

Management of viral hepatitis B&C in Slovenia



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SLOVENIA

2 million inhabitants

Prevalence in general population: **HBV** estimated **<1%**
HCV estimated **0.5%**

Gross national income per capita: **26,530 int. \$**

Life expectancy at birth: **76 E/82 Cyears**

Probability of dying under five: **3 per 1000 live births**

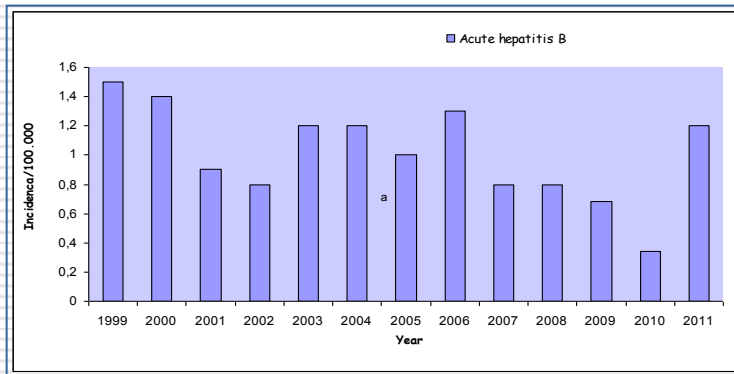
Total expenditure on health per capita: **2,552 Intl \$**

Total expenditure on health: **9.4 % of GDP**

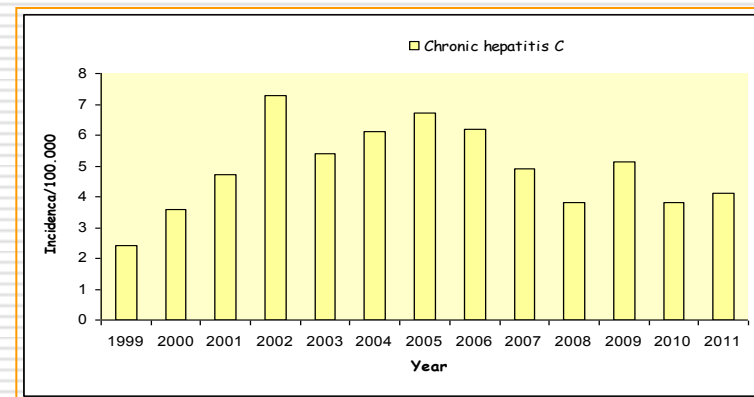
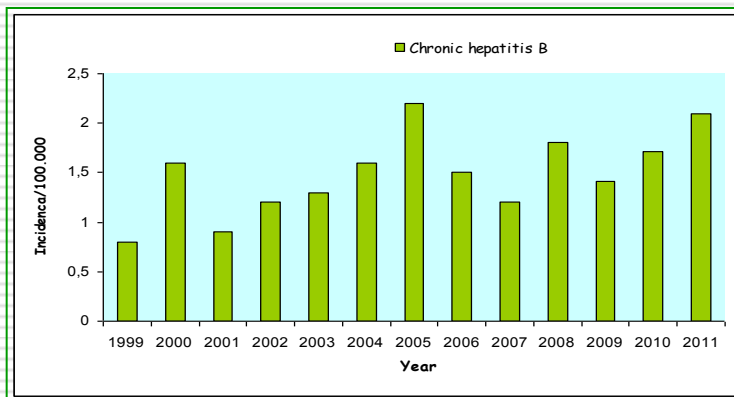
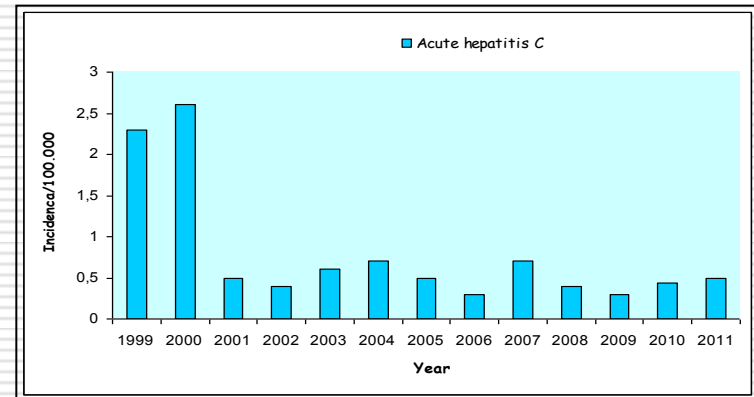
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ACUTE and CHRONIC hepatitis B and C INCIDENCE / 100 000 inhabitants

HEPATITIS B



HEPATITIS C



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Characteristics of HBV infection

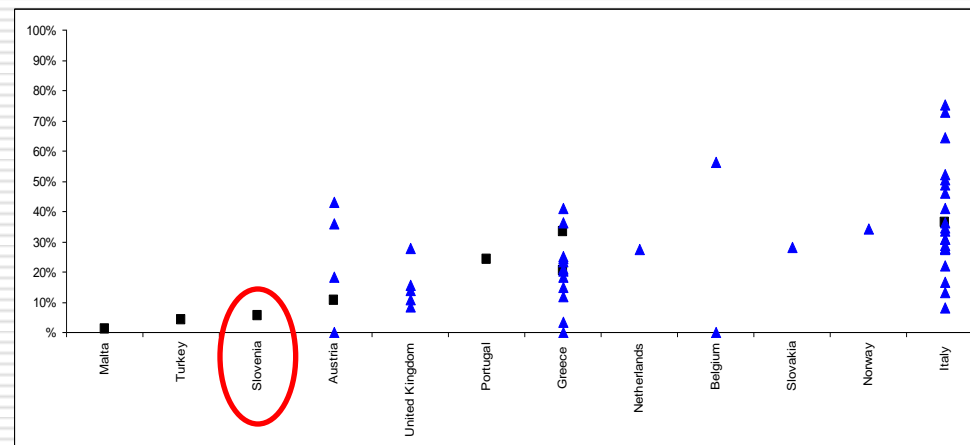
- **Prevalence HBsAg:**
general population: <1%
blood donors: 0.02 %

- **Chronic hepatitis B:**
HBeAg-negative: majority
genotype D: 95%

- **HDV co-infection:** none

- **HCV co-infection:** 5%

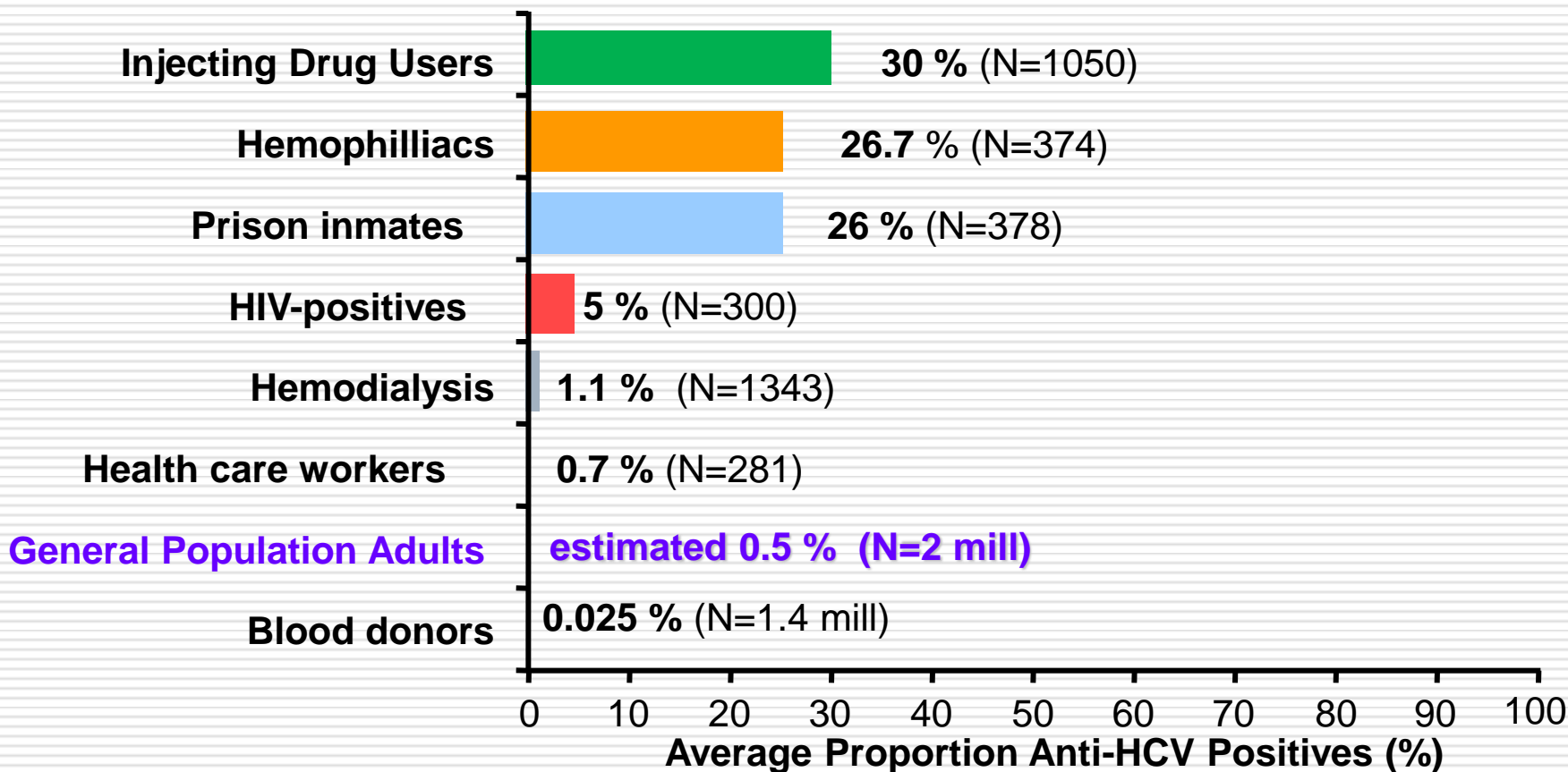
- **HIV co-infection:** 3%



**Prevalence of HBsAg
in injecting drug users**

SLOVENIA 2000-2010

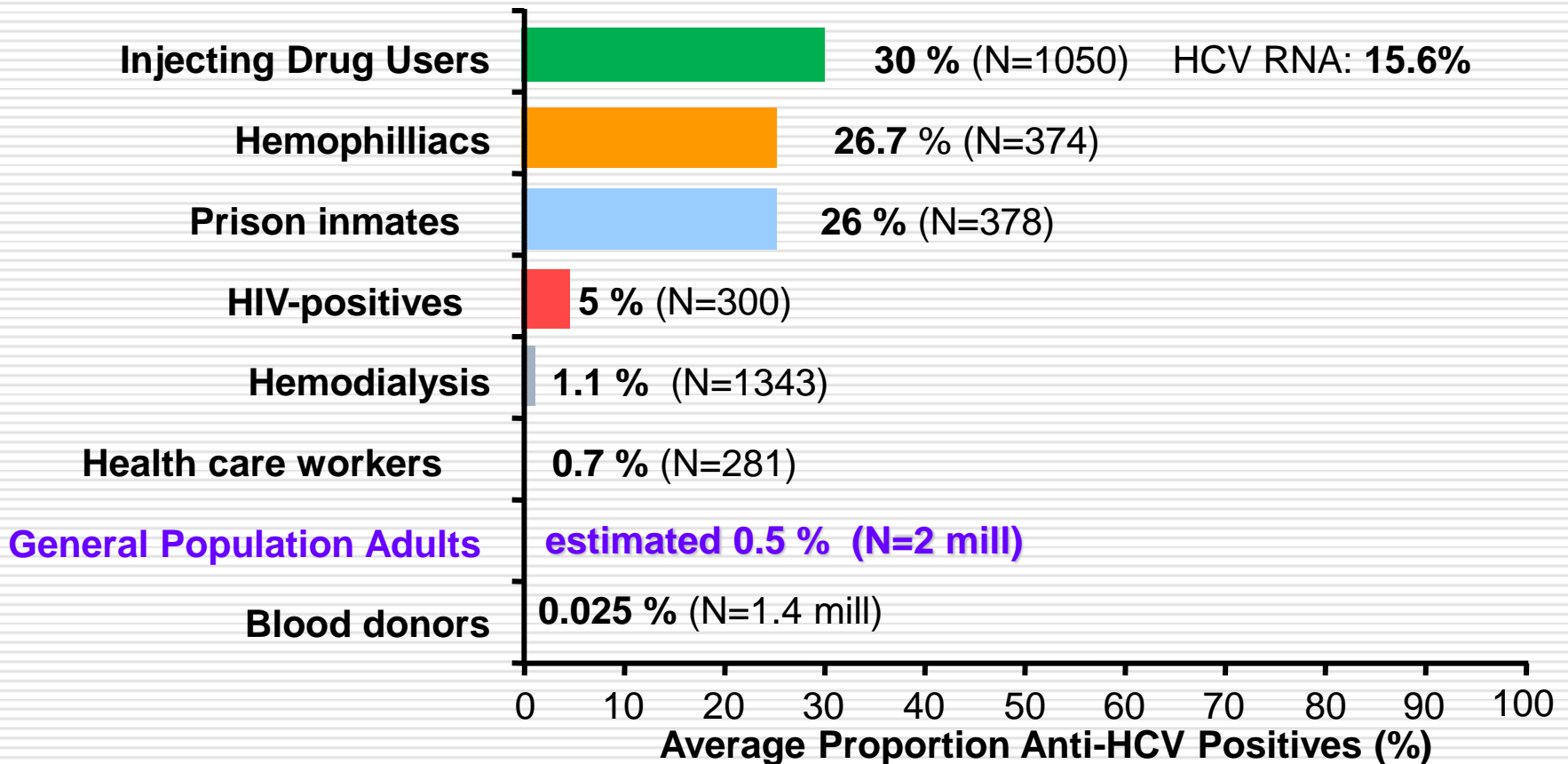
Anti-HCV prevalence by selected groups



Maticic M et al. JEADV 2008; 22: 779-88. Baklan Z et al. Wien Klin Wochenschr 2004; 116(2): 5-7.
Kastelic A et al. 2nd Slovenian Conference on HCV Infection in IDUs, 2007.

SLOVENIA 2000-2010

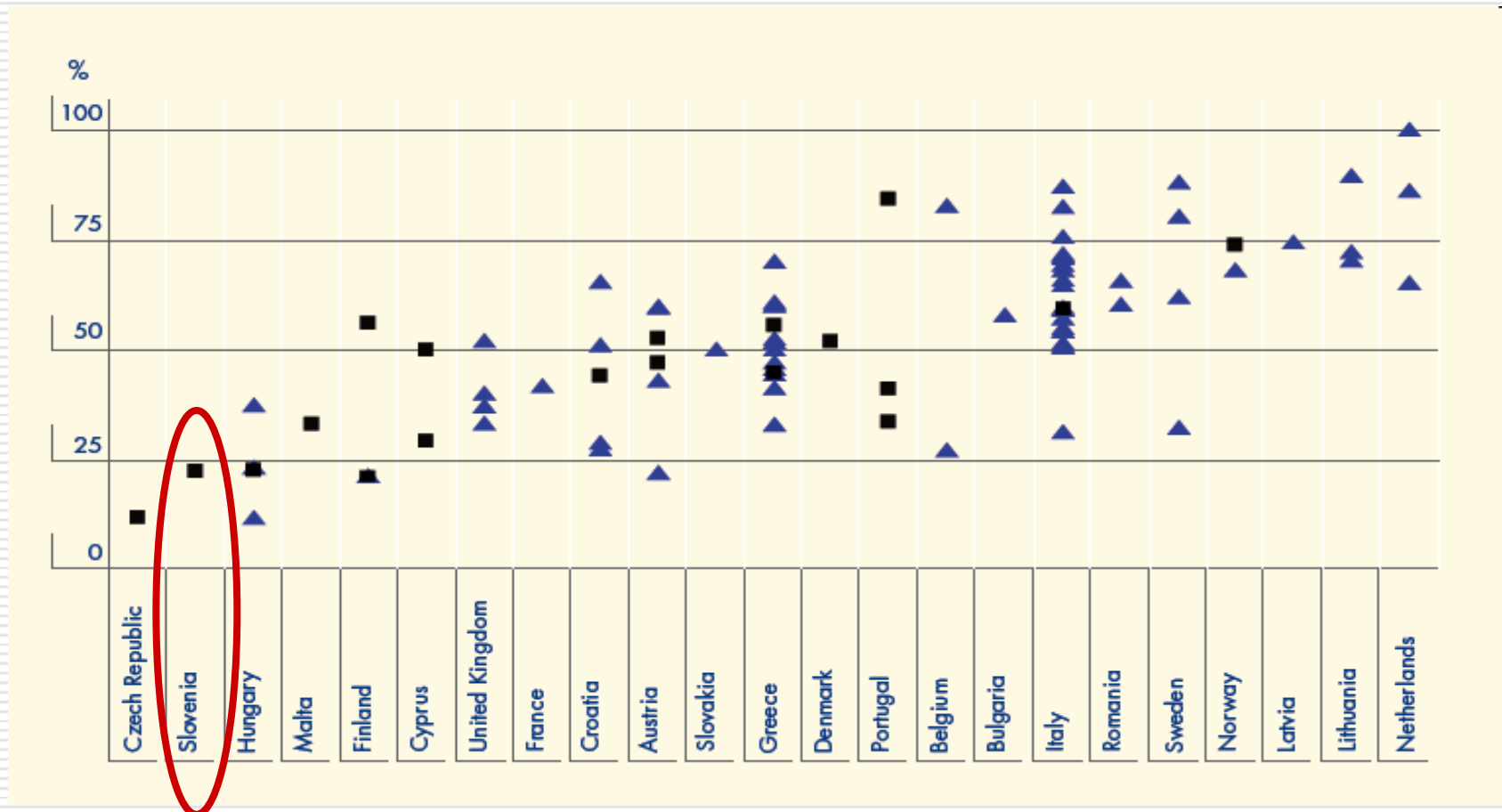
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Prevalence of anti-HCV among IDUs in Europe

EMCDDA Report, Nov 10, 2010.

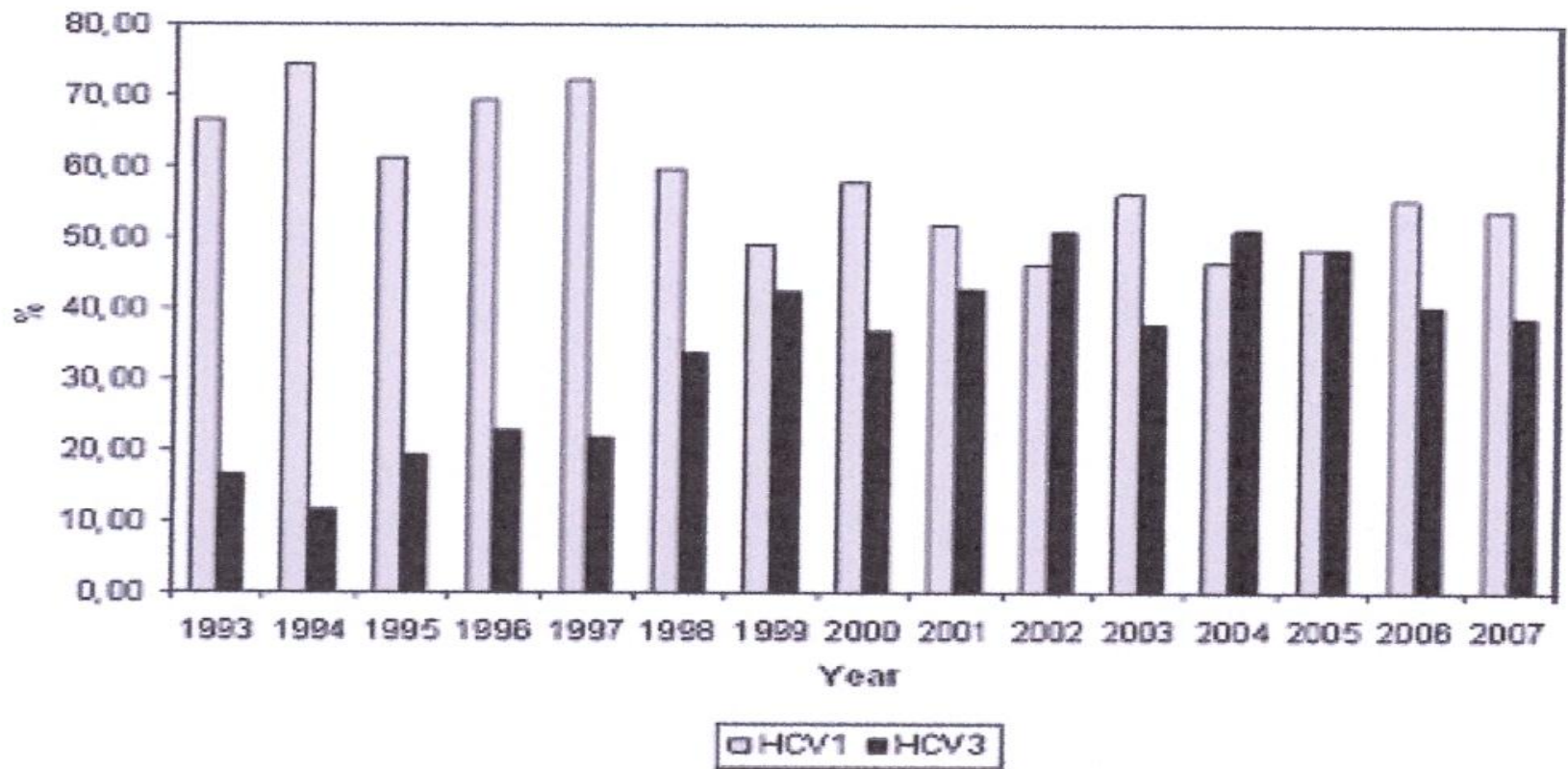


Data for the years 2007 and 2008. Black squares are samples with national coverage; blue triangles are samples with subnational (local or regional) coverage. Differences between countries have to be interpreted with caution owing to differences in types of settings and study methods; national sampling strategies vary. **Source:** [Reitox national focal points](#).

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Dynamics of HCV-1 and HCV-3 genotypes

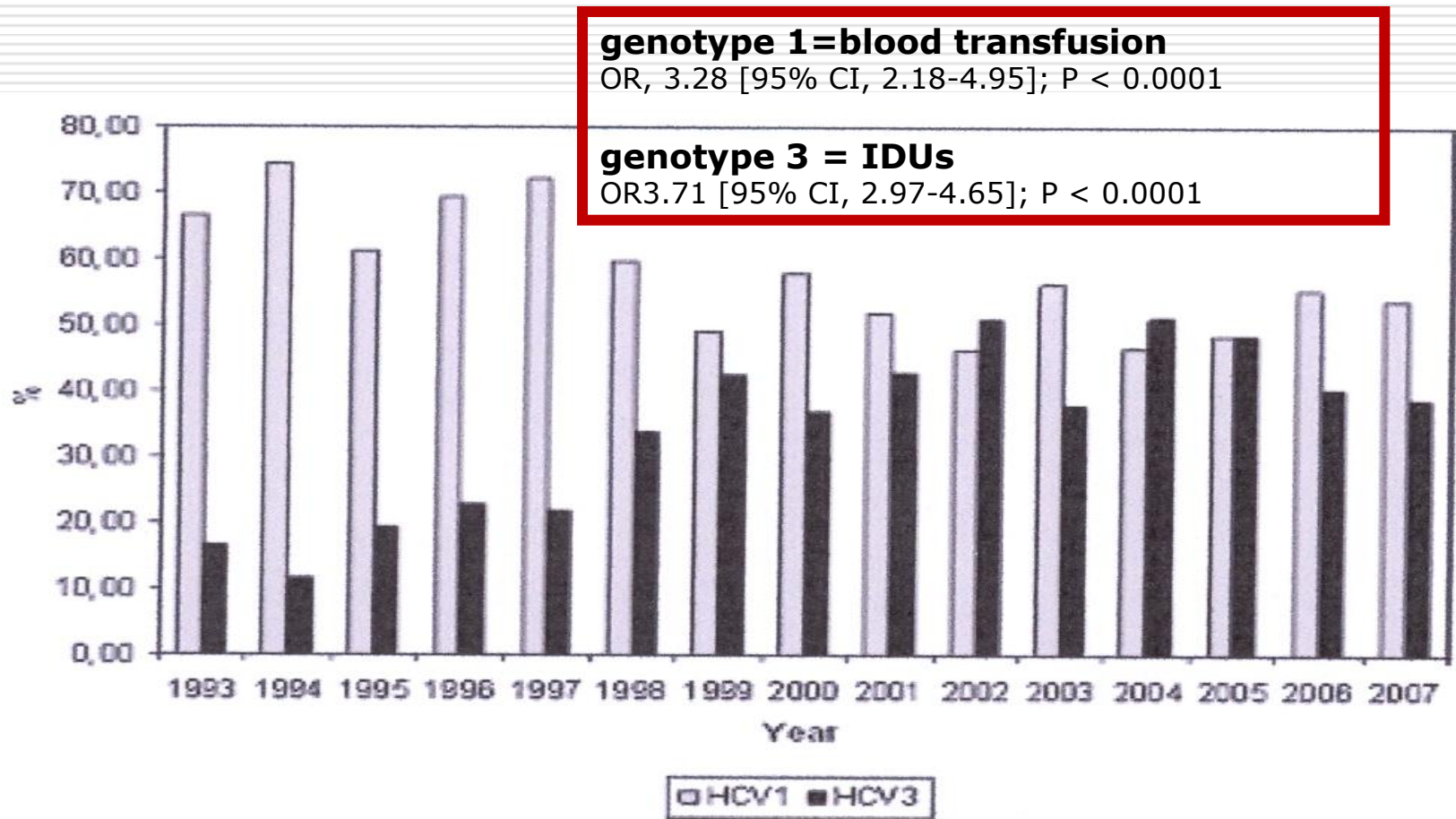
N=1504



SLOVENIA 1993-2007

Dynamics of HCV-1 and HCV-3 genotypes

N=1504



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Management of viral hepatitis B and C

□ Institute of Public Health:

Surveillance of communicable diseases (includes prevention of HBV&HCV infections)

□ National Viral Hepatitis Expert Group:

National strategy for the complex management of HBV&HCV

Action plan

Operation

Surveillance of communicable diseases

- ❑ Law on communicable diseases. Official Gazette No. 69/1995
- ❑ Regulation on communicable diseases notification, prevention and control Official Gazette No. 16/1999

DEFINITIONS for surveillance (available on: http://www.ivz.si/gradiva_nalezljive_bolezni)

HEPATITIS B

Clinical criteria: Not relevant for surveillance purposes.

Epidemiological criteria: Not relevant for surveillance purposes.

Laboratory criteria:

Positive results on at least one or more of the following tests or combination tests:

1. IgM hepatitis B core antibody (anti-HBc IgM)
2. hepatitis B surface antigen (HBsAg)
3. hepatitis B e antigen (HBeAg)
4. hepatitis B nucleic acid in serum (HBV DNA).

Case classification

- Possible case: not applicable.
- Probable case: not applicable.
- Confirmed case: any person meeting the laboratory criteria.

HEPATITIS C

Clinical criteria: Not relevant for surveillance purposes.

Epidemiological criteria: Not relevant for surveillance purposes.

Laboratory criteria:

At least one of the following three:

1. detection of hepatitis C virus nucleic acid (HCV RNA)
2. detection of hepatitis C virus core antigen (HCV core)
3. hepatitis C virus antibody (anti-HCV Ab) confirmed by an antibody test (e.g. immunoblot) in patients older than 18 months without evidence of resolved infection.

Case classification

- Possible case: not applicable.
- Probable case: not applicable.
- Confirmed case: any person meeting the laboratory criteria.

Prevention of HBV and HCV infections

HBV

- ❑ Surveillance of hepatitis B and contact tracing (general population)
- ❑ **Vaccination programme:**
birth cohorts from 1992 (at age 5-6 y)
persons at risk
- ❑ Screening of **pregnant women** (s.1994)
- ❑ **Safe blood** (HBV DNA testing)
- ❑ **Work place safety** (health care workers)
- ❑ Promotion of safe sex
- ❑ Harm reduction programmes

HCV

- ❑ Surveillance of hepatitis C and contact tracing (general population)
- ❑ Safe blood (HCV RNA testing)
- ❑ Work place safety (health care workers)
- ❑ Harm reduction programmes

HEPATITIS B VACCINATION PROGRAMME

National programme of immunoprophylaxis, Office Gazette, 2012

Vaccination of birth cohorts from 1992 on with hepatitis B vaccine at age of 5-6 years (0-1-6),

School-year	Vaccination coverage
2004/2005	98,1 %
2005/2006	97,8 %
2006/2007	97,3 %
2007/2008	97,4 %
2008/2009	97,1 %
2009/2010	97,0 %
2010/2011	92,2 %

- **Vaccination coverage (3rd dose):**
generally high
- **Regional differences:**
The capital: 85,6 %
Eastern, rural part: 98 %

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National Viral Hepatitis Expert Group

- ❑ Founded: in 1997, **self-initiative**

 - ❑ **Multidisciplinary team:**
 - infectologists, gastroenterologists-hepatologists
 - clinical virologists
 - addiction specialists
 - epidemiologists
 - transfusiologists
 - clinical pharmacists
 - pathologist
-

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National Viral Hepatitis Expert Group

- **National strategy for the complex management of HBV&HCV infections:**
 - **Testing:** special populations: case finding, surveillance
 - general population: anonymous free-of-charge testing (routine+campaigns)
 - **Treatment:** availability, access, process, follow-up
systematical analysis of treatment efficacy and safety (since 1997)
 - National consensus **guidelines** on the overall management of HBV, HCV infected
 - **Research**
 - **Education** (professionals, general population)
 - **Mass media campaigns** (World Hepatitis Day, etc.)

 - **National strategy for the management of HCV&HBV in IDUs**
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Clinical management of patients with HBV&HCV infection at 5 Centers for Viral Hepatitis



Refferential institution:

Clinic for Infectious Diseases nad Februle Illnesses, UKC Ljubljana

Clinical management of patients with HBV&HCV infection

CLINICIANS:

- ❑ **Infectologists: the majority of cases**
- ❑ Gastroenterologists/hepatologists: liver failure, HCC

THERAPY for HCV:

- ❑ IFN (1993)
- ❑ IFN/RBV (1999)
- ❑ PEG/RBV (2001)
- ❑ BOC/TPV (2012)

- ❑ Liver transplantation (1998)

THERAPY for HBV:

- lamivudine (1999)
- adefovir (2003)
- entecavir (2006)
- telbivudine (2008)
- tenofovir (2009)

FINNANCING of HBV&HCV management :

- ❑ Basic Health Insurance System:
 - Nominated specialists** to prescribe P/R, PI, NUCs
 - National guidelines** for the management of HBV&HCV infection
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National management of HBV&HCV infection

- **1997: Slovenian Viral Hepatitis Expert Group**
National Guidelines for the Management of HCV Infection
 - 1999: National Guidelines for the Management of HCV Infection – An Update
 - **2007: National guidelines for the clinical management of HCV infection in IDUs**
 - **2007: Healthcare Network for the Management of HCV infection in IDUs**
 - 2008: National consensus guidelines for the prevention of HBV reactivation in patients on immunosuppressive therapy
 - 2009: National guidelines for the clinical management of HCV infection - An update
 - 2009: National guidelines for the clinical management of HBV infection - An update
 - 2006-2011: National Slovenian Conferences on HCV Infection
 - 2012: National consensus guidelines for HCV treatment with protease inhibitors
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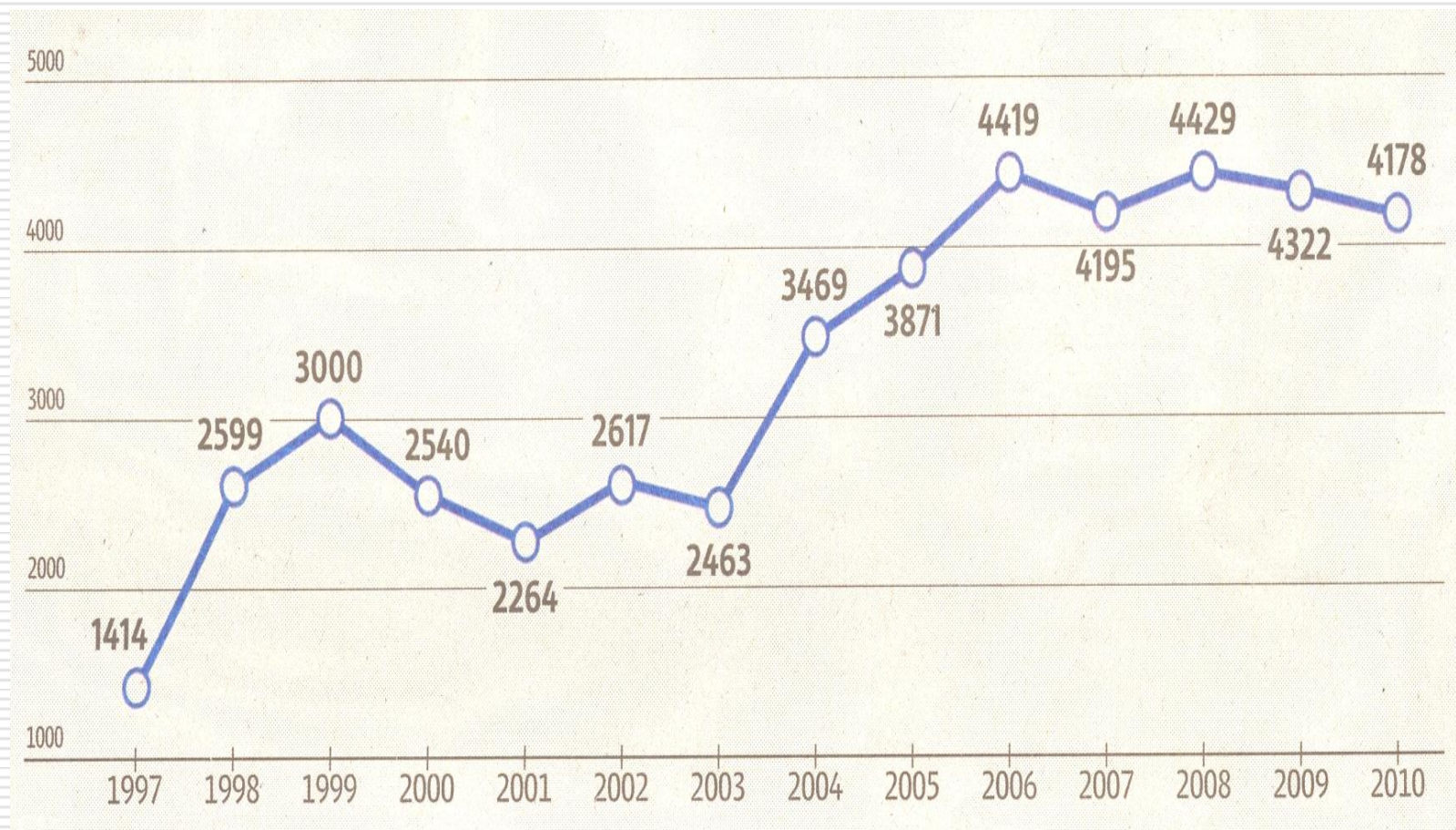
Network of 18 Centres for Prevention and Treatment of Drug Addiction



Slovenia: estimated 10 000 IDUs

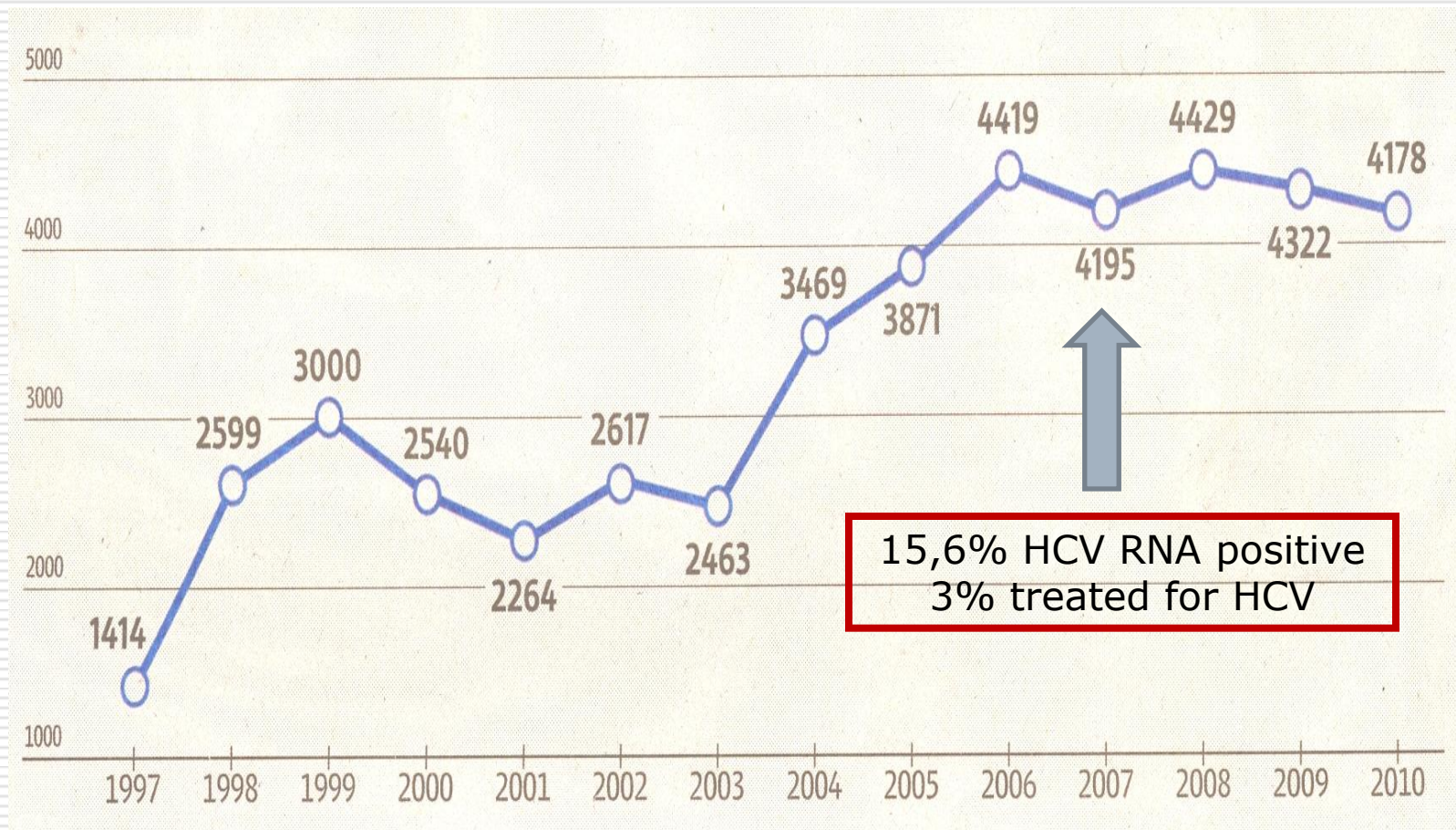
No of IDUs managed per year

Network of 18 Centres for Prevention and Treatment of Drug Addiction

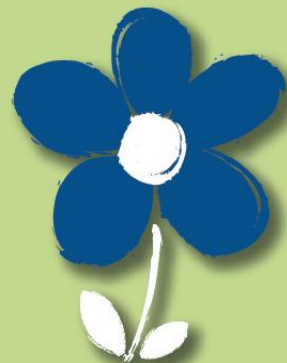


No of IDUs managed per year

Network of 18 Centres for Prevention and Treatment of Drug Addiction



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Hepatitis C pri uživalcih
drog v programih
substitucijske terapije:

Priporočila za
klinično obravnavo
in zdravljenje

Asist. **Andrej Kastelic**, dr. med., spec. psih.
Doc. dr. **Mojca Matičič**, dr. med., spec. intern.

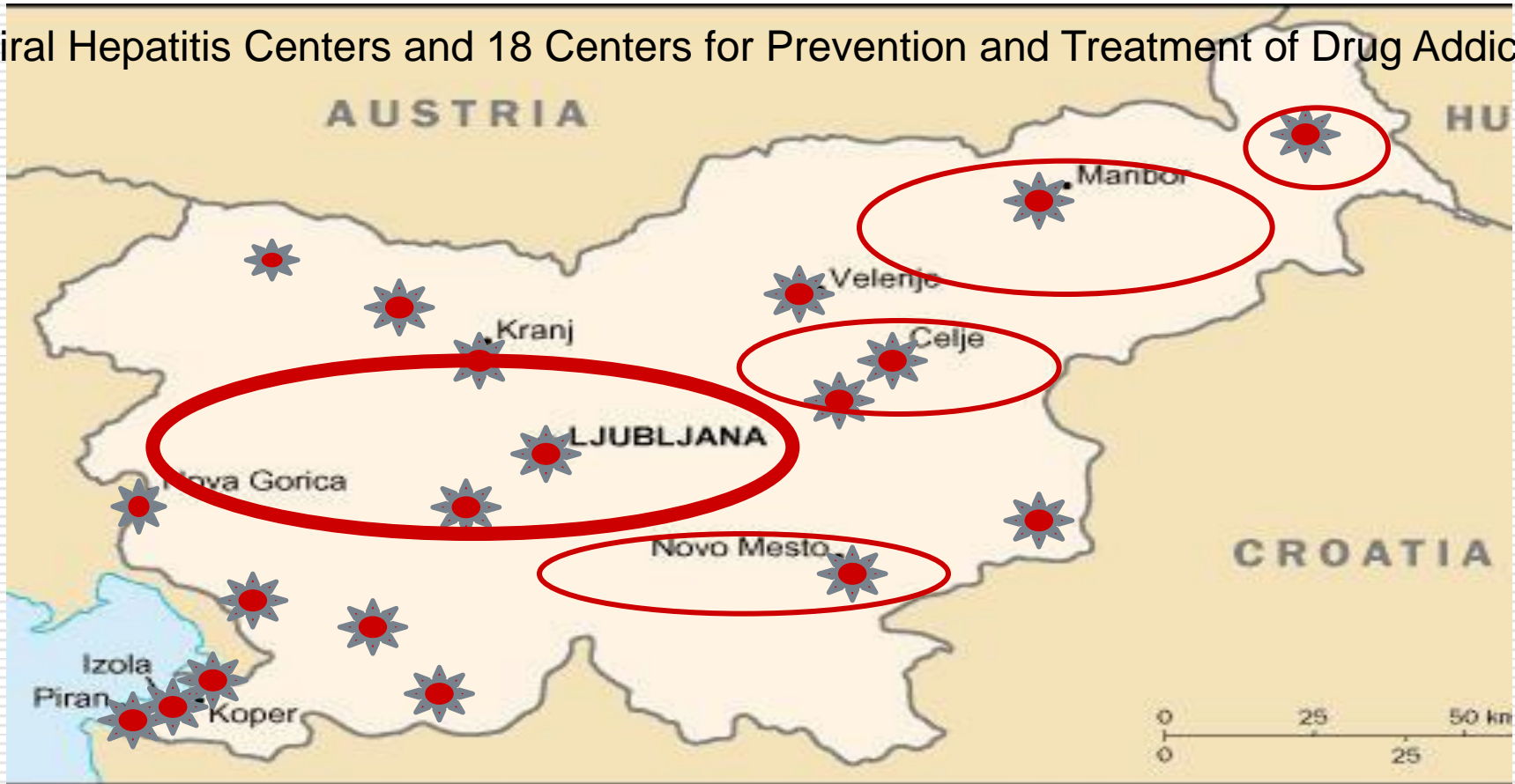
**Hepatitis C in drug
users on substitution
treatment:**

**National guidelines for
clinical management
and treatment**

March 2007

Healthcare network for the multidisciplinary management of HBV&HCV infections in IDUs

5 Viral Hepatitis Centers and 18 Centers for Prevention and Treatment of Drug Addiction



Refferential: Clinic for Infectious Diseases nad Februle Illnesses,
University Medical Centre Ljubljana

Healthcare network for management of hepatitis B&C virus infections in IDUs

COMBINING:

- ❑ Viral hepatitis centers: 5
- ❑ Drug treatment centers: 18 Centers for Prevention and Treatment of Drug Addiction

Multidisciplinary team:

- ❑ Viral hepatitis specialists
- ❑ Addiction specialists
- ❑ Psychiatrists/therapists
- ❑ Other clinical specialists (dermatologist, thyroid specialist)
- ❑ Councillors (specially trained nurses, social workers)
- ❑ Peers (former HCV+ IVDUs): personally, on-line
- ❑ Other support system (family, friends, co-workers, etc.)

Healthcare network for management of IDUs with hepatitis C virus infection

National Conferences “HCV in IDUs” for providers:

- **1st Slovenian Conference on HCV Infection in IVDU (Jan 2006):**
basic medical and supportive education
strategies, interventions
 - **2nd Slovenian Conference on HCV Infection in IVDU (Mar 2007):**
set up National guidelines for the management of HCV in IVDUs
 - **3rd Slovenian Conference on HCV Infection in IVDU (Apr 2008):**
vulnerable groups
 - **4th Slovenian Conference on HCV Infection in IVDU (Feb 2010):**
experiences/improvements of the National guidelines
future perspectives
 - **5th Slovenian Conference on HCV Infection in IVDU (Dec 2011):**
role of addiction programmes, new drugs for HCV, HIV and IVDUs in Slovenia
-

Current strategy for management of HCV infection in IDUs

- **Un-infected:** counselling to prevent HCV infection
regular testing for HCV infection
HBV vaccination
- **Acutely infected:** identification as soon as possible
- **Chronically infected:** identification
evaluation of readiness
medical evaluation
clinical management
counselling, motivation
treatment

**Drug Th
Centre**

**Drug Th
Centre**

**Viral Hepatitis
Centre
+
Drug Th
Centre**

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Management of chronic HCV infection in IDUs

□ **MULTIDISCIPLINARY APPROACH**

- to combine Drug Treatment Centers and Viral Hepatitis Centers
- implement already existing facilities into the most appropriate model for local resources

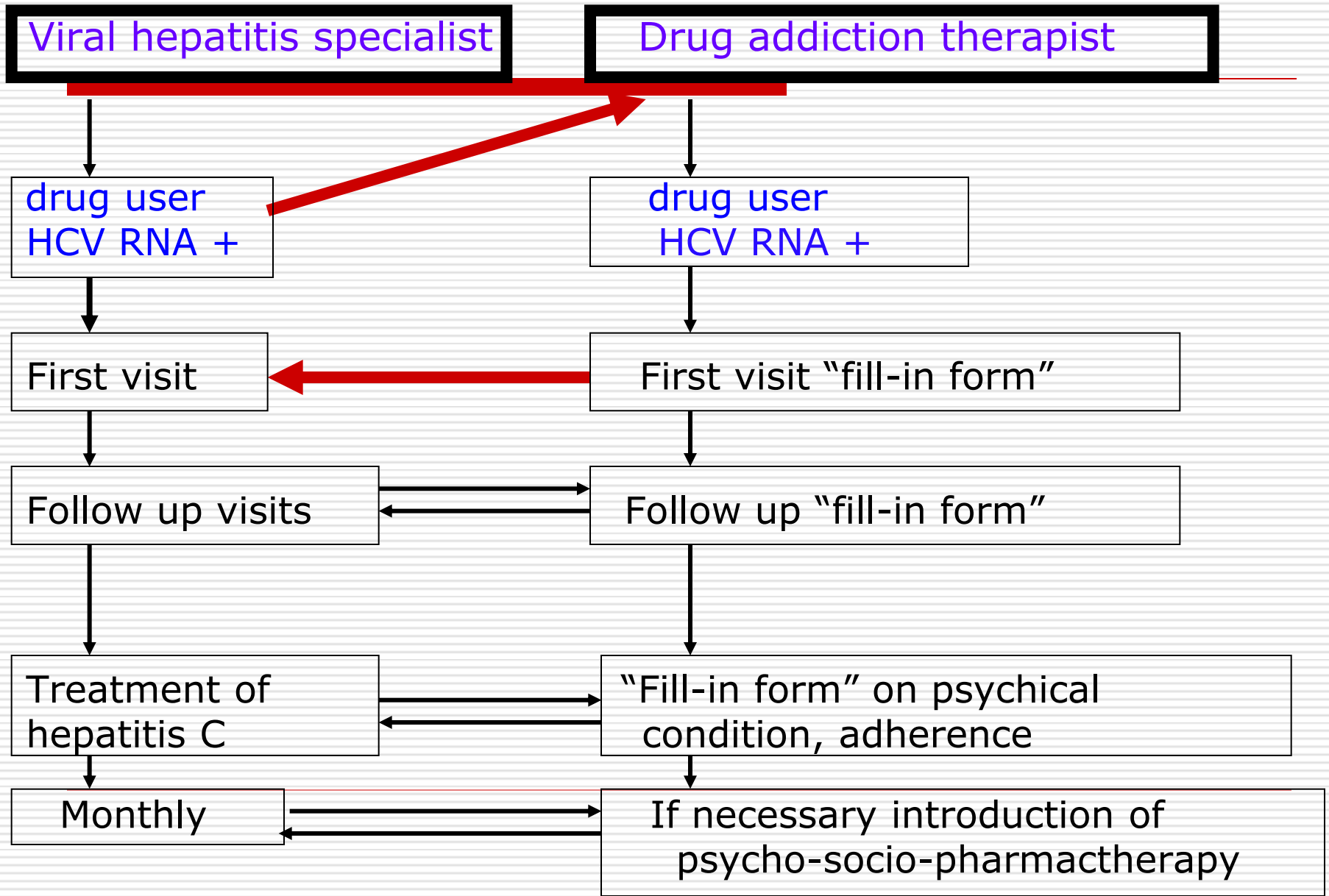
□ **NATIONAL GUIDELINES**

- **Identification** of IDUs who may benefit from referral for further management of HCV infection (Drug Treatment Centre)
 - **Evaluation** of IDUs before treatment (Drug Treatment Centre, Viral Hepatitis Centre)
 - **Optimization of HCV treatment** before and during treatment (Viral Hepatitis Centre, Drug treatment Centre)
 - **Support** during treatment (medical, psychological, social, peers)
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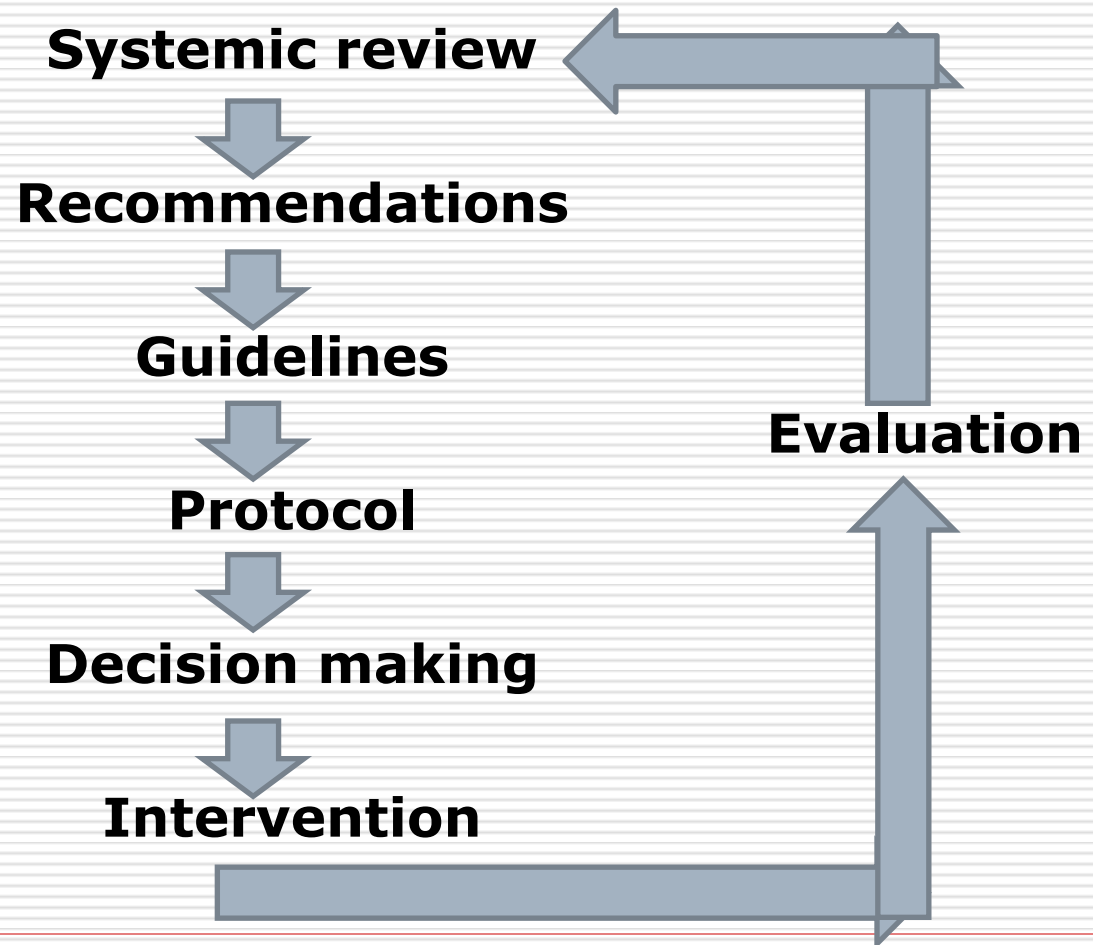
Cooperation

between viral hepatitis specialist and drug addiction therapist



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Evaluation of HCV treatment



Source: Annie Coppel, NICE.

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Four prospective national studies on currently recommended SOC treatment of **all** naive patients with chronic hepatitis C

SOC Therapy	Period	All pts (N)	IDUs (%)	Sustained Viral Response
IFN	1997-1999	80	5%	28%
IFN/R	1999-2001	63	16%	43%
PEG/R	2001-2004	134	36%	64%
PEG/R optimised	2008-2010	130	78%	80%

Brinovec V et al. Hepatogastroenterology 2002; 49: 1320-25.

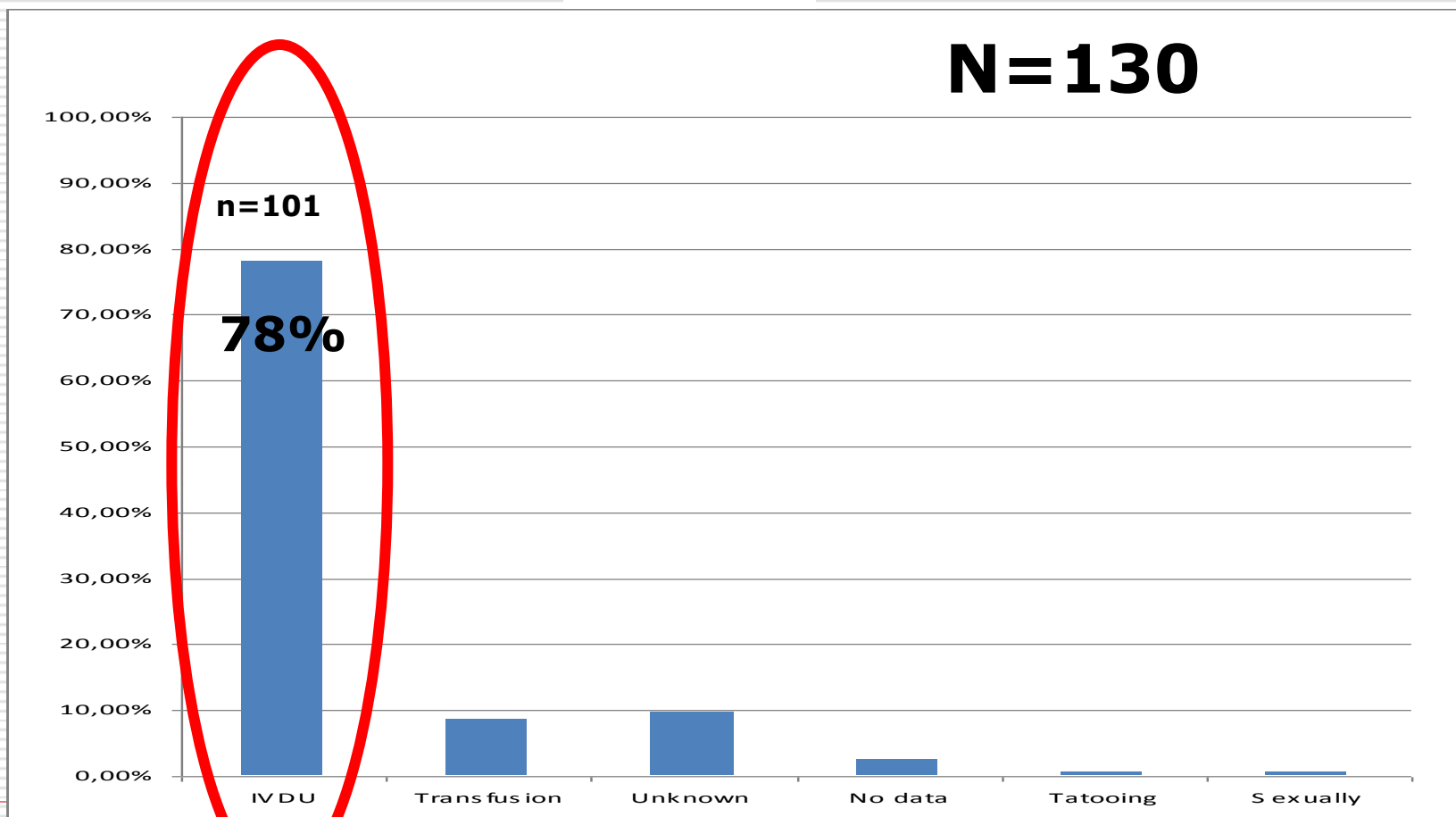
Brinovec V et al. Hepatogastroenterology 2004; 51: 506-11.

Maticic M et al. In press. Selic-Kurincic T, et al 2011, not yet finished.

SLOVENIA 2008 - 2010

Patients with chronic hepatitis C that finished optPEG/R

Risk factors for HCV infection

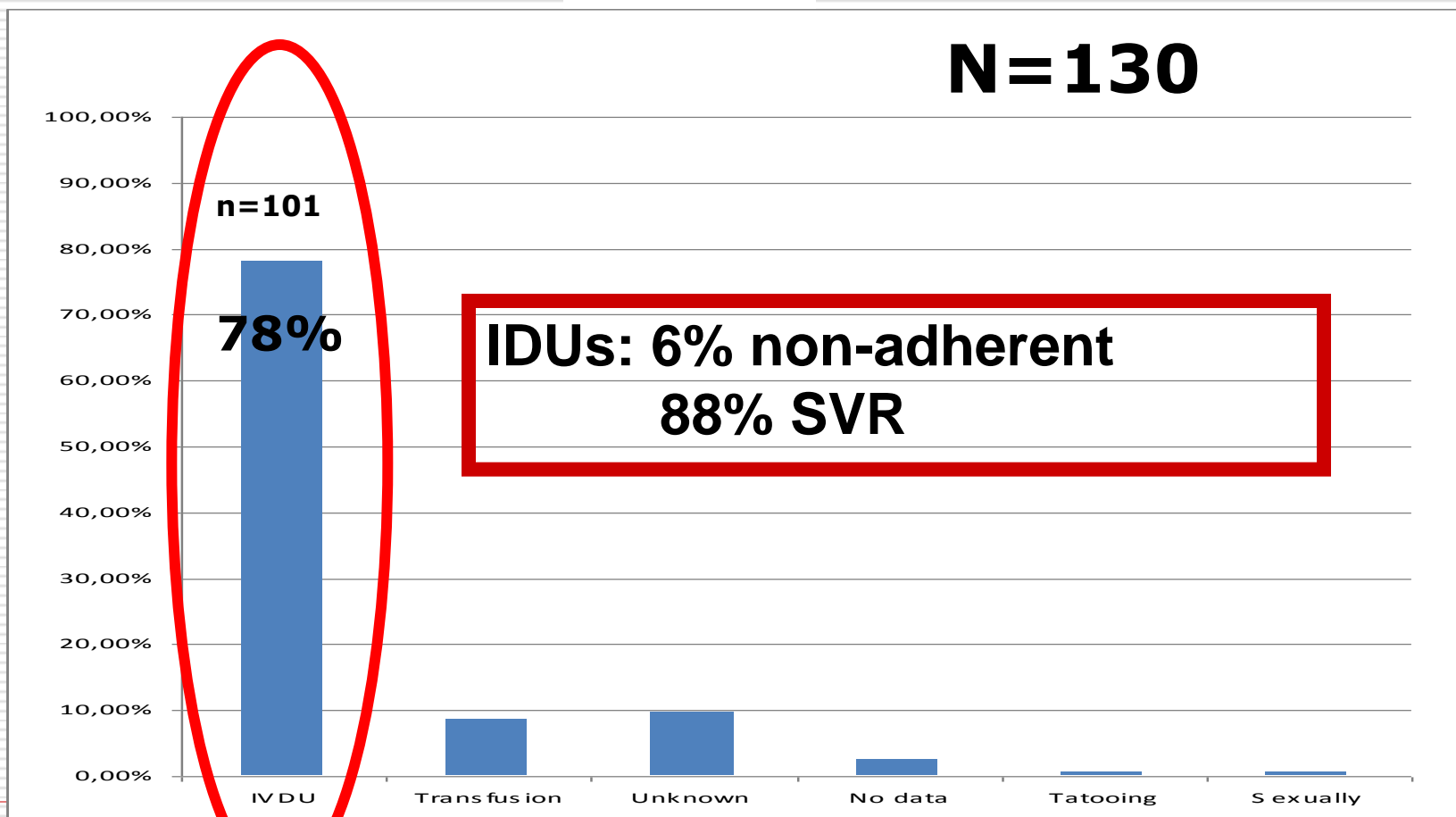


Maticic M , et al. Not yet published.

SLOVENIA 2008 - 2010

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Management of HCV (in 2013)

Known HCV-positive: 2978

□ Detection rate: app. 28%

□ Treatment rate: 37%

IDUs 13%

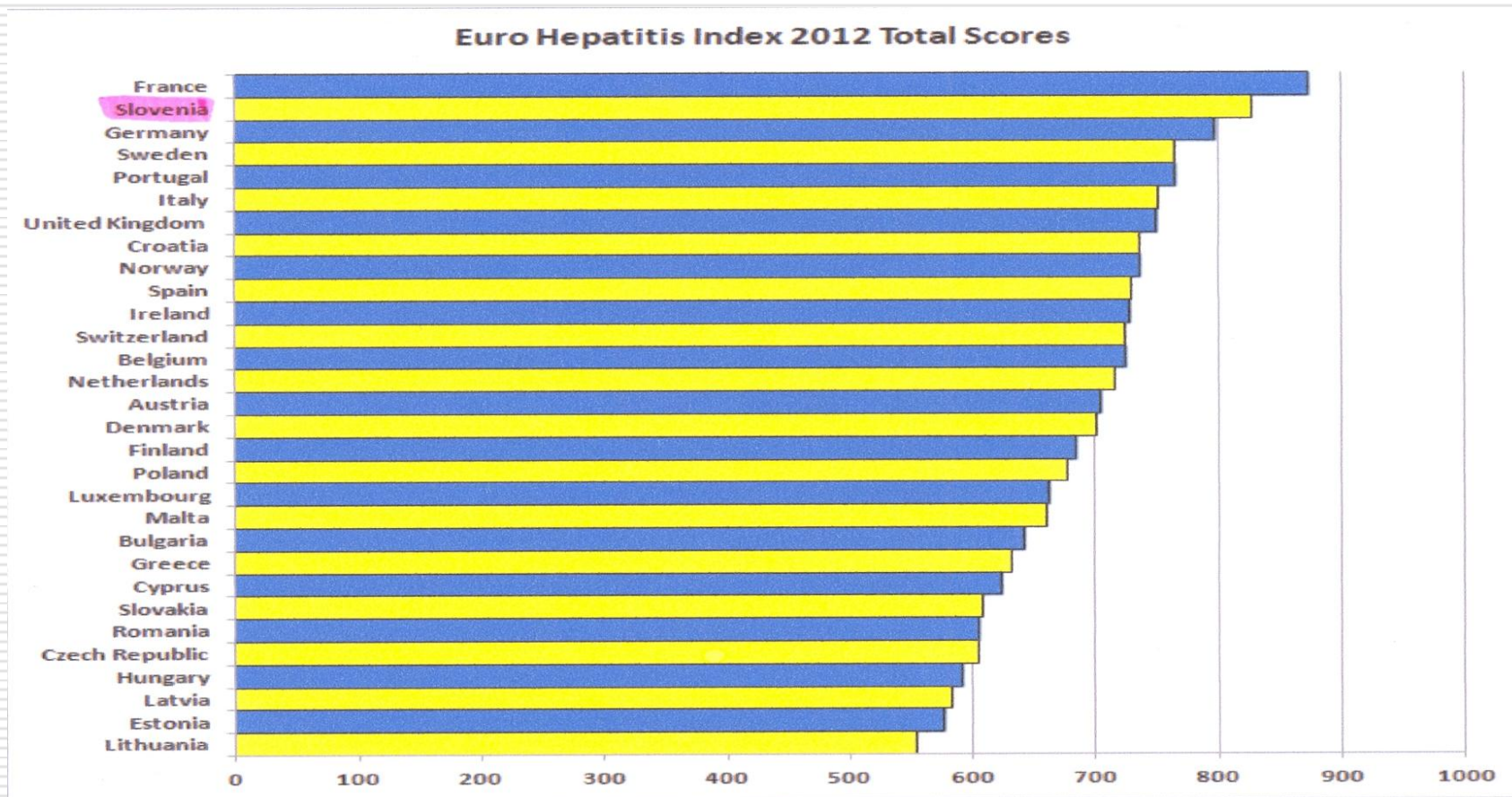
Management of viral hepatitis B&C in Slovenia

CONCLUSIONS

- ❑ **Institute of Public Health:**
General surveillance and prevention
 - ❑ **National Viral Hepatitis Expert Group:**
National strategy for the complex management of viral hepatitis
 - ❑ **Multidisciplinary Healthcare network for the management of infected IDUs:**
Combining Drug Treatment Centers and Viral Hepatitis Centers is
EFFECTIVE
 - ❑ **Implementation of already existing facilities into the most appropriate model for local resources is reasonable and effective**
-

European study on how to improve life for 25 million Europeans with hepatitis (ELPA)

Ranking performance among 30 countries



Bruxelles, November 6, 2012. (ELPA)