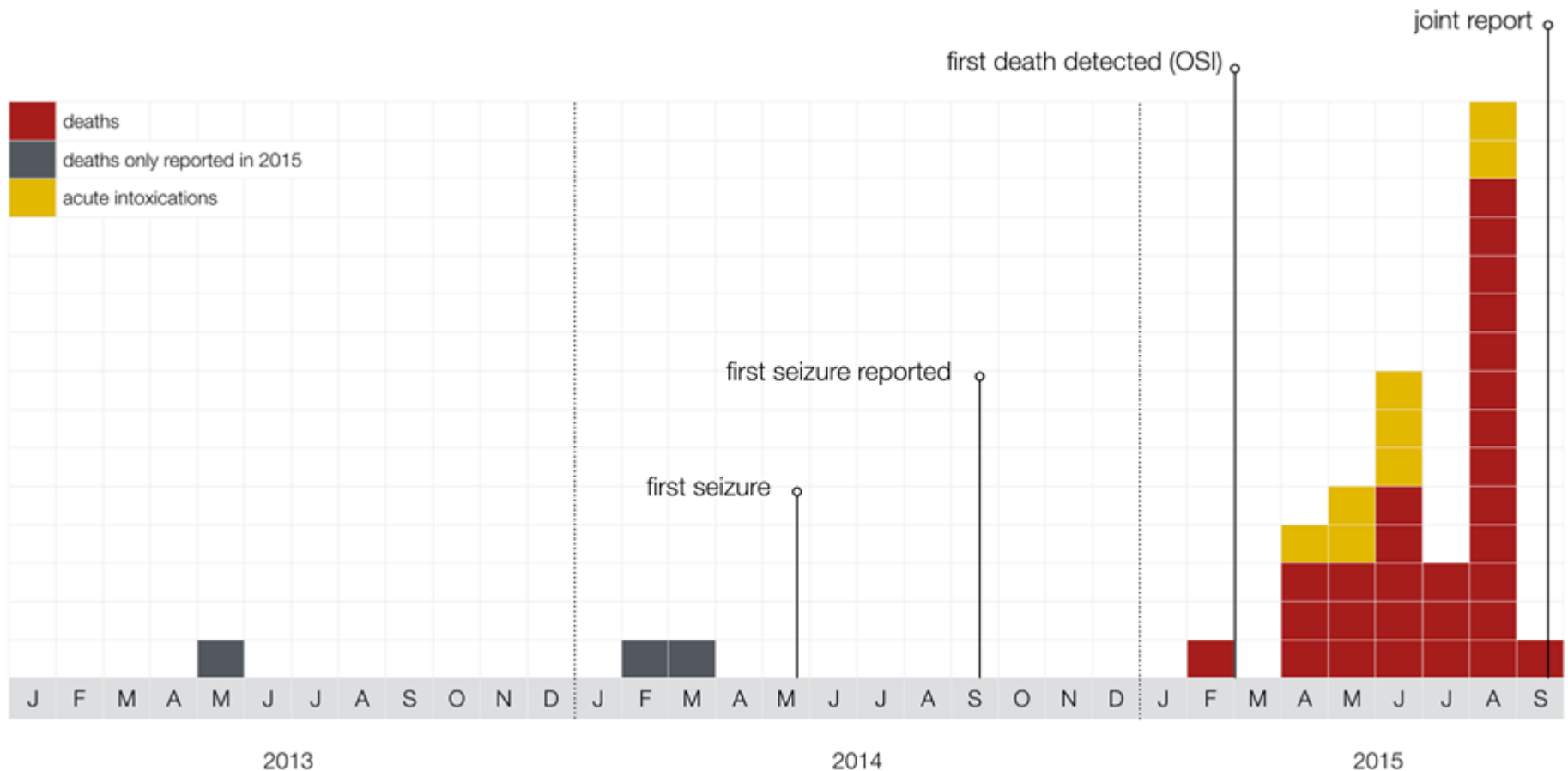
This risk may be exacerbated by:

- the difficulty of diluting fentanils;
- the lack of experience with the substance (lack of familiarity with administration, effects, and dose)
- use of other CNS depressants (such as other opioids, benzodiazepines, gabapentanoids, and ethanol)
  
- in some cases no tolerance to opioids
- use environment: typically at home, typically alone (found dead)



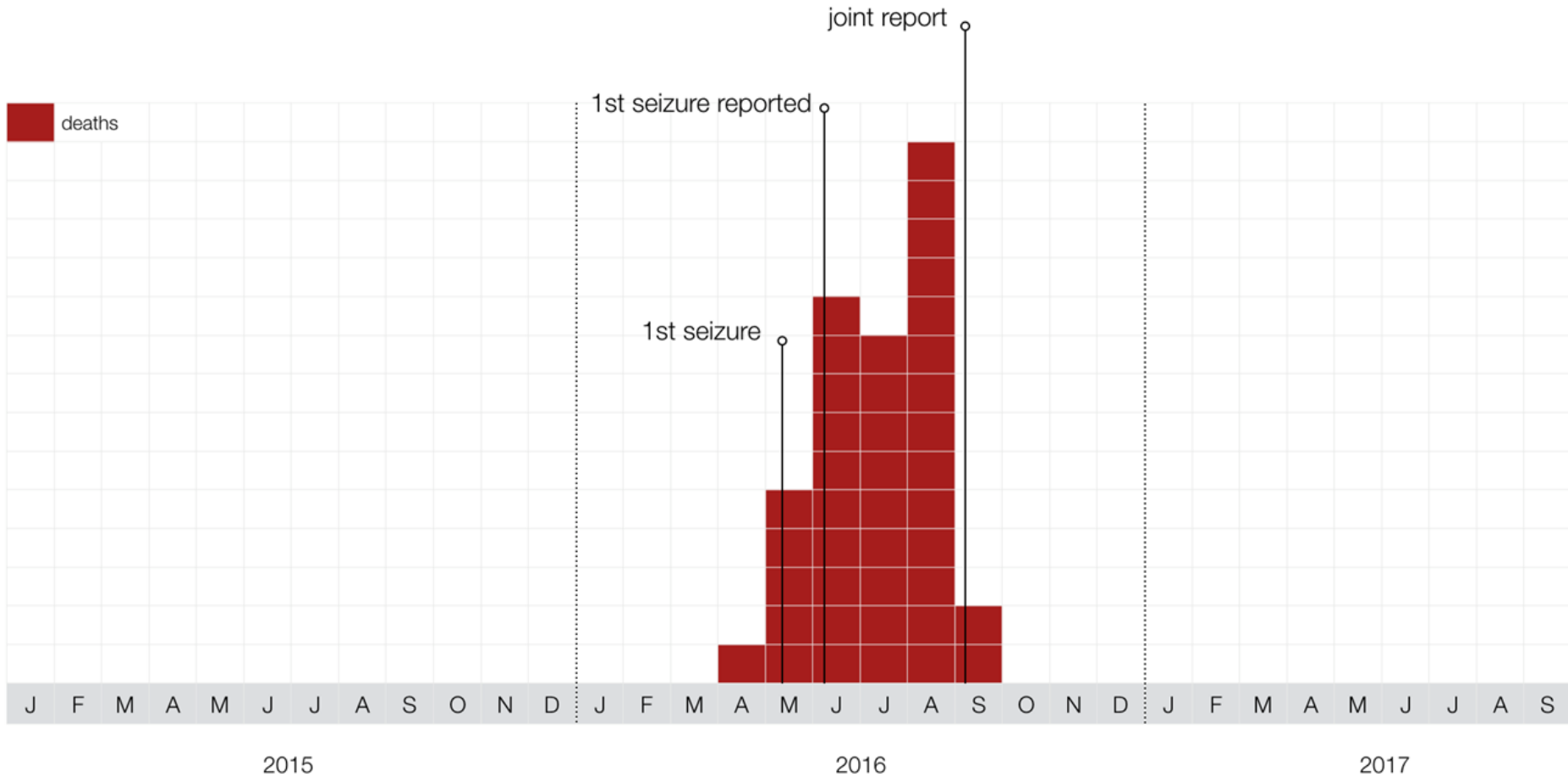
# Acetylfentanyl

- Less potent than fentanyl; but MORE toxic (animal studies)
- 32 deaths (COD/contributing in 19)
- 40% deaths in 1 month



# Acryloylfentanyl

- Less potent than fentanyl; toxicity data not known
- 40 deaths (COD/contributing in 19)
- 35% deaths in 1 month



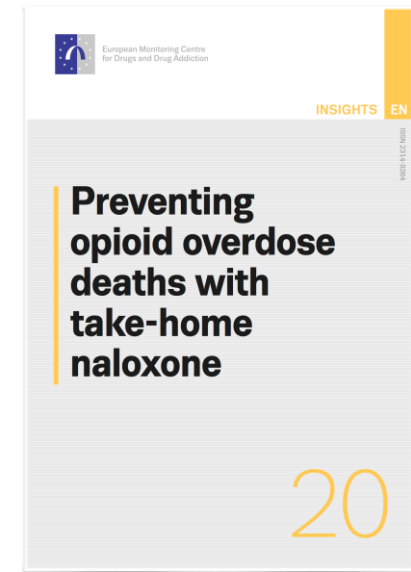
# The problem(s) with fentanils

## Naloxone works, but...

- larger than normal doses as well as repeated doses may be required
  - high potency of the substances
  - doses being taken are too high
  - duration of effects longer than duration of effects of naloxone
- outbreaks can overwhelm emergency departments and deplete stocks of naloxone



**Accidental exposure!**



# Responding to 'new' fentanils in Europe

## Enhancing *early* warning:

- strengthening local, national, regional early warning systems
- ensuring strong links between health, law enforcement and labs
- spontaneous reporting of event-based data as soon as possible

## Communicating the risk:

- EU Early Warning System notifications, alerts, advisories, briefings
- terms such as 'potent', 'strong', 'deadly', and 'toxic' can lead to users actively seeking fentanils (or any opioid)
- avoiding unintended promotion (former users and new user groups)

## Addressing the risk:

- EMCDDA + Europol Joint Reports: 6 detailed investigations since 2015
- acetylfentanyl, acryloylfentanyl, furanylfentanyl, 4F-isobutyrylfentanyl, tetrahydrofuranylfentanyl, carfentanil
- More than 100 analytically confirmed deaths between them
- Deaths often occurring in outbreaks





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# With thanks to

- EWS correspondents @Reitox National Focal Points
- Action on New Drugs team @EMCDDA
- Michael Evans-Brown – slides and analysis

[rita.jorge@emcdda.europa.eu](mailto:rita.jorge@emcdda.europa.eu)

[emcdda.europa.eu](http://emcdda.europa.eu)

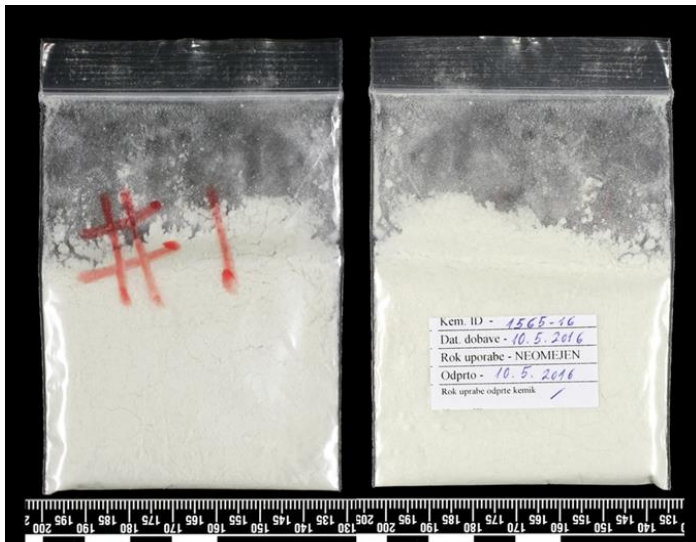
 [twitter.com/emcdda](https://twitter.com/emcdda)

 [facebook.com/emcdda](https://facebook.com/emcdda)

 [youtube.com/emcddatube](https://youtube.com/emcddatube)

 [flickr.com/photos/emcdda](https://flickr.com/photos/emcdda)

# The problematic 'white powder'



Case N°:

OFFICE OF THE ESSEX COUNTY MEDICAL EXAMINER  
88 Washington Street  
SALEM, MASSACHUSETTS 01970

## REPORT OF INVESTIGATION BY COUNTY MEDICAL EXAMINER

DECEDENT \_\_\_\_\_ RACE \_\_\_\_\_ SEX \_\_\_\_\_ AGE \_\_\_\_\_  
First Name Middle Name Last Name  
 HOME ADDRESS \_\_\_\_\_ M W S D OCCUPATION: \_\_\_\_\_  
 TYPE OF DEATH: Violent  Casualty  Suicide  Suddenly when in apparent health  Found Dead   
 In Prison  Suspicious, unusual or unnatural  Cremation   
 Comment \_\_\_\_\_  
 If Motor Vehicle Accident Check One: Driver  Passenger  Pedestrian  Unknown   
 Notification by \_\_\_\_\_ Address \_\_\_\_\_  
 Investigating Agency \_\_\_\_\_

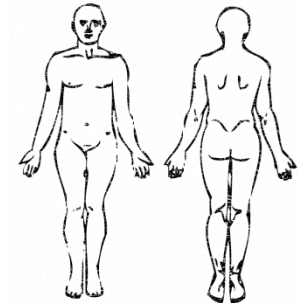
Description of Body Clothed  Unclothed  Partly Clothed

Eyes \_\_\_\_\_ Hair \_\_\_\_\_ Mustache \_\_\_\_\_ Beard \_\_\_\_\_

Weight \_\_\_\_\_ Length \_\_\_\_\_ Body Temp \_\_\_\_\_ Date and Time \_\_\_\_\_  
Pounds Feet Inches Pounds

Rigor: Yes  No  Lysed  Liver Color \_\_\_\_\_ Fixed  Non-Fixed

Marks and Wounds \_\_\_\_\_



| PROBABLE CAUSE OF DEATH           | MANNER OF DEATH                  | DISPOSITION OF CASE   |
|-----------------------------------|----------------------------------|---|
|                                   | <i>(check one only)</i>          | 1. Not a medical examiner case <input type="checkbox"/>                       |
| Accident <input type="checkbox"/> | Natural <input type="checkbox"/> | 2. Autopsy requested Yes <input type="checkbox"/> No <input type="checkbox"/> |
| Suicide <input type="checkbox"/>  | Unknown <input type="checkbox"/> | Autopsy ordered Yes <input type="checkbox"/> No <input type="checkbox"/>      |
| Homicide <input type="checkbox"/> | Pending <input type="checkbox"/> | Pathologist _____   |

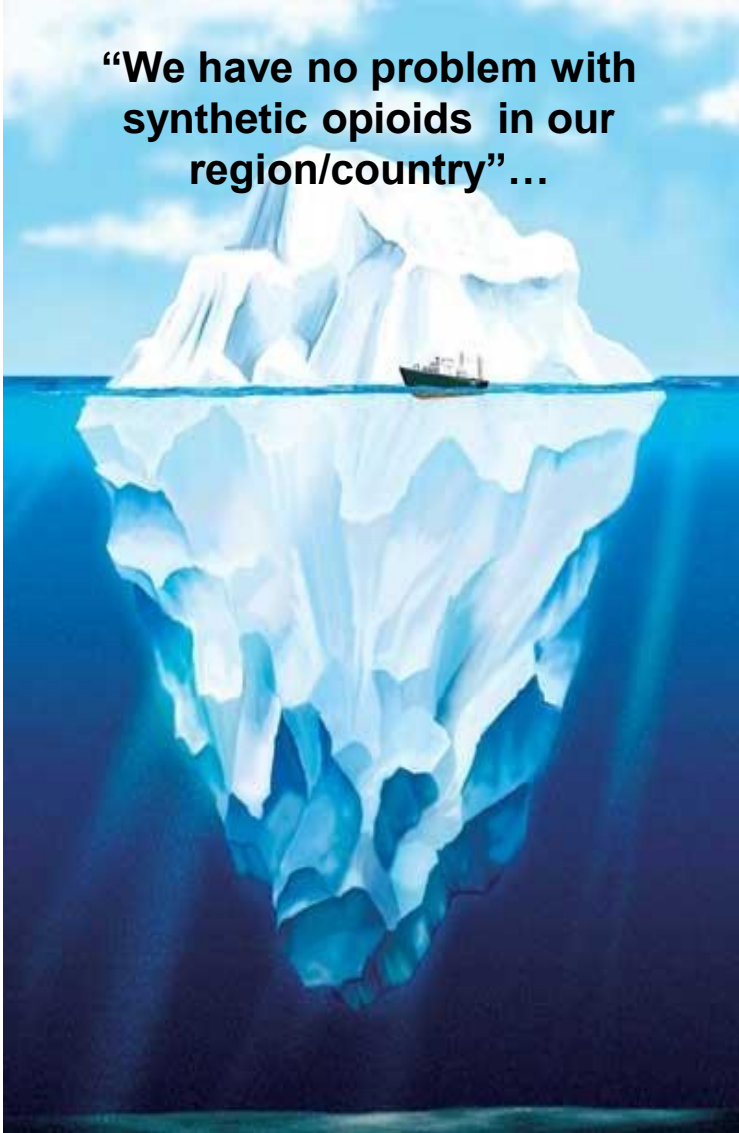
I hereby declare that after receiving notice of the death described herein I took charge of the body and made inquiries regarding the cause of death in accordance with Section 21-830-33-69(b) Massachusetts Code Annotated and that the information contained herein regarding such death is true and correct to the best of my knowledge and belief.

Date \_\_\_\_\_ Place of Investigation \_\_\_\_\_ Signature of County Medical Examiner \_\_\_\_\_

# Monitoring synthetic opioids

- Synthetic opioids may be “hidden” in the midst of heroin deaths and heroin seizures
- If an illicit substance is present, the event is likely to be listed as associated with that substance
- If multiple substances present, ‘ranking’ might not reflect relevance to cause of death
- Users might not know what they are using , Dealers/vendors might not know what they are selling
- Emergency services do not know which substance was taken
- Reporting authorities do not necessarily have the tools to analytically identify substances
- If you don’t know it might be there, you don’t look for it

**Our data is likely to be an underestimation of the ‘real’ situation**

An illustration of an iceberg floating in the ocean. The tip of the iceberg is above the water surface, while the much larger, jagged base is submerged underwater. A small ship is visible on the water's surface near the tip of the iceberg. The sky is blue with light clouds, and the water is a deep blue.

**“We have no problem with synthetic opioids in our region/country”...**



# Furanylfentanyl

- potency data vs. fentanyl not known; toxicity data not known
- 19 deaths (COD/contributing in 5)
- deaths spread out for 6 months to 1 year

