

# The arrival of new psychoactive substances

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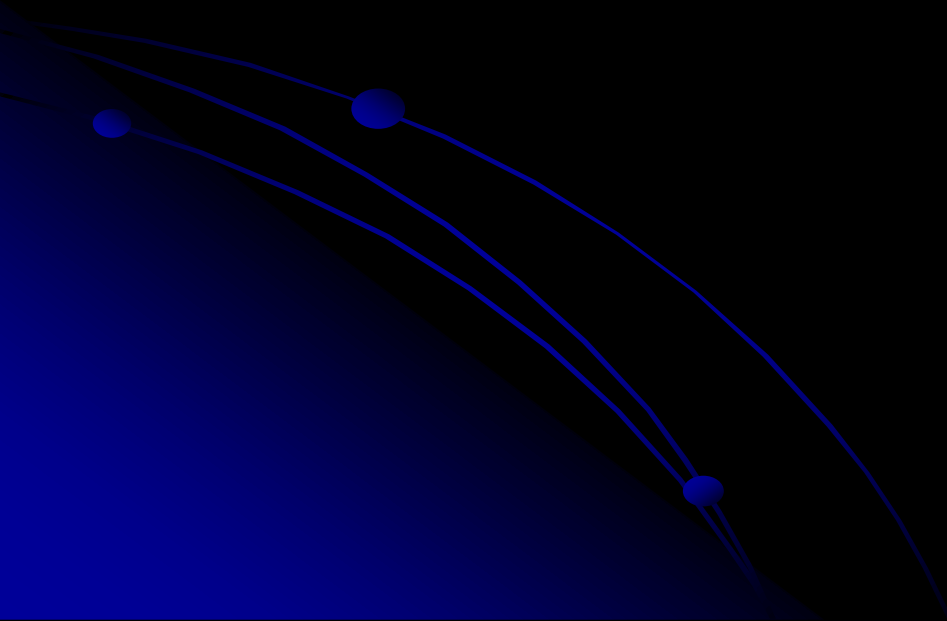
# Disclosures

- Dr. Walcher is a MD, Specialist in Anaesthesiology, Emergency and Intensive Care, GP, Specialist in Addiction Medicine, Pain-Therapy, and Psychosomatic Medicine at the CONCEPT – Center for Addiction Medicine, Munich, Germany.
- Dr. Walcher co-chairs the German Association of Addiction Medicine DGS and EUROPAD
  - Addiction advisory boards: Indivior, Sanofi-Aventis, Sandoz/Hexal, Mundipharma, Camurus
  - Infectious diseases advisory boards: Gilead, MSD, AbbVie, Janssen
  - Speaker: Indivior, Sanofi-Aventis, Hexal, Mundipharma (Gilead, MSD, AbbVie for HCV)
  - Research Funds: HepNet Germany, University of Hamburg/ZIS, Reitox/IFT Munich, Robert Koch Institute Berlin

# Learning objective

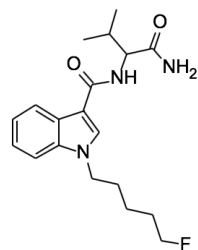
After this talk participants should be able to:

- Describe the European landscape and management options of new psychoactive substances

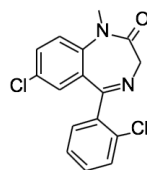




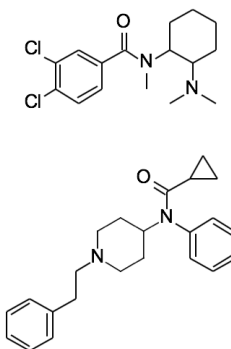
① Synthetic Cannabinoids



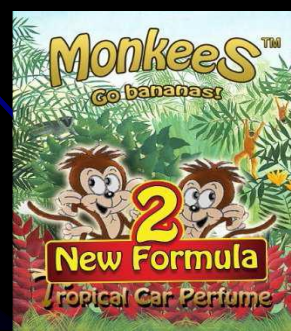
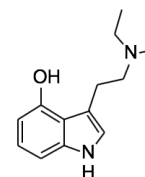
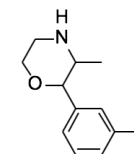
② Designer Benzodiazepines



③ New Synthetic Opioids



④ Designer Stimulants and Hallucinogens



# NPS, legal highs, club-drugs...

**Broad range of drugs not controlled by the `61 or `71 UN Drug Control Conventions – but may pose similar threats to public health**

## **‘New psychoactive substances’ (NPS)**

- Mimic or claim to mimic the effects of illegal drugs
- Either ‘new’ substances or ones that until recently were used little

## **‘Legal highs’**

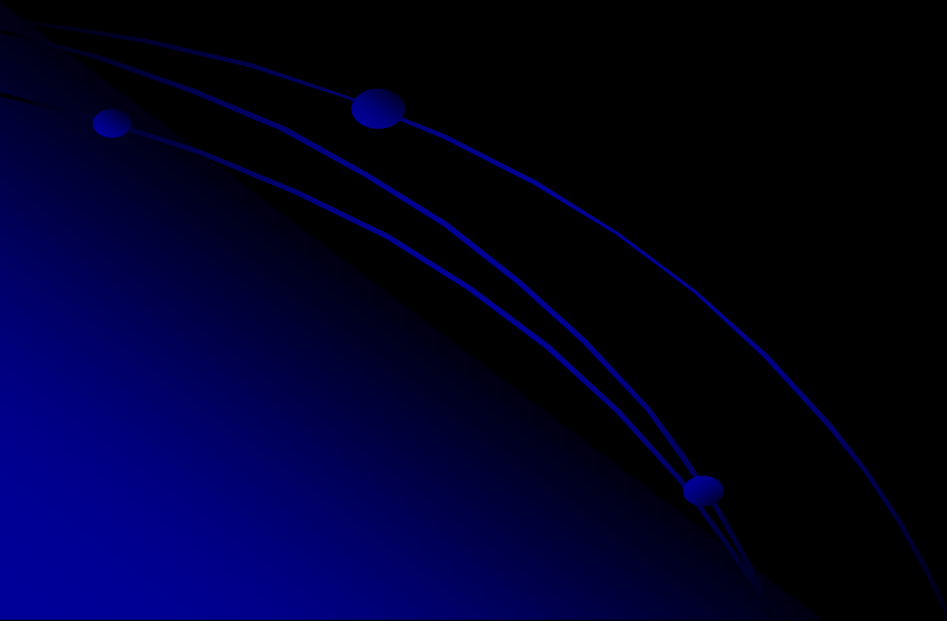
- Marketed as legal, but not necessarily safe or approved
- May contain illegal ingredients
- Normally considered illegal to sell under medicines legislation

## **‘Club drugs’**

- Collective term for a number of old and new drugs typically used in bars, nightclubs, concerts and parties

**All these terms are used interchangeably even in official reports**

**So what's the problem?**





# NPS are...



## Increasingly responsible for:

**Early risk behaviour:** Injecting, polydrug abuse, sexual behaviour

**Drug related deaths (DrD)**

**Somatic comorbidities:** esp. BBVs (HIV, HCV)

**Psychiatric comorbidities:** esp. anxiety, suicidality, schizoaffective disorders

## Decreasingly detectable by 'classic' drug-screening

**Generally hard to identify**

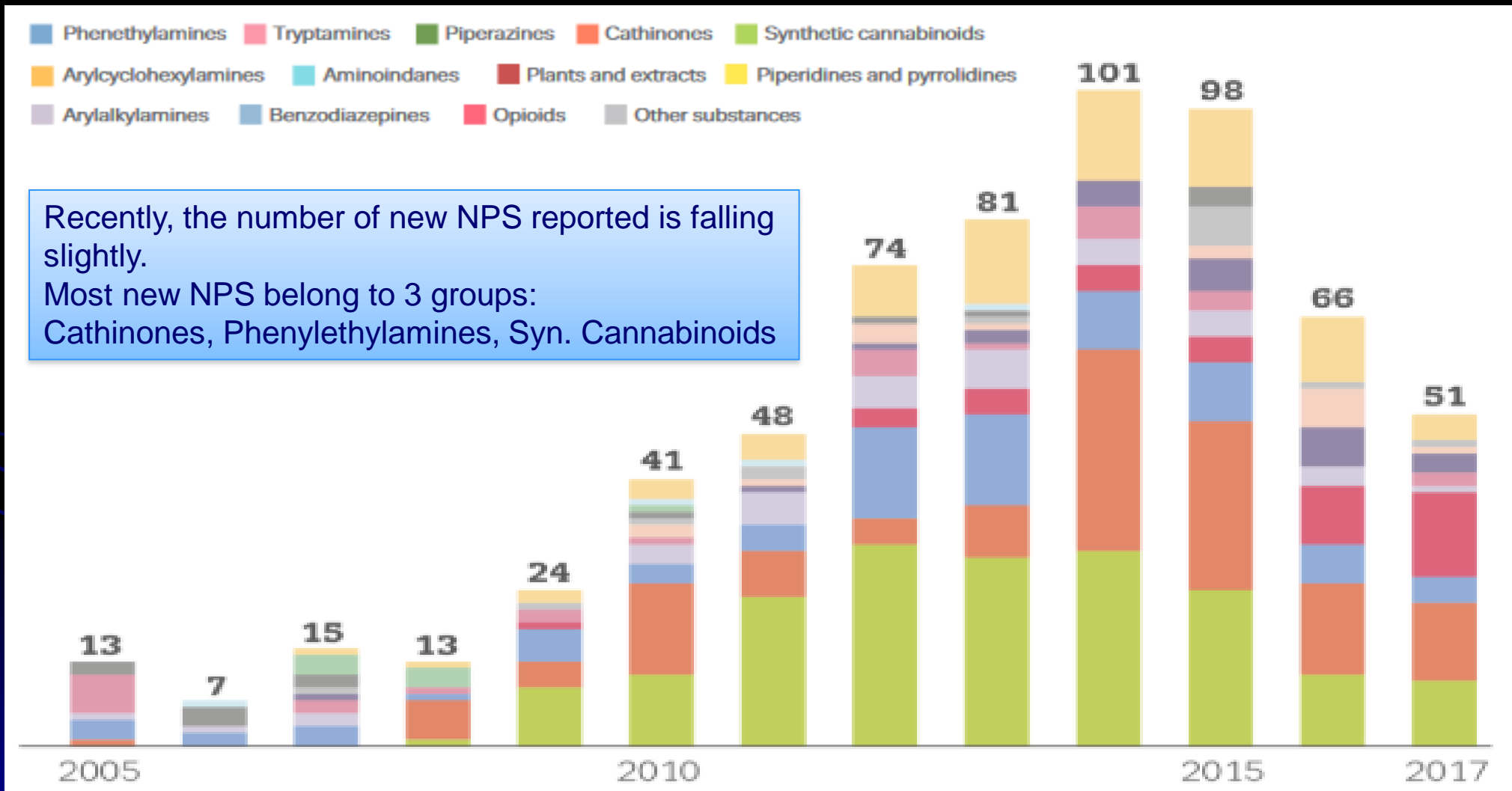
**Undetectable due to difficult molecular structures** (eg. syn. cannabinoids)

**Undetectable due to small amounts** (eg. carfentanyl: only nanograms needed)

## Lacking a general awareness

**Users and therapists** underestimate risks, composition, concentrations and harms

# Rising numbers of NPS reported





# Rising prescription drug abuse



Also dealt as 'food supply' and 'legal highs'...

- ✓ BZDs
  - Classic or designer (e.g. phenazepam)
- ✓ Pregabalin
  - Anxiety
- ✓ Carfentanil
  - Veterinary opioid
- ✓ Bupropion
  - Last available cathinone. Antidepressant, smoking detox
- ✓ Fentanyl
  - Mainly (used) patches

Cormorbid substance disorders in OST  
Of all GCMS samples positive on one day we found:

• Heroin	57%
• Cocaine	21%
• Crack-cocaine	1%
• Benzodiazepines	56%
• <b>ATS</b>	<b>27%</b>
• <b>Fentanyl/ -designs</b>	<b>21%</b>
• <b>NPS</b>	<b>17%</b>
• Pregabalin	57%
• Bupropion	31%

# Rising leaks in the health market

- Legal sources: over the counter medications (phenacetin, paracetamol, ephedrine)
- Stolen from pharma-dealers, hospitals, nurseries
- Internet pharmacies: false prescriptions, no prescriptions
- Internet shops: legal highs
- Doctors: uncritical prescriptions
- Patients: wrong-/pseudo-diagnosis, sale of regular prescriptions, change of regular use (injecting, sniffing), "doctor shopping", grandma's prescription

# How to use NPS



**Swallowed, sniffed, smoked, early injected** (high risk of overdose)

Methamphetamine and speedpills:

- Earlier: 3 mg/pill → 1000mg (1g) were 333 consumption units.....
- Today: on first consumption around 100mg, 1000mg as regular day-dose!

1g cost 15-17€ in Eastern Europe, in big towns Western Europe 80€

# Who uses NPS

**Sporadic recreational users** (biggest group – worldwide, rising)

**Substitutionists** (replace illegal drugs by NPS; small group, shrinking)

**Potheads 2.0** (Pot and syn. cannabinoids interchanging, big group, shrinking)

**Specialists** (psychonauts, experimenting with everything to find individual optimum, legal status irrelevant, constant group)

**Desperados** (regular consumption of a broad range of drugs following availability, legal status irrelevant, big group, shrinking)

# It's not just about young users

**LGBT** (especially MSM)

**Complex needs clients** (mental health, homelessness, criminal justice)

**Prisons**

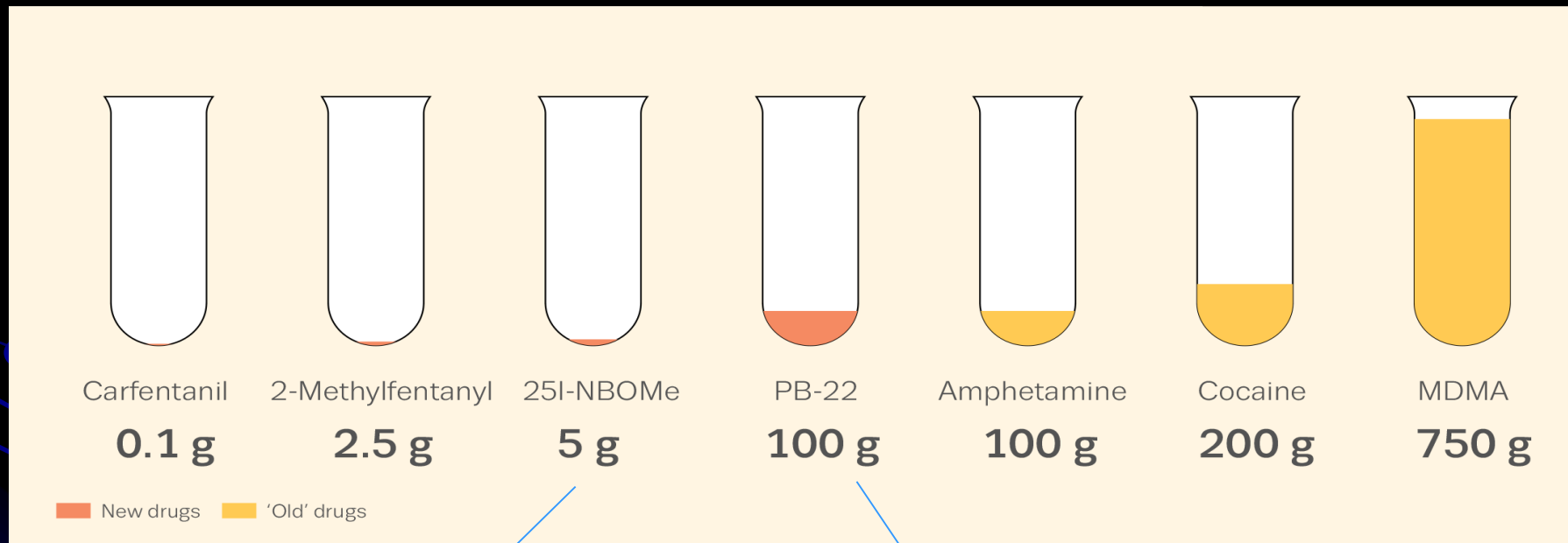
**Students**

**Clubbers**

# Minimal concentrations needed....

Mini-amounts per consumption units (CU) brings trafficking to new horizons

How much pure drug is needed to make 10000 doses?

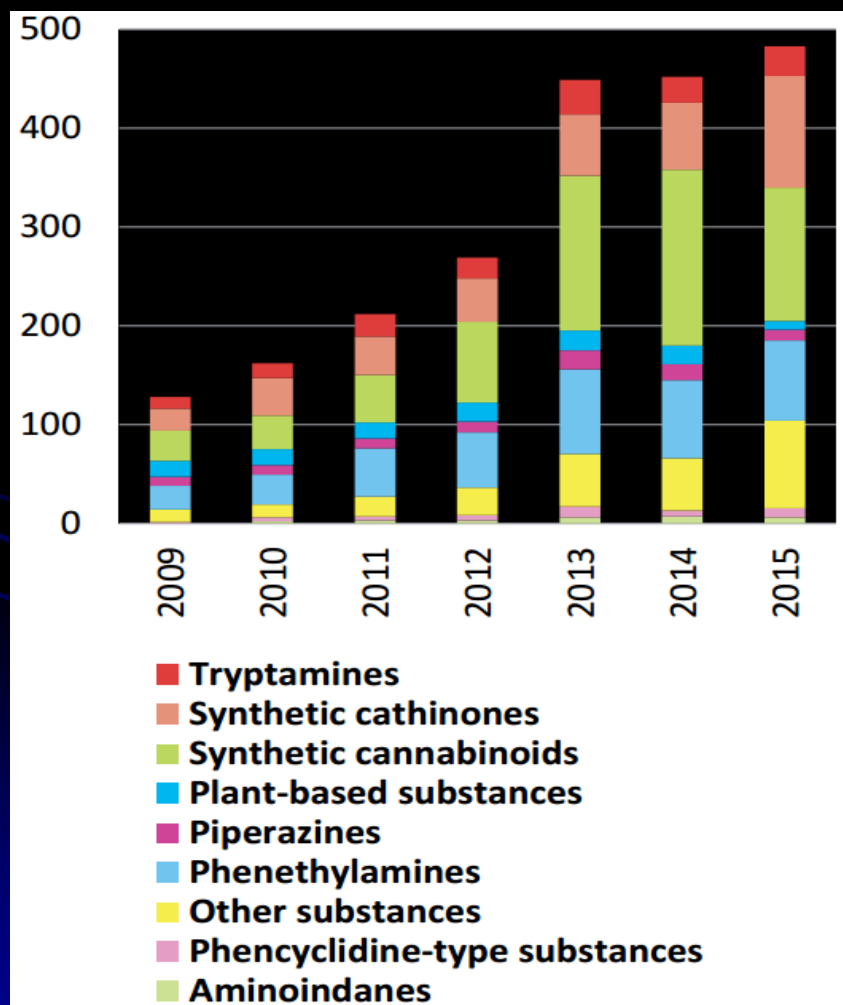


5-HT Agonist: developed. 2003 FU Berlin, scheduled A 2013

Syn Cannabinoid, developed China, scheduled A 2016

# Expanding market: NPS

No. of different NPS reported each year



- Between 2009-2016, 739 different NPS reported
- In 2015 alone, almost 500 NPS were on the market worldwide
- Core group of about 80 persistent NPS
- Innovation continues but at slower pace
- NPS with stimulant properties expand in number
- Recent emergence of NPS mimicking medicines (fentanyl analogues, benzodiazepine derivatives) with high potential to cause harm



# Consequences and damages

Cerebral	Spinal	Psychiatric	Somatic
Loss of consciousness	Inflammatory/ vascular	Neuro(cognitive) disorders, confusion, attention deficit disorders, tremor	Dental problems (damage, hygiene, oral exsiccation, gnashing, high product acidity)
Seizures	Polyradiculitis	Paranoid disorder, optical, hallucinations, panic disorder	Malnutrition, gastritis, liver failure
Cerebrovascular syndromes		Sleep disorders	Cardiac problems
Ataxia		Depression, anxiety, irritability, anger	Sweating, dry skin, fatty skin, blisters, excoriations
Toxic demyelination		Suicide	Botulism, compartment-syndrome, rhabdomyolysis
Infections			HIV, HCV

# MSM and substance use – why?

- Helps to **relax** and be more sociable
- Mitigating **social unease** (general, sexuality, scene)
- Alleviating **loneliness / unhappiness**
- Enabling sexual **encounters**

# ATS and risk behaviour

## Meth users:

- Were **2x** more likely to be **HIV** positive than non-users (n=170).  
68% vs 33% or n=170 vs 120 (p <0.05)
- Were **4x** more likely to be **HCV** positive than non users  
12% vs 3% (p <0.05)

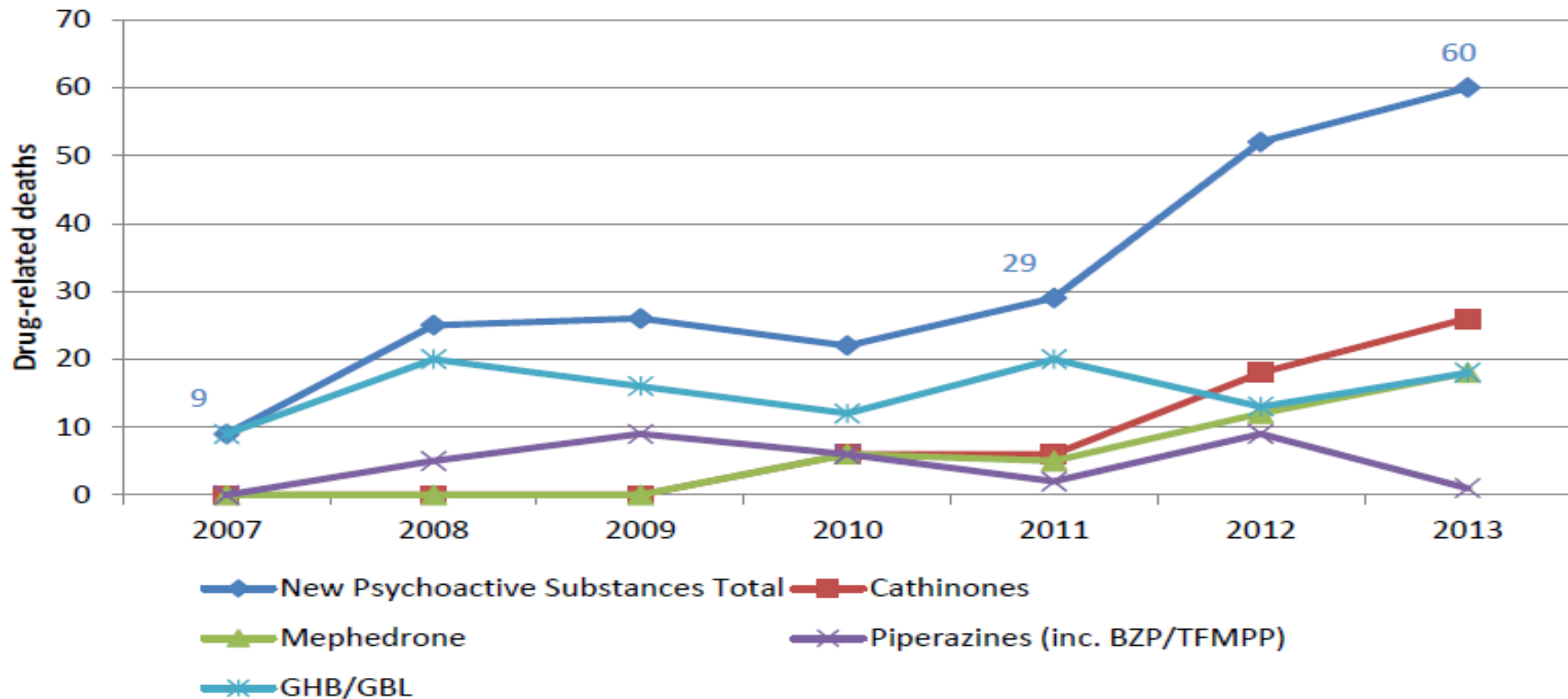
## ATS-users:

- 53% reported having injected the drug

## Non ATS-users:

- 25% reported currently or previously injecting  
(meph, cocaine, G, K)

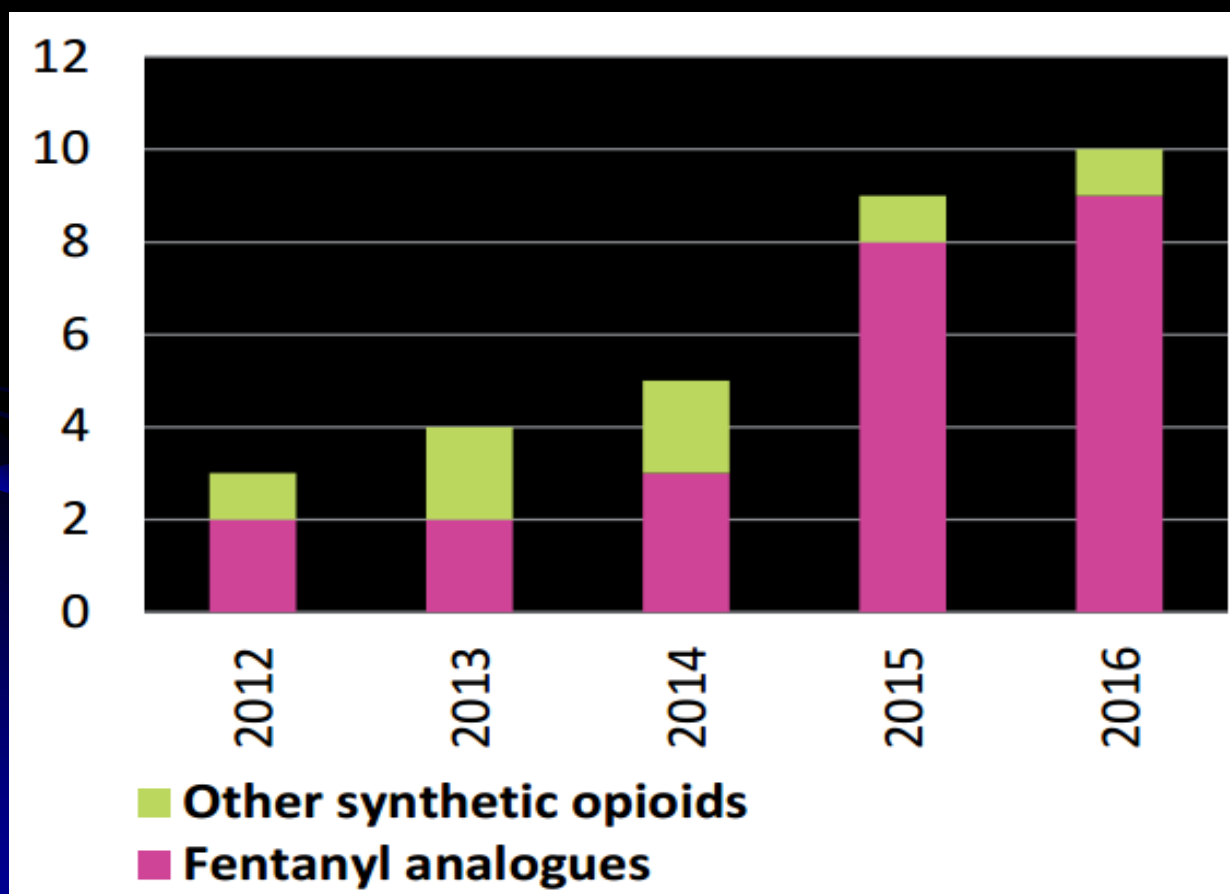
# NPS in DrD 2007-13



But that's only the tip of the iceberg as detectability is poor!

# Synthetic opioids (SO/NPS)

Annual number of new SO (NPS) reported to UNODC, 2012-2016



- Mainly sold as or mixed with heroin or fake prescription medicines
- Highly potent, difficult to dose, difficult to detect
- Pose a threat to public health because of the variable quantity and potency (up to 10,000 times that of morphine)

# Heroin and synthetic opioids

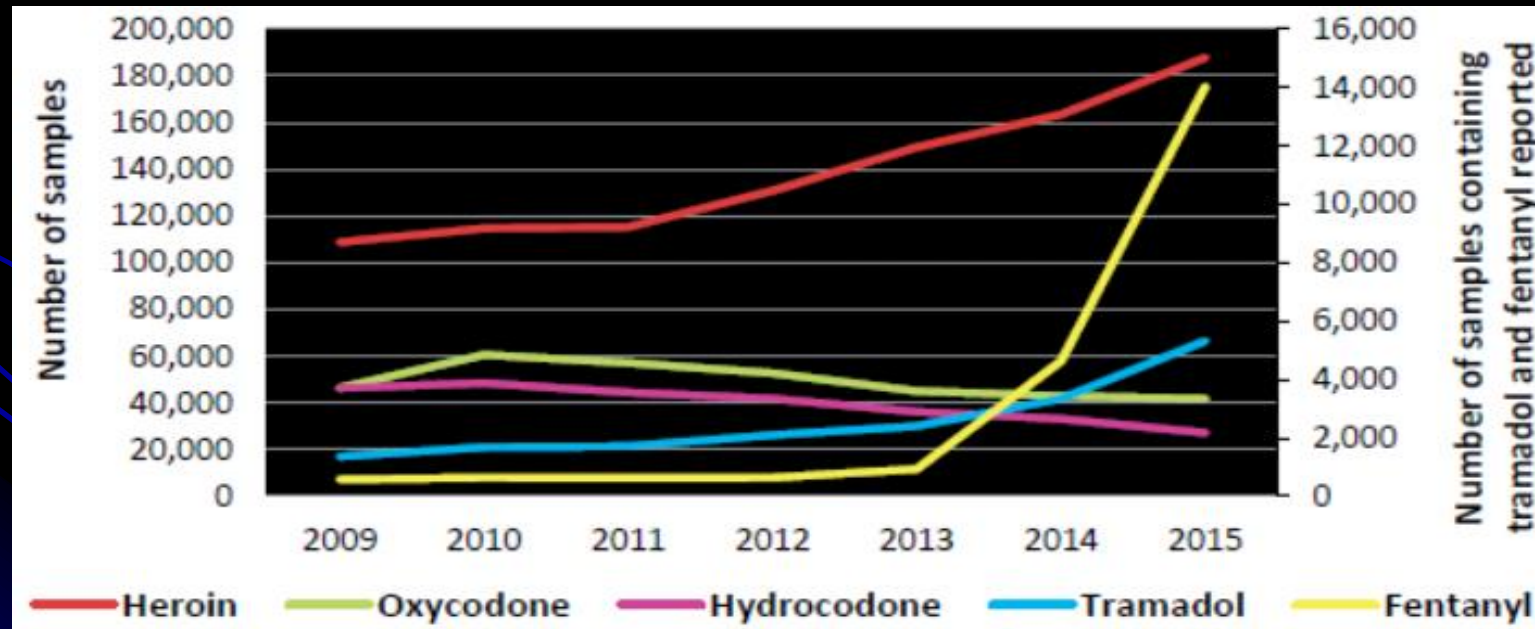
The opioid market is becoming more diversified

Misuse of pharmaceutical drugs

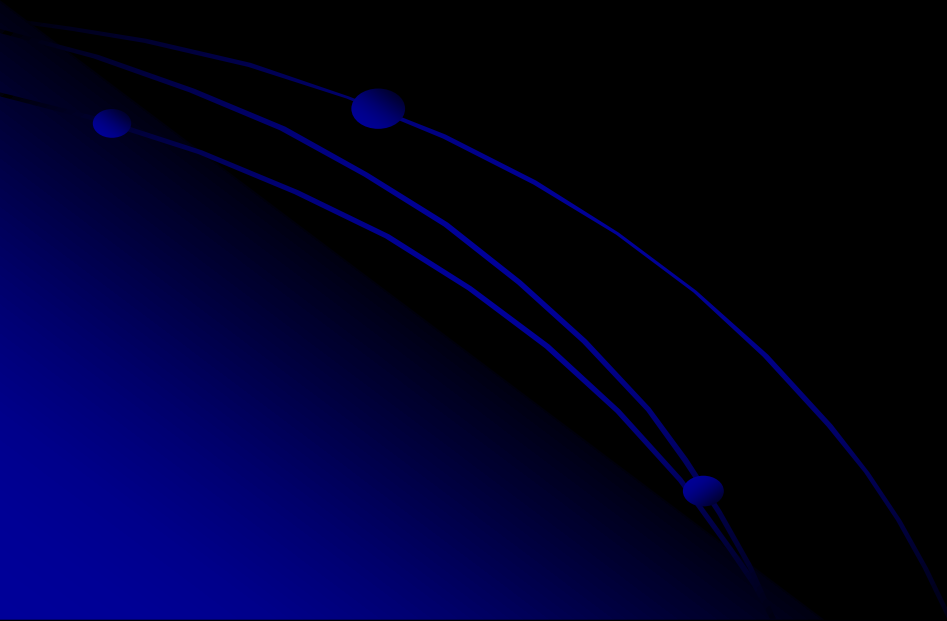
Prescription forgery, diversion, illicit manufacture, counterfeit medicines

Research opioids on the market (NPS)

Number of samples submitted to and analysed by laboratories, by type of drug identified, United States



**How to address NPS users?**





# Traditional perspective on prevention

- Emphasising health and social harms will disincentivise use ....
- Given enough information young people will make rational decisions ....
- One-off interventions are sufficient ....
- School drug- and alcohol education/posters/TV adverts use ....
- Hmmm ...



# We need to change our perspective

Research has shown

- Cautionary stories
- Shere information
- Focus on harm or fear
- Harsh or inconsistent punishment

**Don't work**



# Case study – Scared Straight

- Programme assumes that by showing 'reality' of the criminal justice system young people will want to avoid it
- Unfortunately trials of the interventions have shown:

The 'Scared Straight' programme actually increased the risk of offending in the juveniles in the intervention group compared with juveniles in the control group

- The Social Research Unit calculated that for every child it is delivered to (£55) it costs a further £14,268 to put right



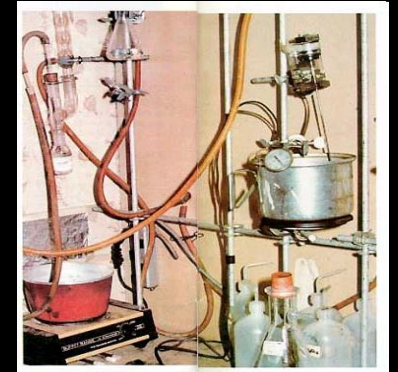
# First: rising supply (GB)

## Supplier-units:

2010: ca 170

2012: ca. 693

2014-18: > 1200



## New substances (EMCDDA-documented):

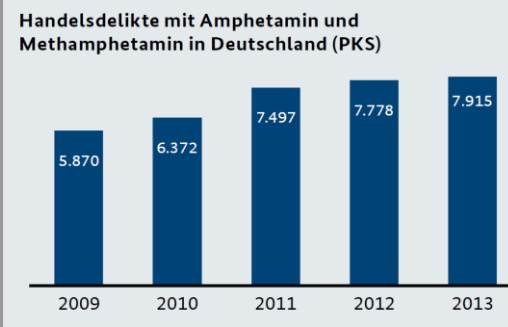
2010: 41

2014: 93

Around 1500 substances found until 2013 (GB)

# Then: rising number of first-time users

## Crystal Meth Konsumenten in Deutschland



681  
2006

364  
2009

622  
2010

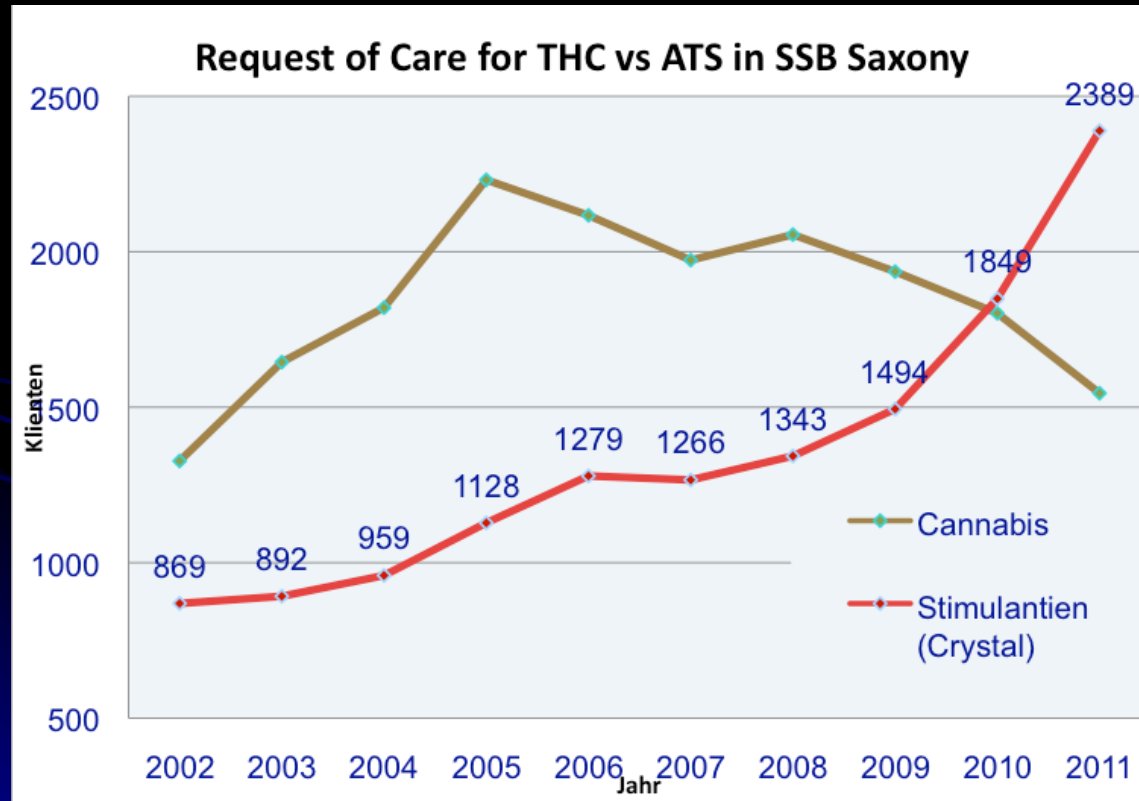
1693  
2011

2556  
2012

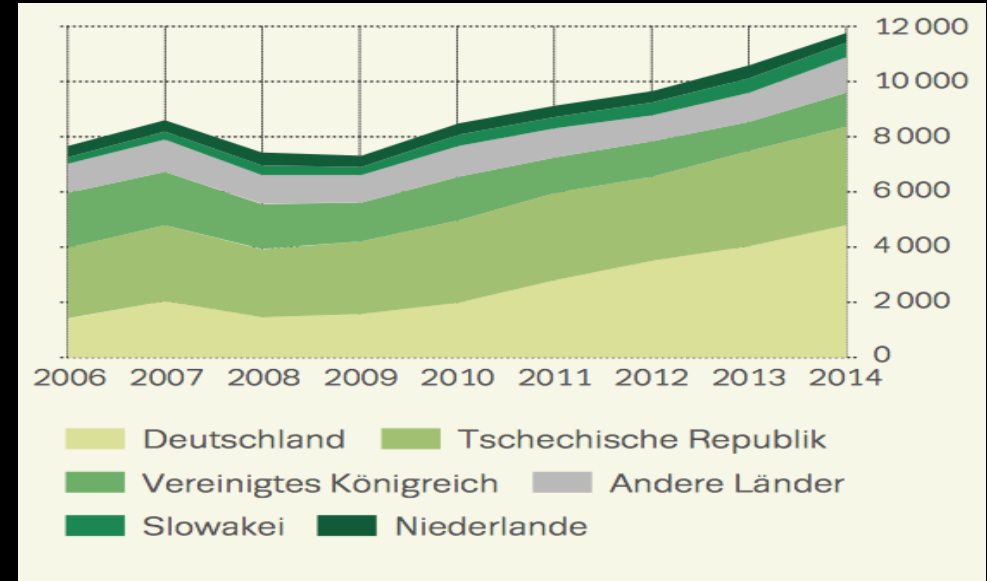
Crystal-Meth, C,



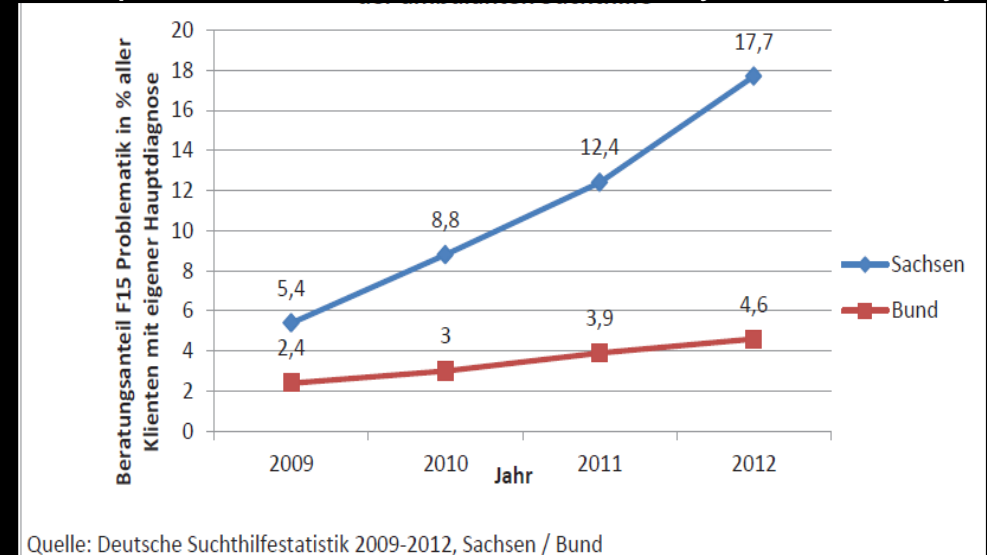
# Then: rising need for care



First time in treatment (EU vs Germany)



Request of ATS-rel. Care in Saxony vs Germany



Quelle: Deutsche Suchthilfestatistik 2009-2012, Sachsen / Bund

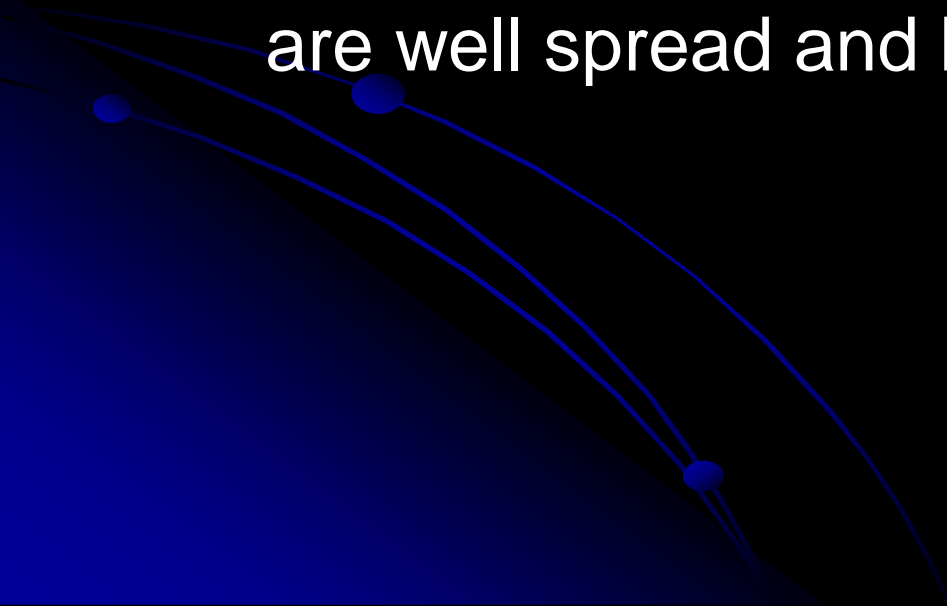


# Then: rise in therapeutic solutions?

- NPS wide-spread in EU big cities club-scene: mephedrone and other NPS /partydrugs
- But: NPS-/Party-users/MSM don't feel attracted by addiction-clinics or drop-in-shops: image-problem!
- Solution: installation of a special **Club Drug Clinic** and low-threshold infectious-diseases-clinic **Dean Street** (singular in EU)



# Best practice – what's effective?

- NPS: little evidence and only few ideas what to do
  - Prevention: skill and coping-strategy training good for all substances
  - Strategies for alcohol in clubs seems to work for NPS as well
  - Internet-based information (where most NPS-supply comes from) are well spread and known
- 

# Different approaches in Germany

- Regional concepts work better, but need much time to spread across national/EU areas
- Clients are treated in existing units and clinics: poor uptake as it doesn't obviously meet their needs
- Slowly emerging specialized units: Mühlhausen, Göttingen, Hamburg, Munich – but still no 'Club Drug Clinic'
- Infos about Meth/NPS through NGOs online and on partys/raves well spread – but are they effective?

# Therapeutic Setting I: don't expect miracles

Only a blink from recreation to compulsion,  
but a stony path back!

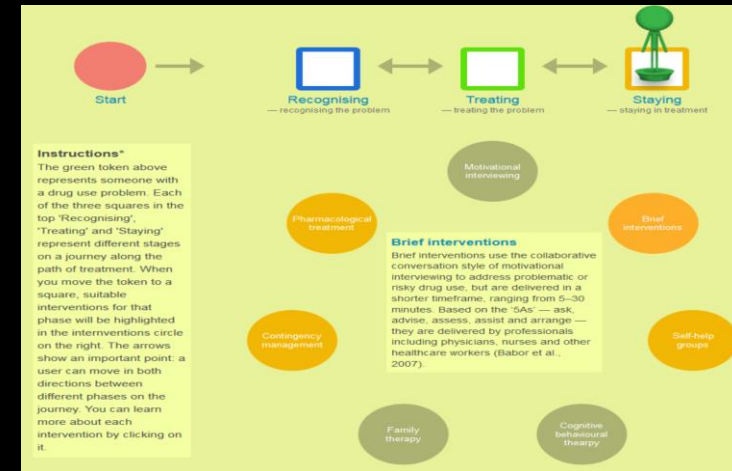
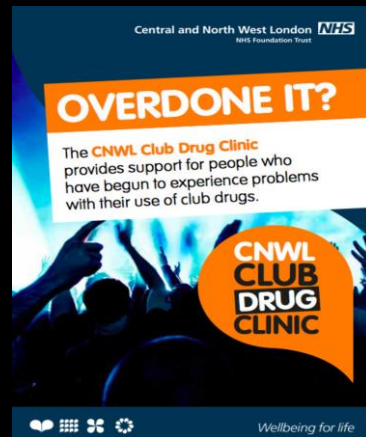
- Therapeutic aims unclear, poor motivation for abstinence
- Harm reduction most important – esp. at the beginning
- Plan small steps rather than big ones
- Huge relapse rates
- Difficult financing with gaps in the therapeutic pathway
- Clients chaotic, lack of orientation: hard challenges for a team
- Beware of (fluctuating) comorbid disorders

# Therapeutic Setting II

- Long-term appointments are not remembered
- Psychotic and anxious patients, need calm, relaxed, protective atmosphere
- Positive effects of use are discussed everywhere: hard to argue against
- Real functioning often far beyond self-perception
- Take sleep-disorders and weight-gain serious!
- Easy day structure and clear, simple and repeated speech
- Information-processing reduced, difficulties to cope with rules

# Club Drug Clinic

- ✓ Mixed offer with modern image
- ✓ 'Classic' detox and therapy, incl. CBT, MI and groups
- ✓ Low threshold offers: Health-check, counseling and referral, DrID (HIV/HCV) Screening. Case-manager
- ✓ MSM/LGBT-offers and peer-support
- ✓ Actual (!), easy-to-find website: image as a partner, friendly, modern, non-lecturing or -insisting, everything is voluntary!





# Neptune

(novel psychoactive treatment UK network)

Published 2015 by Club Drug Clinic in London

Based on all (but limited) available evidence

Consensus of an expert team

Addressing clinicians and clients

Handrails – not guidelines

[www.NEPTUNE-clinical-guidance.com](http://www.NEPTUNE-clinical-guidance.com)

Novel Psychoactive Treatment UK Network  
**NEPTUNE**

**Guidance on the Clinical  
Management of Acute  
and Chronic Harms of  
Club Drugs and Novel  
Psychoactive Substances**

 **The  
Health  
Foundation**  
Inspiring  
Improvement

# Conclusions and implications

- Market for NPS has never been so complex and widely spread
- Internet and postal delivery, commission dealing. Rarely classic dealers.
- Risky consumption patterns:
  - younger age (peak end-20), early iv, ultra-addictive use
  - no worries about substance, overdose and legal aspects
- Rising prescription-drug-abuse
- NPS require improved forensic capacity
- New therapeutic approaches develop too slow!
- New approaches outside classic clinics might work good (CDC)

**Better awareness for a fast-rising problem is needed now!**





# CONCEPT

center for addiction medicine



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