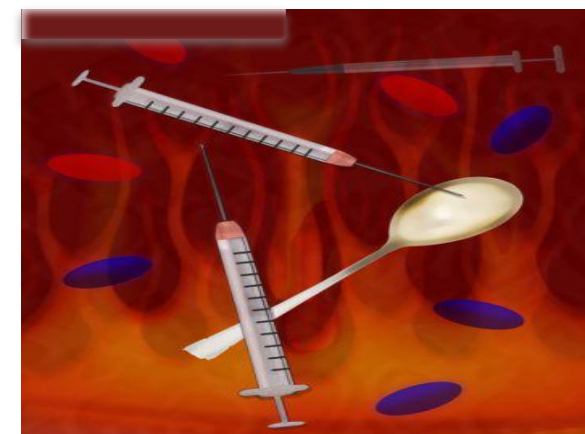


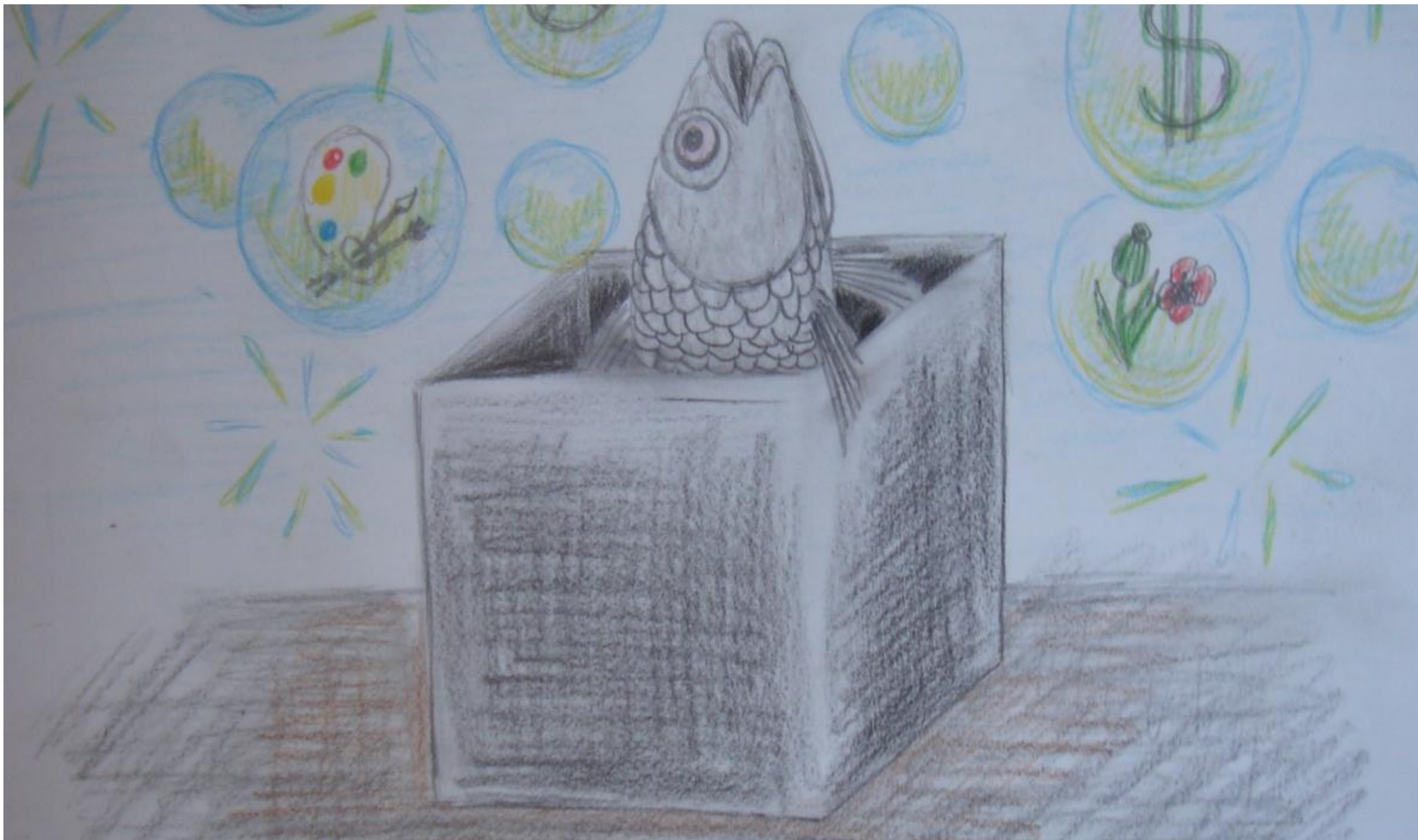
Features of consumption
of dezomorphine
("crocodile") and other
self-made "pharmacy
drugs".



Особенности потребления дезоморфина ("крокодил") и
других кустарных "аптечных наркотиков"

Tamar Sirbiladze, Bemoni Public Union, Georgia





Illustrations for this presentation are kindly provided by the rehabilitation center for drug addicts within the Center for Mental Health and Prevention of Addiction of Georgia

“Pharmacy Drugs”

Psychotropic Substances

(sedatives/hypnotics/tranquilizers)

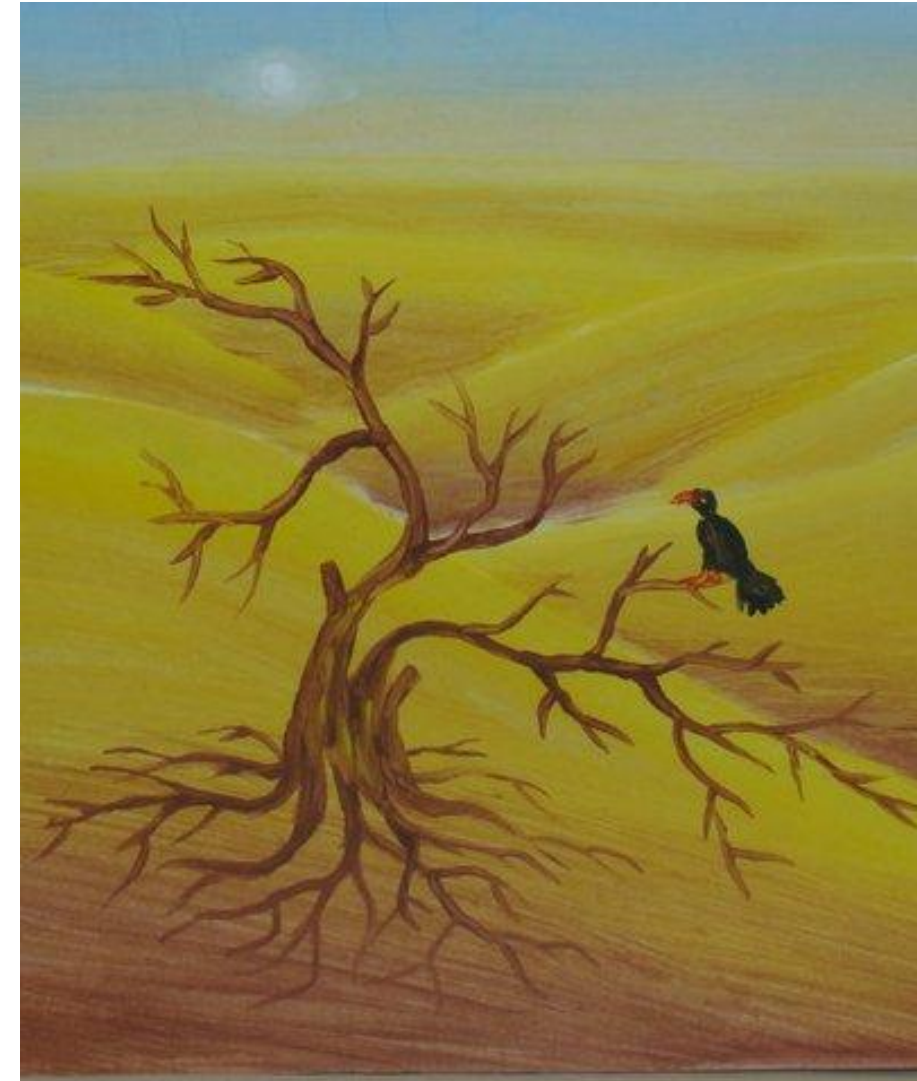
Homemade opioids

(Dezomorphine, “Crocodile”)

Self-made amphetamine-type stimulants

Precursor	Psychostimulant
Ephedrine	metamphetamine, alpha-iod-pervitine (“vint”) methcathinone (ephedrone, “jeff”)
Pseudoephedrine	Pseudomethcathinone (pseudoephedrone)
Norephedrine	Cathinone (norephedrone)

Over-the-counter
pharmacy products



Desomorphine (“Crocodile”)

Desomorphine (dihydrodesoxymorphine, former brand name Permonid, street name “krokodil”)

Derivative of codeine with powerful, fast-acting opioid effects, such as sedation and analgesia

Has a fast onset and a short duration of action, with relatively little nausea or respiratory depression compared to equivalent doses of morphine



Desomorphine (“Crocodile”)

Dose-by-dose it is eight to ten times more potent than morphine

Production: codeine, iodine, gasoline, paint thinner, hydrochloric acid, lighter fluid and red phosphorus

Illicitly produced desomorphine typically contains large amounts of toxic substances as a result of being "cooked" and used without any significant effort to remove the byproducts and leftovers from synthesis.

The street name is "**krokodil**" (crocodile) due to the appearance of skin of its users – the drug produces severe tissue damage including injury to the veins (phlebitis) and gangrene



Geographical diffusion and extent of “Crocodile” use

Jean-Paul C. Grunda,
Alisher Latypov,
Magdalena Harris.
Breaking worse: The emergence of krokodil and excessive injuries among people who inject drugs in Eurasia, 2013

Krokodil production may have first emerged in Siberia and the Russian Far East some ten years back, but in the past three to five years has diffused into both urban centers and remote areas throughout Russia (Akhmedova, 2012; Shuster, 2011; Walker, 2011).

Moscow and 27 other Russian cities (Andrey Rylkov Foundation, 2011)

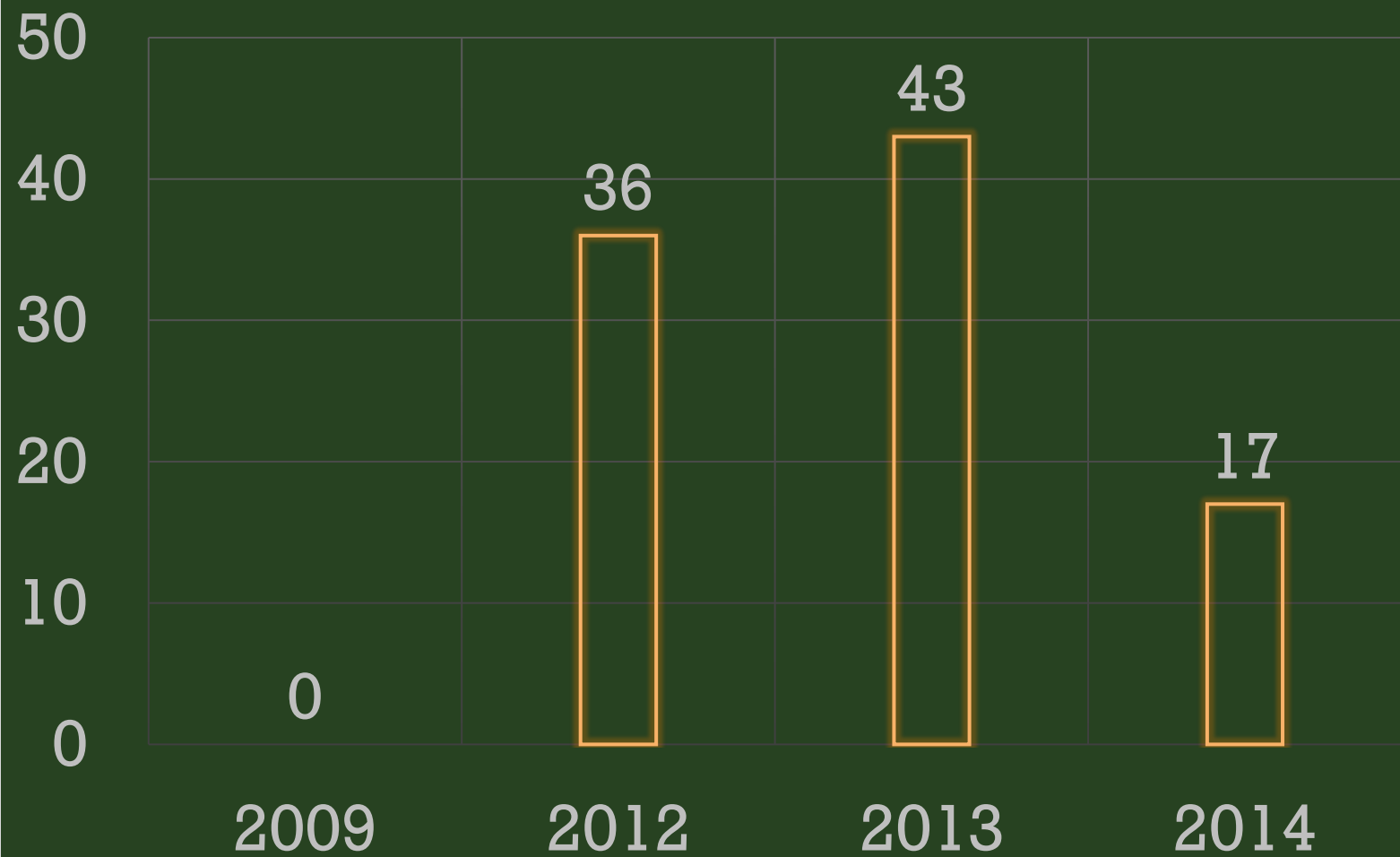
Kiev and 24 other Ukrainian cities (Natalia Dvinskykh); around 20,000 PWID in Ukraine may have used krokodilin 2011 (Balakireva, 2012).

Aktobe city, Kazakhstan, and several Kazakh regions bordering with Russia (Ibragimov & Latypov, 2012; Yusopov et al., 2012).

Outside of the former Soviet region, krokodil has been reported in Germany (Der Spiegel, 2011) and in Tromsø in northern Norway (Lindblad, 2012).

Extent of "Crocodile" use in Georgia

□ Dezomorphine use %



Harms from “Crocodile” injecting: Localized damage

- Thrombosis of the major vessels and erosive bleedings;
- Large open ulcers, phlebitis and gangrene at and around injection sites;
- Skin and soft tissue infections to the bone;
- Limb amputations;
- Large eschars on the limbs and elsewhere on the body, pieces of dead skin that come off in one piece;
- Veins that ulcer and rot away from the inside, requiring surgical removal of the main veins in arms or legs, including the surrounding soft tissue and muscles



Harms from “Crocodile” injecting: Systemic damage

- Pneumonia;
- Blood poisoning;
- Coronary artery burst;
- Meningitis;
- Rotting gums resulting in tooth loss;
- Bone infection, decayed structure of the jaw and other facial bones;
- Sores and ulcers on the forehead and skull;
- Gangrenous wounds on various part of the body;
- Rotting ears, noses and lips;
- Liver and kidney problems;
- Increased risk of overdose
- Death.



Harms from “Crocodile” injecting:

Neurological damage

- Speech impediments
- Motor skills impairments
- Affected memory and concentration
- Personality changes
- Exhaustion and sleep deprivation

Small amounts are highly addictive and tolerance to the drug develops quickly

Heavy withdrawal syndrome



Home-made amphetamine-type stimulants (ATS)

Both methamphetamine and methcathinone are ephedrine-derived stimulants that appear to exert their psychopharmacological effect by a common mechanism that

promotes the release of dopamine in the brain.

Methamphetamine is known in the CEE region under names like pervitin, vint

Methcathinone (ephedrone) is commonly referred to as jeff, Mulka or boltushka.



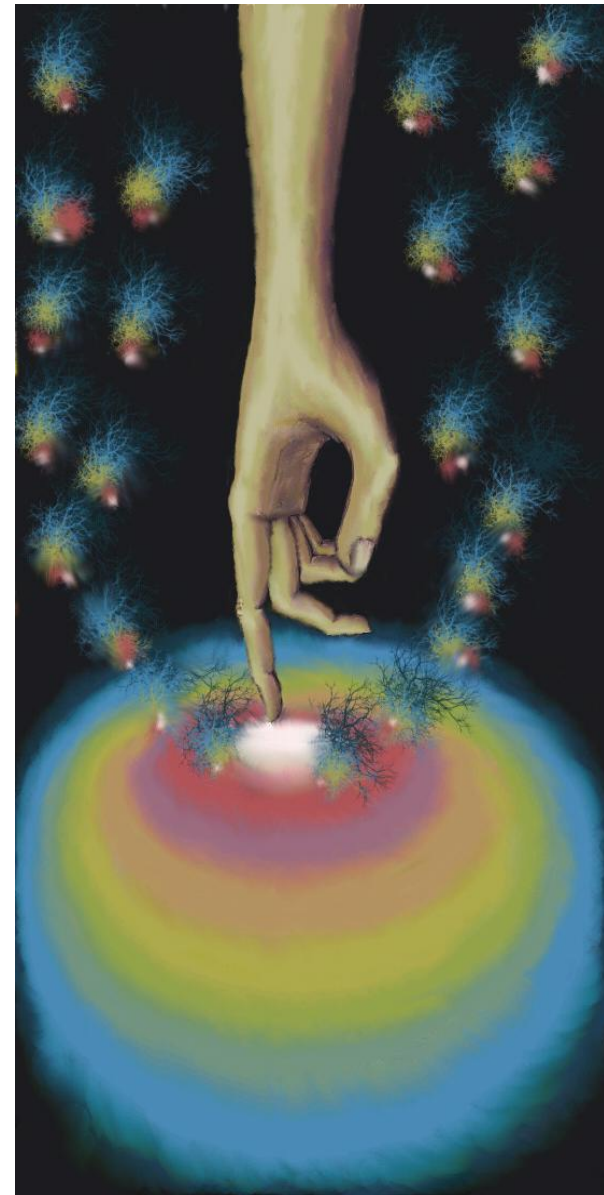
Ephedrine-based stimulants: geographical diffusion and extent of use

New EU member states:

The Czech Republic represents a special case, different from other CEE countries as for the last 35 years self-made pervitin (vint) has consistently been the main problem drug (Griffiths et al. 2008).

Around 2000, Czech know-how on methamphetamine preparation started to diffuse into Slovakia, soon followed by a sharp increase in both percentage and absolute number of pervitin users ((Zabransky 2002).

Other new EU member states – Estonia, Lithuania, Hungary



FSU States

Russia: home-made ATS are an important but secondary drug among Russian IDUs. There is a larger number who will use both ATS and heroin, and the shift between drugs seems to depend on availability.

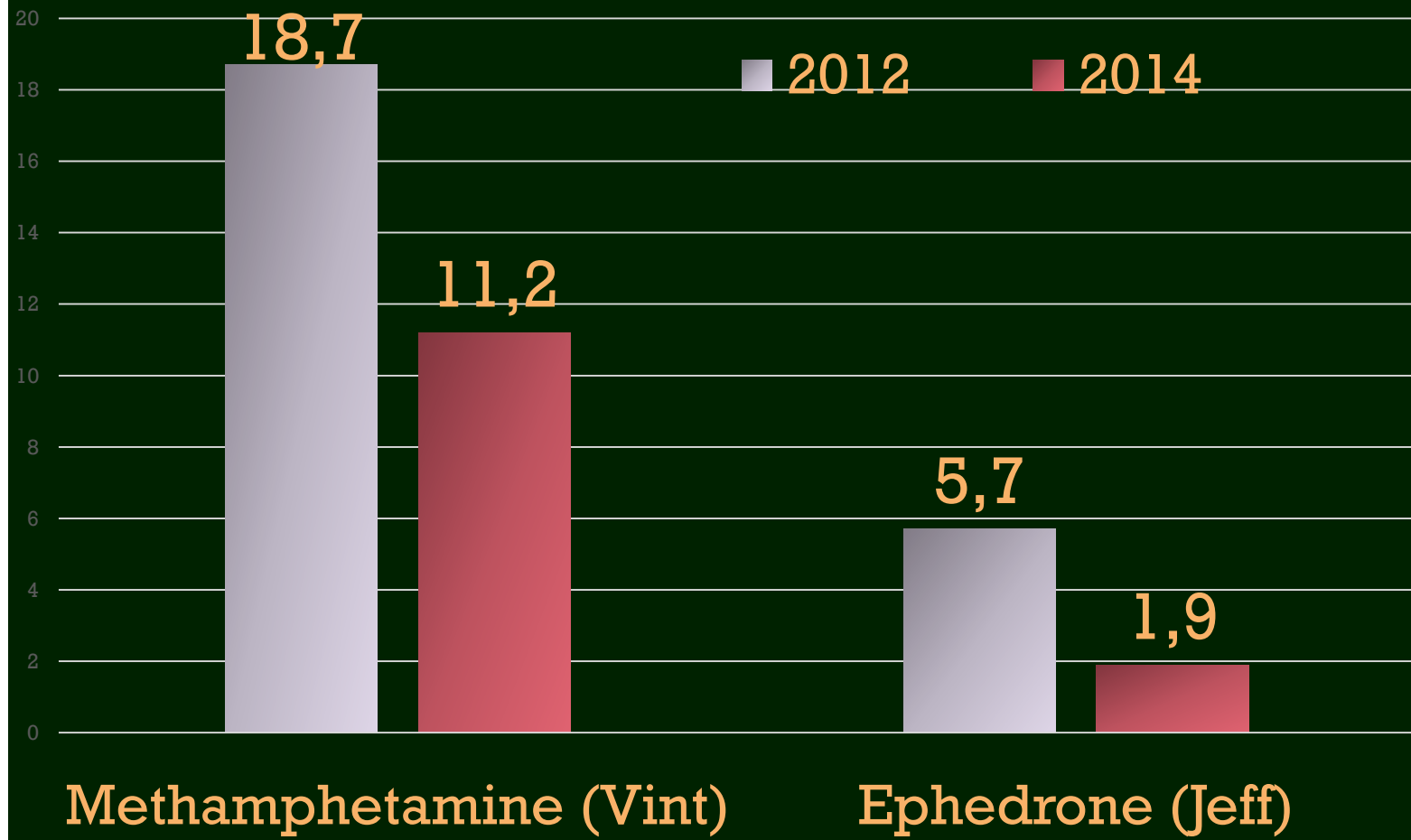
Ukraine: 68.8 % of injectors in the city of Kiev had injected pseudo/ephedrine based drugs in last month (Booth et al., 2008). increased methamphetamine and methcathinone injection in both urban and rural areas of Ukraine (Booth et al 2008, Booth et al, 2006)

Increasing use in **Moldova** (Scicutelnicuc et. al, 2007).



Extent of use

Extent of use in Georgia



Home-made amphetamine-type stimulants

The results of consuming these drugs, at least initially, include senses of well-being, increased energy and alertness, pupil dilation, slurred speech, changes in sexual desire and function, decreased cognitive ability, increased empathy

While the chemical structures of methamphetamine and methcathinone are similar, there are differences in the duration of the effects of each drug

The effects of methcathinone are similar to those of methamphetamine, initially deemed to be less intense by the inexperienced user, and often more euphoric

EFFECTS



Risks:

Acute:

- Increased heart rate
- Hypertension
- Hyperthermia
- Dehydration
- accidental injury
- seizures, cardiac arrest, stroke, coma, fatal overdose

Chronic:

Addiction, tolerance, withdrawal, depression, Psychosis, infertility



Manganese-Induced Parkinsonism Associated With Methcathinone Abuse

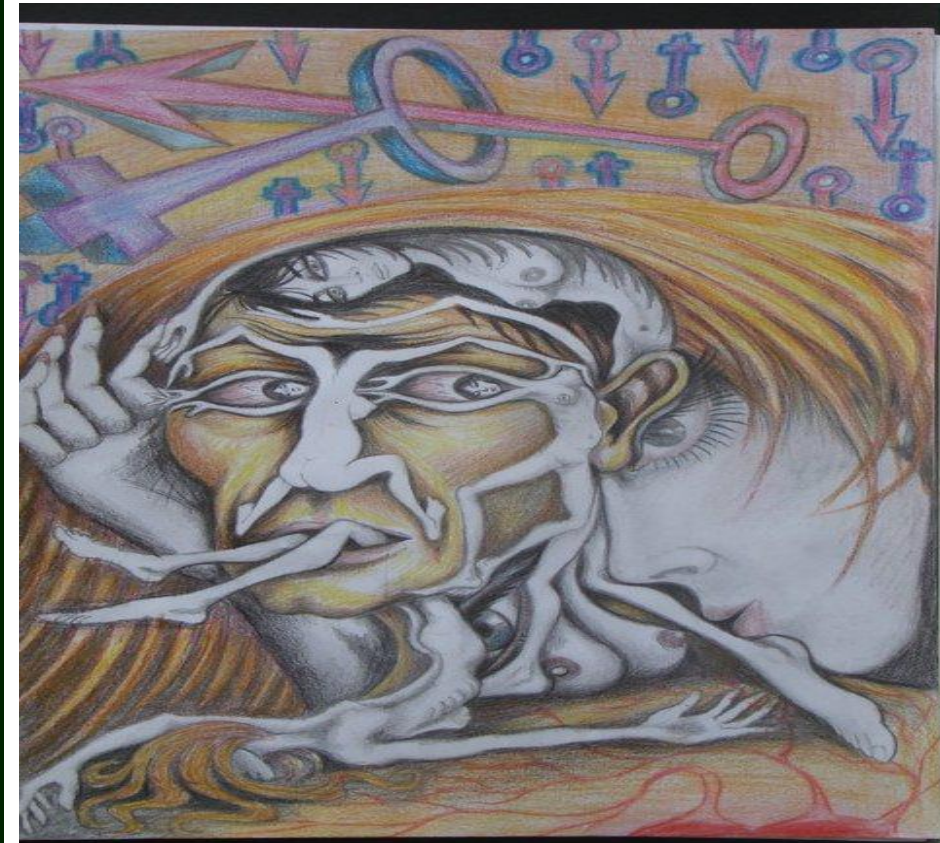
Methcathinone can be produced from ephedrine with potassium permanganate added to produce an oxidant reaction

Excessive exposure to Manganese (Mn) may cause the development of a Parkinsonian syndrome known as manganism.

The development of the neurological syndrome in ephedrone addicts has been largely attributed to the toxic effects of Mn.

The first cases of “ephedrone encephalopathy” were described in the Russian literature 20 years ago

Ephedrone Encephalopathy



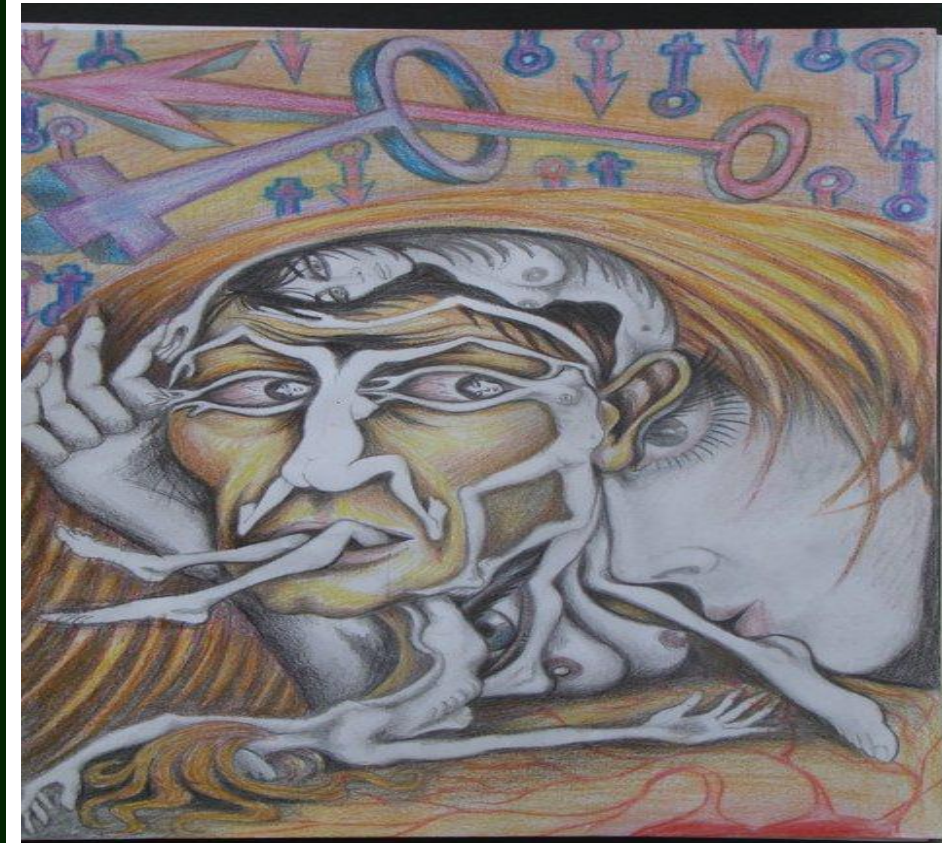
Manganese-Induced Parkinsonism Associated With Methcathinone Abuse

Neurological signs:

- postural instability with falls
- gait disturbance
- hypomimia (lack of facial expression with reduced blinking)
- limb and face dystonia (involuntary muscle contractions)
- dysarthria (speech that is characteristically slurred, slow, and difficult to understand) and
- bradykinesia (extreme slowness of movements).

After drug abuse discontinuation, usually there is no change, or there is even further progression of the motor

Ephedrone Encephalopathy



Summary (1)

The relatively limited availability of black market opiates and stimulants and the ease of obtaining legal precursors to powerful analogues from pharmacies inspired and sustained a homemade drug culture in the Eastern European region.

The slapdash nature of the drug synthesis and its unpredictable outcomes in terms of actual drug product, purity and pollution - all of these factors contribute to complex high risk environment of home drug production in the region.



Summary (2)

Severe health consequences associated with injecting home-produced liquid forms of opioids and ATS

The risk of HIV/HCV infection is affected by the type and frequency of risk behaviours practiced in groups of PWID. The process of drug preparation and a need for frequent administration can increase exposure to unsafe injecting situations

Government policies - repressive policing of drug users and the lack of adequate treatment and support services





THANK YOU!