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Substance use and offending:
Understanding the relationship and treatment approaches

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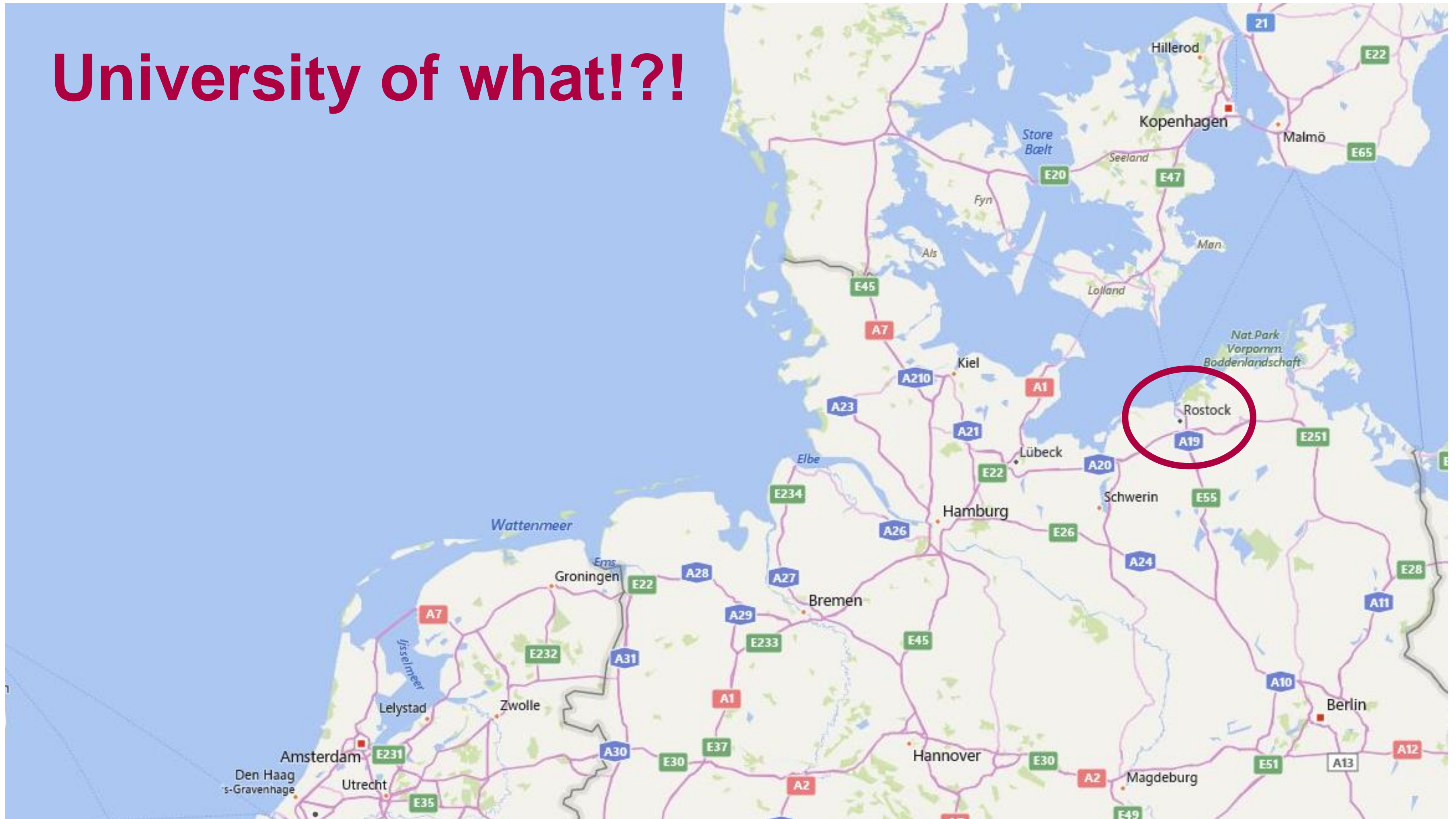
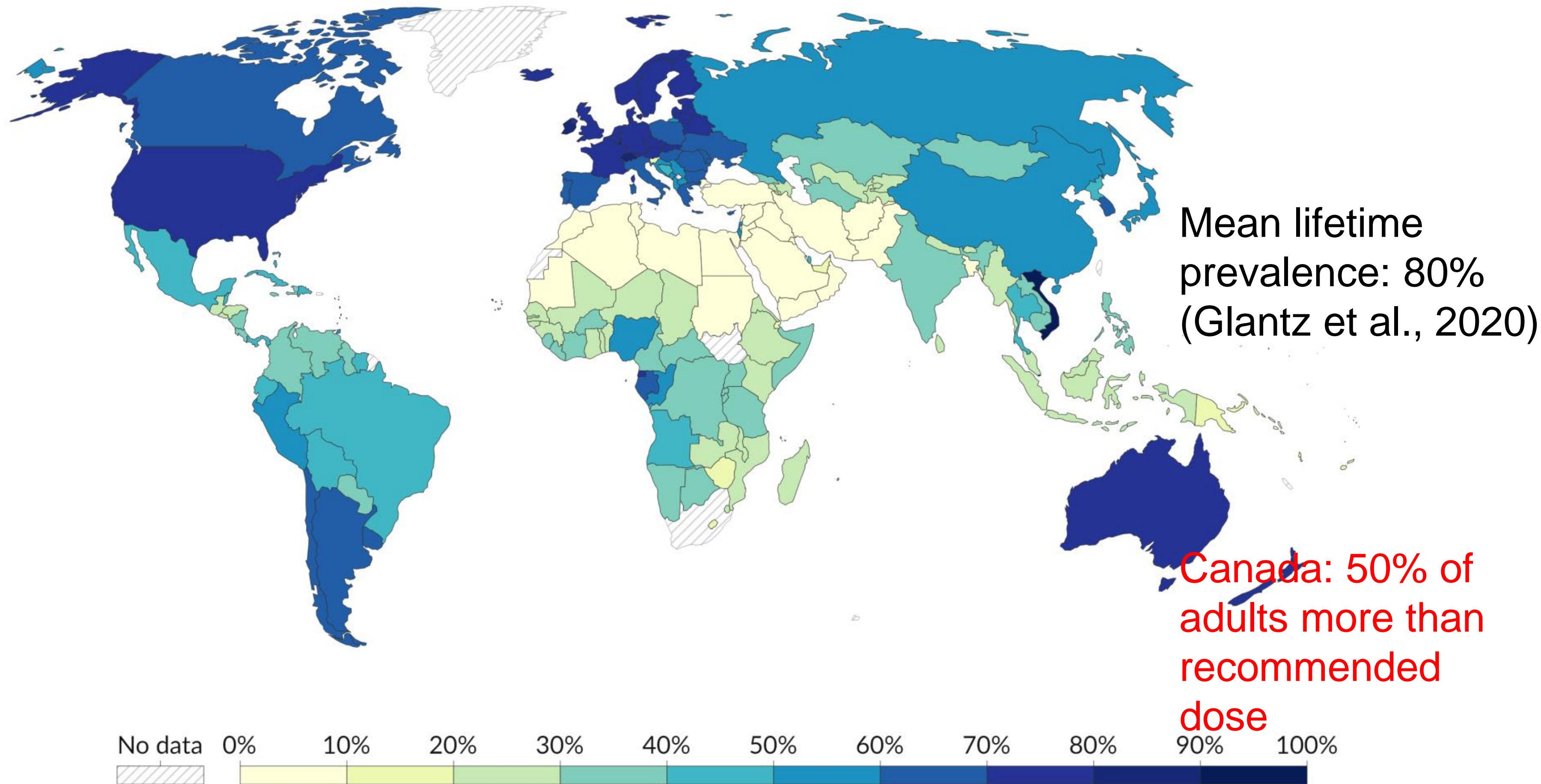
University of what!?!



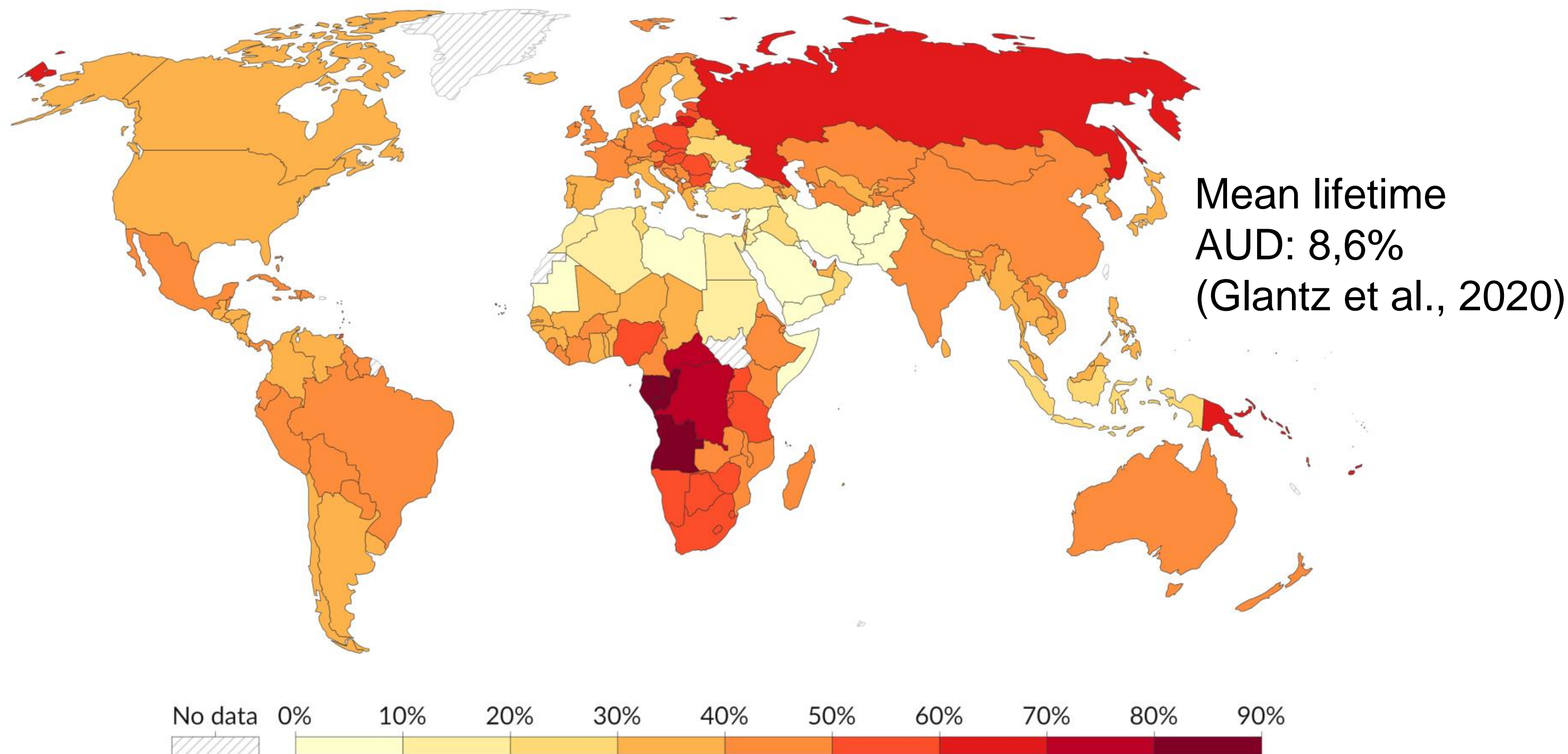
Outline

- Prevalence of substance use
- Associated problems
- Diagnoses of substance use disorders
- Substance use and offending
- Detour „Spice“
- Basics of the treatment of substance use disorders
- Mandated treatment of substance use disorders
- Example Germany
  - Legal concepts
  - Population of detained offenders under §64 StGB
  - Treatment
  - Challenges
  - Outcomes
- Discussion



Mean lifetime prevalence: 80% (Glantz et al., 2020)

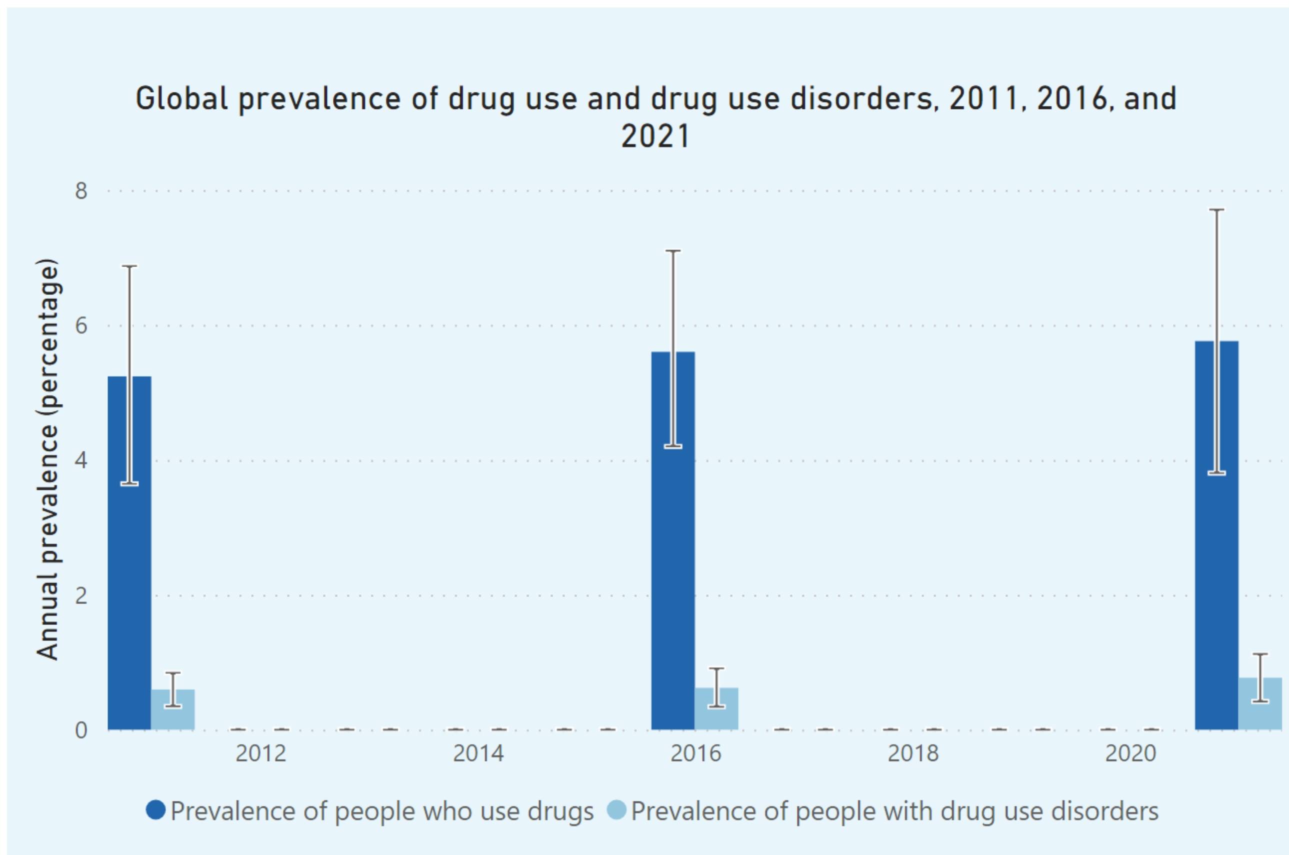
Canada: 50% of adults more than recommended dose



Mean lifetime AUD: 8,6% (Glantz et al., 2020)

Prevalence of (other) substance use

UN World Drug Report 2023

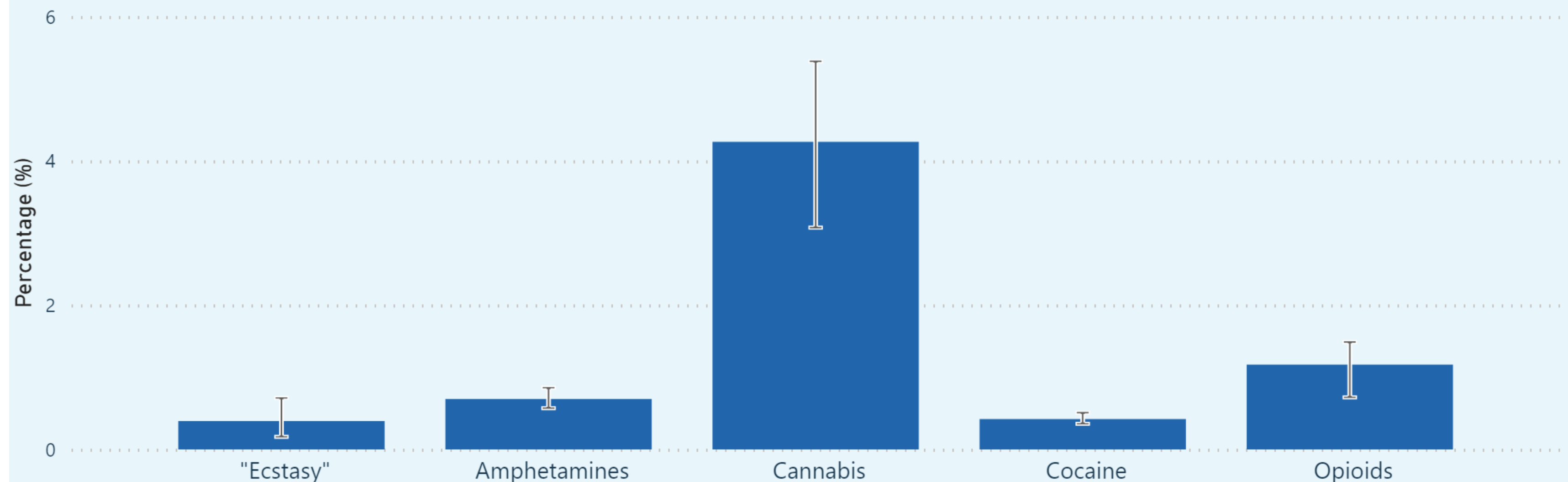


- moderate increase
- huge regional differences

By drug

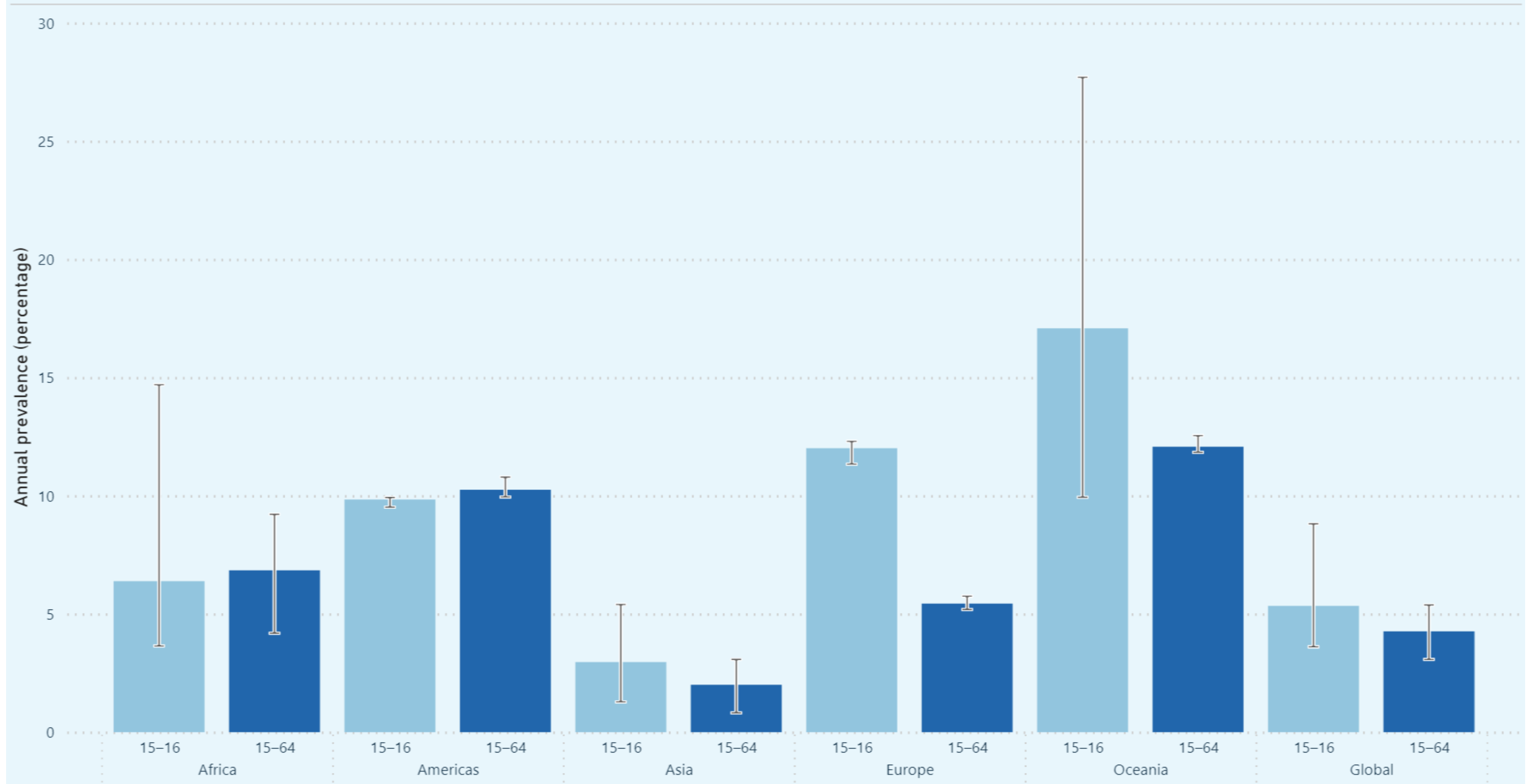
UN World Drug Use Report 2023

- Cannabis by far most consumed and increasing
- Amphetamines also increasing



Cannabis use by region

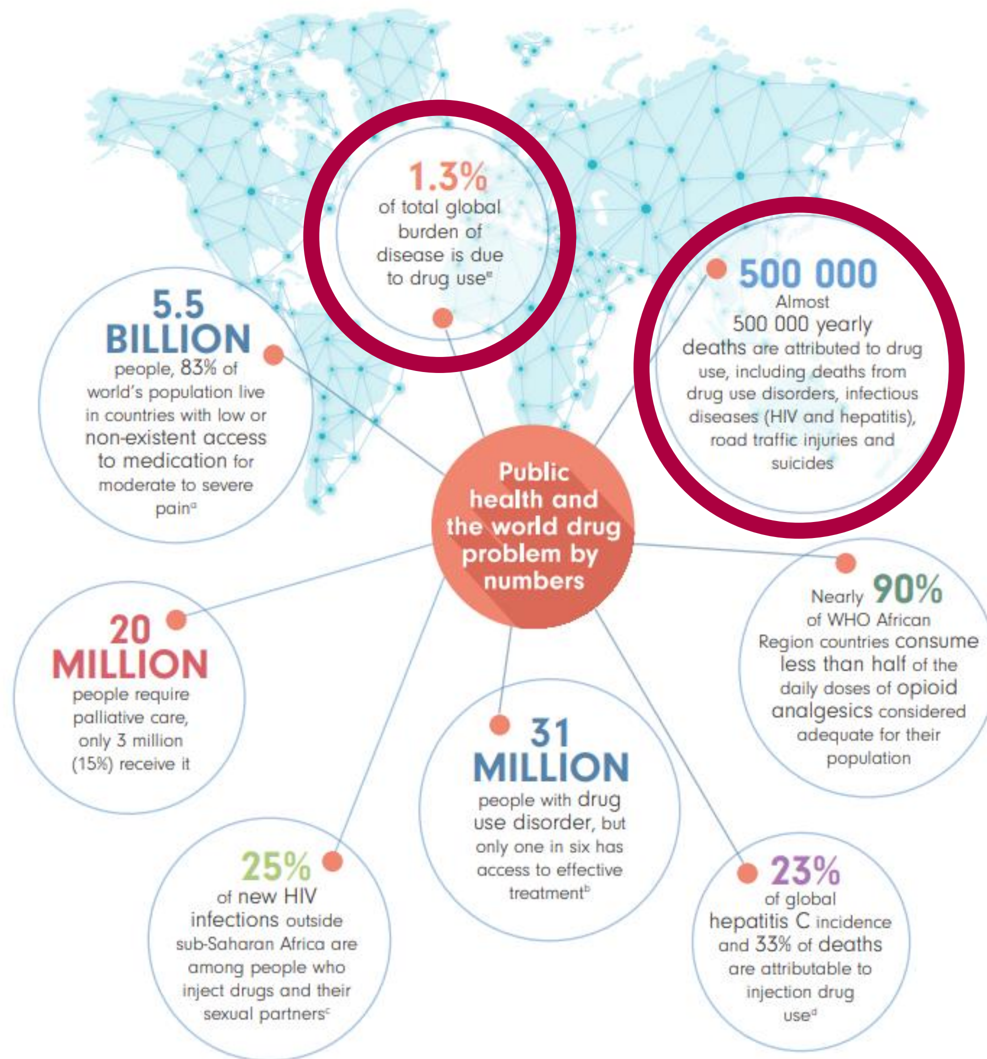
UN World Drug Use Report 2023



Associated problems – Alcohol

- Worldwide, 3 million deaths / year from harmful use of alcohol (18 000 in Canada) - 5.3% of all deaths (13.5% in 20 – 39 yo)
- 5.1% of the global burden of disease and injury
- Causal factor in more than 200 diseases
- Mental health conditions
  - Alcohol-attributable fraction of suicide: 18%
- Harm to others
  - FAS
  - Accidents (20% of RTA deaths)
- Economic costs (1% of GDP) – Canada: $16.6 billon

Associated problems – Other drugs



- Health impact greatest for opiates

Diagnosis of substance use disorders

- ICD10
  - Mental and behavioural disorders due to
    - F10 Alcohol
    - F11 opioids
    - F12 cannabis
    - F13 sedatives, hypnotics, anxiolytics
    - F14 cocaine
    - F15 other stimulants, including caffeine
    - F16 hallucinogens
    - F17 nicotine
    - F18 volatile solvents
    - F19 other psychoactive substances and multiple drug use

Diagnosis of substance use disorders

- Specifiers
  - Acute intoxication .0
  - Harmful use .1
  - Dependence syndrome .2
  - …
  - Psychotic disorder .5
- E. g. F10.2 Dependence syndrome
  F10.20 currently abstinent

Harmful use

- Pattern of psychoactive substance use that is causing damage to health
  - physical (e.g. hepatitis) or
  - mental (e.g. episodes of depressive disorder)
- Actual damage
- Harmful patterns criticized by others and associated with adverse social consequences
- The fact that a pattern of use or a particular substance is disapproved of … or may have led to socially negative consequences such as arrest … is not in itself evidence of harmful use

Dependence syndrome

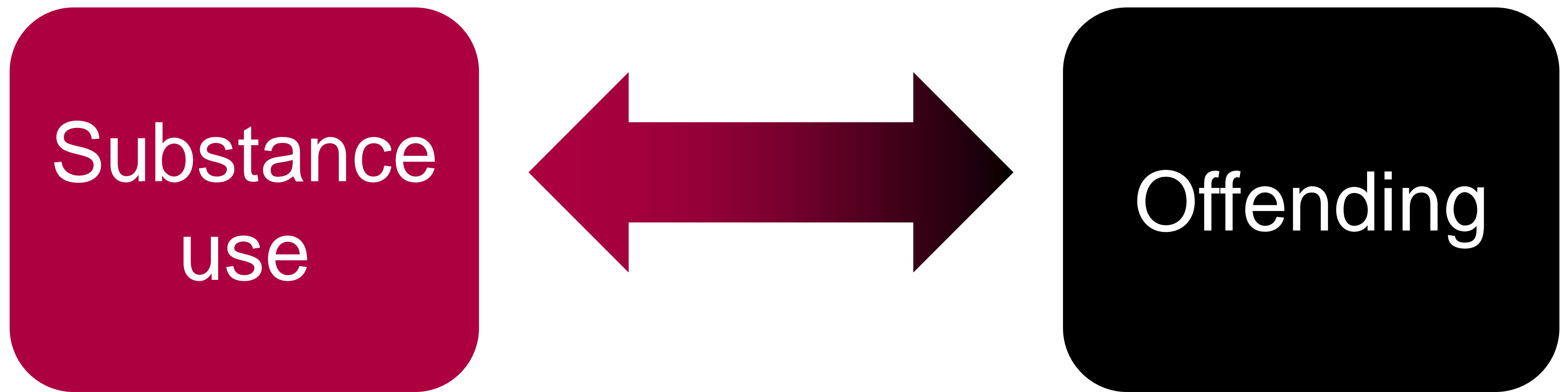
- 3 or more in past 12 months
  - Strong desire or sense of compulsion
  - Difficulties controlling substance-taking (onset, termination, levels of use
  - Physiological withdrawal
  - Tolerance
  - Neglect of alternative pleasures or interests
  - Persisting despite clear evidence of harmful consequences

DSM-5

Criteria Type	Descriptions
Impaired control (criteria 1 to 4)	• Consuming the substance in larger amounts and for a longer amount than intended • Persistent desire to cut down or regulate use • Great deal of time • Craving
Social impairment (criteria 5 to 7)	• Impairs ability to fulfill major obligations • Continued use of the substance despite … significant social or interpersonal problems • Reduction of other activities
Risky use (criteria 8 and 9)	• Recurrent use in unsafe environments • Persistent use despite … physical or psychological problems
Pharmacologic (criteria 10 and 11)	• Tolerance • Withdrawal

Diagnosis **Substance use disorder**		
	Mild	2 - 3 criteria
	Moderate	4 – 5 criteria
	Severe	6 or more criteria

Substance use and offending

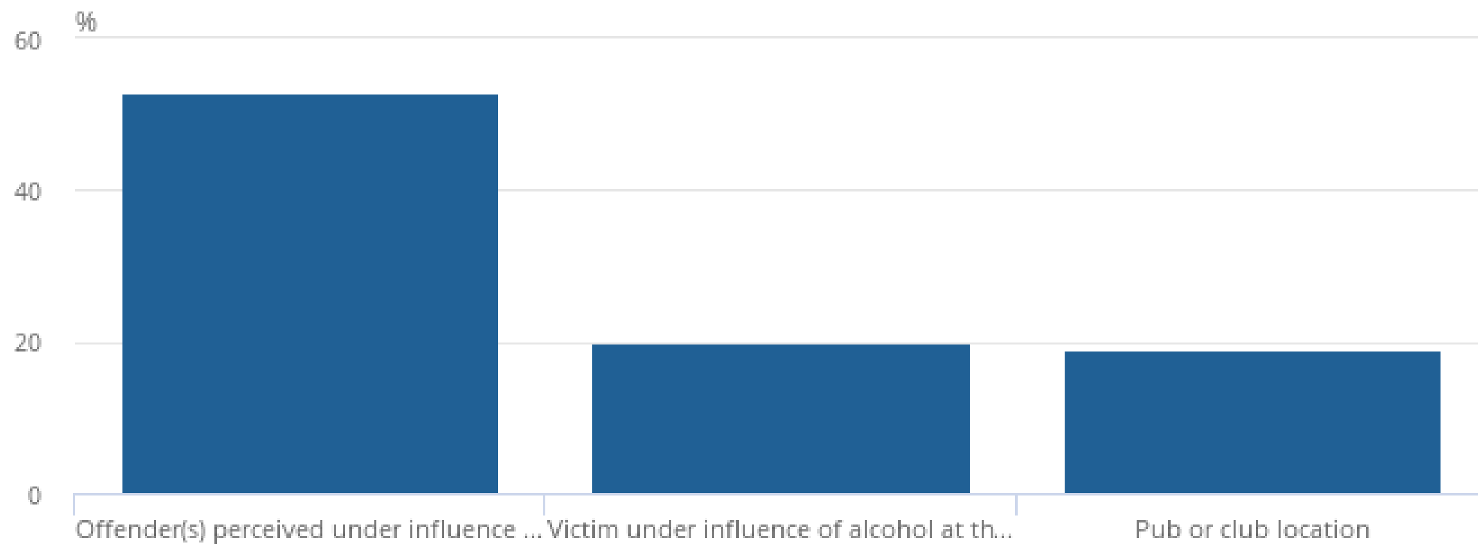


Substance use and offending

- How many (and which) offenses are committed under the influence of …?
- How many of those who offend consume?
- How many prisoners have substance use disorders?
- How many of those who consume offend?
- Substance use as risk factor: What is the odds ratio of offending in those who consume compared to those who don't?

Offences committed under the influence of…

Figure 5.1: Proportion of violent incidents where alcohol was likely to be a factor, by question, 2013/14 CSEW



Source: Office for National Statistics, Crime Survey for England and Wales

Offences committed under the influence of…

- Illicit drugs
  - 26% of arrests drug-related (Drug statistics US)
  - Mainly economic and system-related (85% possession)
  - About 10% of violent crime (of which crack cocaine most significant)

Substance use disorders in prisoners

- Fazel et al. (2017)
  - 24 studies, over 18 000 prisoners, 10 countries
  - 12 month prevalence at reception
  - Alcohol use disorder 24% (16 – 51% in men, 10 – 30% in women)
  - Drug use disorders: 30% in men, 51% in women
  - Increasing
  - Less in LMIC (Baranyi et al., 2021)

SUD and violence

- Register studies (Whiting et al., 2020)
  - OR 7.4 for SUD without psychosis
  - **Drug use disorders** (without alcohol): 16.1 in men, 36.0 in women
  - 18% of those with drug use disorders committed violent crime after 10 years
  - **Alcohol**: 9.0 in men, 19.8 in women
  - 8% committed violent crime after 10 years

Which drugs?

- Differences in drugs (Zhong et al., 2020)
  - Polydrug use: OR 1.3 – 25
  - Hallucinogens: OR 1.4 – 18.3
  - Cannabis: OR 1.3 – 11.5
  - Stimulants: OR 1.9 – 10.8
  - Sedatives: OR 1.1 – 10.5
  - Opioids: OR 0.8 – 9.5

Why?

Psychopharmacological

Economic-compulsive

Systemic

(Goldstein, 1985)

Detour „Spice“

- Synthetic cannabinoids
- Since 2000s
- Initially not legally restricted (“legal high”)
- Agonists on CB1 receptors
- Stronger than natural product
- Can have seriously harmful (unpredictable) effects
- Can be sprayed onto herbs, papers, etc.
- Many varieties
- Difficult to detect

Other „designer drugs“

Express Highs

spice

0 item(s) - 0.00€

Legal Highs Shop | Research Chemicals Shop | Reviews

Herbal Incense

Variety Packs

Resin Herbal Incense

Bath Salts

Party Pills

Kratom

shighs.com

Spice and forensic psychiatry

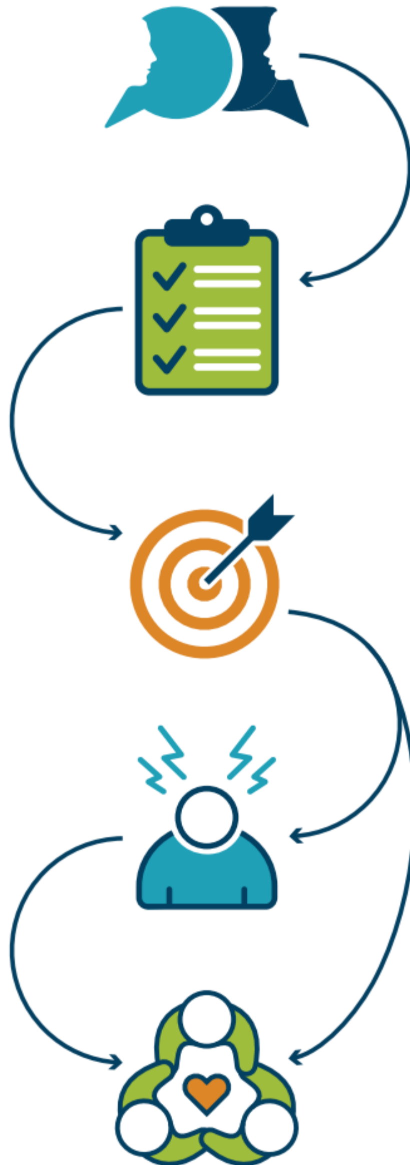
- High prevalence of spice use in prisons (over 50% have used it in UK prisons, 1/3 regularly) – much higher than in the general population
- 12% of patients admitted to secure services in the UK (Public Health England, 2017)
- Symptoms of agitation, aggression, paranoia, psychosis
- Increase in violent incidents and self-harm
- Lucrative market
- *… I'd not go [to my] probation [appointment] and come in and get paid £1000 for coming in, you know what I mean, you get paid £1000 for coming in full of Mamba for 2 week… I'd probably come back if someone offered me £1000, if I needed it, that's a down payment for a house that, you know what I mean?*

(Ralphs et al., 2017)

Spice and forensic psychiatry

- Patients’ experiences (Rogers et al., 2022)
  - Cycle of drug use, mental ill-health and crime
    - Easy access, swap from Cannabis to Spice
    - Not detectable
    - Motivation: boredom, help with psychological symptoms
    - Negative effects: addiction, financial (incl. offending), victimization, paranoia, psychosis
  - Injustices and consequences
    - Effects on prison safety
    - Negative impact upon rehabilitation
  - Shame and stigma
    - Stigmatised, degrading, “spice rats”
    - Regret
    - Need for education and support

Overview of clinical pathway



ASK ABOUT ALCOHOL

"Would it be all right for us to talk about your relationship with alcohol?"

- Asking permission builds trust and comfort

SCREENING AND DIAGNOSIS

"In the past year, how often have you had more than 4 drinks (females) or 5 drinks (males) on any 1 occasion?"

- If 1 occasion or more, ask further screening questions (AUDIT-C*)
- For moderate risk of AUD: Provide brief advice on the health risks and suggestions on how to cut back
- For high risk of AUD: Diagnose using DSM-5-TR criteria

ASSESS THEIR GOALS

If moderate or severe AUD, use brief intervention to discuss goals and a tailored plan:

- Stop drinking
- Cut back on drinking
- Reduce harms of drinking

WITHDRAWAL MANAGEMENT

Use PAWSS* and withdrawal history to determine if low or high risk of severe complications (e.g., delirium tremens, seizures):

- Low risk: outpatient; Rx gabapentin, clonidine
- High risk: inpatient; Rx short course of benzodiazepines

LONG-TERM TREATMENT

- Medications: (1st line) Rx naltrexone or acamprosate; avoid SSRIs,* antipsychotics and long-term benzodiazepines
- Psychosocial treatments: Cognitive behavioural therapy, family-based therapy
- Community supports: Supportive recovery programs, peer groups, etc.

**AUDIT-C = Alcohol Use Disorder Identification Test–Consumption*
PAWSS = Prediction of Alcohol Withdrawal Severity Scale

Basics treatment of alcohol use disorders

- Brief intervention (motivational interviewing)
- Goals: Total and immediate abstinence is not the only option (harm reduction!)
- Withdrawal management
  - In- or out-patient?
  - Medication support (benzodiazepines 5 – 7 days)
  - Usually symptom triggered
- Psychosocial interventions: CBT, family-based therapy
- Medication (6 months)
  - Naltrexone – for those with goal abstinence or harm reduction
  - Acamprosate – goal abstinence
- Peer support, self-help groups

Never ever again?!?

Abstinence

- Long thought to be the only way
- Lack of control is symptom of dependence
- Easier to manage
- Best for severe dependence?
- Required by courts

(Henssler et al., 2021)

Controlled drinking

- Most patient do not have goal of abstinence or are able to achieve it
- Those who don’t might be excluded from services
- Shared decision making
- Harm reduction
- Several studies showing it works
- Could be bridge to abstinence

Basics treatment of substance use disorders

- Elements are the same as in alcohol use disorders
- Little evidence for pharmacological strategies in withdrawal or supporting abstinence
- Cannabis: No evidence (Review by Condo et al., 2020)
- Amphetamines
  - Stimulant agonists (dexamphetamine and methylphenidate), naltrexone and topiramate (Review by Siefried et al., 2020)
- Cocaine
  - Bupropion, psychostimulants, and topiramate may improve abstinence, and antipsychotics may improve retention (Review by Chan et al., 2019)
  - Contingency management (Review by Bentzley at al., 2021)

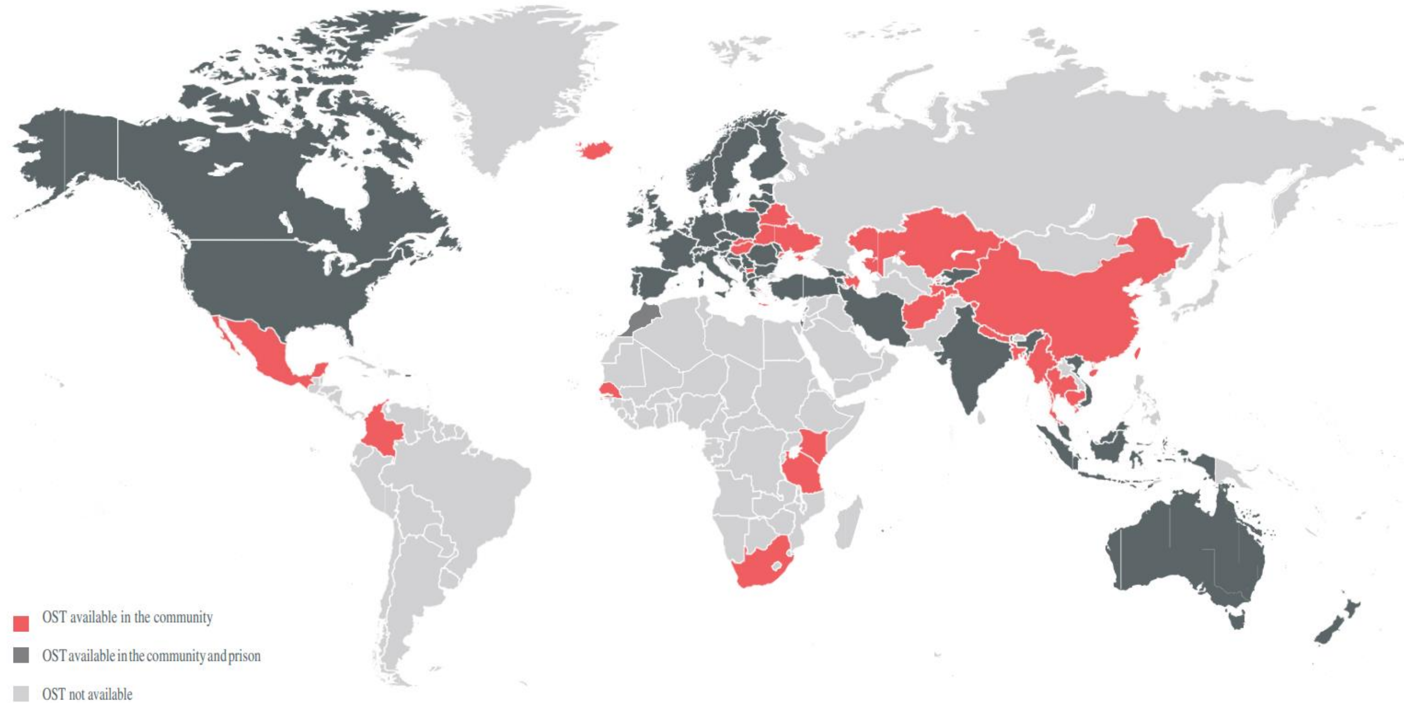
Opioid agonist treatment (OAT)

- Reduces all cause mortality by half (Review by Santo et al., 2021)
- Reduces specific causes of death (hepatitis, cancer, drug related, alcohol related, cardiovascular, suicide)
- Regardless of type of agonist

- Reduction in offending (e.g. Gisev at al., 2019)

- Choice of substances
  - Methadone
  - Buprenorphine – also as injection

OAT availability



igure 1. Global access to OAT

The Wenner case

From 1991 to 2008, Wolfgang Adam Wenner, a male German national living in Bavaria, received methadone treatment for opioid dependence. In 2008, he resumed illicit heroin use and committed a drug-trafficking offence for which he was sentenced to 6 years in prison. Once in prison he requested that his OST continues; the Bavarian judicial authorities and courts refused and ordered abstinence-based treatment. Mr Wenner continued to demand methadone, while consuming a number of psychoactive substances available on the prison's illicit drug market. Because his request was not granted, he demanded that his health status and treatment be assessed by external specialists. This was also rejected. Mr Wenner resumed his methadone treatment when he was released from prison at the end of 2014. He lodged an appeal arguing that the two refusals infringed Article 3 of the European Convention on Human Rights. In its judgment of 1 September 2016, the European Court of Human Rights ruled that the refusal by the prison administration to provide an indicated OST during the prison sentence violated Article 3 of the Convention and the prison should have consulted independent experts (*Wenner* v. *Germany*, 2016; Junod et al., 2018).

Mandatory treatment

Coerced substance use treatment can constitute an alternative to punishment and a means to minimise drug-related harms and the likelihood of future offending.

→ The treatment must be humane.

→ The treatment must be effective.

Mandatory treatment

Mandatory treatment: Any form of drug treatment that is ordered, motivated, or supervised by the criminal justice system (Lunze et al., 2016)

Quasi-compulsory treatment: An individual is given a (possibly constrained) choice of either entering treatment or serving another punishment (Stevens et al., 2009).

Examples at different stages of the criminal justice process

Examples

Pre-arrest	Pre-trial	Pre-sentence	Post-conviction	Pre-release	Post-release
Police diversion	Pre-plea diversion	Recognisance order	Drug court	Transitional therapeutic communities	Treatment stipulated by parole authority
Cannabis cautioning	Post-plea / Post-sentencing reduction		Treatment in prison or secure hospitals / TCs		
			“Voluntary” treatment		

(Bright and Martire, 2012)

Evidence for interventions in the CJ system

- Evidence for interventions is mixed - positive
- Odds of a reduction in criminal behaviour higher with intervention
- Best evidence for
  - Drug courts
  - Opioid agonist treatment
  - Naltrexone
  - Therapeutic communities
  - Psychosocial approaches
  - Probation and parole supervision
- High intensity programmes more likely to be effective

(Holloway et al., 2005, Holloway et al., 2006, Holloway & Bennett, 2016)

(Police) diversion

- Evidence for reduction in drug use and offending for various pre-trial diversion schemes in the US (Belenko et al., 2014)
- Review (Blais et al., 2022)
  - 27 studies
  - *“in general police-based diversion measures are effective in preventing criminal offending and show promising results for improving participants’ health and diminishing social costs as well as costs associated with processing drug-related offenses. There was insufficient evidence to draw conclusions about the effect … on drug use, drug accessibility, or changes in participants’ socioeconomic conditions.”*
  - Barriers:
    - Police: reluctant to engage in “social work”, trivialization of drugs
    - Other stakeholders: do not see police as legitimate brokers, net - widening effect

Drug courts

- Specialised problem solving courts that engage multiple stakeholders in order to help a substance using offender to recovery as an alternative to punishment, since 1980ies
- “Carrots & sticks” approach
- Evidence suggests they works (e.g. review by Logan and Link, 2019) – up to 20% reduction in reoffending at 3 years
- Huge variety of access and models, better
  - Adhering to principles
  - 1:1 plus small groups
  - Medication
  - Longer duration
  - Assisted aftercare

How do drug courts work?

- Three mechanisms (Roman et al., 2020)
  - Deterrence: certainty, severity, and speed of sanctions deters drug use and offending
  - Procedural justice: engagement in a holistic and transparent process that maximizes perceptions of equality, fairness, and justice leads to desistance
  - Increased motivation to internalize SUD treatment promotes desistance
- More involvement with the court did not have a direct effect on crime but via positive attitudes towards the judge
- More sanctions led to higher crime rate at 1 year

Therapeutic communities

- What is a therapeutic community?
  - Long-term residential treatment for SUDs
  - Developed in 1950ies out of self-help movement
  - Initially as alternative to medical treatment, not allowing medication
  - Recovery orientation
  - Emphasis on pro-social attitudes, taking responsibility
  - “Community as method”
  - Today: mostly including professional staff (partly in recovery) and other methods of therapy (CBT, etc.)
  - Adapted forms for CJ settings

Therapeutic communities

Number	Core Standards	Unique ID No
CS1	The whole community meets regularly	1
CS2	All community members work alongside each other on day to day tasks	
CS3	All community members share social time together	
CS4	Members of the community share meals together	
CS5	Community members take a variety of roles and levels of responsibility	
CS6	Informal aspects of everyday living are integral to the work of the community	
CS7	All community members can discuss any aspects of life within the community	
CS8	All community members regularly examine their attitudes and feelings towards each other	8
CS9	All community members share responsibility for each other	9
CS10	All community members create an emotionally safe environment for the work of the community	10
CS11	Community members are involved in the selection of new staff members	11
CS12	All community members participate in the process of a new client member joining the community	12
CS13	Community members are involved in making plans with a client member for when he or she completes the programme	13
CS14	There is an understanding and tolerance of disturbed behaviour and emotional expression	14
CS15	Positive risk taking is seen as an essential part of the process of change	15
CS16	The therapeutic community has a clear set of boundaries, limits or rules which are understood by all members	16

(Royal College of Psychiatrists, 2006)

Evidence Therapeutic communities

- Evidence generally (Review by Malivert et al., 2012)
  - Completion rate 9 – 56%
  - Decrease in substance use during TC but frequent relapse (21 – 100%)
- Evidence prison (Beaudry et al., 2021)
  - Reduction in reoffending (OR 0.64)
  - More effective than CBT-based interventions and psychoeduction

Characteristics of effective interventions

Individual-level factors	Programme-level factors
• Greater motivation • Treatment readiness • Higher levels of religion and faith • Lower baseline stress levels	• Longer than 90 days • General principles of CJ interventions • Staff have accreditation and training • Incorporation of motivation and reinforcement techniques • Build skills • Compliance measures to enforce requirements • Continuum of care across the criminal justice system

Ineffective

- Boot camps
- Sole focus on surveillance and control

(Bright and Martire, 2013)

BUT… Ethical and scientific concerns

- Compulsory treatment without choice infringes human rights and is unlikely to be successful (Lunze et al., 2016)
- Many countries have expanded compulsory treatment (e. g. Russia, China, other Asian and South-American countries) and combined it with forced labor, re-education, etc.
- Systematic review of compulsory treatment (Werb et al. (2019)
  - 3 studies no significant impact
  - 2 studies showed ‚equivocal' results
  - 2 studies positive outcomes on recidivism and drug use
  - 2 studies negative impacts on recidivism

Forensic psychiatry in Germany

Generally needs reduced or absent criminal responsibility for admission (§63 criminal code), length of detention potentially indefinite

Exception: Mandatory treatment for offenders whose offences are considered to be related to substance use (alcohol, illicit drugs, etc.), (§64 criminal code), length of detention linked to parallel prison sentence

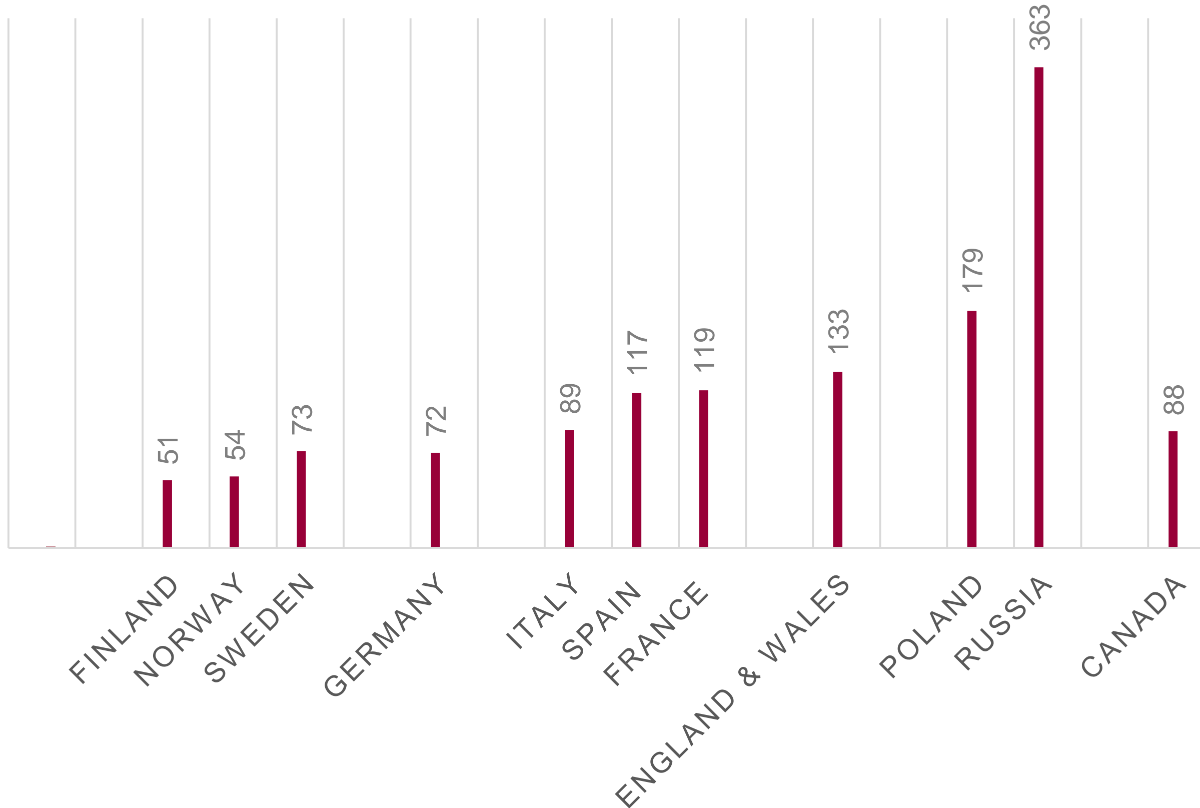
§ 64 StGB: Mandatory placement in a rehabilitation centre

If a person has a tendency to consume alcoholic beverages or other intoxicating substances in excess and they are convicted of an unlawful act that is **largely due to their tendency** or … the court should order their placement in a rehabilitation centre if there is a **risk** that they will **commit serious illegal acts** as a result of their inclination.

The tendency requires a **substance use disorder**, as a result of which a permanent and **serious impairment** of life, health, work or performance has occurred and continues.

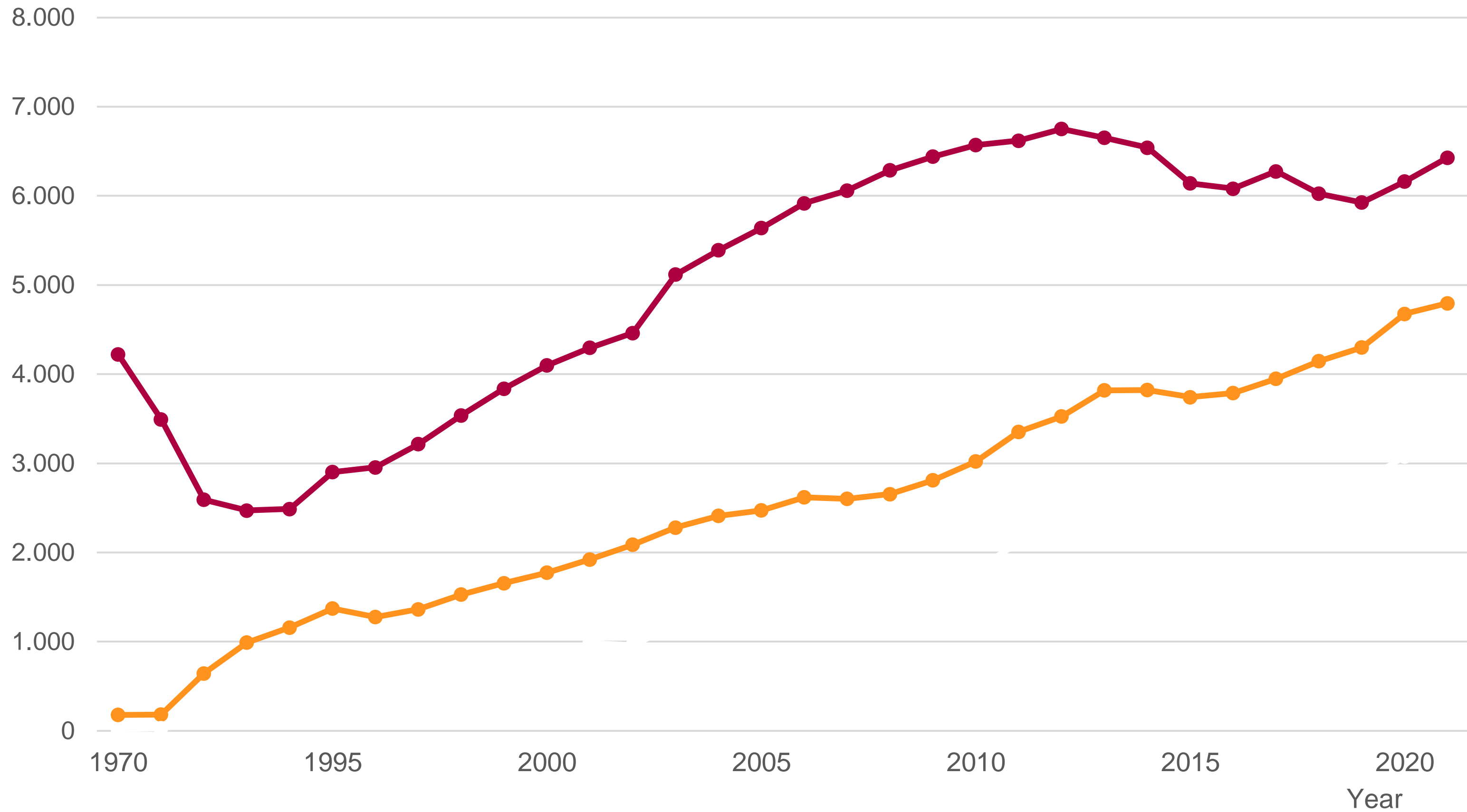
The order is only issued if, **based on actual evidence**, it can be expected that the person **will be cured** through treatment in a rehabilitation centre within the period specified … (2 years) or that the person will be prevented from relapsing for a considerable period of time and from committing serious illegal acts that are due to their inclination.

A few numbers



- 59 585 prisoners
- 6429 §63
- 4786 §64

Change over time



Recent change in law

If a person has a tendency to consume alcoholic beverages or other intoxicating substances in excess and they are convicted of an unlawful act that is **largely due to their tendency** or … the court should order their placement in a rehabilitation centre if there is a **risk** that they will **commit serious illegal acts** as a result of their inclination.

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Key features

- Patients with substance use related offending can – under certain circumstances – be ordered into a forensic mental health hospital
- This does not necessarily require the person's consent (but it is very unlikely that a court will order treatment without it)
- Usually parallel prison sentence
- Length of treatment usually 2 years (+ 2/3 of prison sentence)
- Reviewed every 6 months
- Can move back to prison
- Some hospitals specialise in treating offenders detained under § 64 StGB, others accommodate all types of patients
- There is no distinction of hospitals by security level in Germany, but most hospitals have secure perimeters
- Costs of serving a prison sentence 2/5 of treatment in a forensic hospital (Entorf, 2008)

Patient characteristics

- Sociodemographics
  - 89% male
  - Average age: 35.7 yrs.
  - 41.8% migration background
  - Educational and professional background
    - 26% no school leaving certificate
    - 42.3% secondary school
    - 2/3 no professional training
    - 78% not in work at time of index offence
  - Relationships/Children
    - Mostly single, but 1/3 in relationship
    - About half have children, mostly in contact

(Riedemann and Berthold, 2022)

Patient characteristics

- Criminal history
  - Age at 1. offence: 23.7 yrs.
  - Criminal records: 9.5 entries
  - Imprisonment (months): 38
  - Parallel sentence: 50.3
  - Index offences
    - 1/3 drug convictions
    - Violence
      - 7% (attempted) homicide
      - 13% bodiliy harm
      - 21.7% other violence (mainly robbery)
      - 3.3% sexual offences
  - Criminal responsibility
    - 69.2% fully, remainder mostly partly

(Riedemann and Berthold, 2022)

Patient characteristics

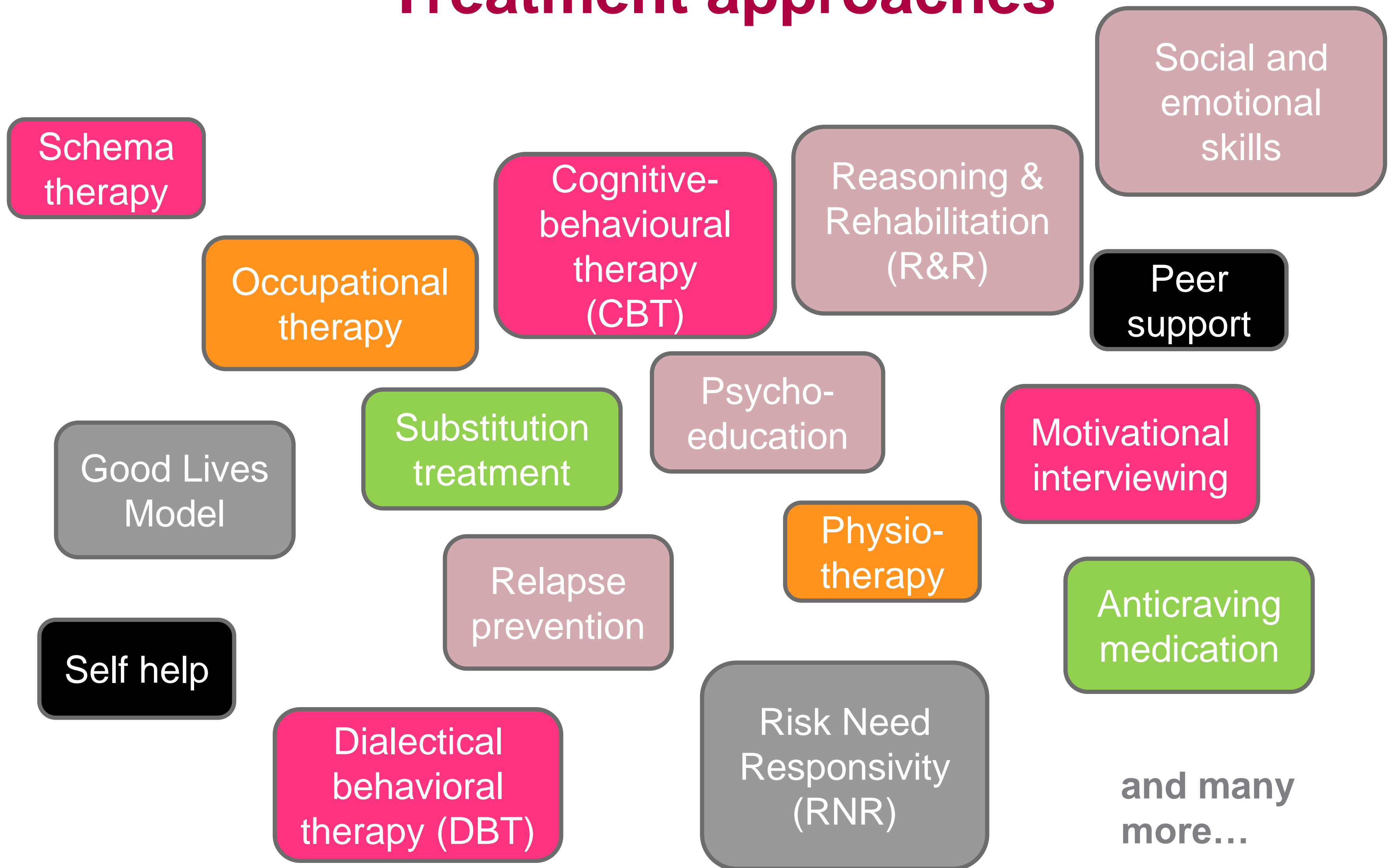
- Psychiatric history
  - Substance use diagnoses
    - 17% alcohol
    - 13.2% Cannabis
    - under 10% opioides
    - over 1/3 multiple substances
  - 8.5% Opioid agonist treatment
  - About 1/3 comorbid conditions (mainly PD)
  - Previous treatment
    - 13.2% forensic treatment
    - 25% psychiatric in-patient
    - Over 50% treatment for SUD

(Riedemann and Berthold, 2022)

Treatment approach

- No unified treatment approach - general guidelines for specific disorders are applied
- Admission phase with detoxification, diagnoses, risk assessment, case formulation
- Treatment phase targeting substance use and criminogenic needs
- Leave important element of treatment
- Rehabilitation phase prior to discharge
- Often some elements of milieu therapy
- Mandatory aftercare

Treatment approaches



Aftercare

- Mandatory follow up, usually 5 years
- Certain conditions
  - Stay at particular place
  - Not to drink alcohol or consume drugs
  - Drug testing
  - Do not go to certain places / people
  - Not to do certain types of work, possession of…
  - Electronic monitoring
- Can be readmitted for crisis intervention – 3 months

Challenges

- Ethical issues
  - Is it mandatory / quasi compulsory?
  - Construct still based on punishment
  - How to make sure that the right patients receive the treatment / remain in treatment?
- How to predict positive outcome?
- Dilemma: Serious illness but positive prediction
- How to deal with relapse during treatment
  - Part of disorder but judges have limited understanding
  - Desire in some staff to terminate treatment
- Motivation – part of treatment to foster it

Outcomes

- How to measure (and when)
  - Incidents during treatment (substance use, other incidents)
  - Treatment completion
  - Psychosocial functioning after discharge
  - Substance use after discharge
  - Reoffending

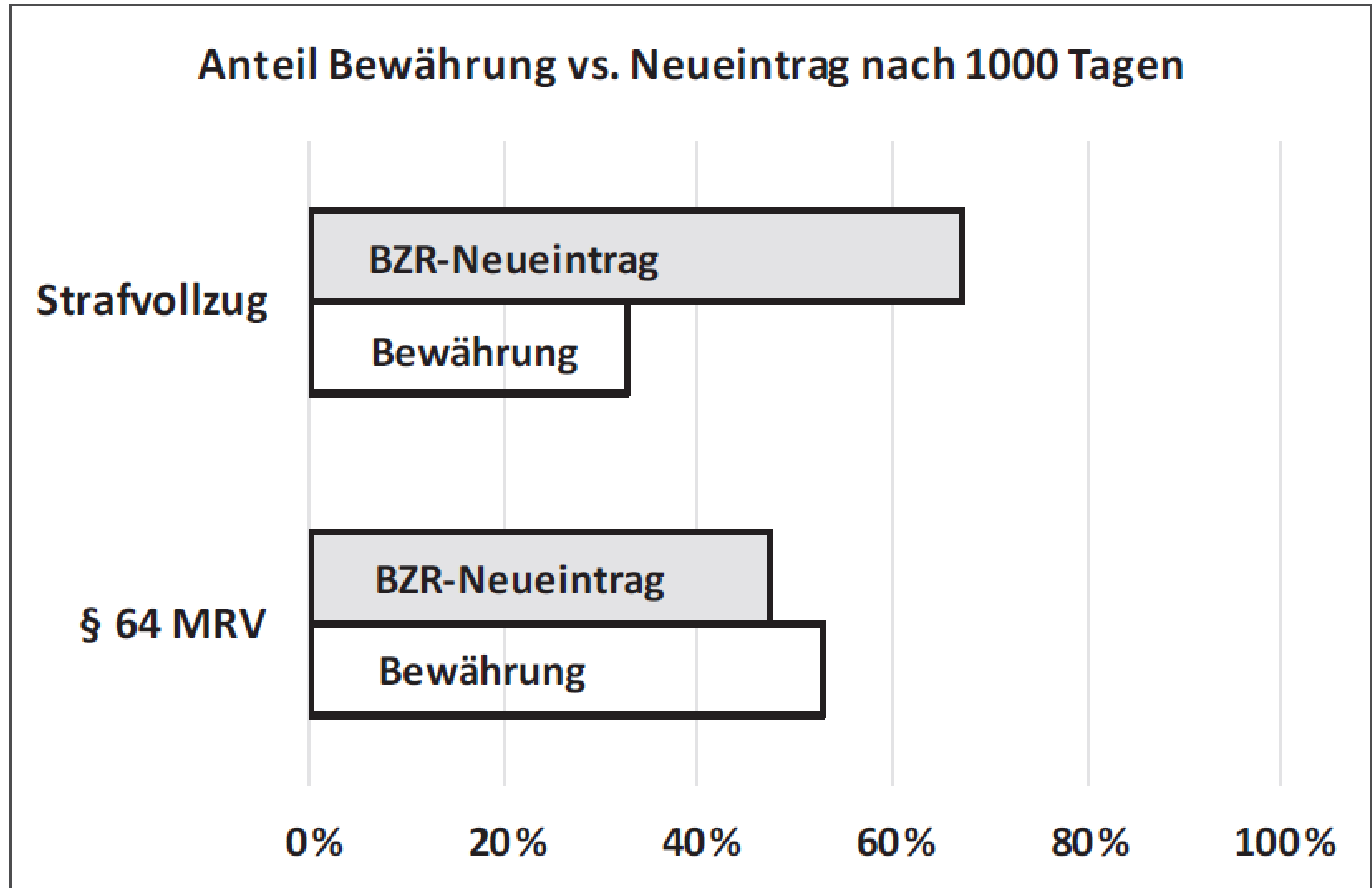
During treatment

- Over half reused during treatment (Mdn = 54.4 %) (Tomlin et al., 2024)
- About half of the patients do not complete treatment
  - Men
  - Migration background
  - Educational and vocational attainment
  - Past criminal convictions, serious offending
  - Comorbid personality disorders
  - Use of substances other than alcohol
  - Incidents during admission
  - Therapy motivation, therapy engagement
- Also: institutions, courts
- Ambivalent and non-completing difficult to differentiate

Substance use after discharge

- Average rate of substance use after discharge is 61 % (Tomlin et al. 2023)
- Highest risk in the first weeks
- Not all substance use results in downward cycle and offending

Offending after discharge



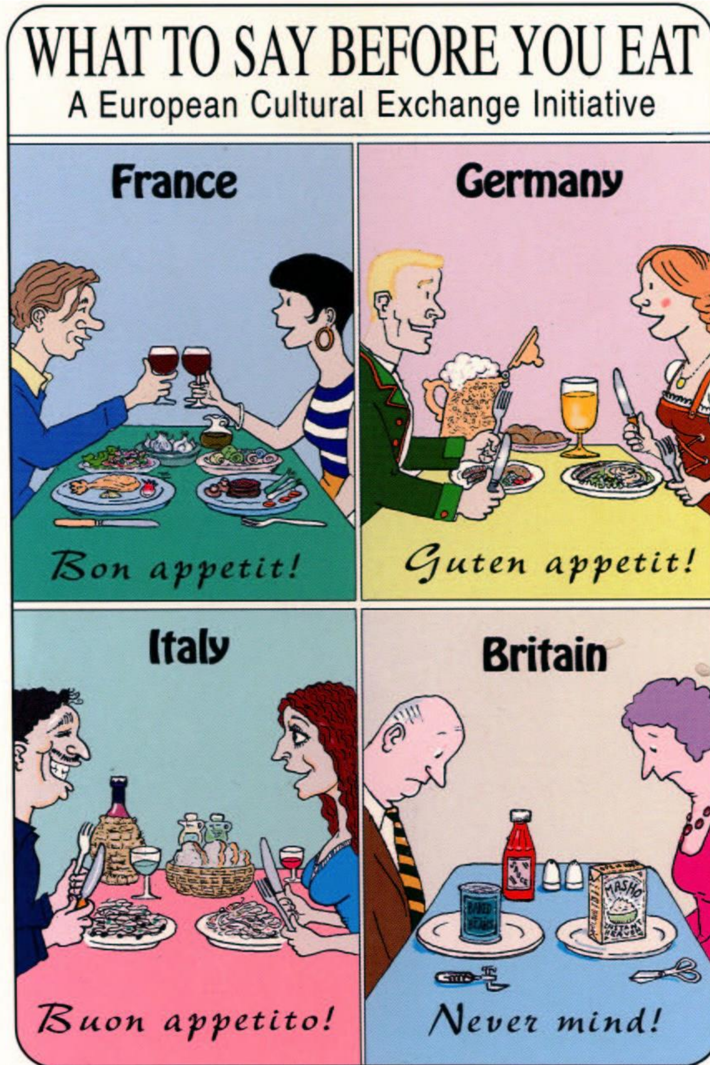
Discussion I

- Prevalence of substance use it high and (for some drugs) increasing
- Associated problems: physical health, mental health, offending
- Treatment is available but sustained abstinence is rarely achieved
- Patients with substance use disorder are not popular
- How to select the “right patients” for treatment
- Mandated treatment can work but raises a lot of ethical and practical challenges
- How to achieve a therapeutic environment in a non-voluntary setting?
- Treatment needs to be based on human rights principles and be effective

Discussion II

- Example Germany
  - Quasi-compulsory treatment
  - Very restrictive – including long aftercare
  - Partly based on punitive concepts
  - Wide variety of approaches
  - Motivation is very important (and the responsibility not only of the patient)
  - Many patients do not successfully complete treatment (wide range)
  - Substance use during and after treatment is common
  - Evidence-base is mixed
  - Heterogeneity of research methods and construct operationalisation
  - Likelihood of reoffending/being reconvicted lower compared to prisoner of similar background (but still high)

Thank you for your attention



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