



PWID



PLWH

HEPATITIS IN RISK GROUPS IN ROMANIA

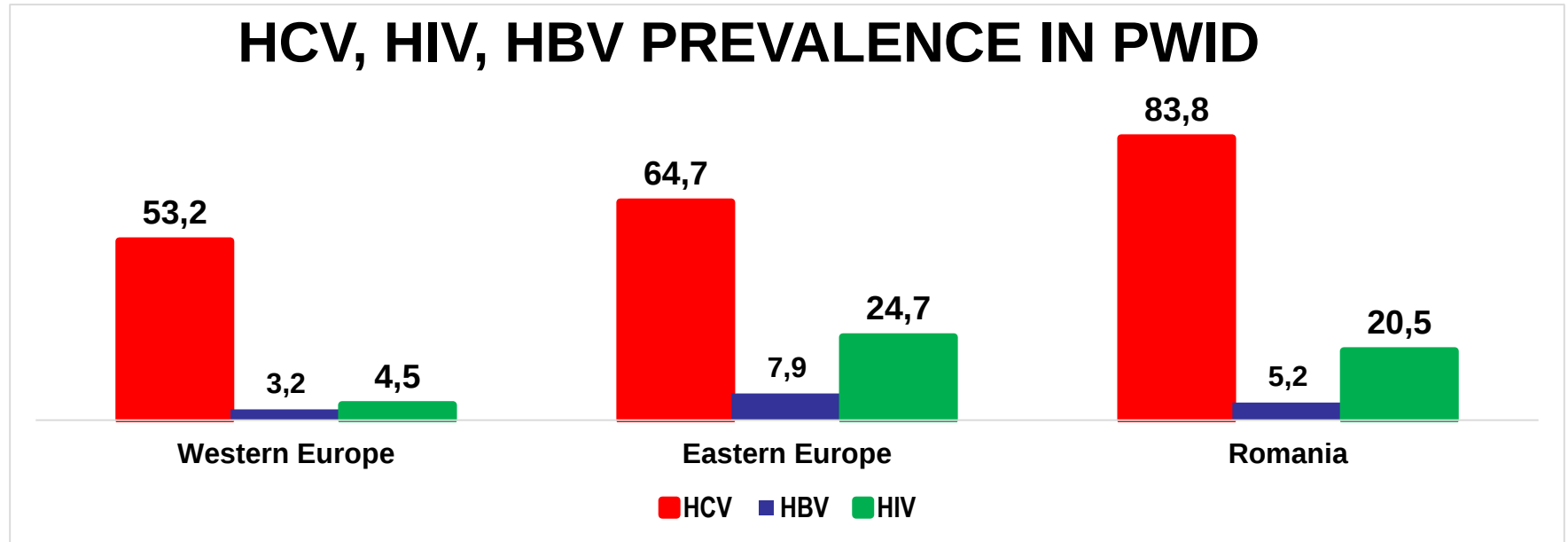
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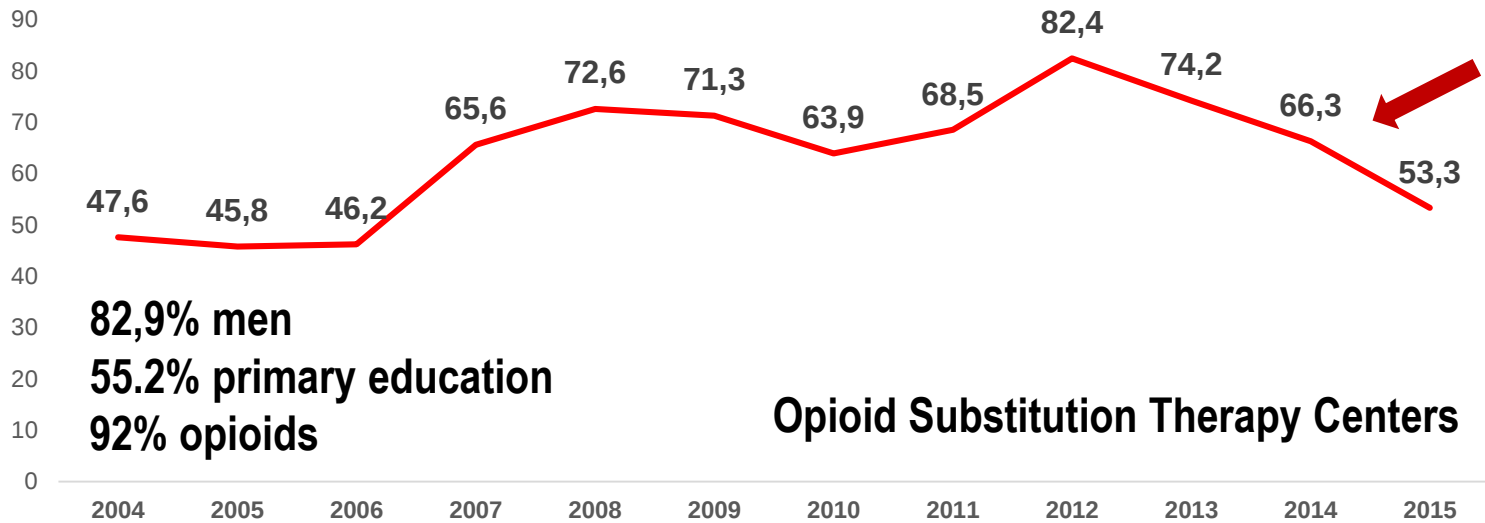
Bucharest, Romania

Drug users- particularly PWID are at risk of acquiring blood borne viral infections through sharing of drug use material and through unprotected sex

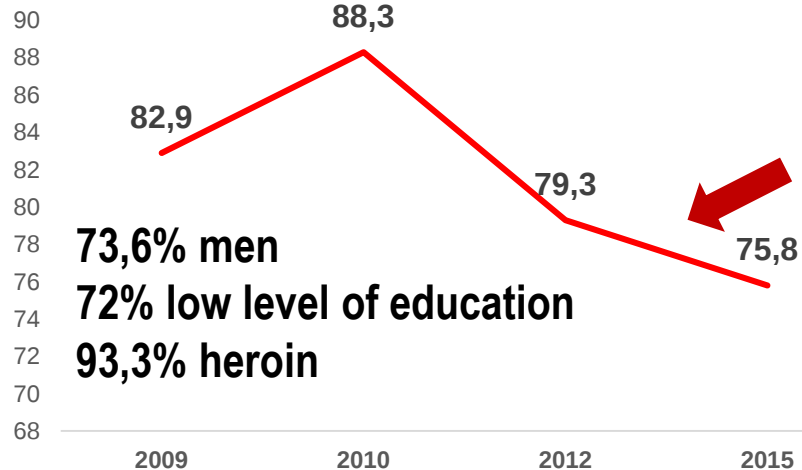


Data source: EMCD DA-www.emcdda.europa.eu/data/stats2016-subnational, 2014

HCV Prevalence in OST

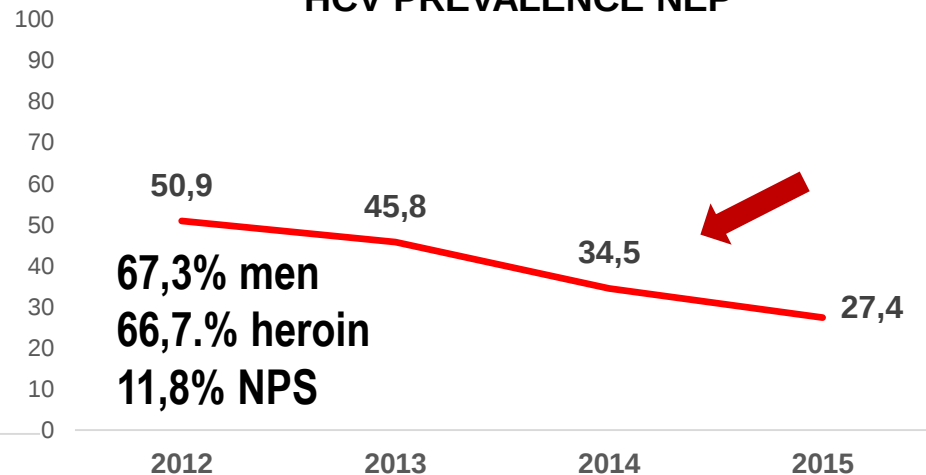


HCV prevalence BSS



Behavioural Surveillance Study

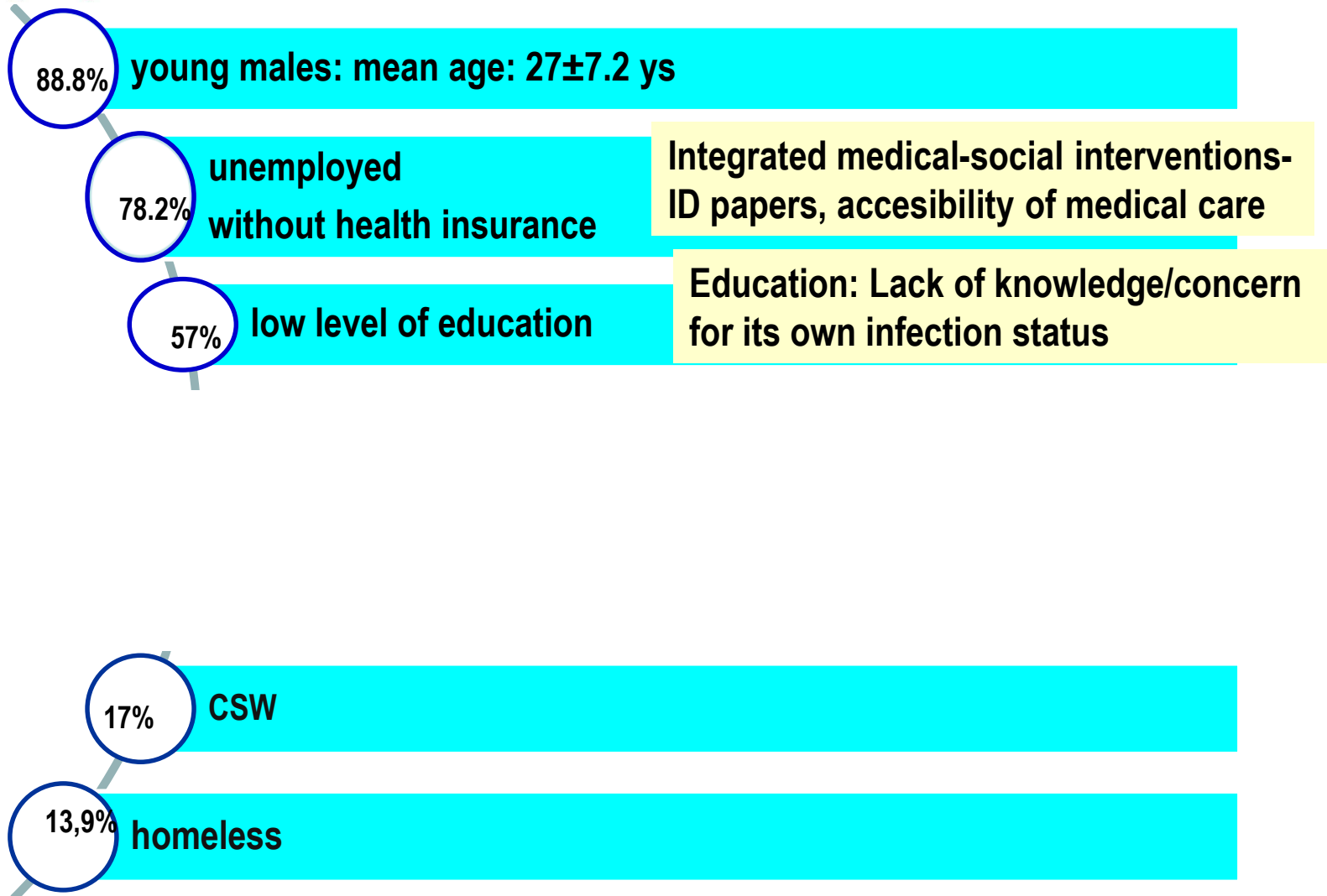
HCV PREVALENCE NEP



Needle Exchange Programs

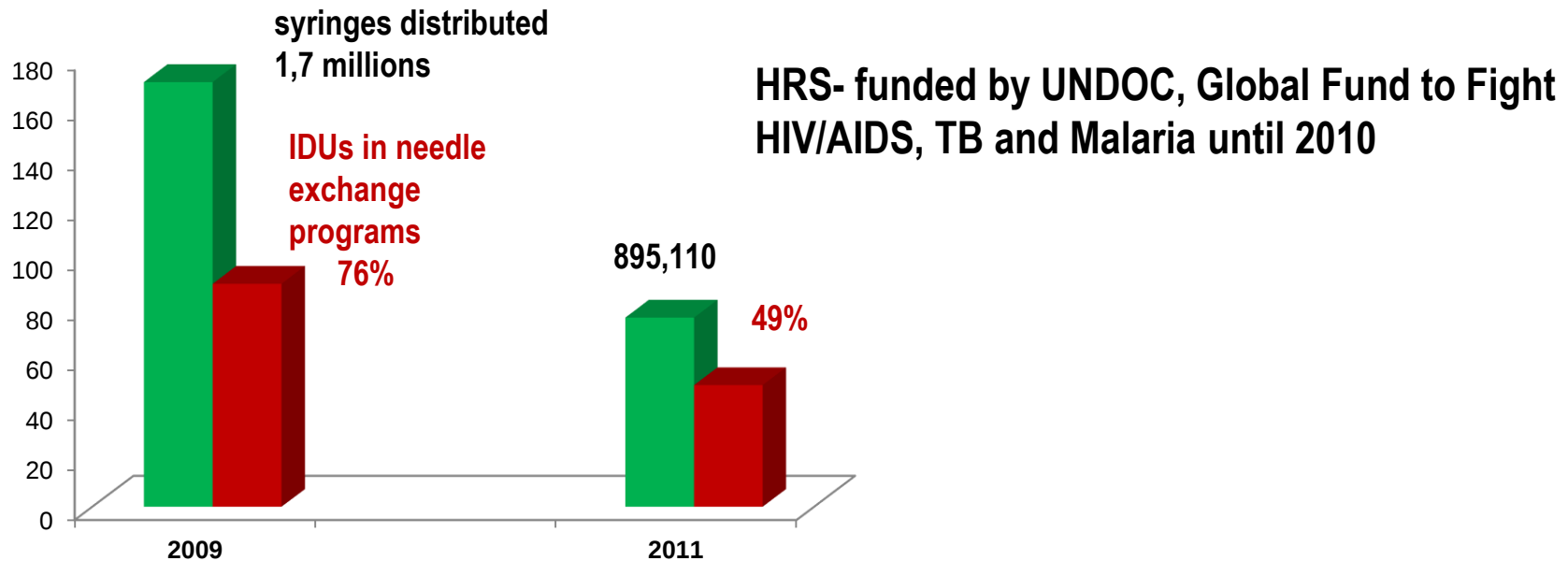


IDU PROFILE



Data source: National Antidrug Agency

Disruptions in the harm reduction services- Interruption in needle exchange programs



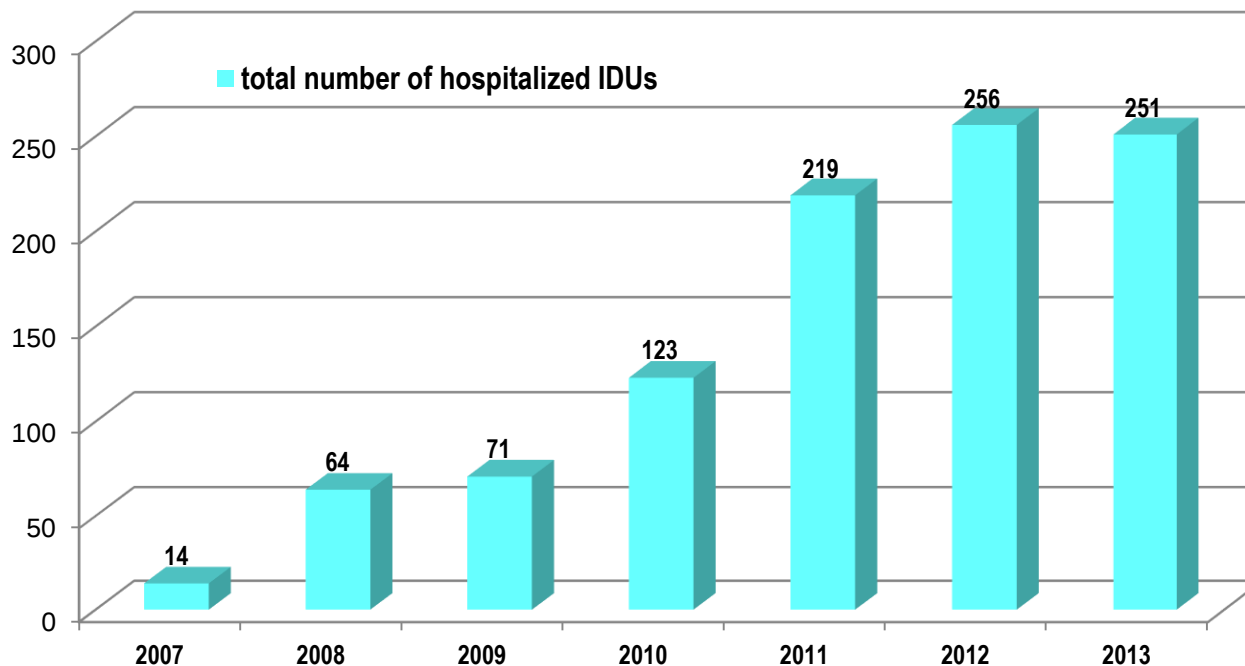
Changes in the drug market- Transition from heroin to NPS -new psychotropic substances- amphetamine type stimulants

- Low price, broad accessibility- „legal highs” until 2012
- No substitution therapy available
- higher injection frequency- 6-10 injections /day NPS vs 3-5 times/day for heroin
- High risk behaviour – syringe sharing, unprotected sex

CONSEQUENCES :

1. Increase in the estimated number of PWID from 17,000 in 2008 to >20,000 in 2011
2. Increase in the number of hospitalised PWID with severe bacterial infections / increased liver enzymes

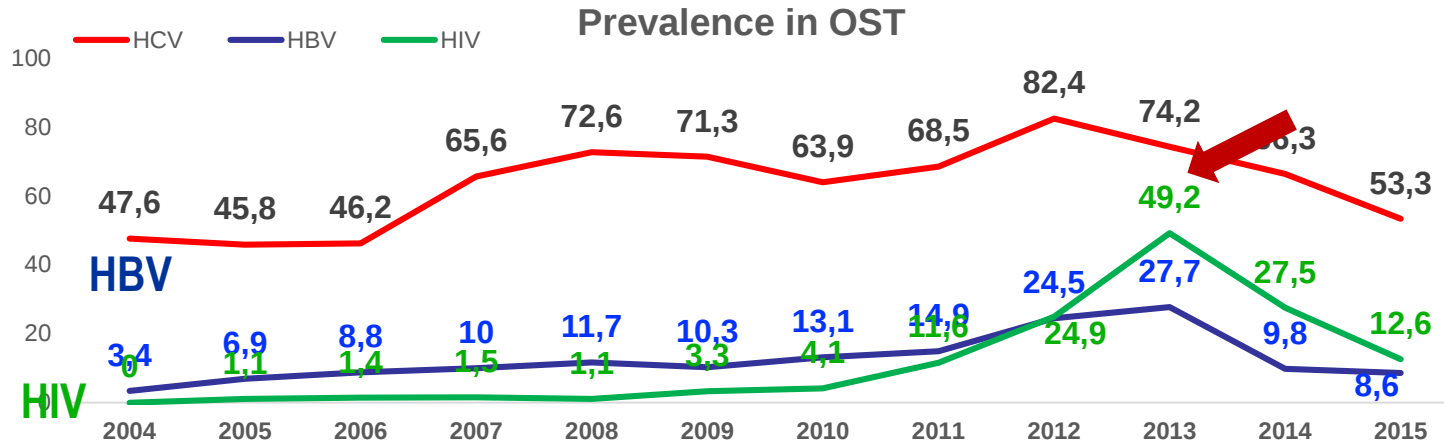
Victor Babes Hospital of Infectious diseases



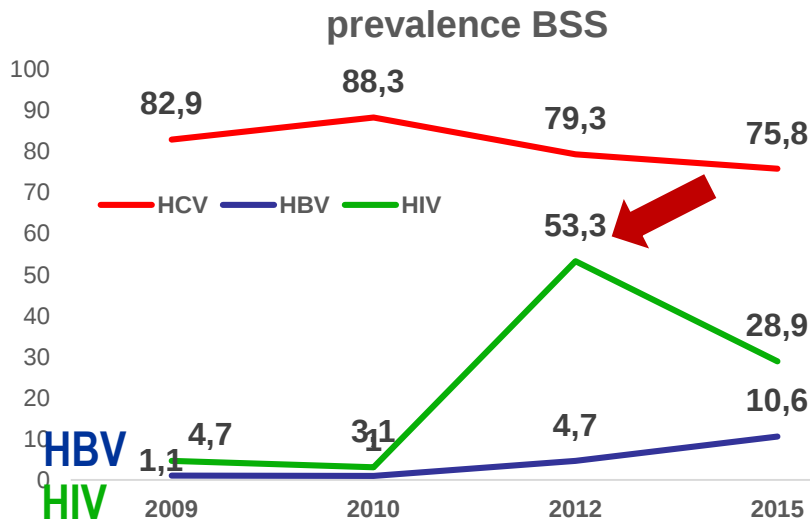
139 PWID 2007-2009

842 PWID 2010-2013

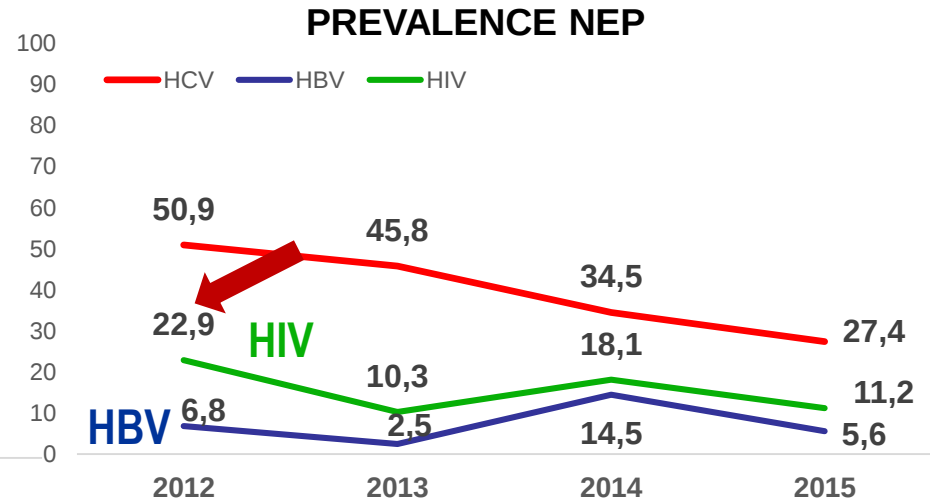
3. Outbreak of HIV infections in PWID



Opioid Substitution Therapy



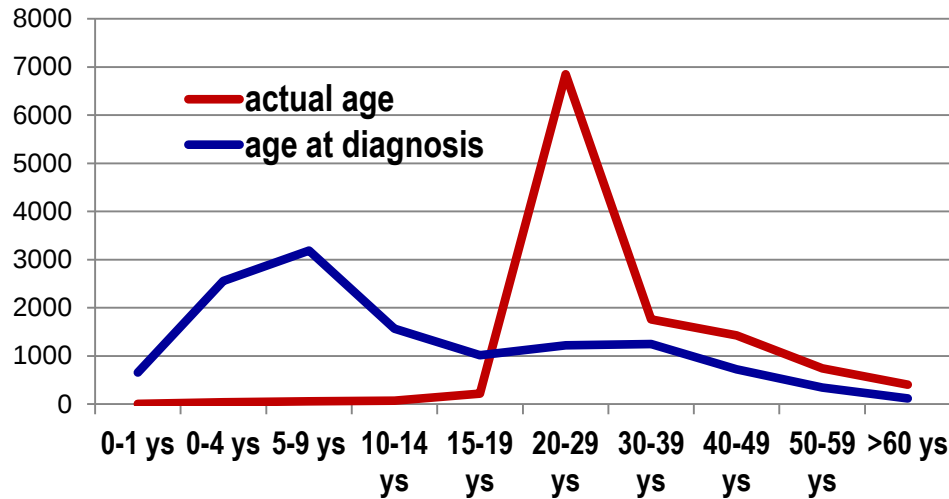
Behavioural Surveillance Study



Needle Exchange Programs

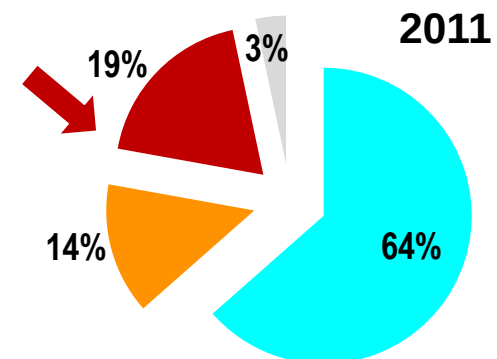
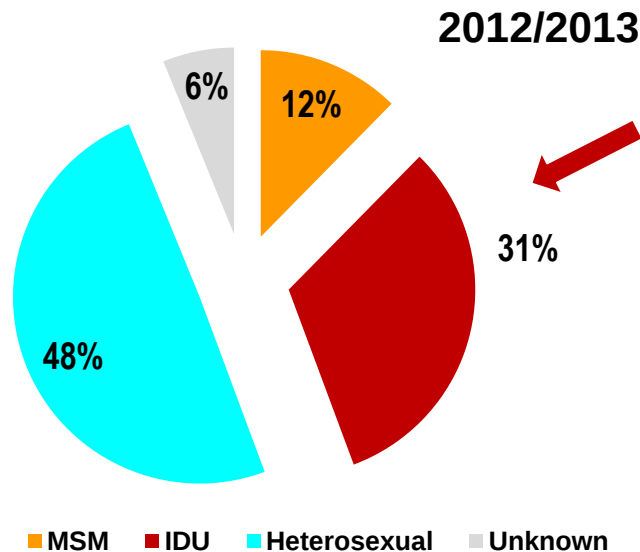
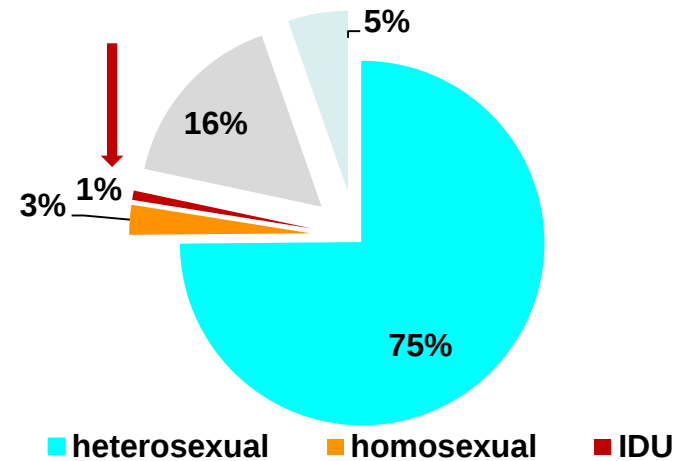
Data source: National Antidrug Agency

HIV EPIDEMIC IN ROMANIA



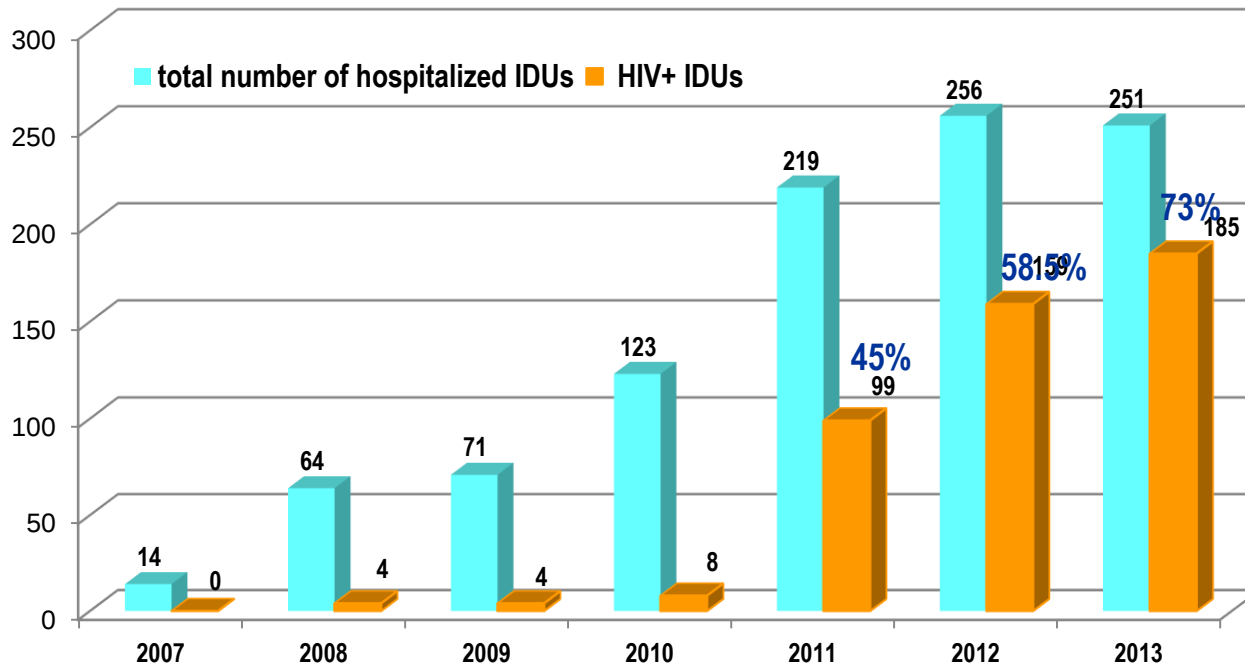
HIV transmission ways in adults

cumulative 1985-2010



Data source: National Anti AIDS Comission

Victor Babes Hospital of Infectious diseases
139 PWID 2007-2009 vs 842 IDU -2010-2013



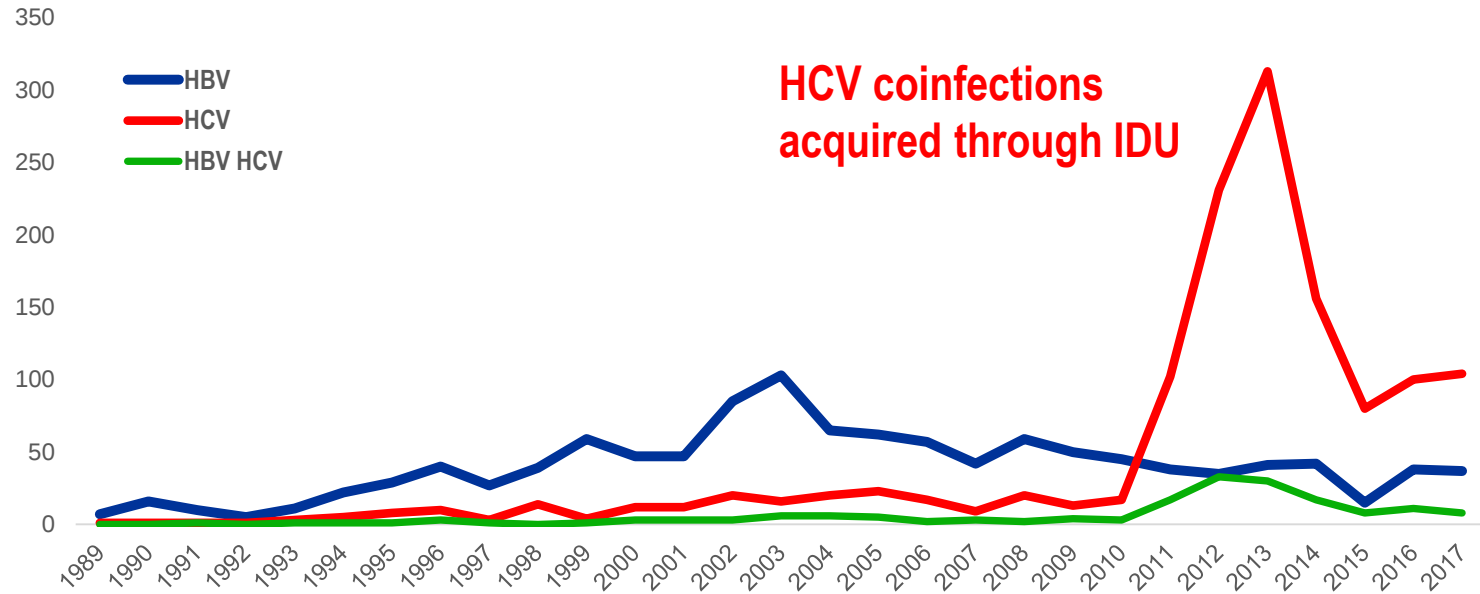
842 IDUs admitted 2010-2013

53.5 % HIV INFECTED

92.8% HCV co-infected

31.4% HBV co-infected

HEPATITIS COINFECTIONS IN HIV INFECTED ADULTS

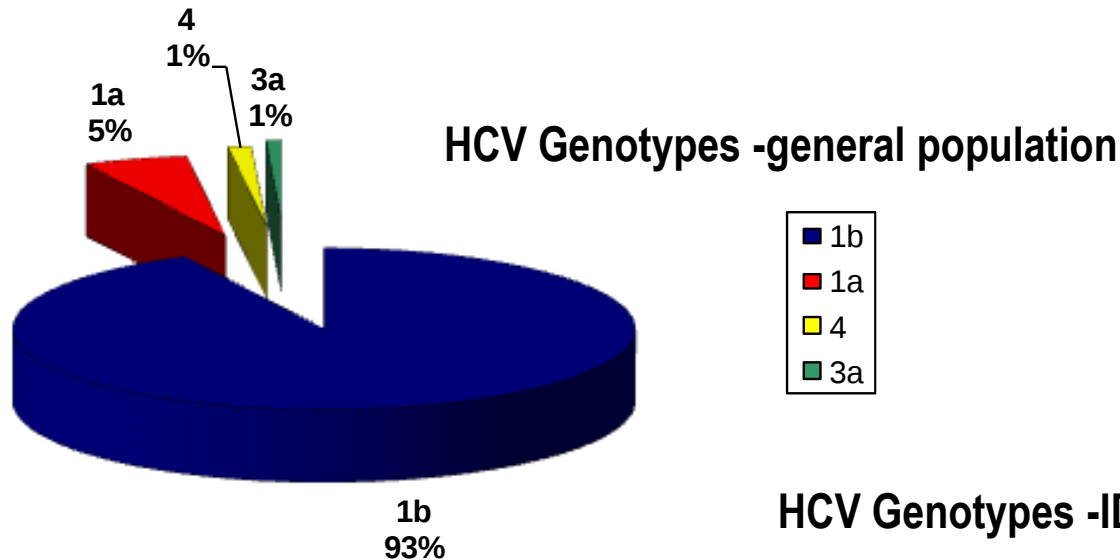


Data source: National Anti AIDS Comission

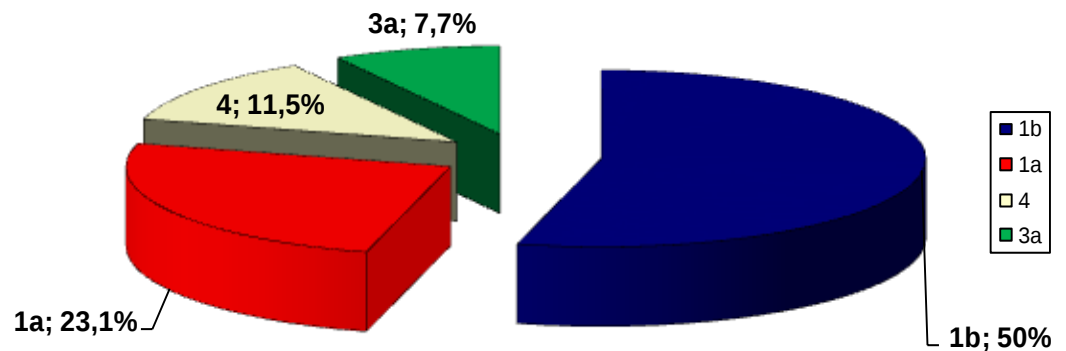
Behavioural surveillance study
70% PWID are in networks of PWID:
34% 1-10 ; 24% 10-20; 12,6% >50 PWID

Data source: National Anti Drug Agency

Phylogenetic analysis- New subtypes and local HCV transmission networks in Romania

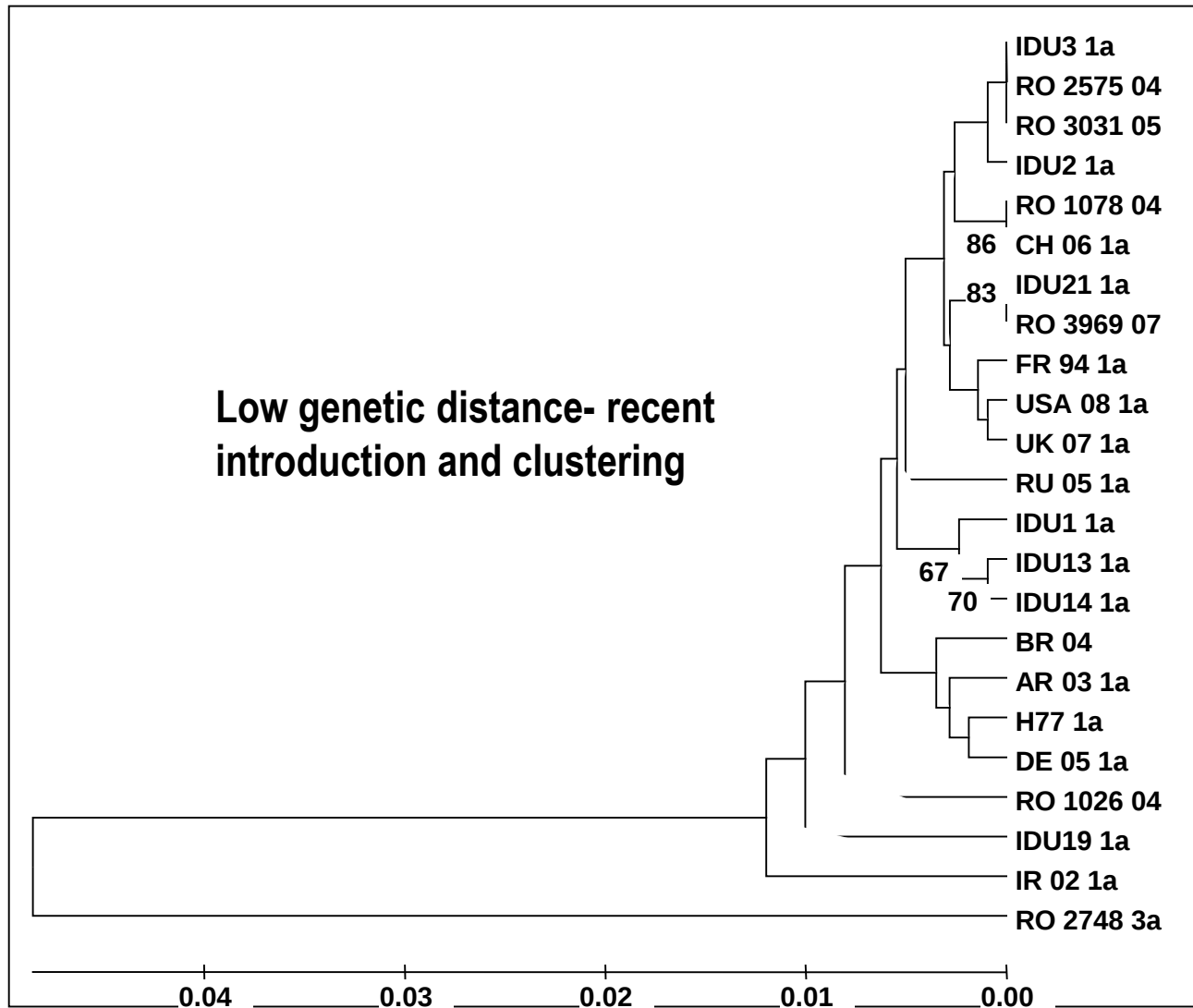


HCV Genotypes -IDUs

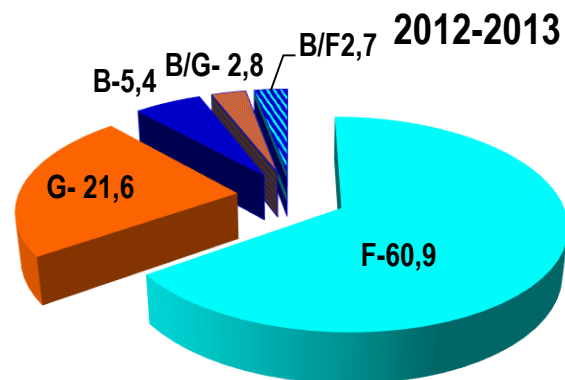
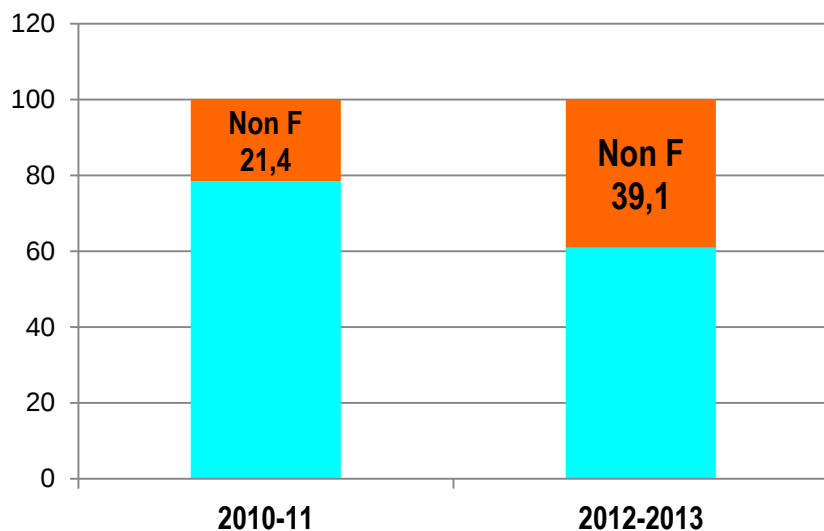
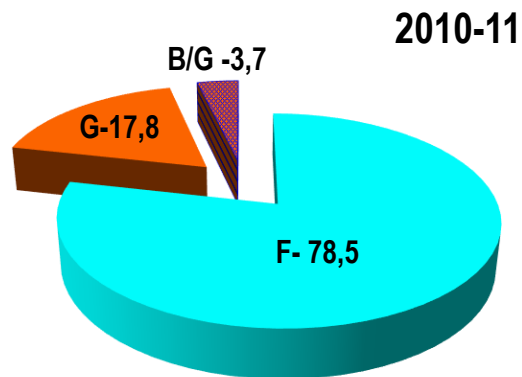
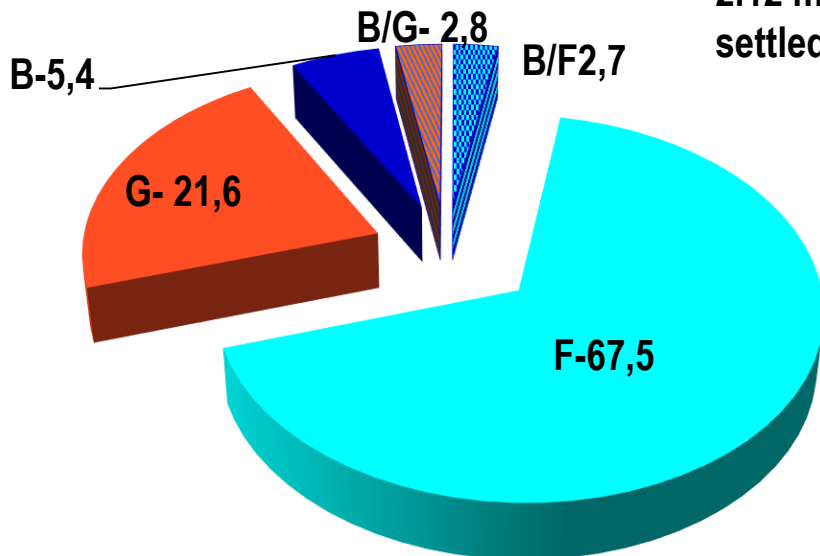


**IDU- a vector for the
introduction of new HCV
genotypes**

Phylogenetic tree in core region for HCV 1a strains isolated from PWID



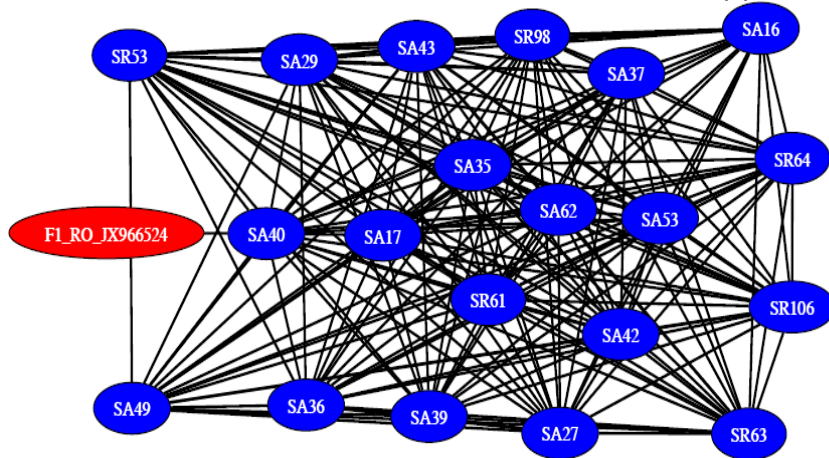
HIV1 SUBTYPES IN IDUs



Phylogenetic analysis- New subtypes and local HIV transmission networks in Romania

NETWORK CLUSTERING ANALYSIS

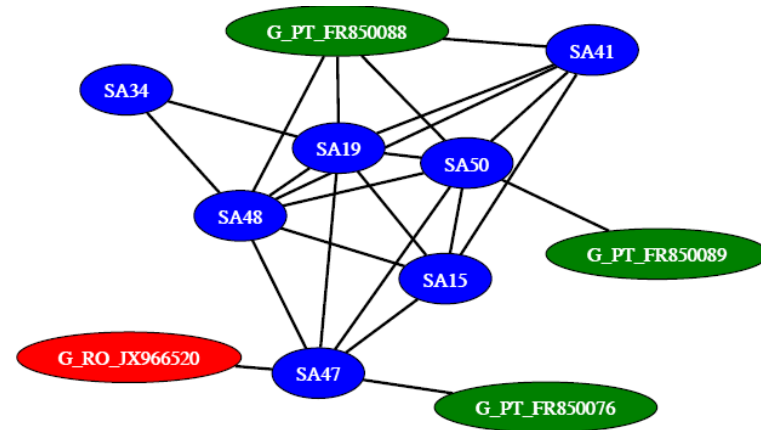
Temereanca A, Oprea C, Wertheim JO, Ianache I, Ceausu E, Cernescu C, Mehta SR, Ruta S. HIV transmission clusters among injecting drug users in Romania. Rom Biotechnol Lett. 2017;22(1):12307-12315. PMID: 29213206



81% of the available sequences clustered with at least one other sequence

All the individuals that form the transmission clusters admit sharing or reusing needles frequently

NEP: NGOs; <<pharmacies



HCV seems to precede HIV infection, limited number of concomitant transmissions

HIV/HCV- CLINICAL IMPLICATIONS

ELEVATED HCV RNA LEVELS PERSISTENT HCV VIREMIA

- quantitative loss of memory lymphocytes in HIV infection

FASTER FPR

- HIV proteins (tat, gp120) or HIV itself directly influence the mediates the hepatic cytokine mileau
- decline in HCV-specific interferon (IFN)-gamma responses

ACCELERATED LIVER DISEASE PROGRESSION

REDUCED RESPONSE TO IFN-BASED HCV THERAPY

Acces to treatment very difficult, Very low adherence

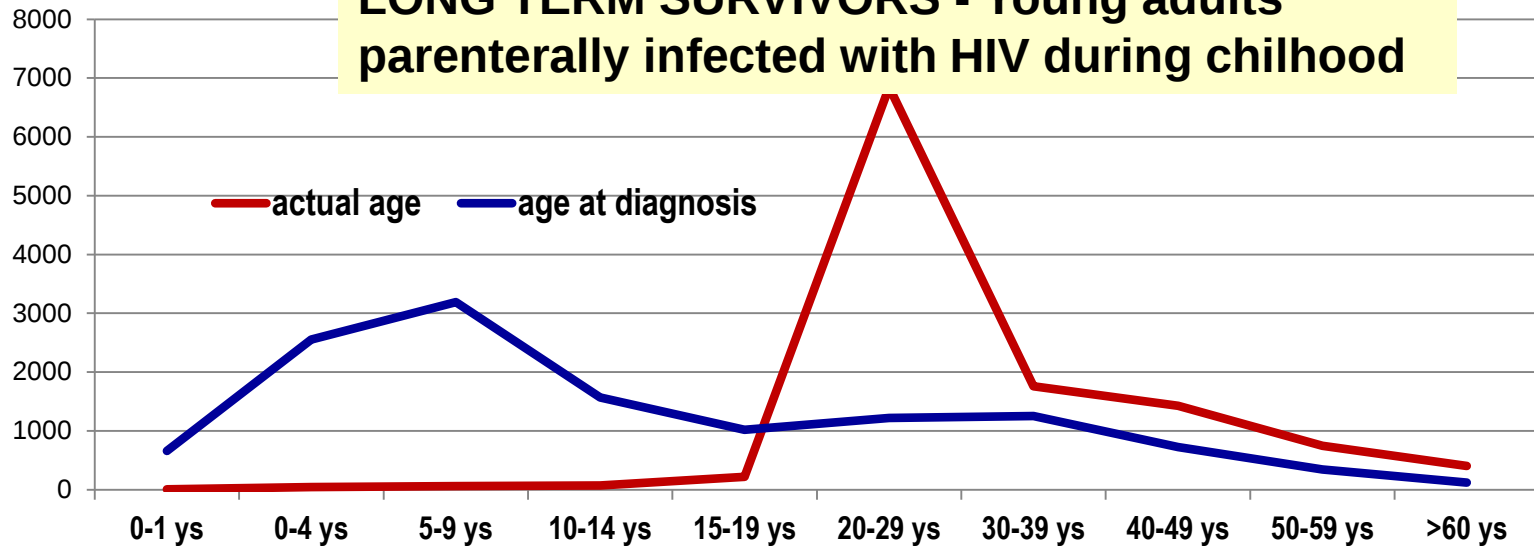
Approval of DAA therapies?

Genotype/subtype determination –important clinical consequences

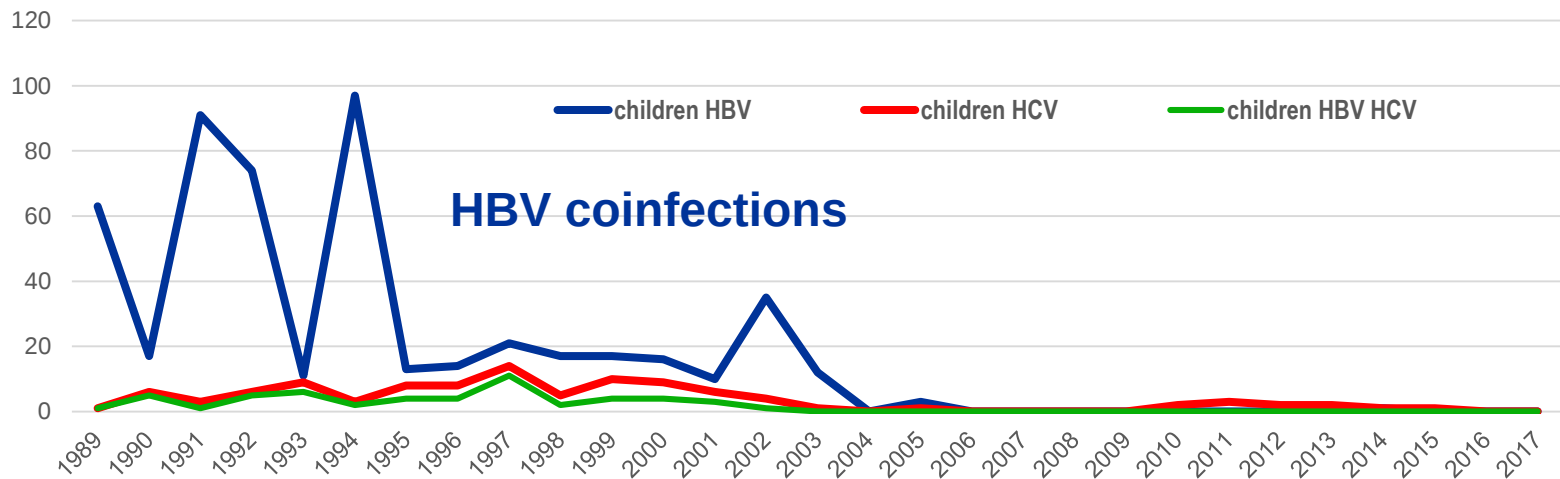
- progression of liver disease
- emergence of RAV

HIV EPIDEMIC IN ROMANIA

LONG TERM SURVIVORS - Young adults parenterally infected with HIV during childhood



HEPATITIS COINFECTION IN HIV INFECTED CHILDREN



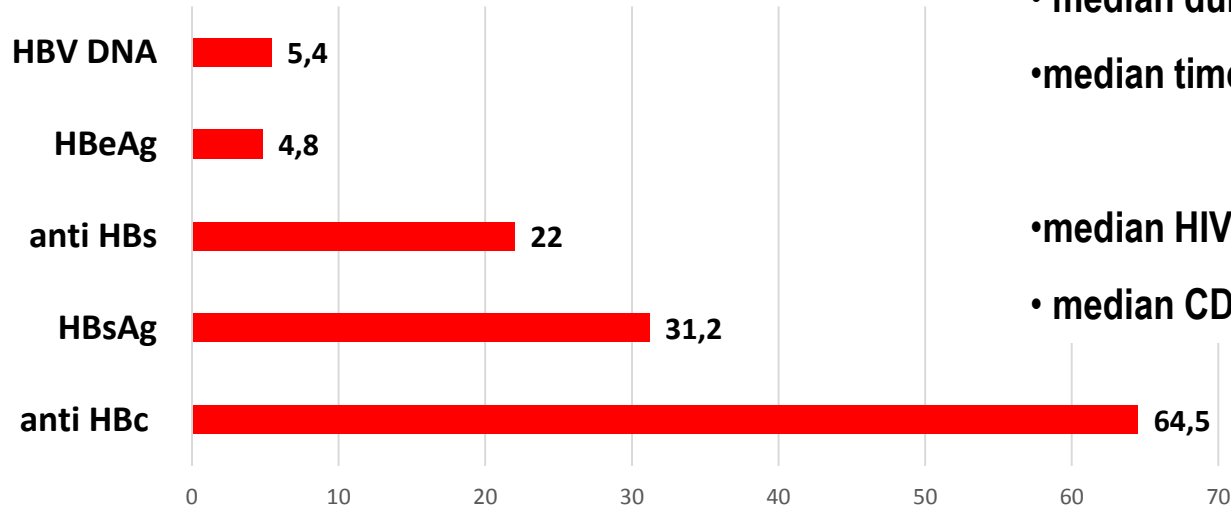
HIV- HBV COINFECTIONS:

Long term HIV survivors, Multi-treatment exposed

Long term evolution of (perinatally acquired?) HBV coinfection

250 long term survivors HIV infected patients

Prevalence of HBV markers

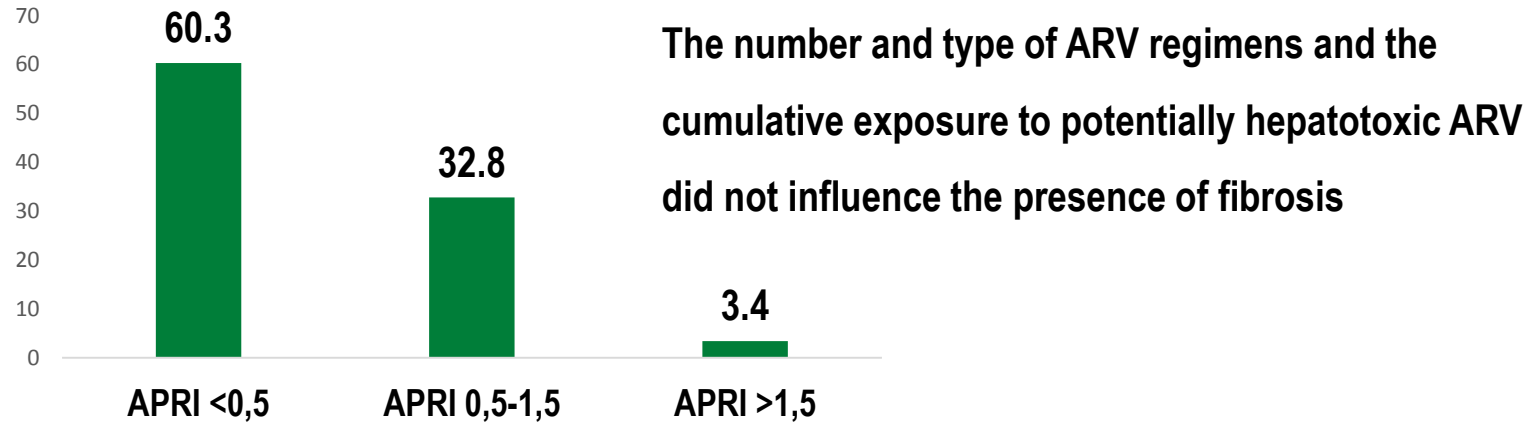


- 48% males
- median age: 24 years
- median duration of HIV infection: 17 ys
- median time on cART : 12 years
- median HIV viral load : 2.17 log₁₀ copies/mL
- median CD4 count : 481 cells/mm³

- High proportion of chronic HBsAg carriers
- A low percentage of long term HIV/HBV coinfectd patients with active liver disease
- No clinical signs of hepatitis

HIV/HBV coinfectd patients

Most coinfectd individuals show no signs of severe liver fibrosis



ART therapy - important role in delaying progression of liver disease in HIV/HBV coinfectd patients

97.7% of the patients were currently treated with a regimen including a dual HIV/HBV active ART (96.9% -3TC; 29%- TDF)

Tenofovir-containing cART is preferred for HIV-HBV coinfection, better resistance profile

TAKE HOME-



MESSAGES

Profile of PWID –

High seroprevalence of HCV monoinfections

Increase in the number of HIV-HCV & HIV- HCV- HBV coinfections

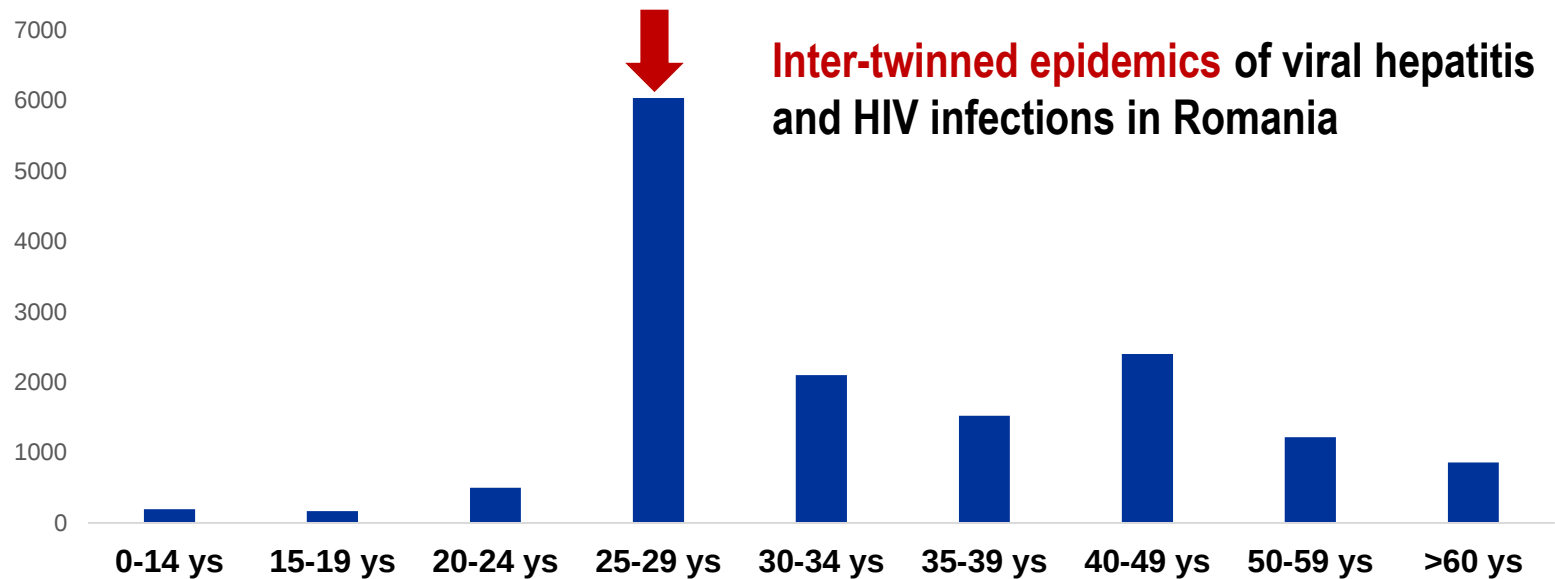
Emergence of distinct subtypes and multiple interconnected clusters, suggesting local transmission networks

Profile PLWH-

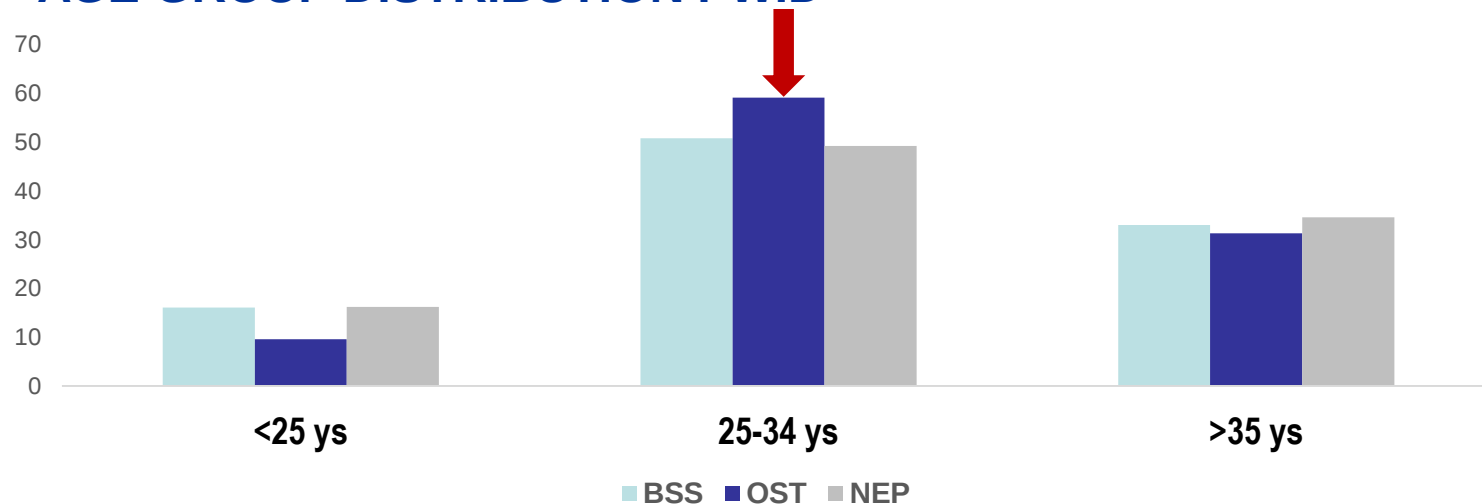
Young adults – long term HBV coinfection - maintain an inactive hepatic disease under cART

Young adults recently coinfectd with HCV through IDU with limited acces to therapy

AGE GROUP DISTRIBUTION PLWH



AGE GROUP DISTRIBUTION PWID



Sustainable risk-reduction interventions (VCT, NEP, OST)
are necessary to avoid an escalation of new infections

There is an urgent need for a continuum of care:
testing- referral- treatment- monitoring



**“You must run faster and faster
Just to stay in the same place....”**

The Red Queen Principle

Lewis Carroll- Alice in the wonderland

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*This work was supported by NIH grant
no 2P30 AI36211-18 through Baylor
International Pediatric AIDS Initiative*

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