PWID **PLWH**

HEPATITIS IN RISK GROUPS IN ROMANIA

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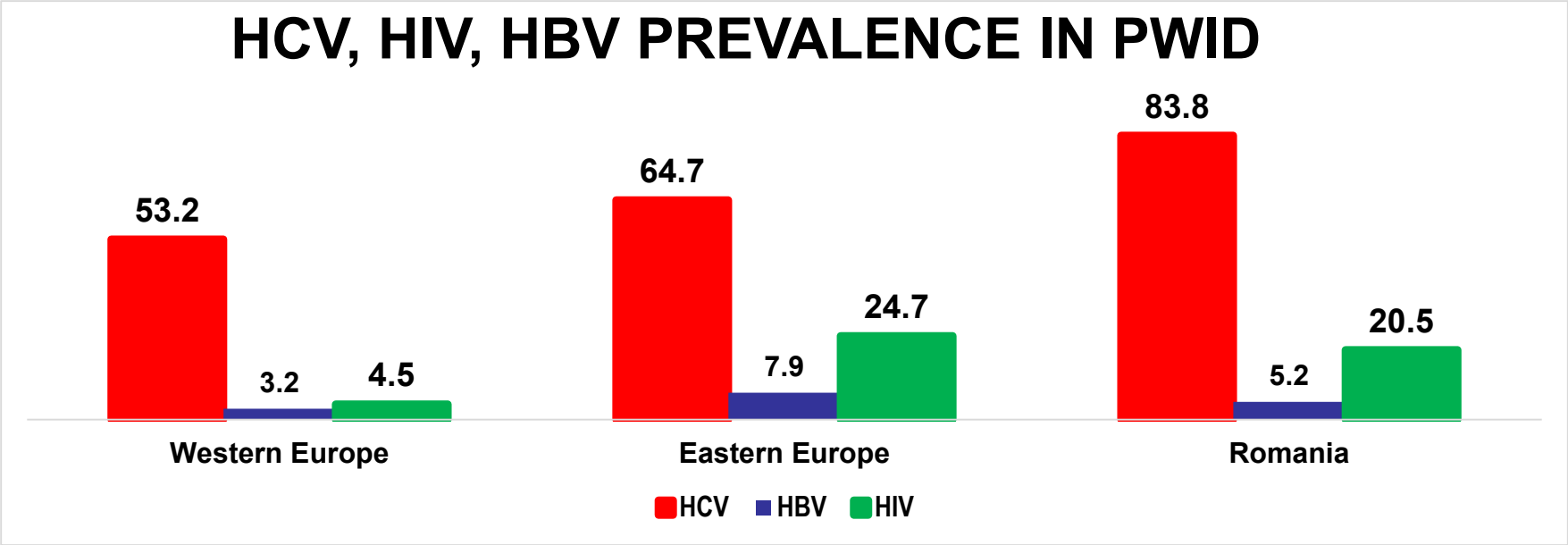
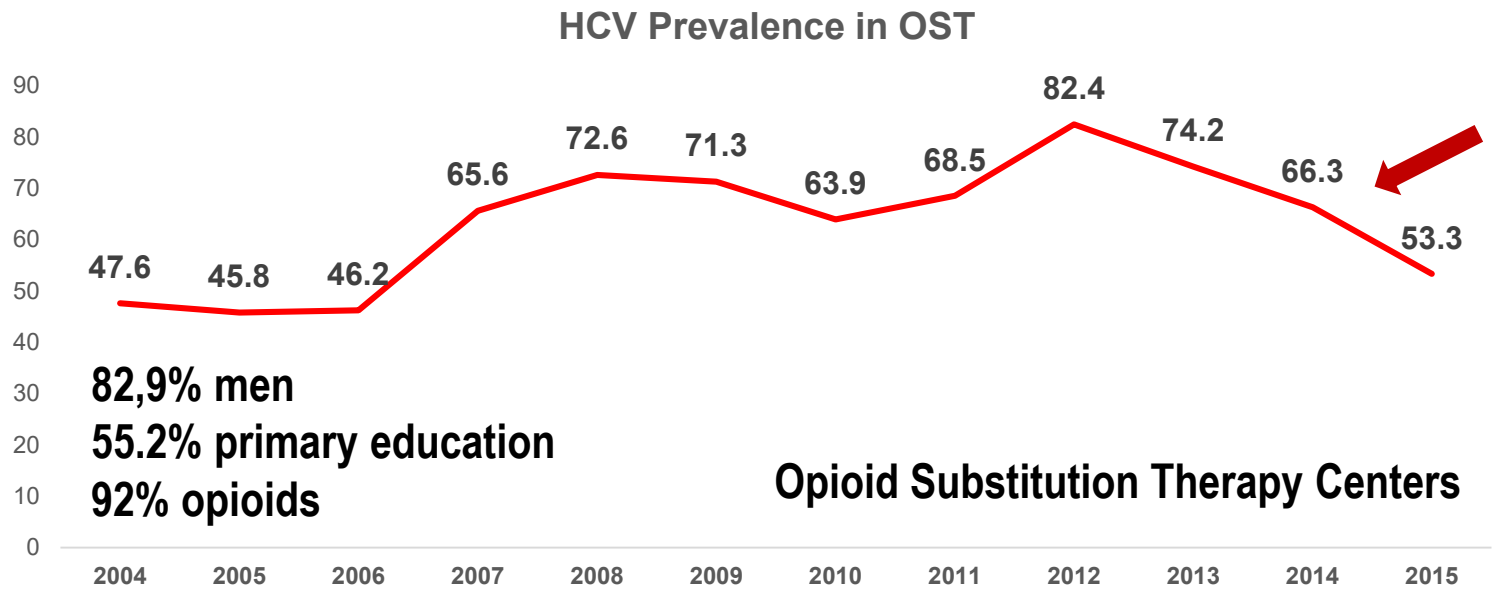
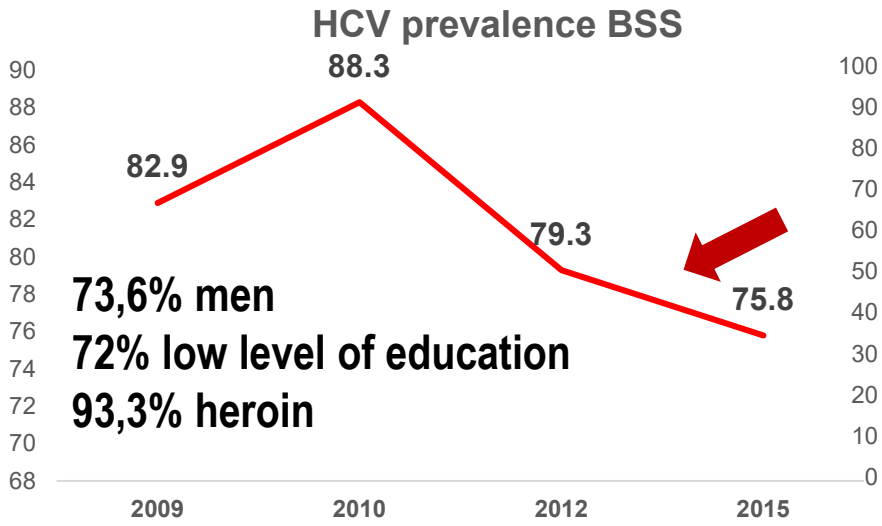
Bucharest, Romania

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

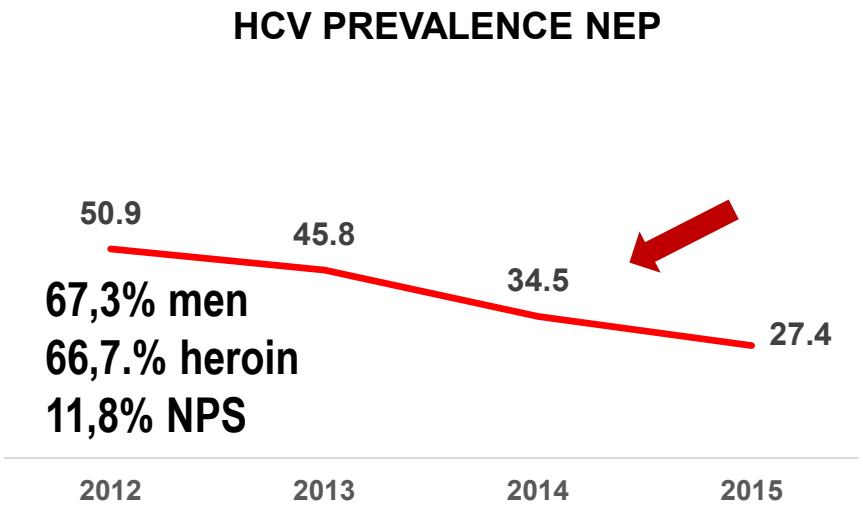


Data source:EMCDDA-www.emcdda.europa.eu/data/stats2016-subnational, 2014

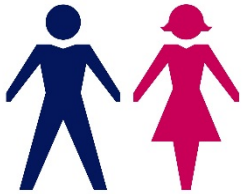




Behavioural Surveillance Study



Needle Exchange Programs



IDU PROFILE

88.8% young males: mean age: 27±7.2 ys

78.2% unemployed without health insurance

Integrated medical-social interventions- ID papers, accesibility of medical care

57% low level of education

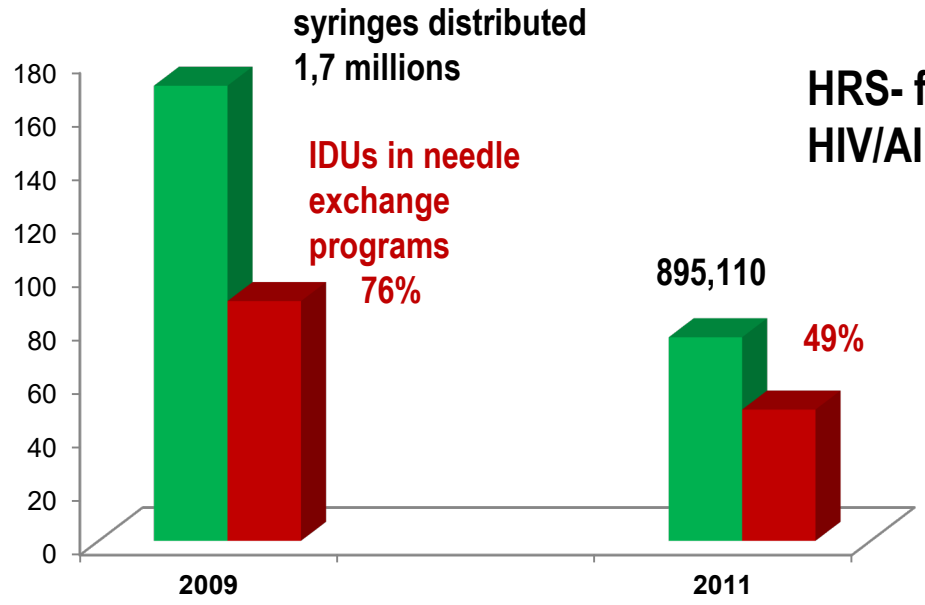
Education: Lack of knowledge/concern for its own infection status

17% CSW

13,9% homeless

Data source: National Antidrug Agency

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



HRS- funded by UNDOC, Global Fund to Fight HIV/AIDS, TB and Malaria until 2010

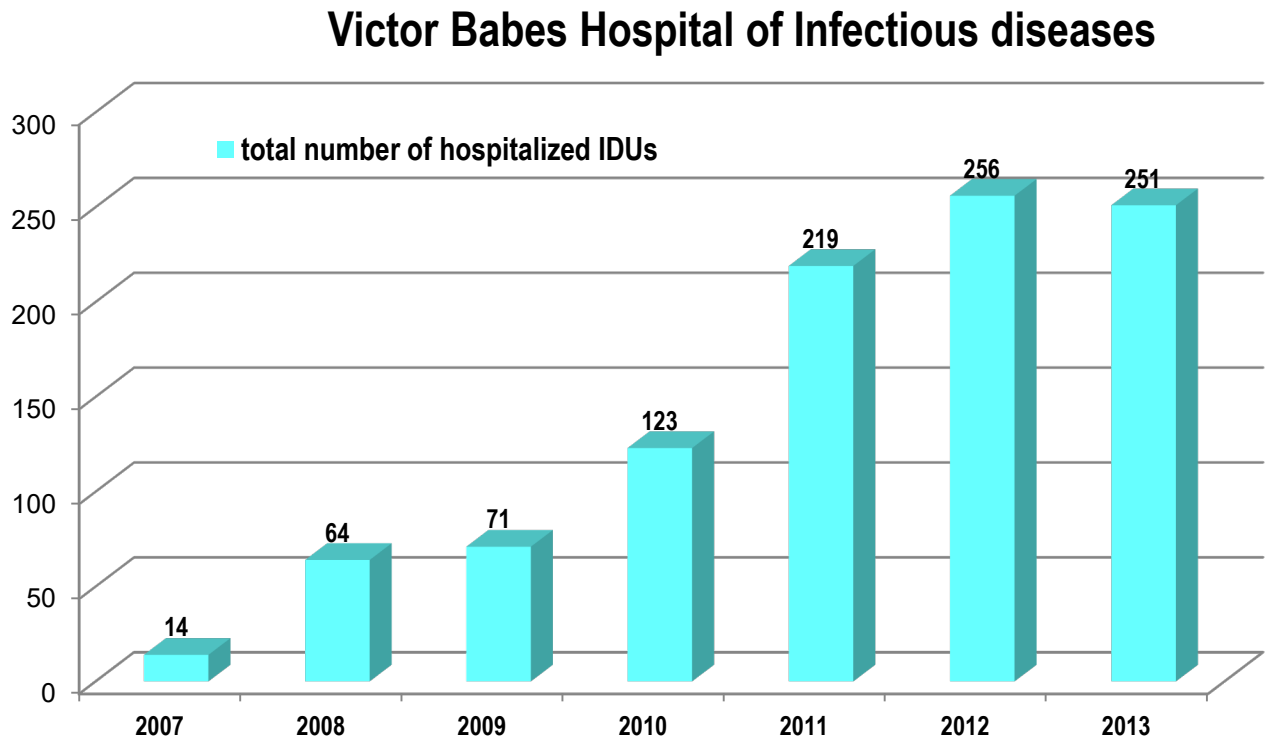
Changes in the drug market- Transition from heroin to NPS -new psychotropic substances- amphetamine type stimulants

- Low price, broad accesibility- „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

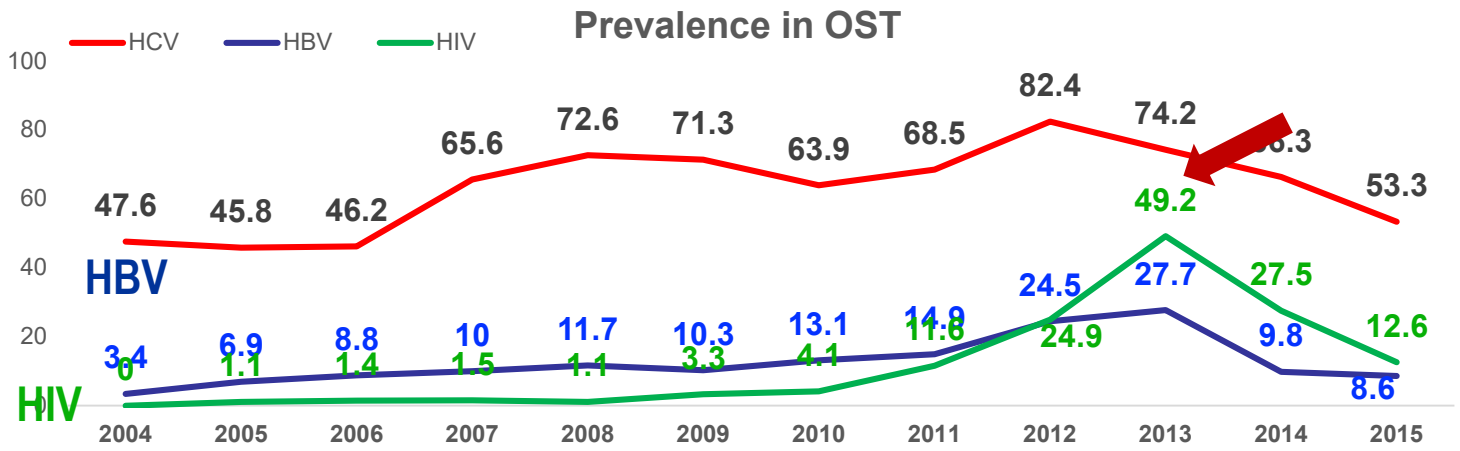
2. Increase in the number of hospitalised PWID with severe bacterial infections / increased liver enzymes



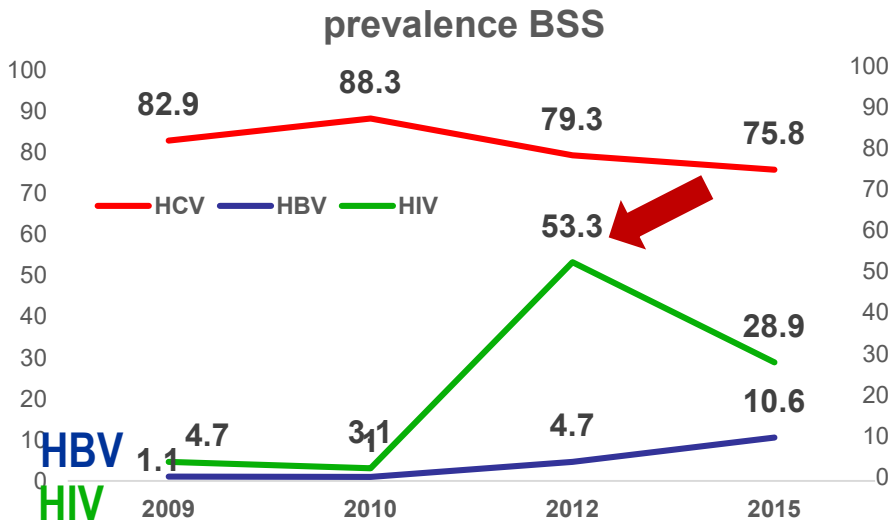
139 PWID 2007-2009

842 PWID 2010-2013

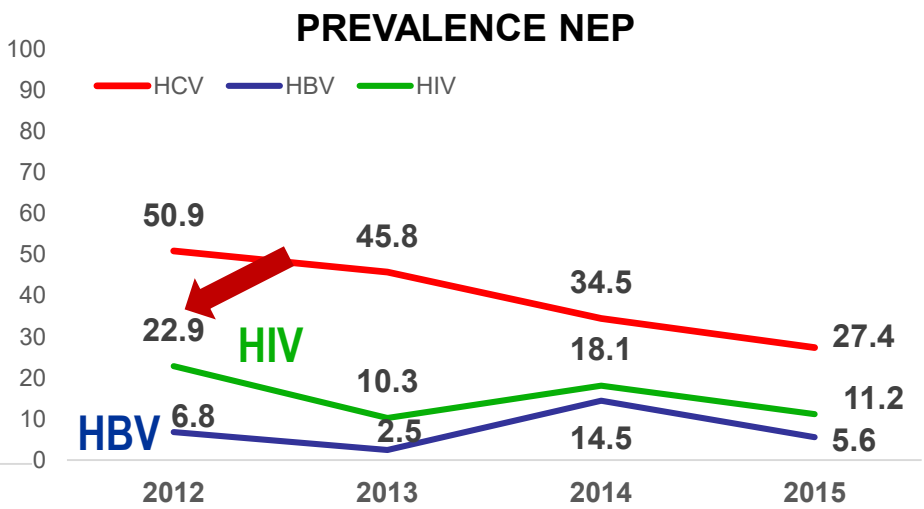
3. Outbreak of HIV infections in PWID



Opioid Substitution Therapy



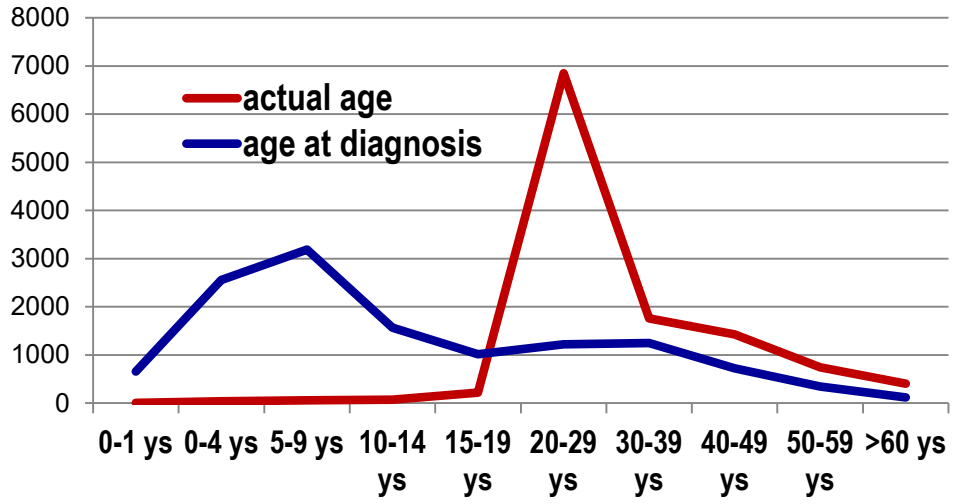
Behavioural Surveillance Study

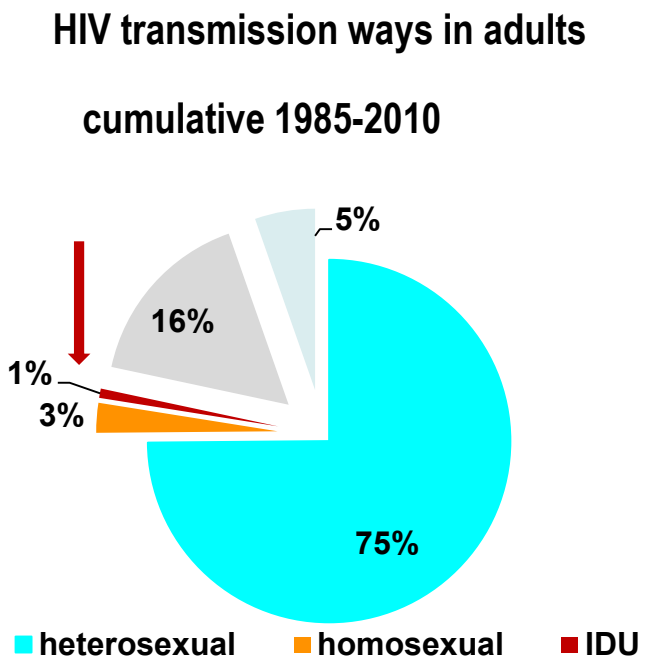


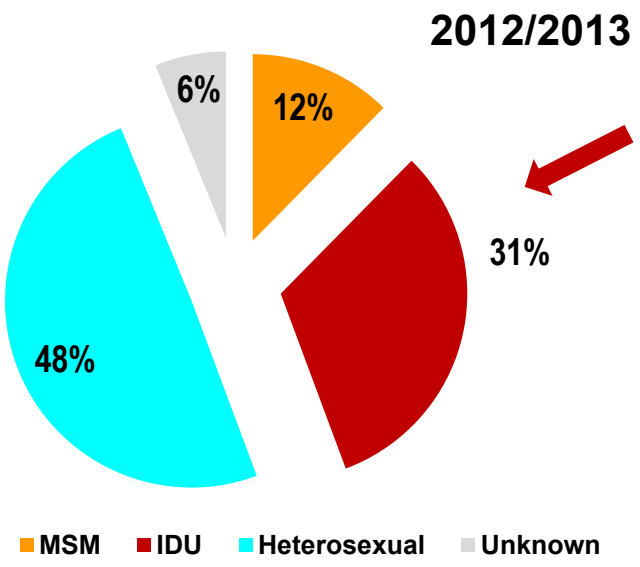
Needle Exchange Programs

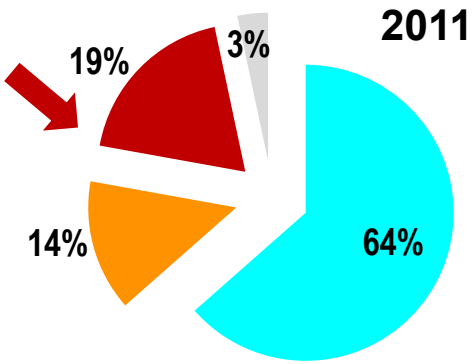
Data source: National Antidrug Agency

HIV EPIDEMIC IN ROMANIA





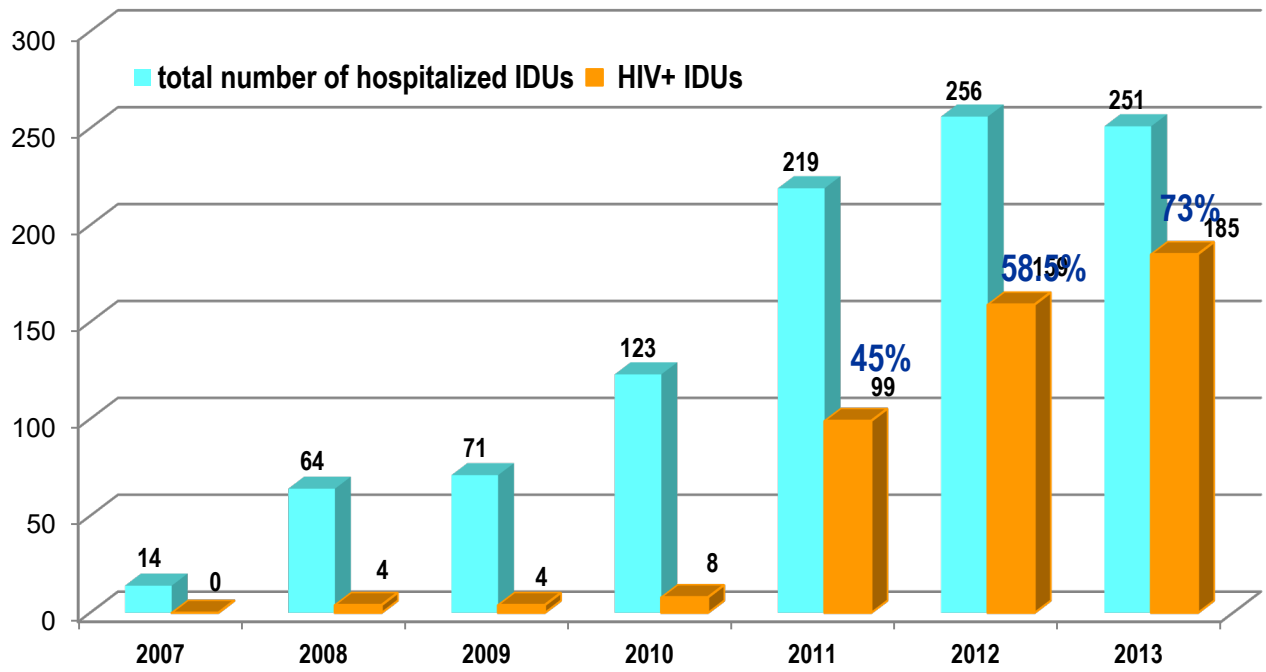




Data source: National Anti AIDS Comission

Victor Babes Hospital of Infectious diseases

139 PWID 2007-2009 vs 842 IDU -2010-2013



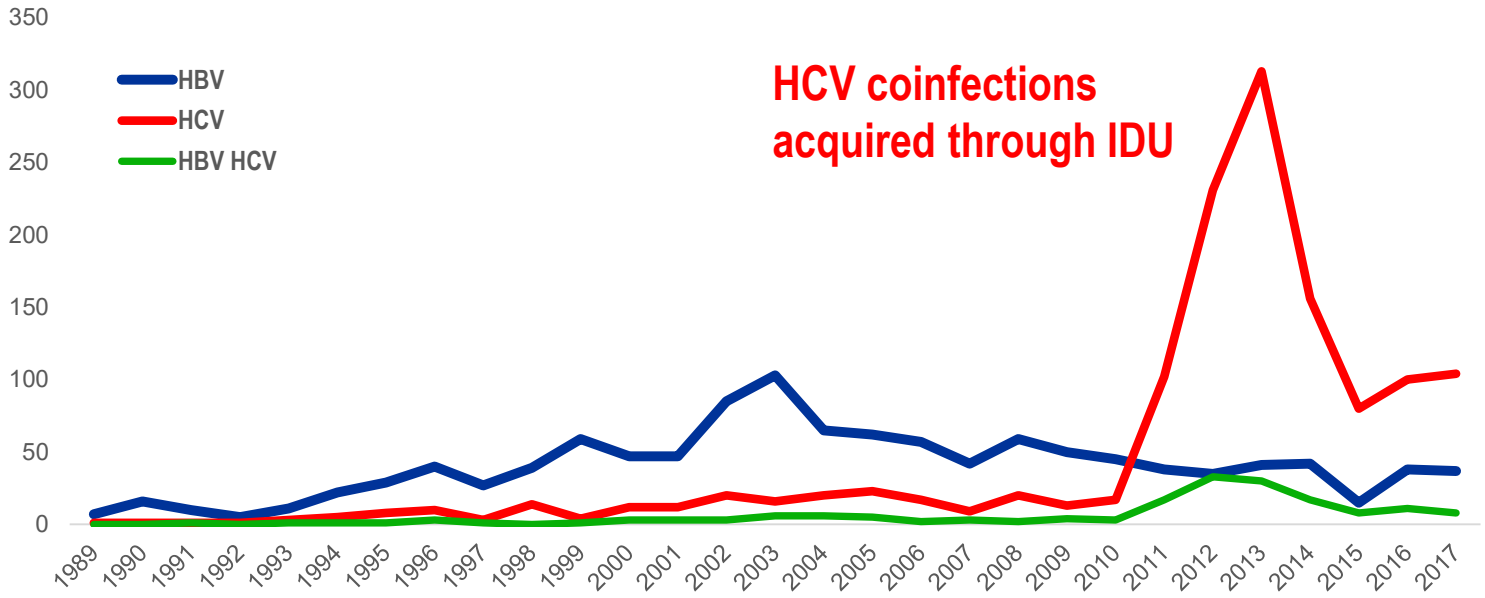
842 IDUs admitted 2010-2013

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

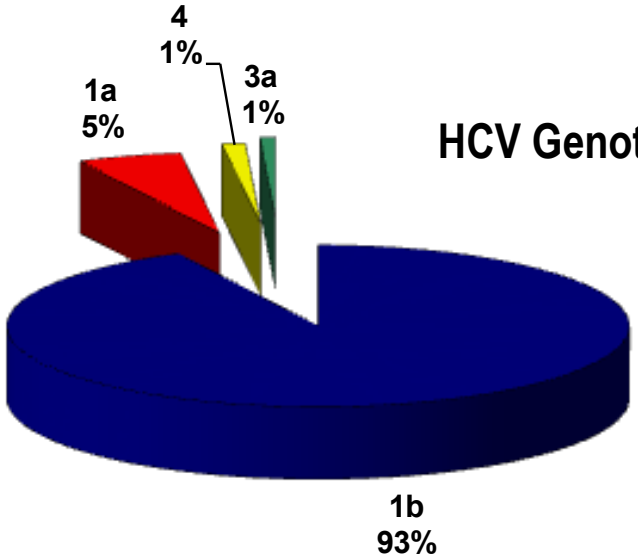
Behavioural surveillance study

70% PWID are in networks of PWID:

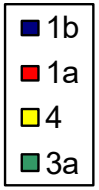
34% 1-10 ; 24% 10-20; 12,6% >50 PWID

Data source: National Anti Drug Agency

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

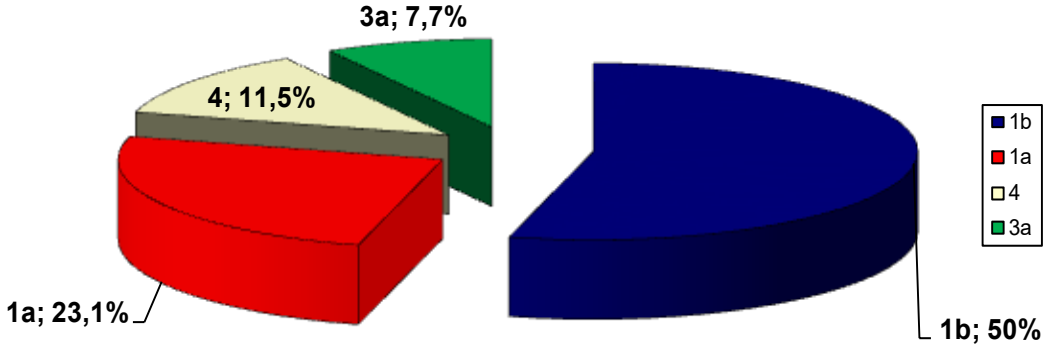


HCV Genotypes -general population



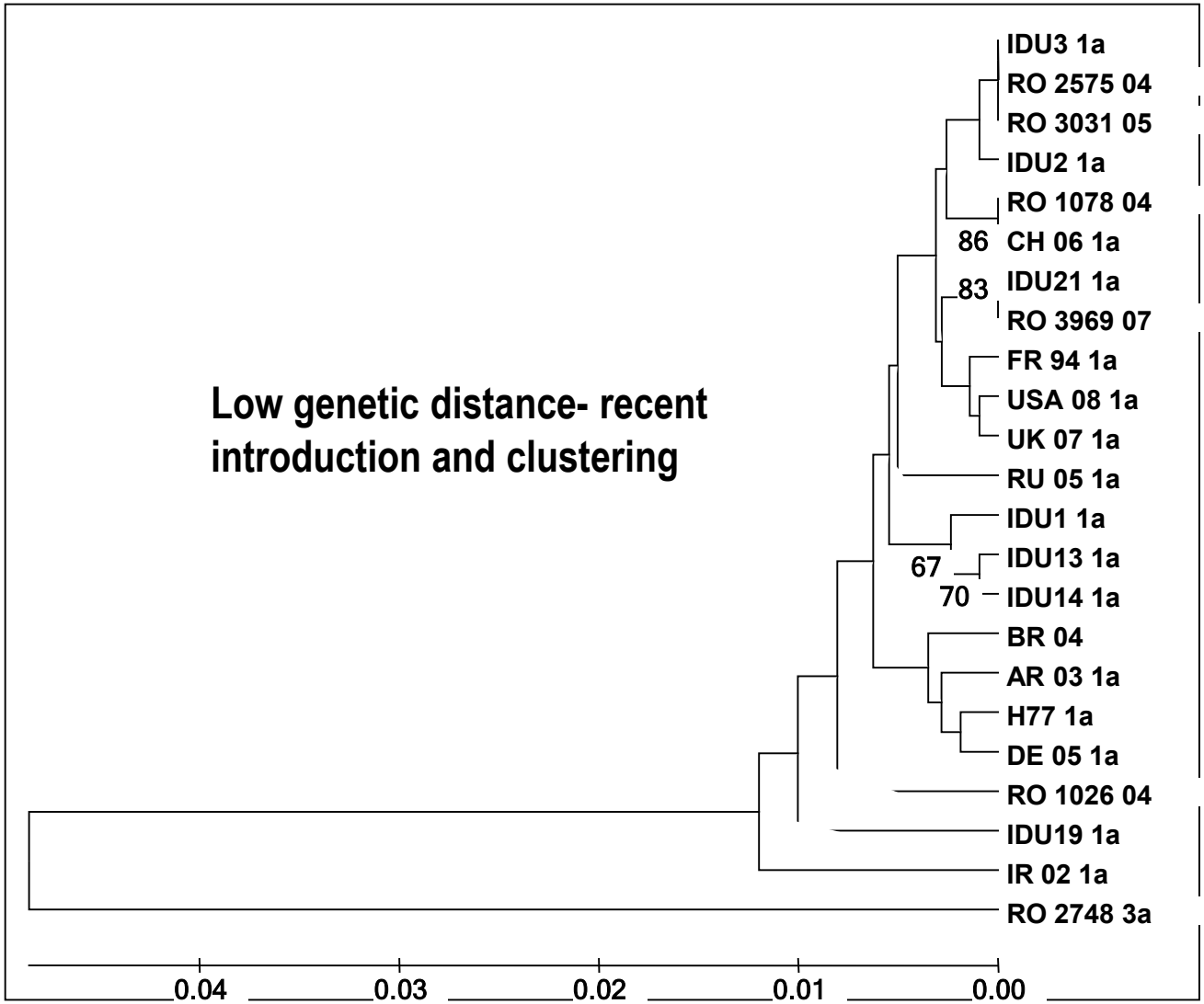
HCV Genotypes -IDUs

IDU- a vector for the introduction of new HCV genotypes



Sultana C, Vagu C, Temereanca A, Grancea C, Slobozeanu J, Ruta S. HCV genotypes in IDUs from Romania. Cent Eur J Med, 2011, 6(5), 672-78, PMID: 23585824,
Ruta S, Sultana C, Oprea C, Vagu C, Ceausu E, Cernescu C. HCV non-1b genotypes in injecting drug users from Romania. J Infect Dev Ctries. 2016;10 (5):523-7. PMID: 27249529

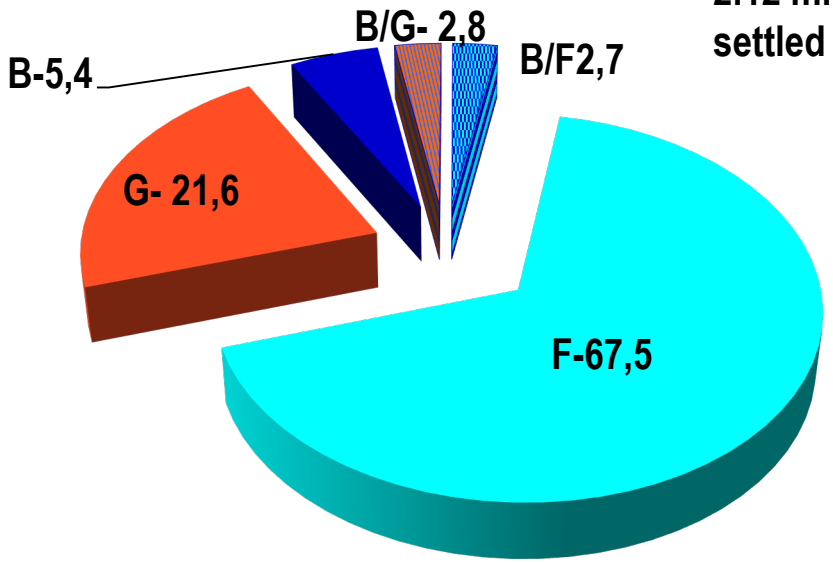
Phylogenetic tree in core region for HCV 1a strains isolated from PWID

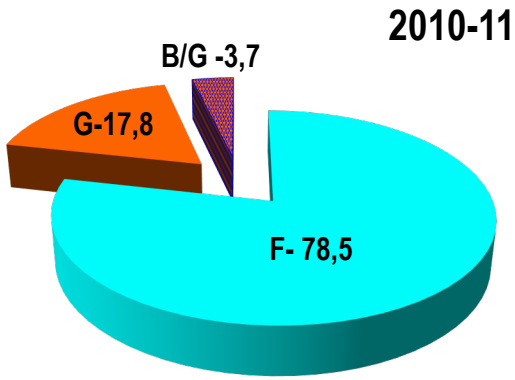


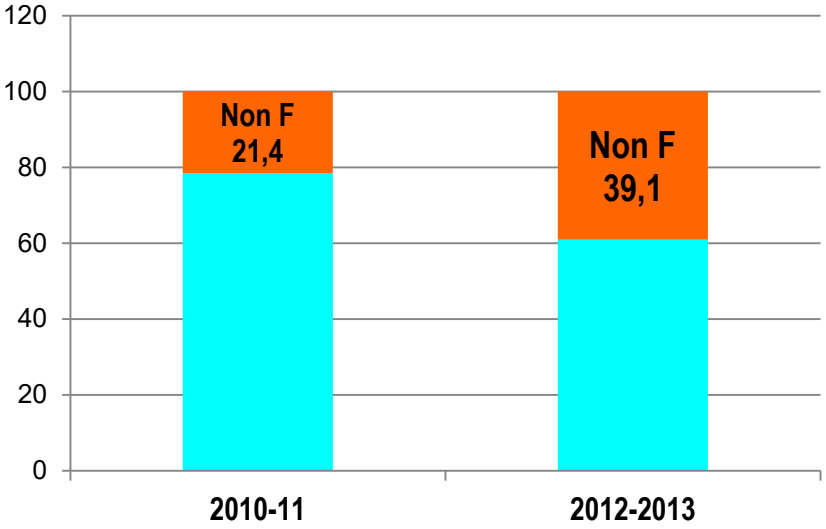
Sultana C, Oprişan G, Szmal C, Vagu C, Temereanca A, Dinu S, Teleman MD, Ruta S. Molecular Epidemiology of HCV Strains from Romania. J Gastrointestin Liver Dis., 2011, 20(3) 261-66, PMID: 21961093

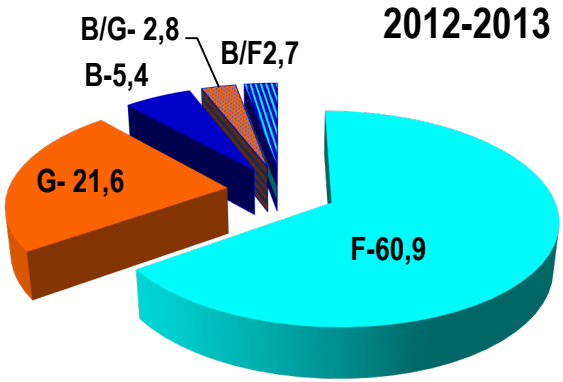
HIV1 SUBTYPES IN IDUs

Continous monitoring of the epidemic
2.12 millions Romanian- migrants in the EU, most have settled in Italy (888,000), Spain (823,000), Portugal





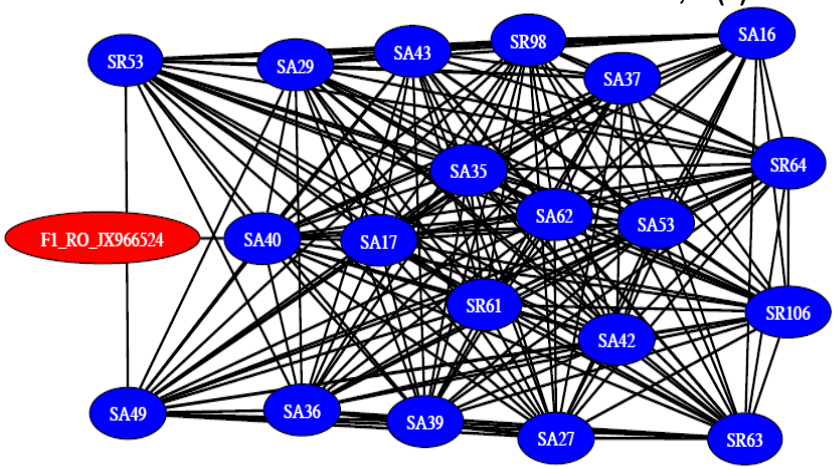


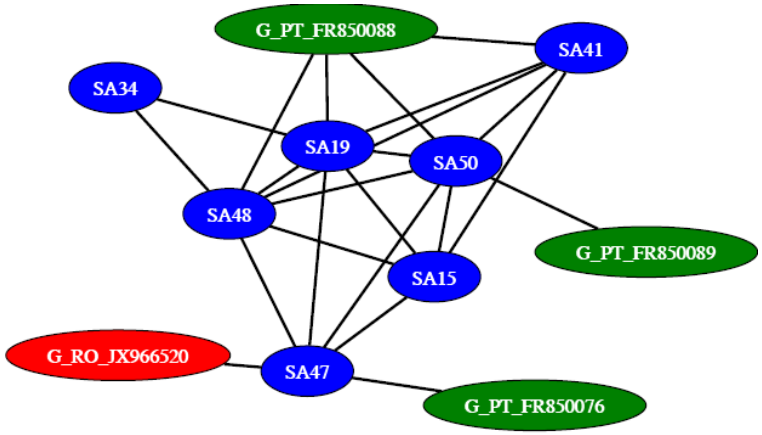


Phylogenetic analysis-
New subtypes and local HIV transmission networks in Romania

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

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

NEP: NGOs; <<pharmacies

HIV/HCV- CLINICAL IMPLICATIONS

ELEVATED HCV RNA LEVELS

PERSISTENT HCV VIREMIA

- quantitative loss of memory lymphocytes in HIV infection

FASTER FPR

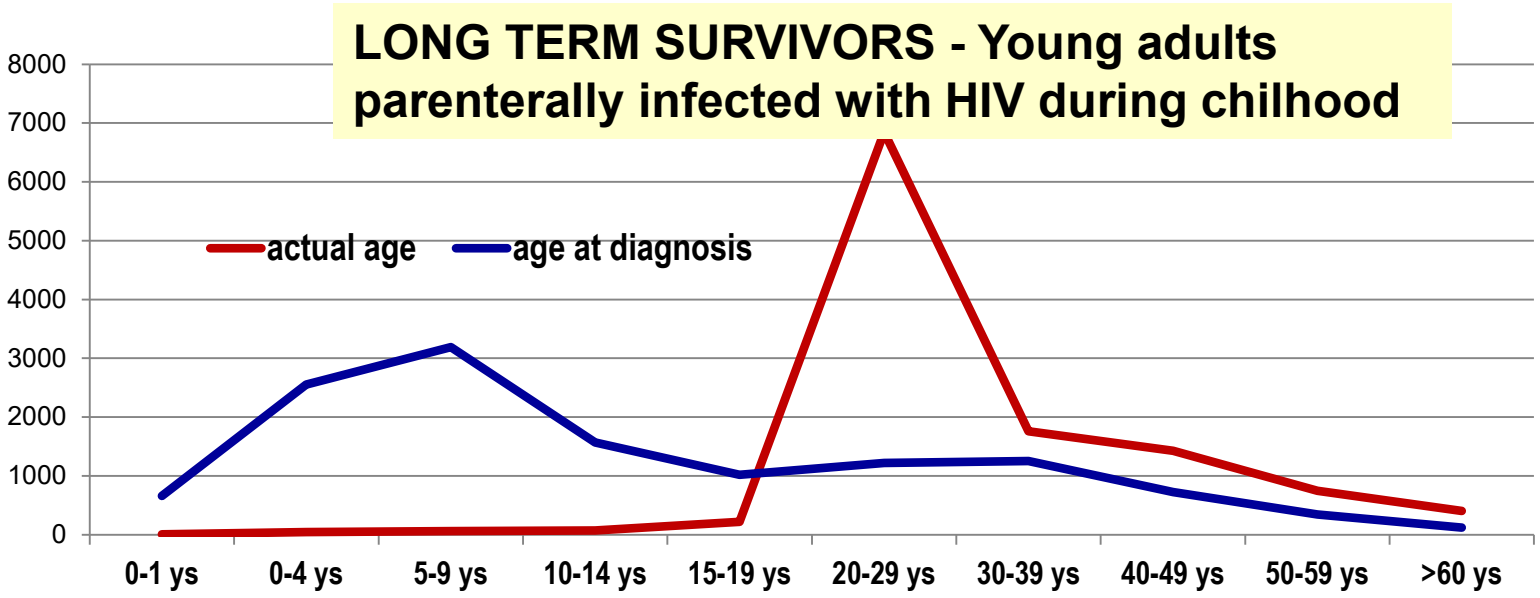
- HIV proteins (tat, gp120) or HIV itself directly influence the mediates the hepatic cytokine mileau
- decline in HCV-specific interferon (IFN)-gamma responses

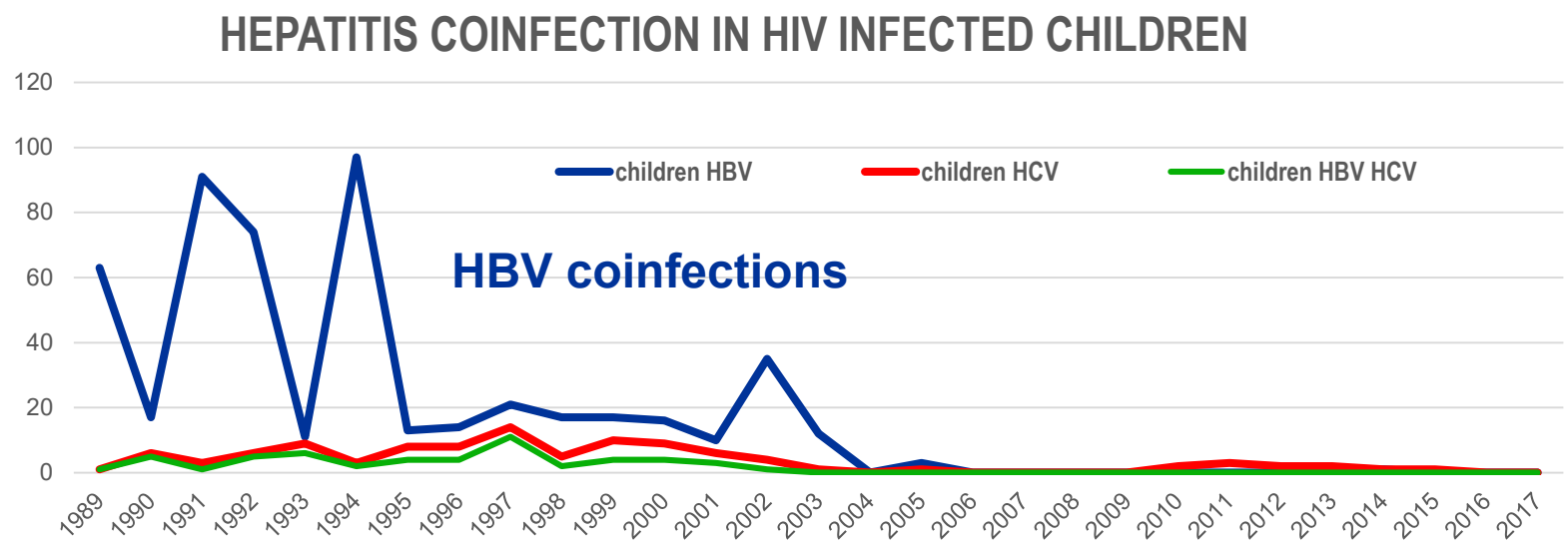
ACCELERATED LIVER DISEASE PROGRESSION

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

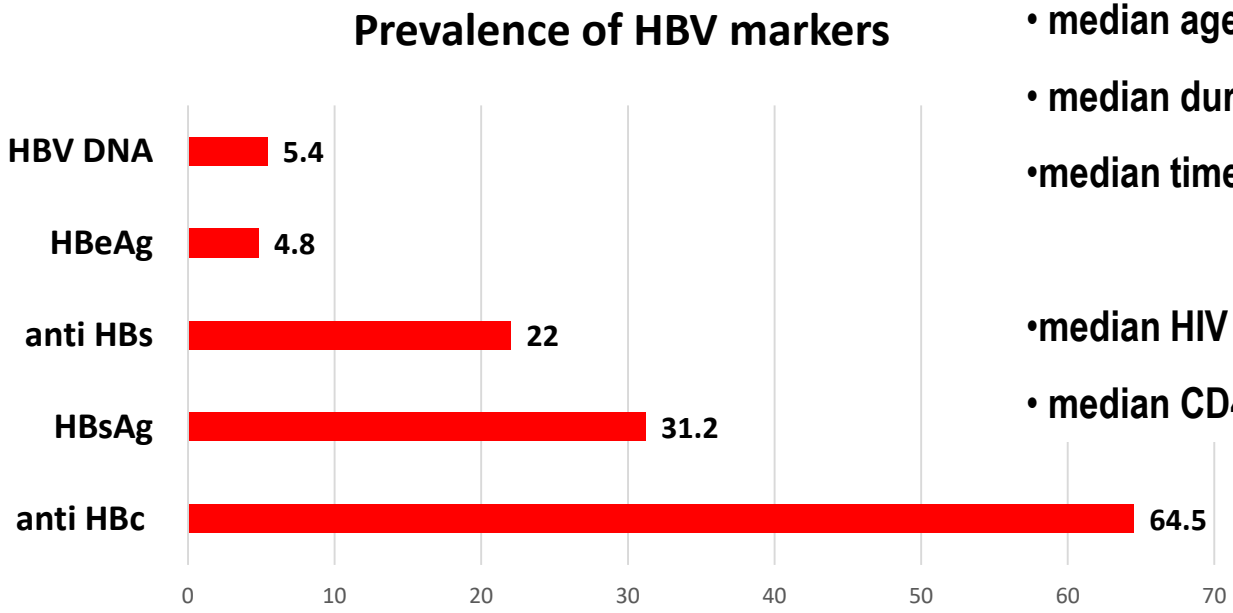
HIV EPIDEMIC IN ROMANIA





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



- 48% males
- median age: 24 years
- median duration of HIV infection: 17 ys
- median time on cART : 12 years

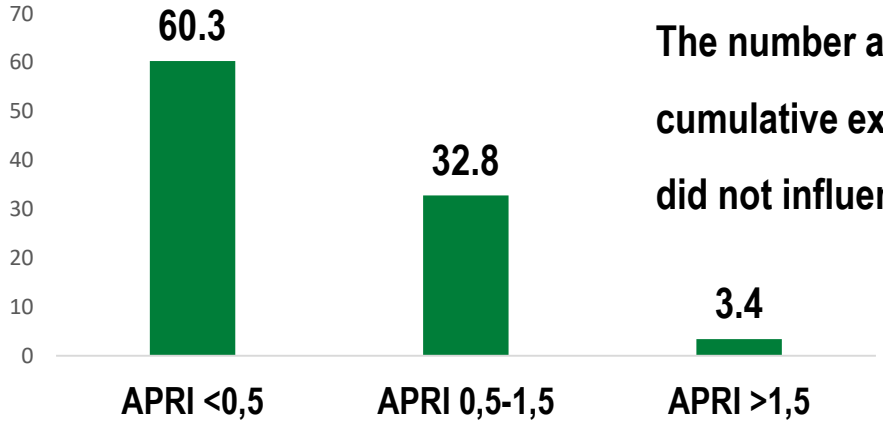
- median HIV viral load : 2.17 $\log_{10}$ copies/mL
- median CD4 count : 481 cells/mm3

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

Temereanca A, Ene L, Rosca A, Grancea C, Dita C, Duiculescu D, Achim CL, Ruta S, BMC Infectious Diseases, 2014, 14(Suppl 4):O16

HIV/HBV coinfected patients

Most coinfected individuals show no signs of severe liver fibrosis



The number and type of ARV regimens and the cumulative exposure to potentially hepatotoxic ARV did not influence the presence of fibrosis

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

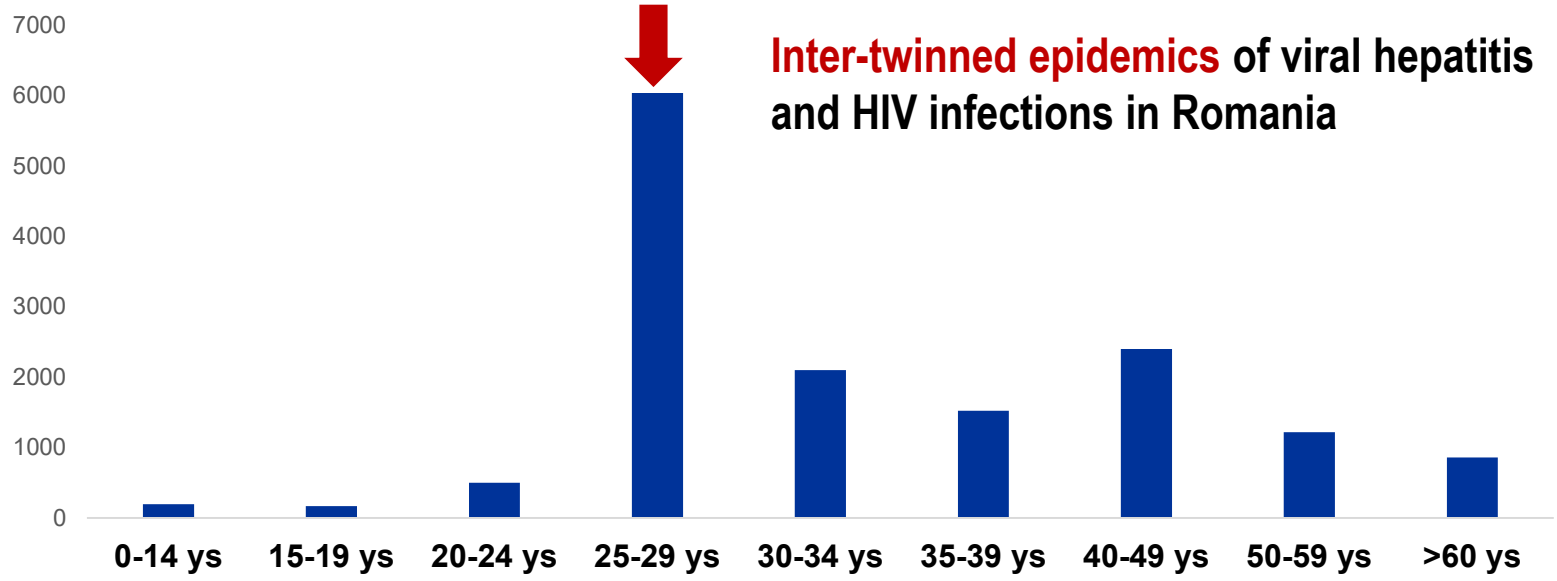
TAKE HOME- MESSAGES

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

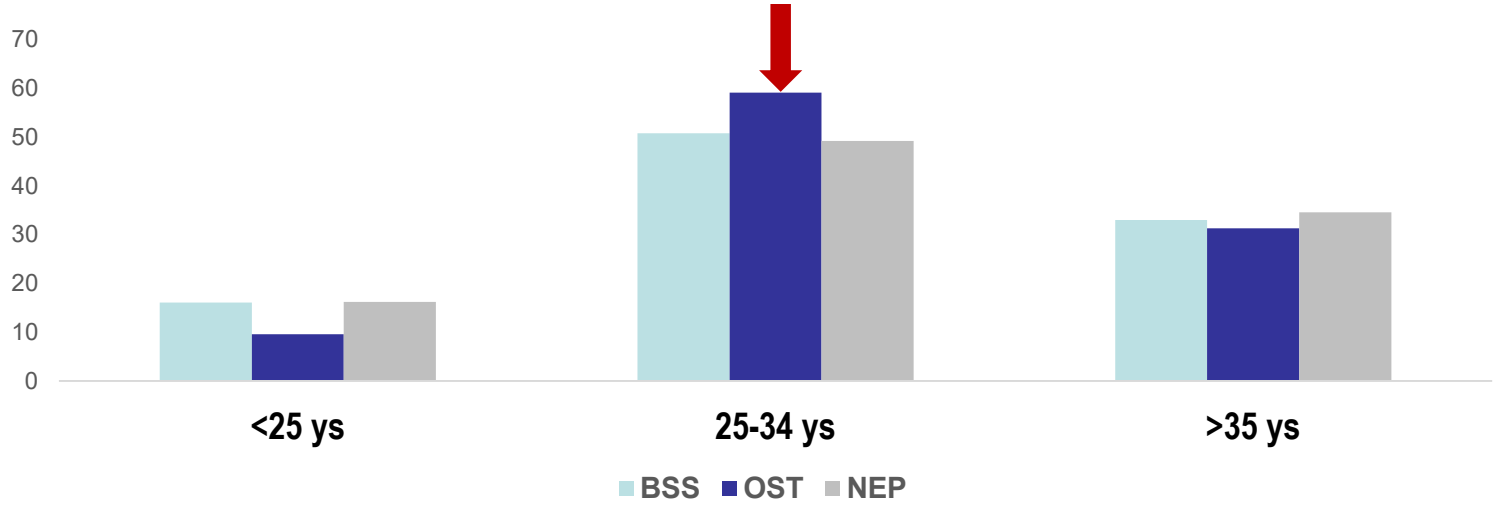
Profile PLWH-
Young adults – long term HBV coinfection - maintain an inactive hepatic disease under cART

Young adults recently coinfected 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 continum of care:
testing- referal- treatment- monitoring

"You must run faster and faster
Just to stay in the same place…."

The Red Queen Principle
Lewis Caroll- Alice in the wonderland

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