

# TRENDS IN DEATHS INVOLVING NPS

Have legislative controls had an impact?  
(...and, if so, whose?)

# International action on NPS

- NPS risks have been addressed at international and national levels
- At international level, the three major UN drug Conventions contain lists of substances which have been agreed to require control:-
  - The 1961 Convention on Narcotics (the 'yellow list')
  - The 1971 Convention on Psychotropics (the 'green list')
  - The 1988 Convention against Illicit Traffic (the 'red list' of precursors)
- The United Nations Commission on Narcotic Drugs decides whether materials should be added to the lists, based on advice received from the WHO Expert Committee on Drug Dependence
- Substance specific – recently about 10 NPS/year being added

# National controls on NPS

- All countries which are signatories of the three UN drug Conventions are obliged to control listed materials under their national legislation
  - Simultaneous international control
- Countries may have additional obligations under other trans-national agreements (such as the EU system)
- Countries also enact additional controls based on their national concerns and priorities
  - Either substance specific or broader generic controls (using Markush structure approach – this approach is not used in the UN Conventions).
- Result : Different countries, different lists
  - National listing often precedes UN listing

# The 'whack-a-mole' game

- As NPS appear and harms are identified, new legislation is drafted to control them
- As new legislation appears, new NPS are developed to circumvent them
  - New variants of existing structures
  - Novel materials with effects similar to now controlled materials
- Continuous evolution of NPS
- Can result in a trend towards more potent materials
  - Synthetic opioids
  - SCRA

# What does legislative control achieve?

- Legal controls empower law enforcement to act
  - National controls are required before state agencies can intervene
  - Classification status within control can influence enforcement priorities
- But they can also 'drive' the market place towards new compounds
  - Historically referred to as 'designer drugs', now NPS
- New materials can complicate the situation through greater potency and/or novel off-target effects
  - Ketamine
  - Synthetic opioids in North America
  - 'Designer' benzos
  - Super-potent SCRAs

# The UK within the international drug market

- The UK is primarily a consumer of imported illicit drugs
  - Domestic Cannabis farming
  - Very few examples of illicit synthesis laboratories
- Amphetamines from Europe
- Heroin from Afghanistan
- Cocaine from South America
- Majority of NPS have been sourced from China
  - Low cost
  - Availability via internet/money transfer/fast parcel delivery
- Relative influence of Chinese and UK NPS controls?

# UK and Chinese NPS legislation - which has most impact in UK?

- The UK legislates as a consumer country
  - Based on materials causing or likely to cause problems here
  - Enables border control and enforcement action once within our borders
- China legislates as a producer country
  - Under international pressure to act on NPS
  - Affects which NPS enter the international marketplace
- Which has the greatest impact within the UK?
  - Supply side or demand side?

# UK legislation affecting NPS

- Misuse of Drugs Act 1971
  - Both substance-specific and generic controls
  - Includes all UN Convention listed materials
  - Continuous series of additional controls on NPS
- Temporary Class Drug Orders 2011
  - To enable rapid control while being considered for MDA control
- Psychoactive Substances Act 2016
  - Not substance specific
  - Based on proof of psychoactivity, not structure
  - Prevented open sale of uncontrolled NPS from 'Head shops', etc



# Chinese NPS legislation

- Signatory of the three UN drug Conventions, so materials on those lists controlled.

Also, several 'rounds' of Chinese national controls on NPS:-

- 2015 : 116 NPS controlled by name
- 2017 : 8 more
- 2018 : 32 more
- 2019 : Fentanyl generic control
- 2021 : 18 more + SCRA generic control

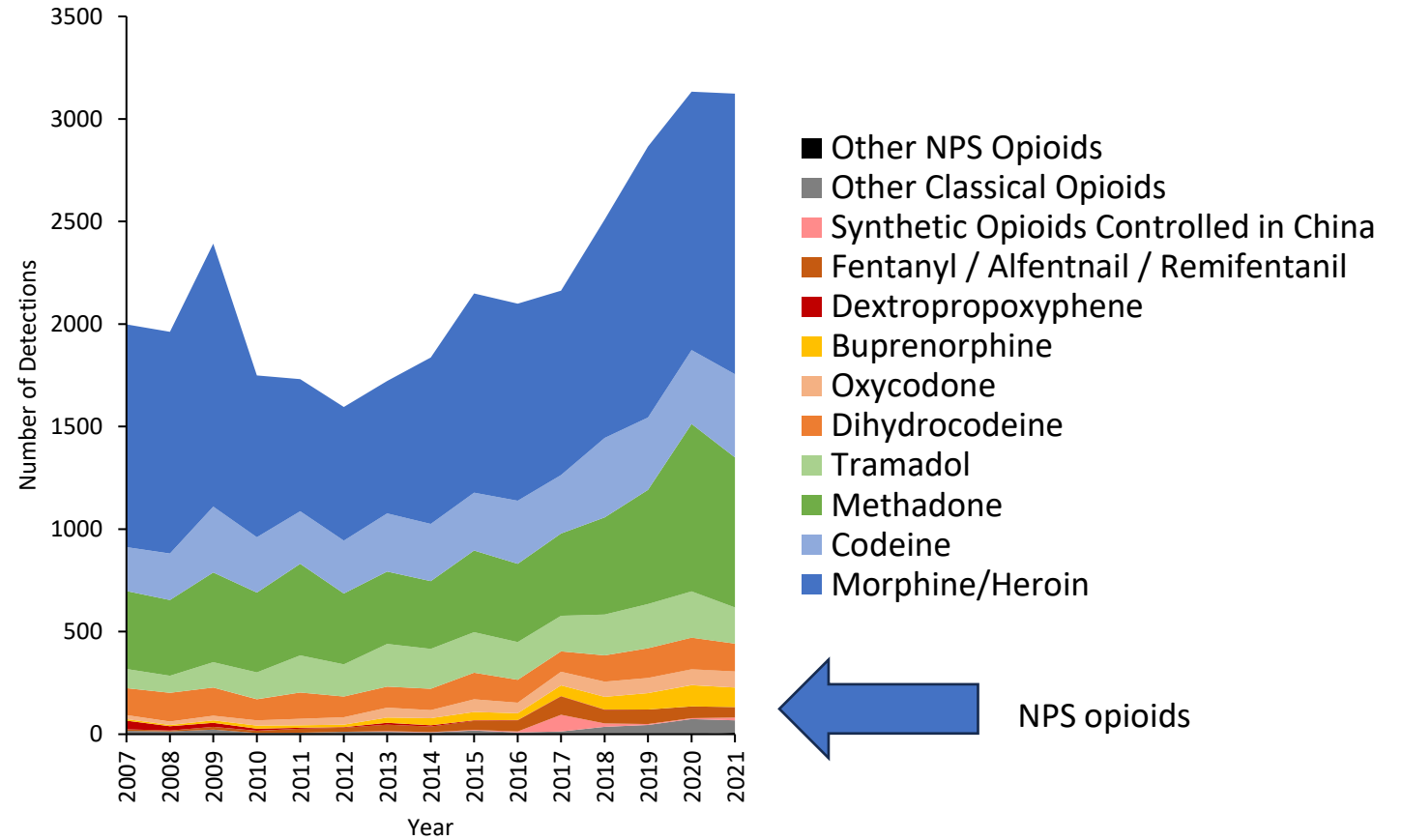
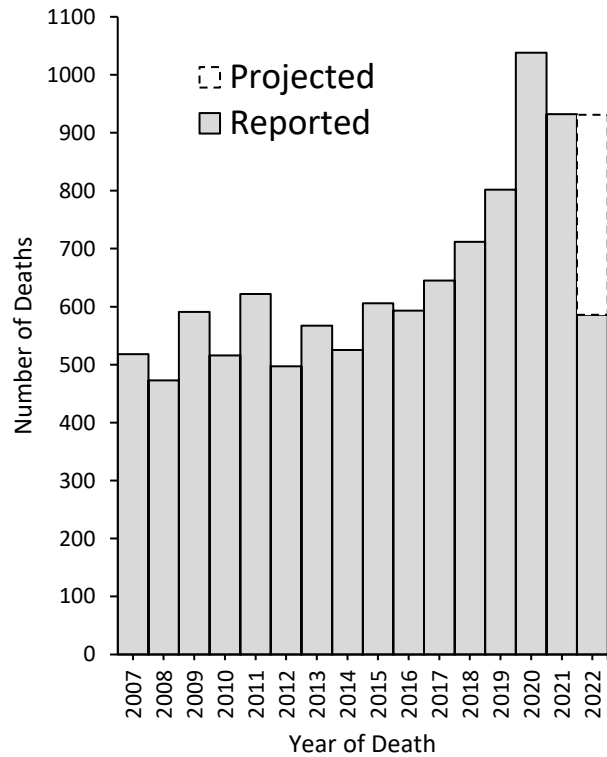
# Drug death trends as an indicator of legislative effectiveness

- Number of drug deaths is a product of lethality of substance and number of exposures
- If controls reduce usage, and are targeted at most dangerous materials, deaths should reduce
- Data from the National Programme on Substance Use Mortality (NPSUM, previously NpSAD)
  - Substances identified at inquest
  - Long dataset, covering period when NPS began to appear
  - Can compare with date of introduction of international, Chinese and UK controls

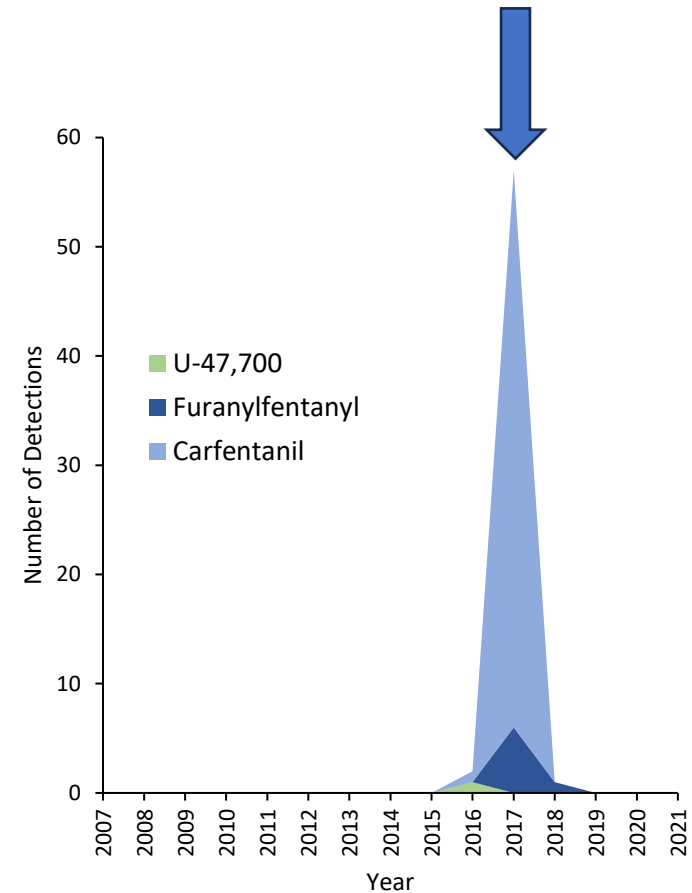
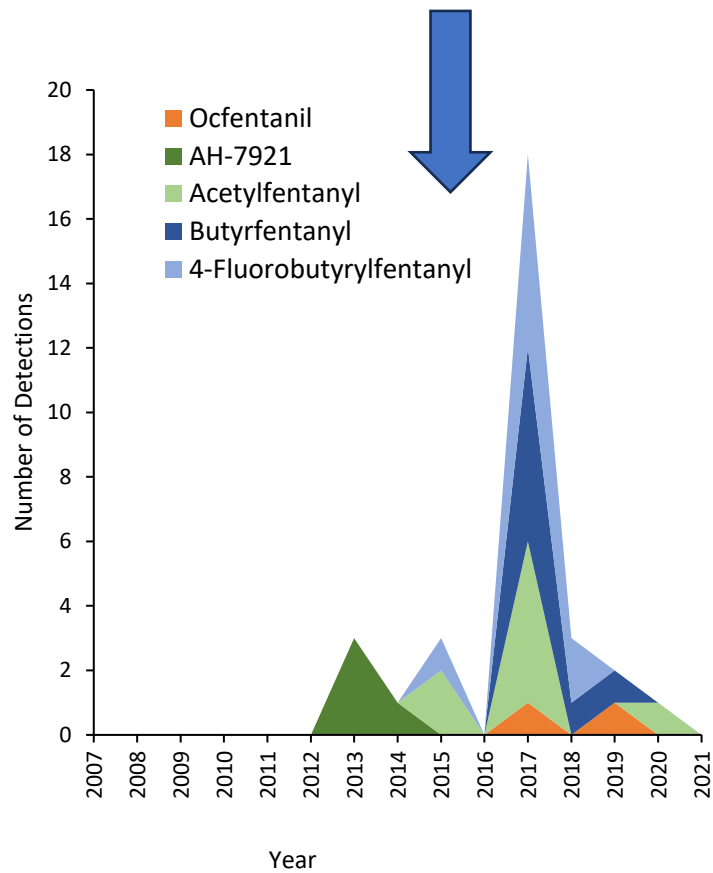
# NPSUM Data

- Data compiled from Coroner's reports in England, Wales & N Ireland
- Broad, if not quite full, coverage
- Requires completion of coroners' court process, so some delay inherent
  - 2021 data was available; 2022 was incomplete, but sufficient to extrapolate
- Lists substances reported, so may be several from each case
- Examined data from 2007 to 2022 (15 full years + partial 2022)
- Divided NPS into three broad groups:-
  - Opioids
  - Stimulants
  - SCRA

# Opiate and Opioid detections

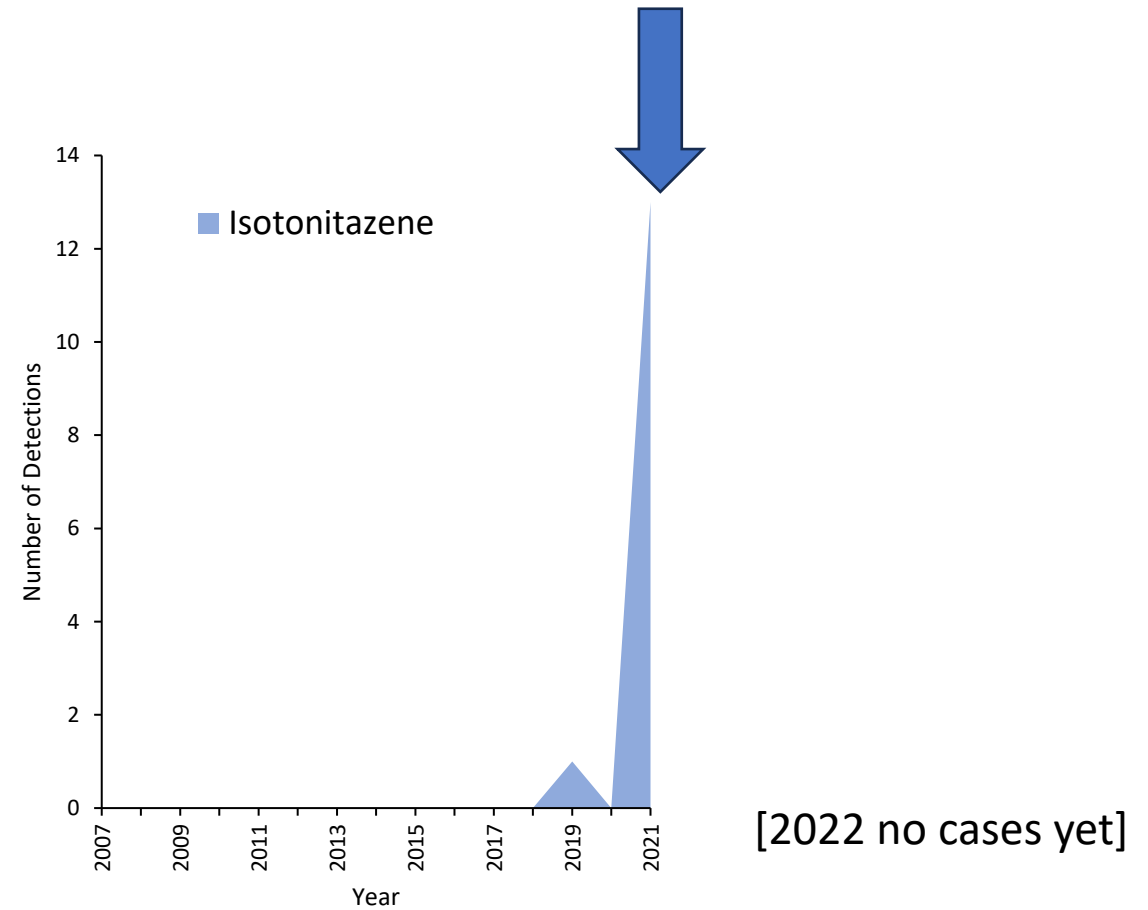
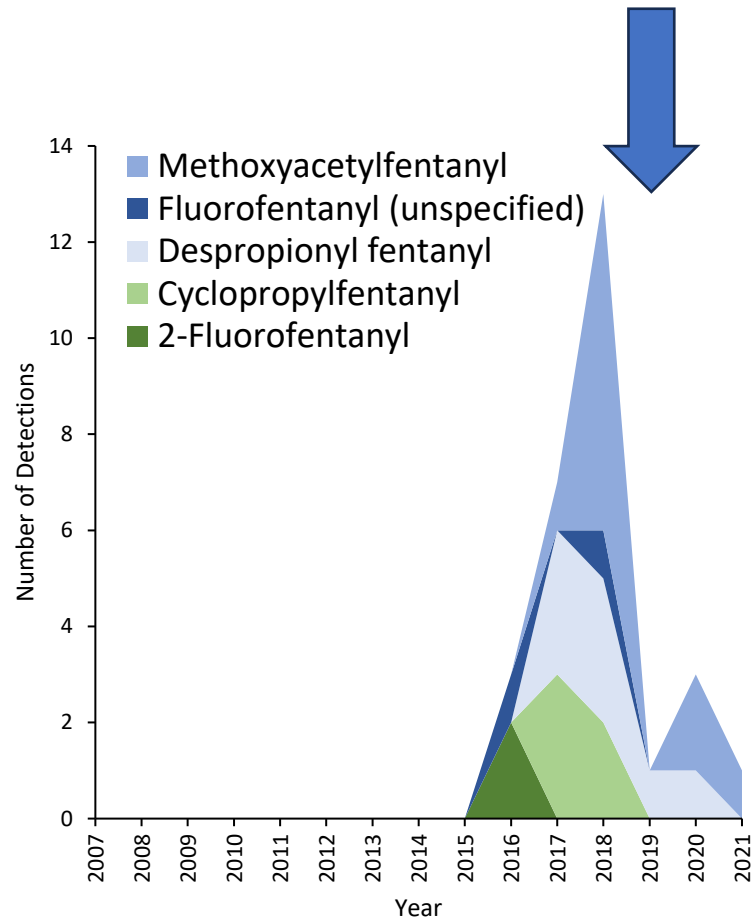


# Opioids controlled in China in 2015 and 2017



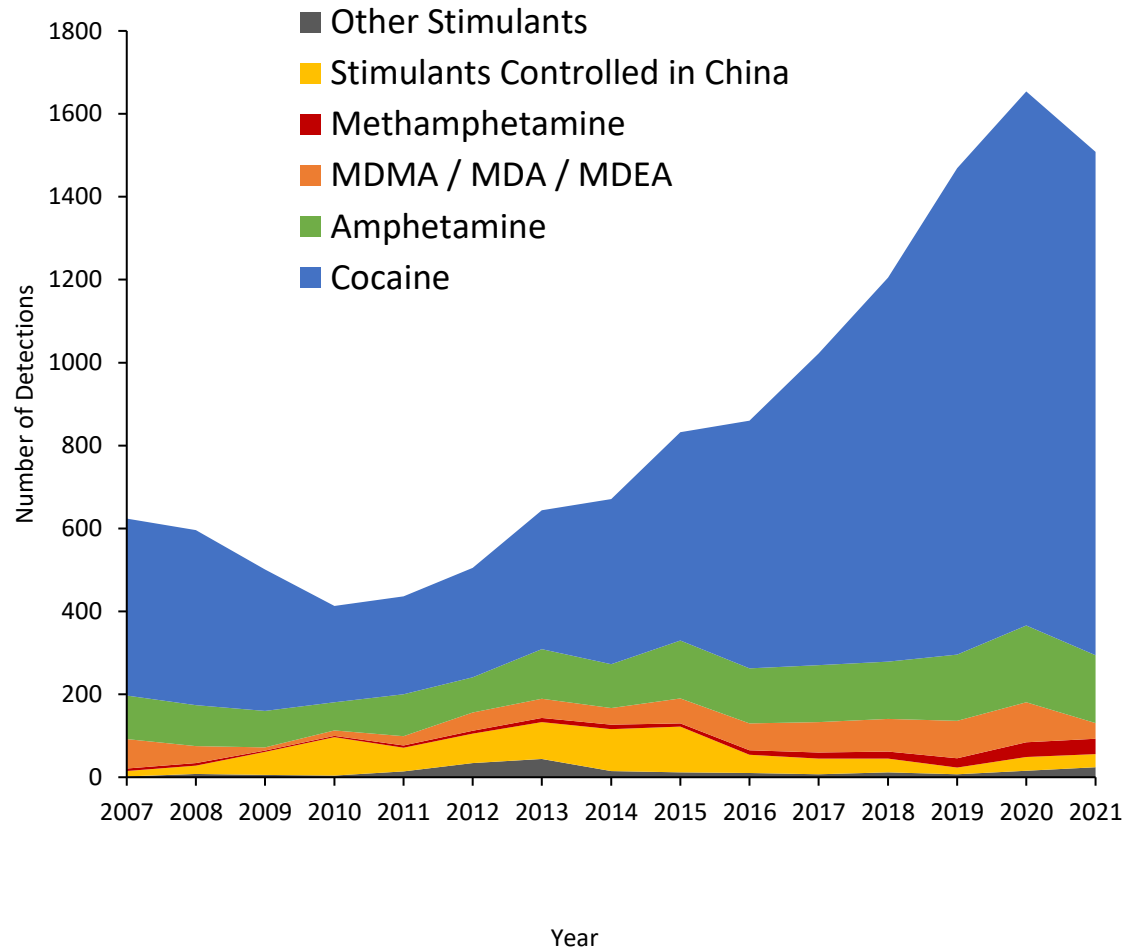
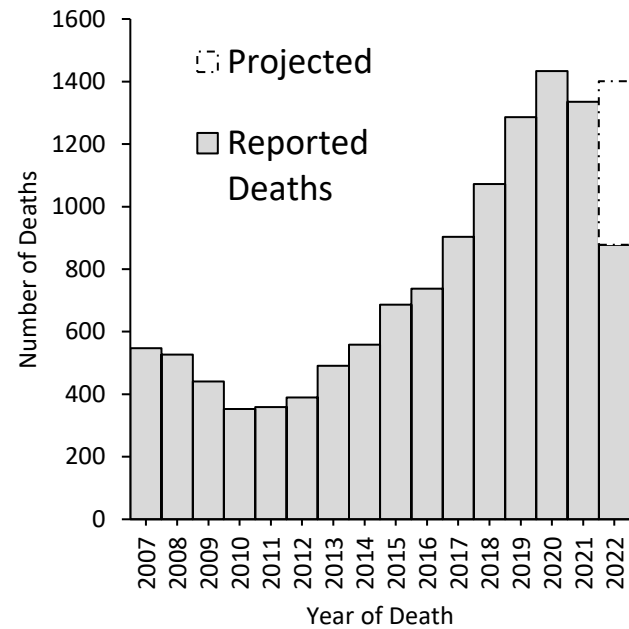
Fentanyl controlled in UK in 1986, carfentanil by name, others via a generic

# Opioids controlled in China in 2019 and 2021

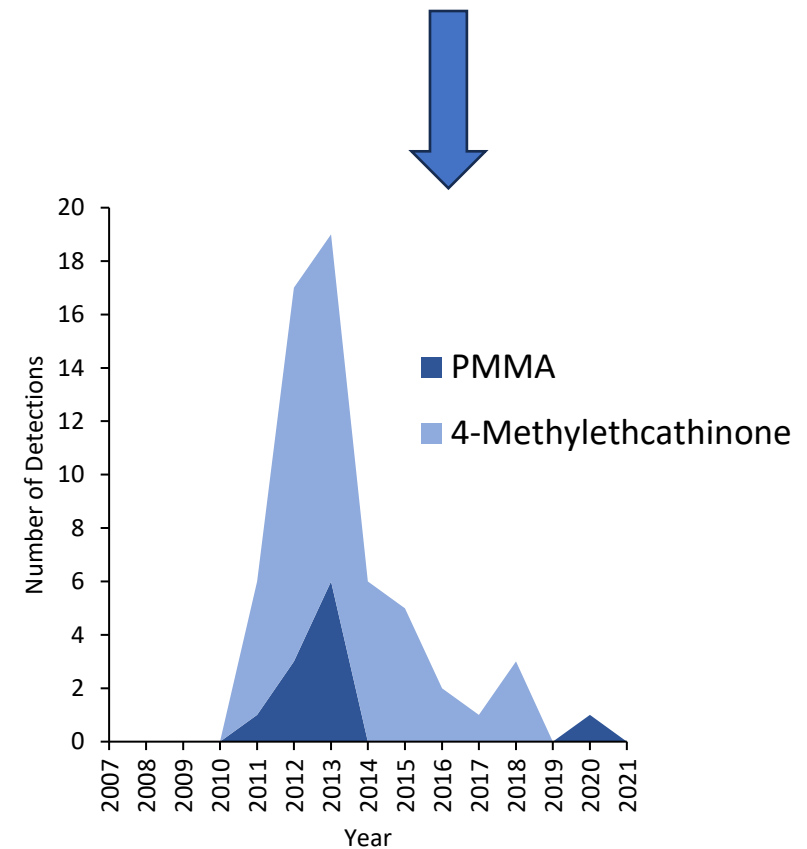
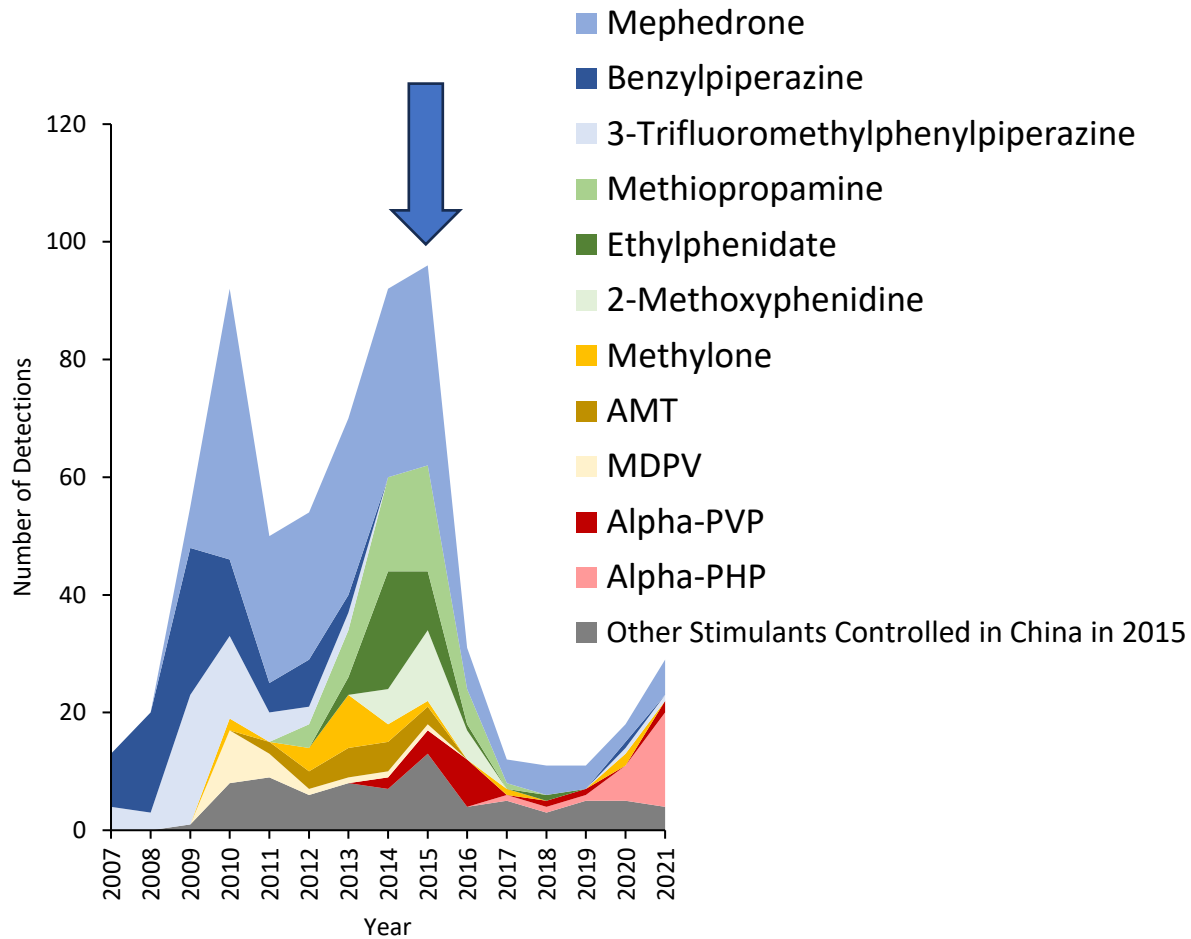


Fentanyl controlled in UK in 1986

# Stimulant detections



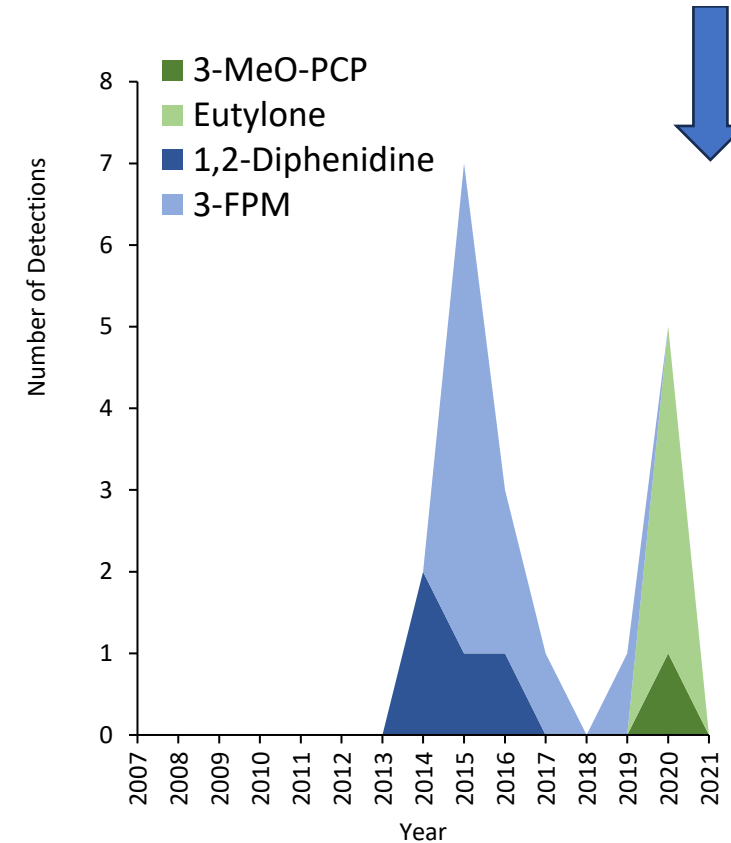
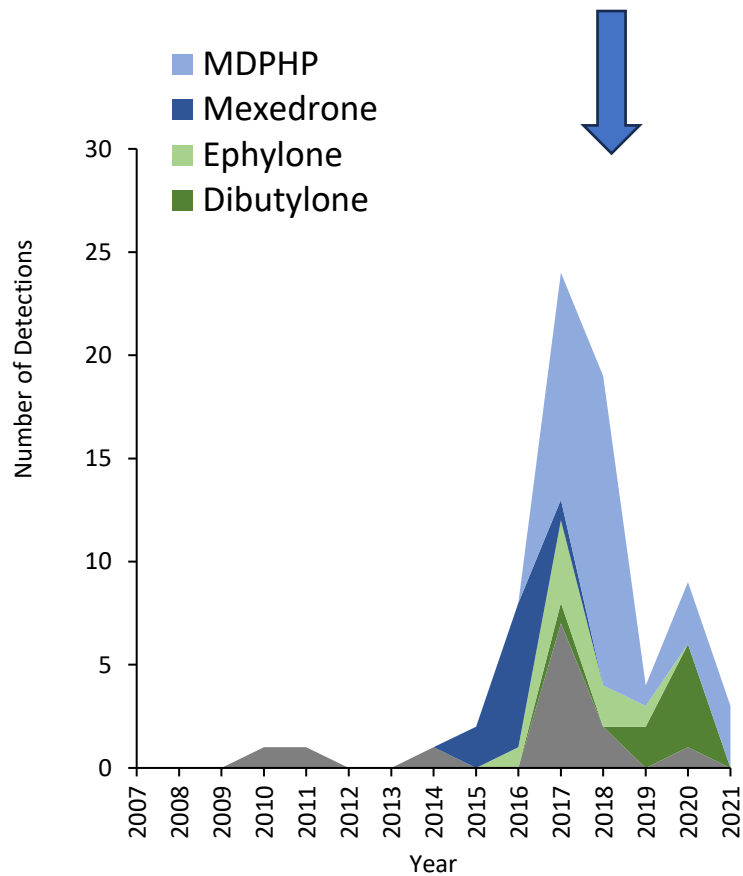
# Stimulants controlled in China in 2015 and 2017



Cathinones generically controlled in UK in 2010 : PSA came into force in 2016

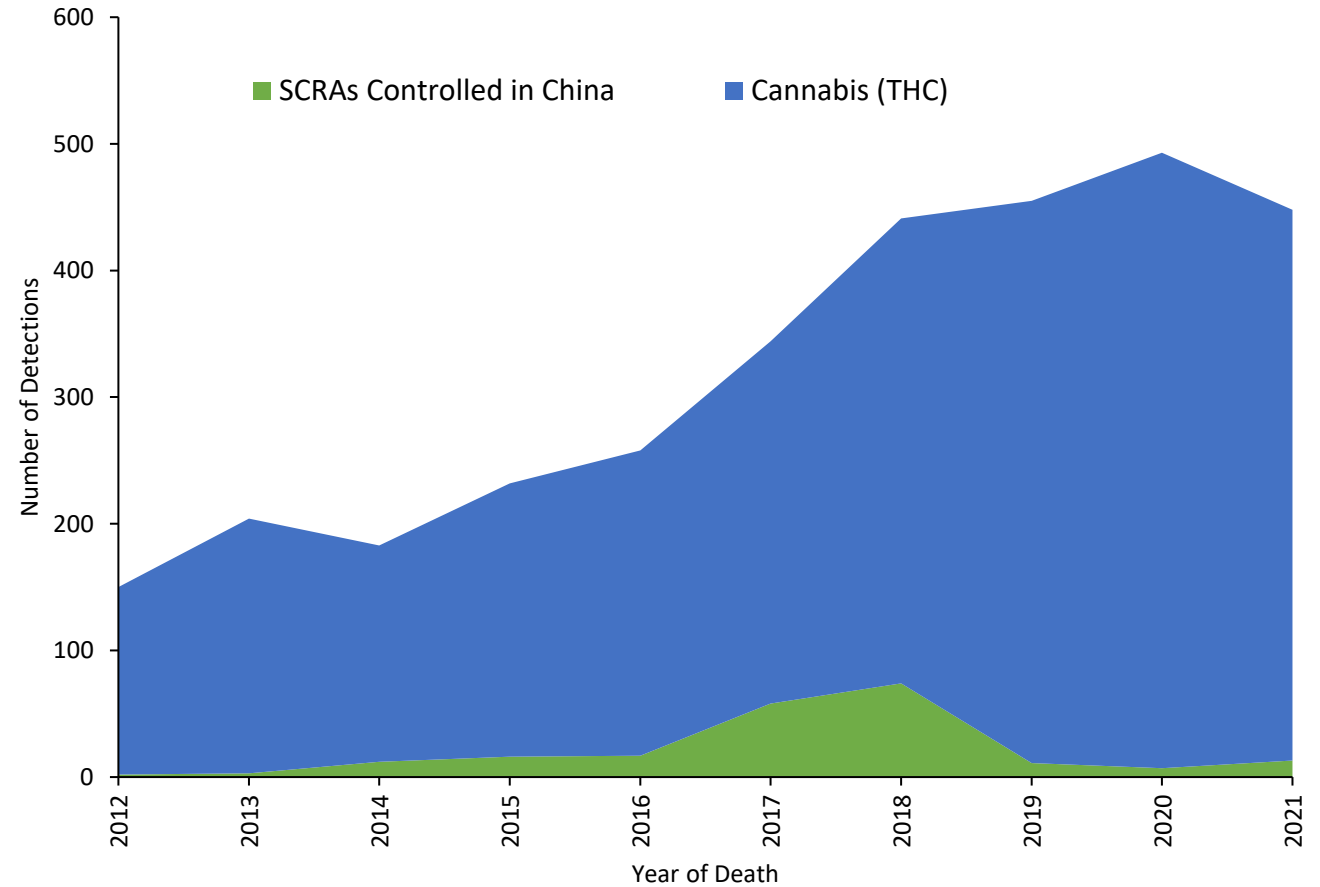
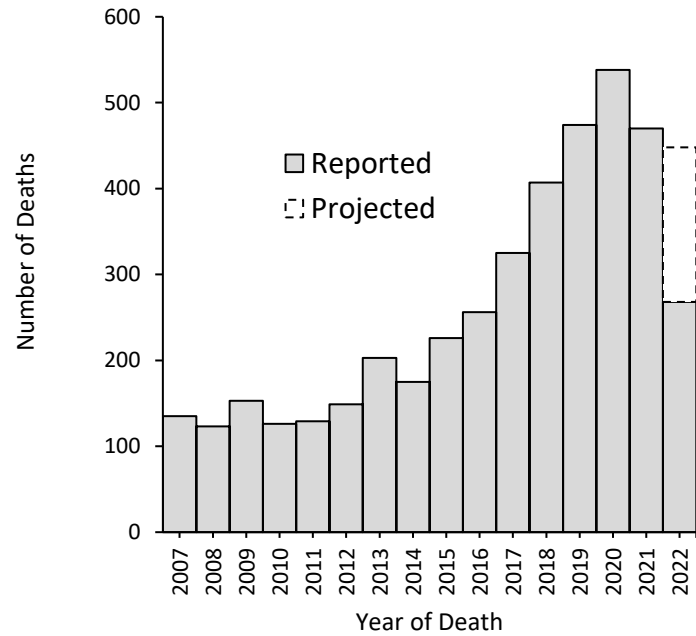


# Stimulants controlled in China in 2018 and 2021

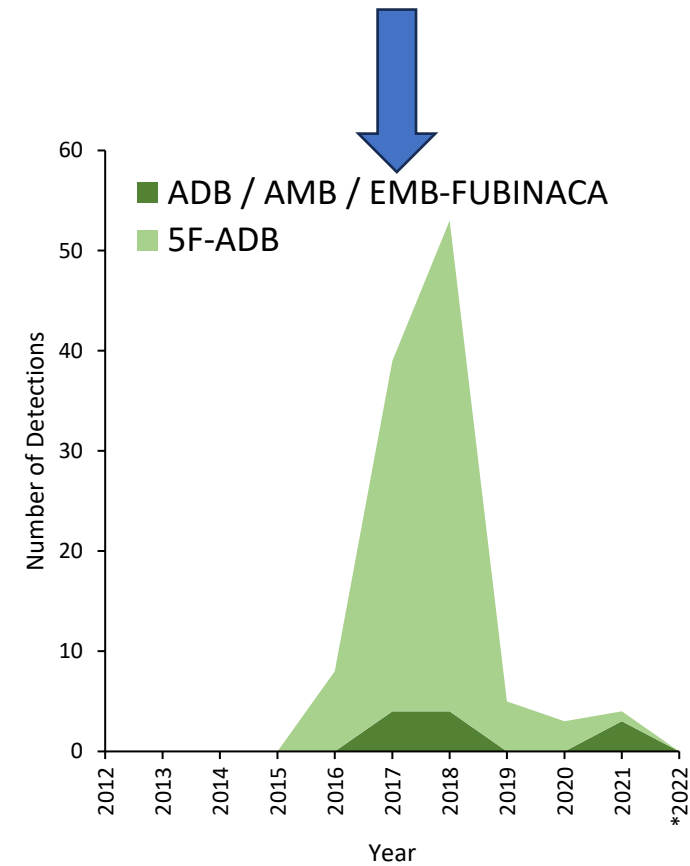
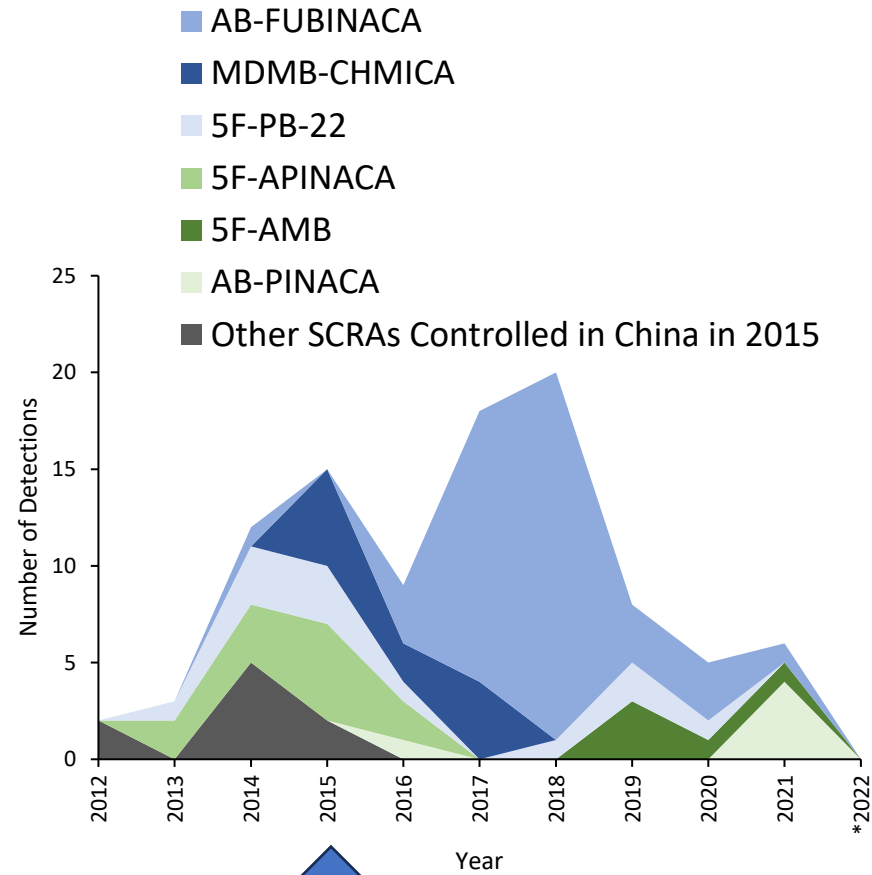


UK had generically controlled cathinones (except mexedrone) in 2010

# Cannabis and cannabinoid detections

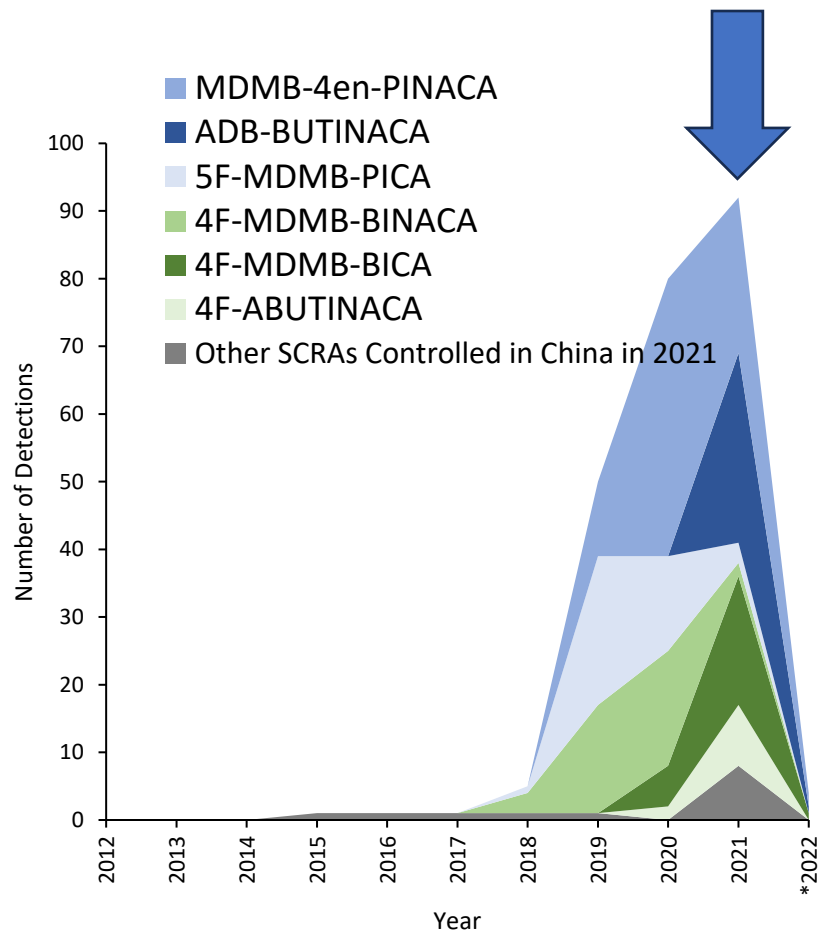


# SCRA controlled in China in 2015 and 2017

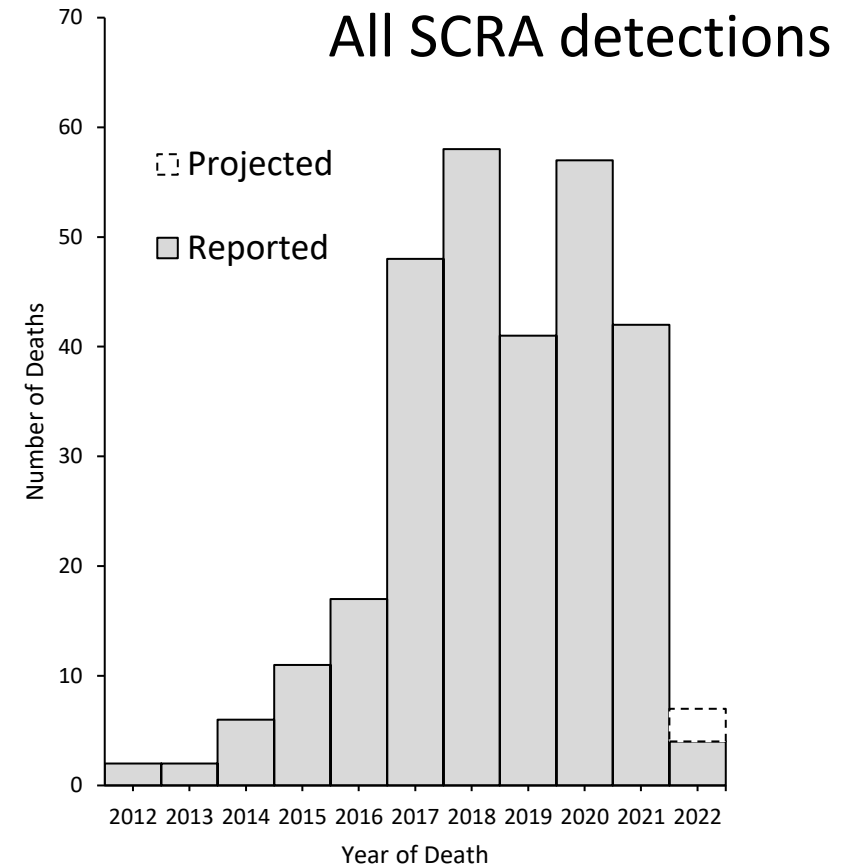


AB-FUBINACA co-detected with 5F-ADB

# SCRA controlled in China in 2021



3<sup>rd</sup> generation SCRA's were subject to UK generic control in 2016



Post-2021 new SCRA's seem much less toxic

# Conclusions

- Overall, supply-side control had more effect on UK deaths than UK domestic controls
- Opioids : 2015 Chinese controls had little effect, but 2017, 2019 and 2021 controls coincided with dramatic reductions
- Stimulants : Hard to interpret effect of 2015 Chinese controls as so close to 2016 enactment of PSA, but subsequent controls have been followed by reduced incidence
- SCRA : 2015 controls limited effectiveness, but effect of 2017 (5F-ADB) control and the 2021 generic particularly marked
- ...and what would I have done if I were a supplier?
  - Move my production facilities out of China!

Thanks should go to the people who did all the real work....

- Caroline Copeland, NPSUM
- Kirsten Rock, Kings College