Best practices:

National Hepatitis approach of Slovenia

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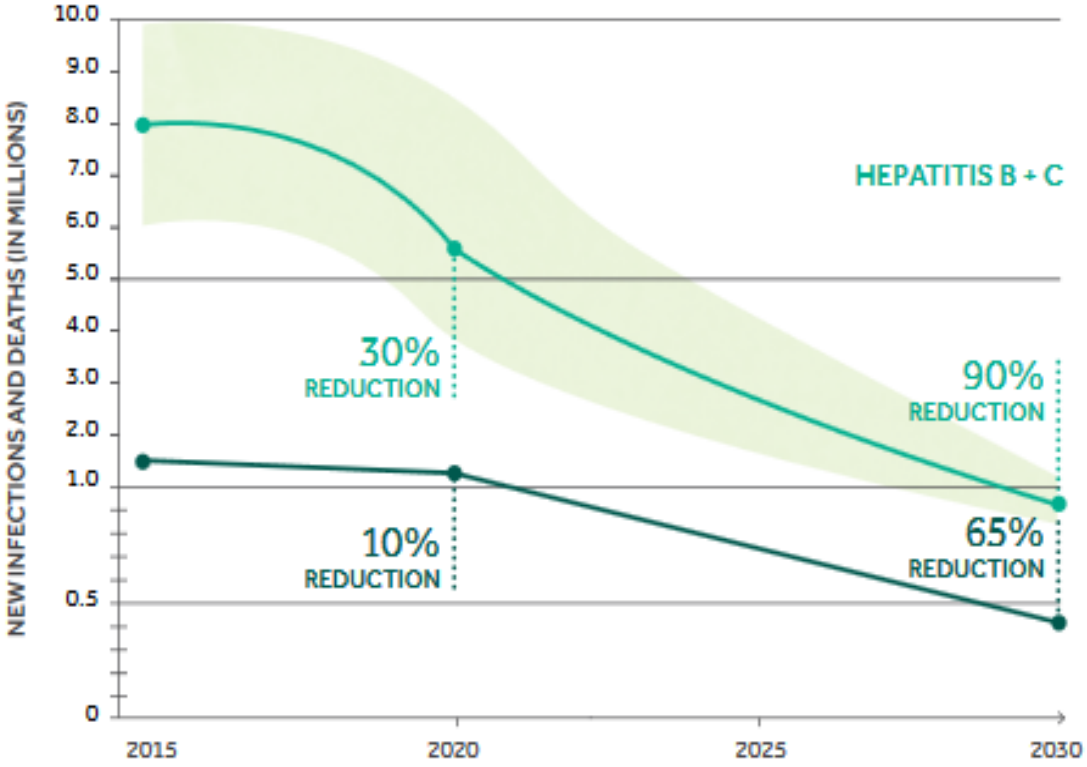
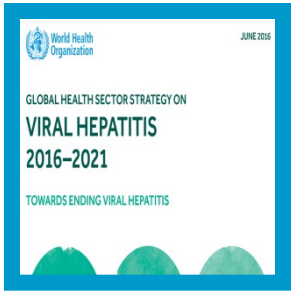
Faculty of Medicine, University of Ljubljana
Slovenia

VHPB Meeting, Budapest: October 31, 2019

WHO strategy towards elimination of viral hepatitis as a public health threat (from 2016)



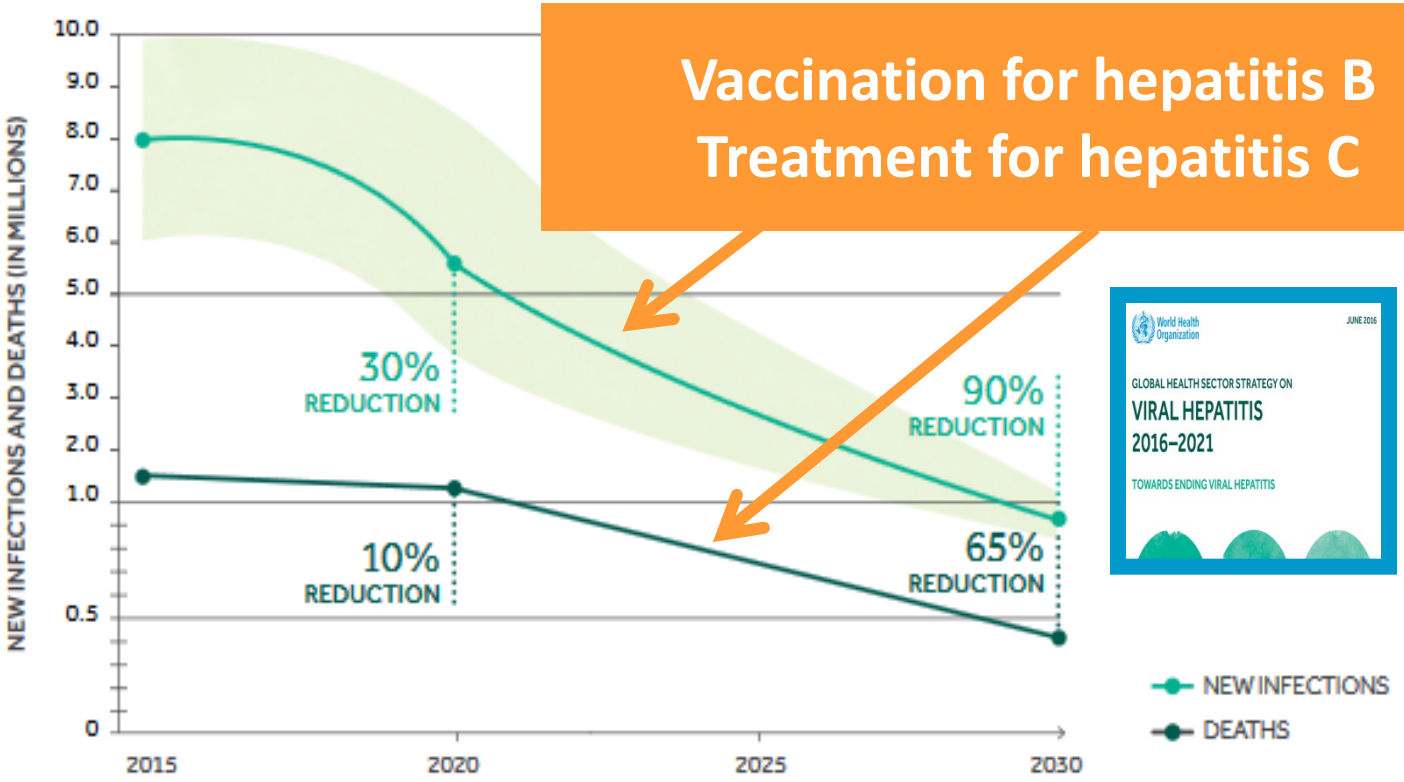


Goals for reducing new cases of infection and deaths from chronic hepatitis B and C **by 2030**

WHO. Global Heaplt Sector on Viral Hepatizis. Available at: http//apps.who.int/gb/ebwha/pdf_files/WHA69/A69_32-en.pdf?ua=1

WHO strategy towards elimination of viral hepatitis as a public health threat
(from 2016)

Vaccination for hepatitis B
Treatment for hepatitis C

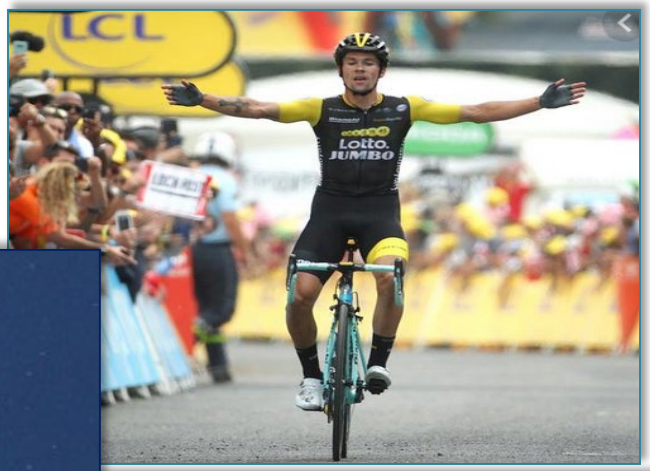


Interventions for achieving the goals represent a **continuum of services**

WHO. Global Heaplt Sector on Viral Hepatizis. Available at: http//apps.who.int/gb/ebwha/pdf_files/WHA69/A69_32-en.pdf?ua=1

SLOVENIA

Inhabitants: 2 million

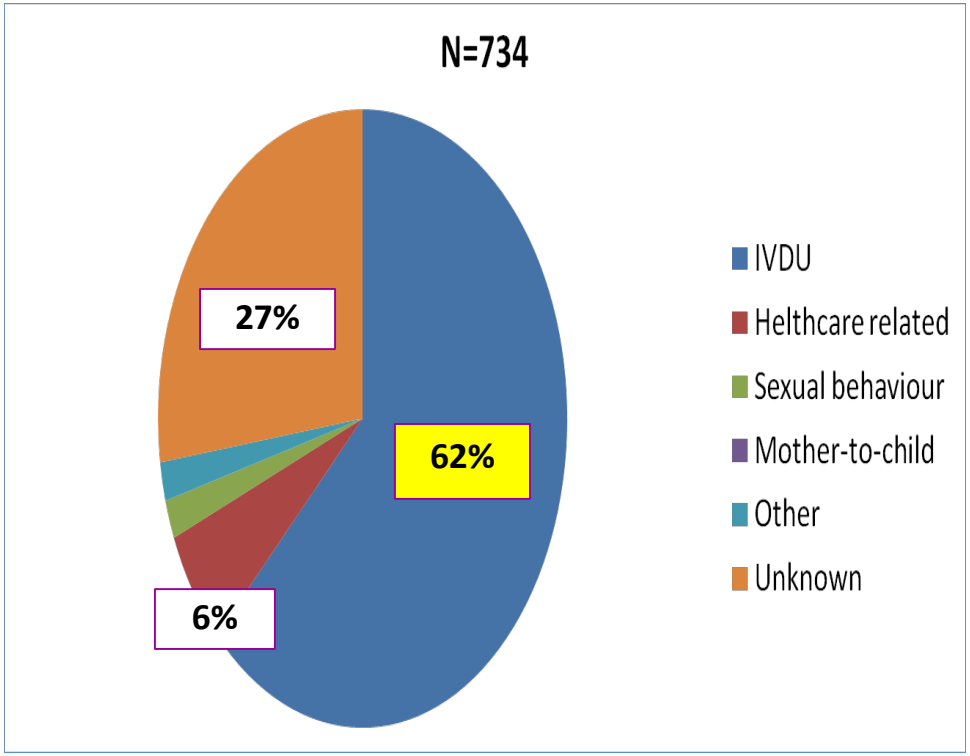


SLOVENIA

Hepatitis C

HCV RNA prevalence %	HCV RNA positive N	PWID N
est. 0.3	est. 6 500	est. 6–8 000

Anti-HCV positive persons by risk groups (period 2008-2015)



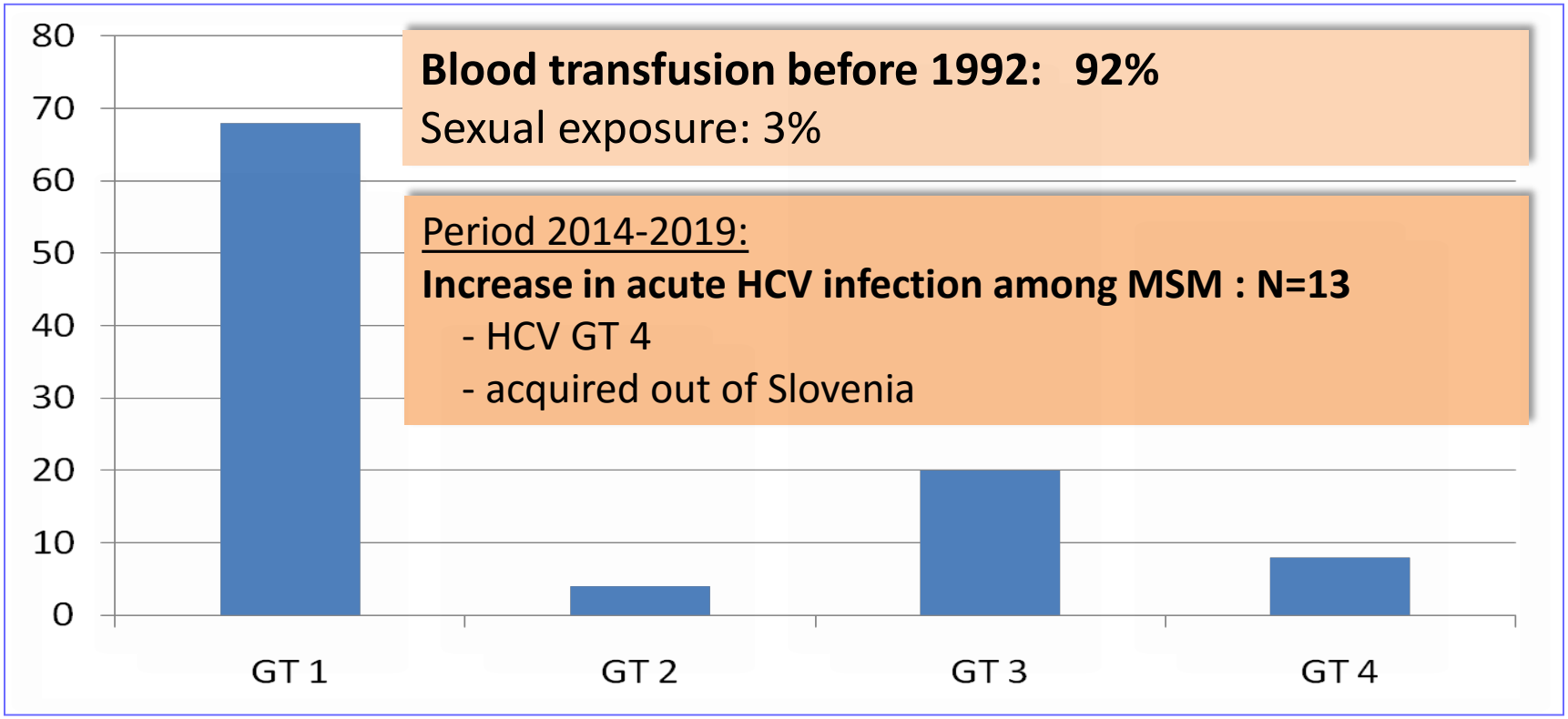
*Alfaleh FZ, Nugrahini N, Maticic M, et al. J Viral Hep **2015**; 22(Suppl 4): 42-65.*

Gregorčič S et al. ECCMID 2018. Madrid, April 23, 2018. Poster #Mon-13.

SLOVENIA 1986-2013

Co-infected HIV/HCV

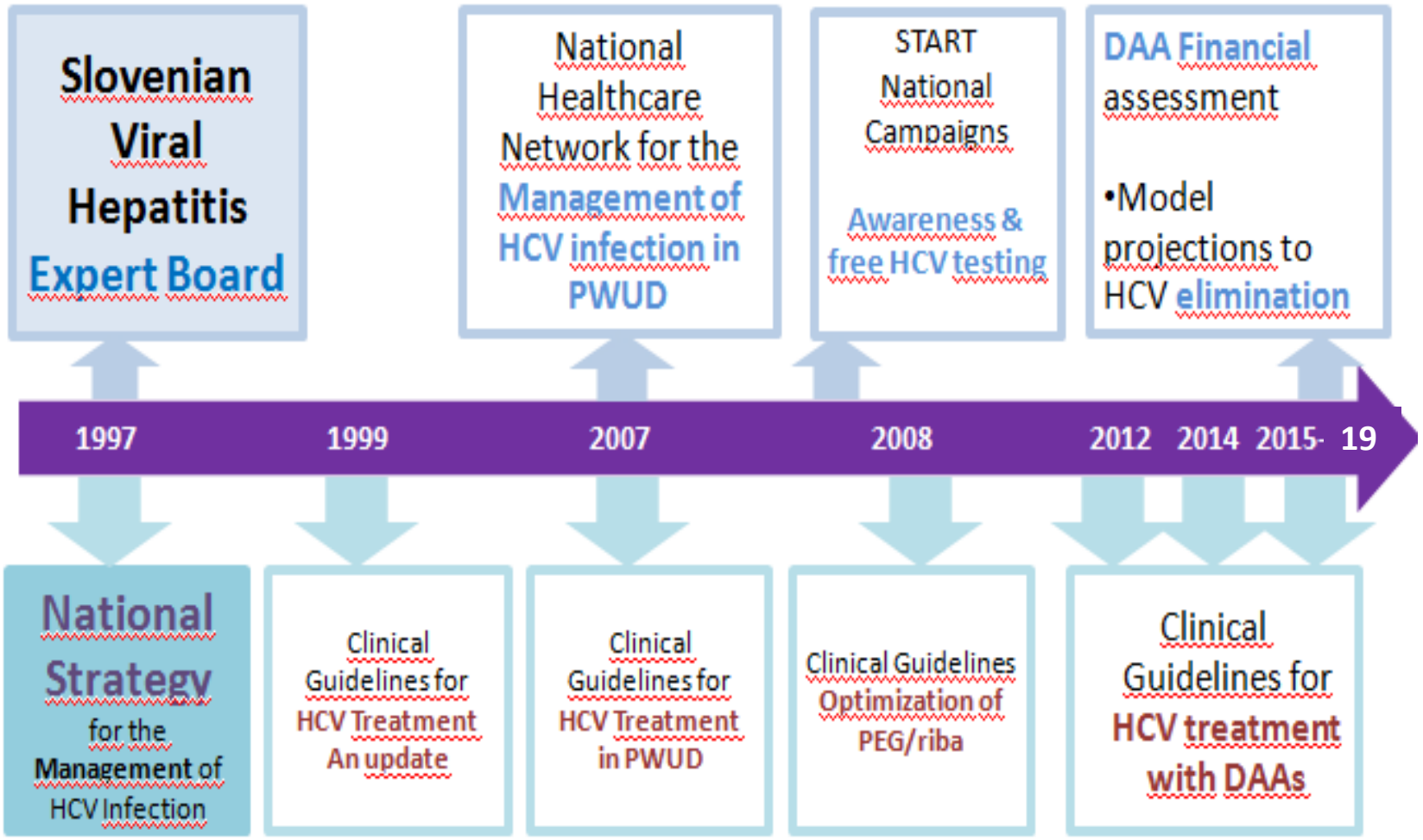
- HIV/**anti-HCV** positive: 44/579 = **7.6%**
- HIV/**HCV RNA** positive: 33/579 = 5.7%



Skamperle M et al. Acta Dermatoven APA 2014; 23: 25-6.

SLOVENIA

22 years of the national policy for HCV management

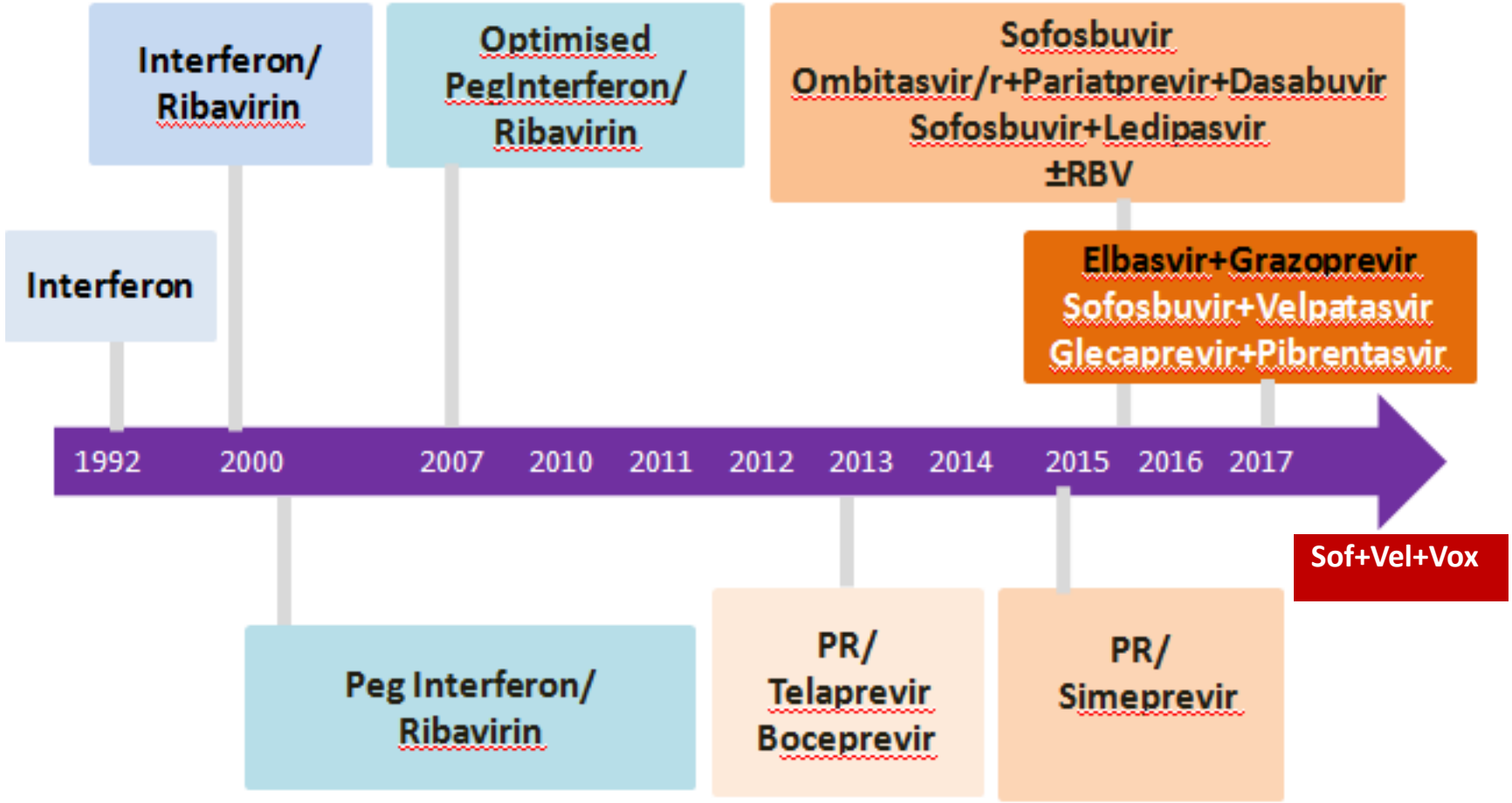


Matičič M et al. Isis 1999; 8: 49-51. Matičič M, Kastelic A. Zdrav Vestn 2009; 78: 529-39.
Matičič M, Poljak M. Zdrav Vestn 2010: 79. 58-78.
National Viral Hepatitis Expert Board. Consensus guidelines for DAA treatment. Ljubljana, December 6, 2018.

SLOVENIA

Availability of standard-of-care treatment for HCV

period 1992 – 2018



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SLOVENIA

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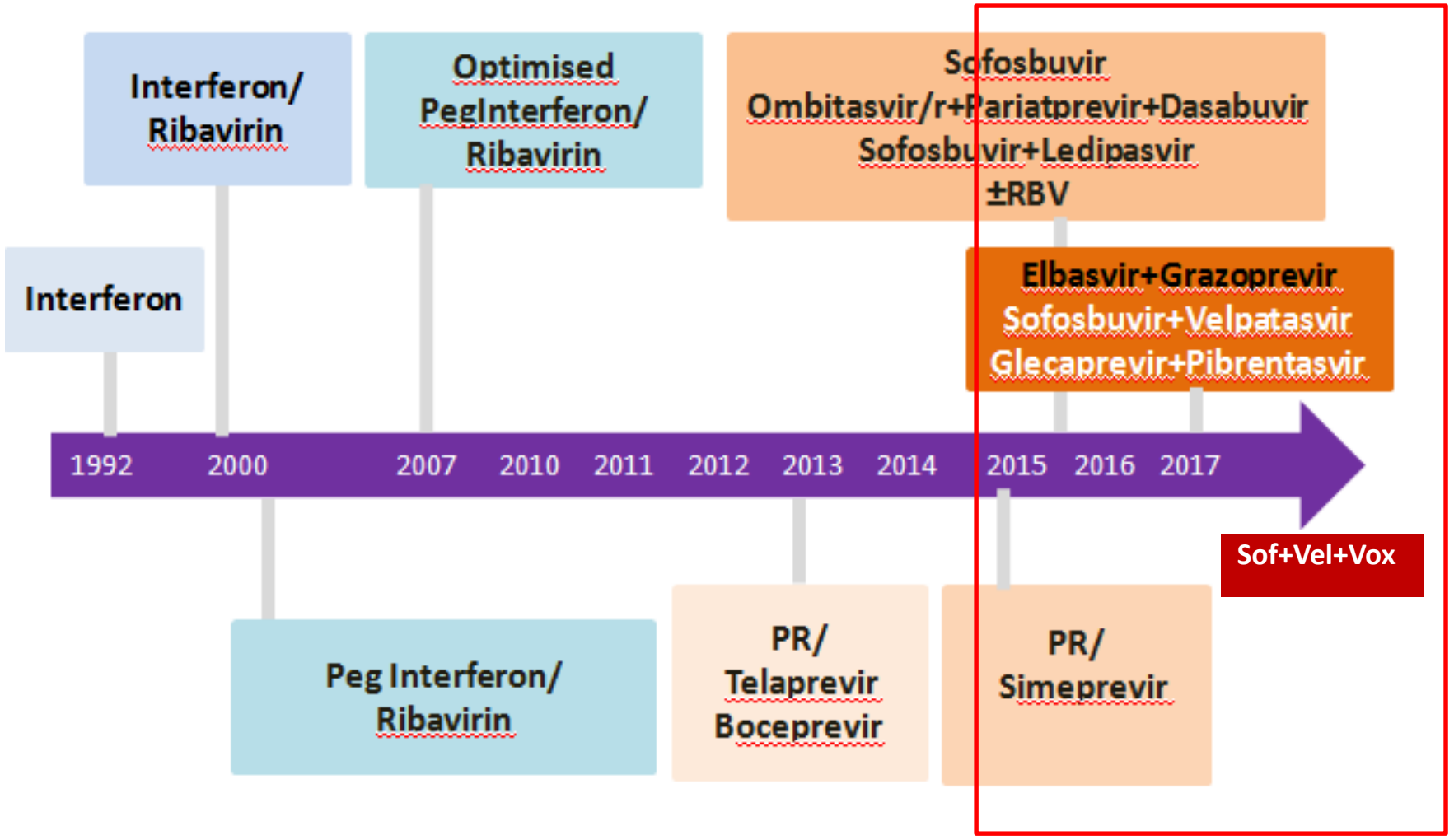
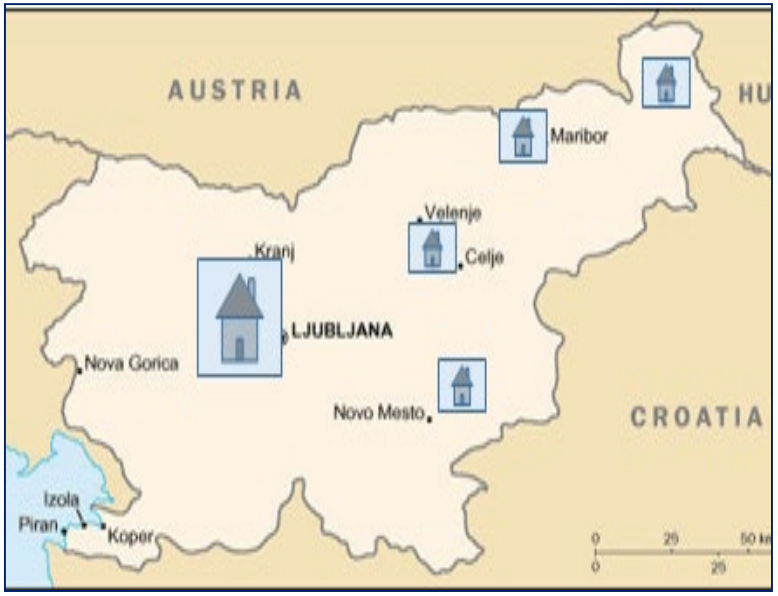


National Viral Hepatitis Expert Group. Treatment Reports . Ljubljana, 2008, 2010, 22013, 2014, 2015, 2016, 2017.

SLOVENIA

HCV treatment policy

5 centers for HCV treatment



Treatment for everybody since 1997

- National Health Insurance System

- **N0 restrictions**
  - except DAAs in 2015-2017 (F score; some high-risk groups prioritised)

- **PWID: Never contraindicated**

Prescribers:

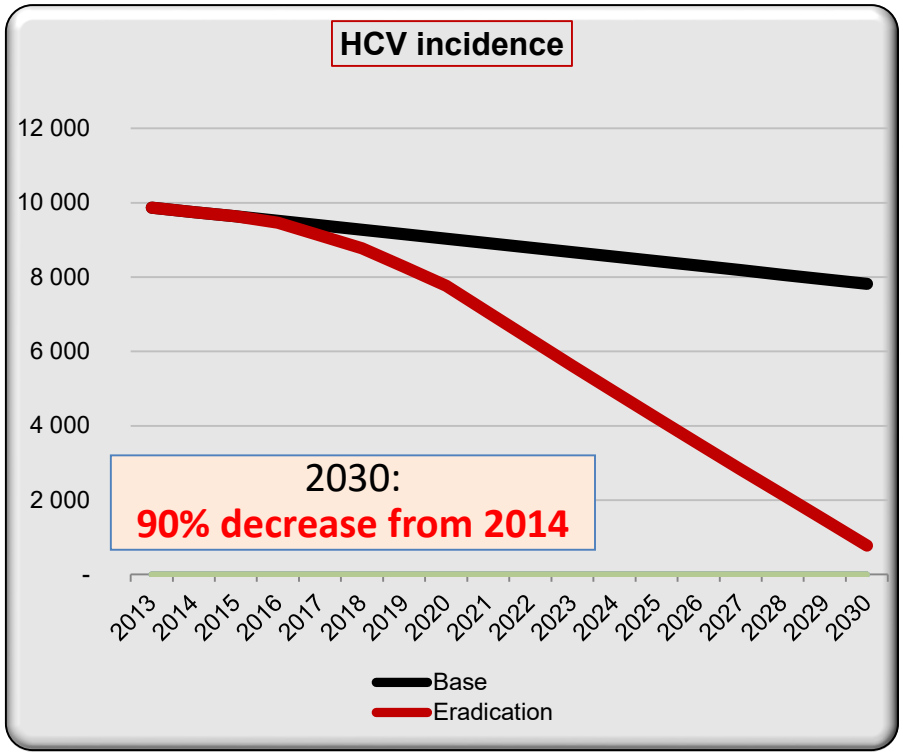
- **Nominated specialists** (**infectologists**, hepatologists)
- **National guidelines**
- **National register** of all the treated patients (**since 1997**)

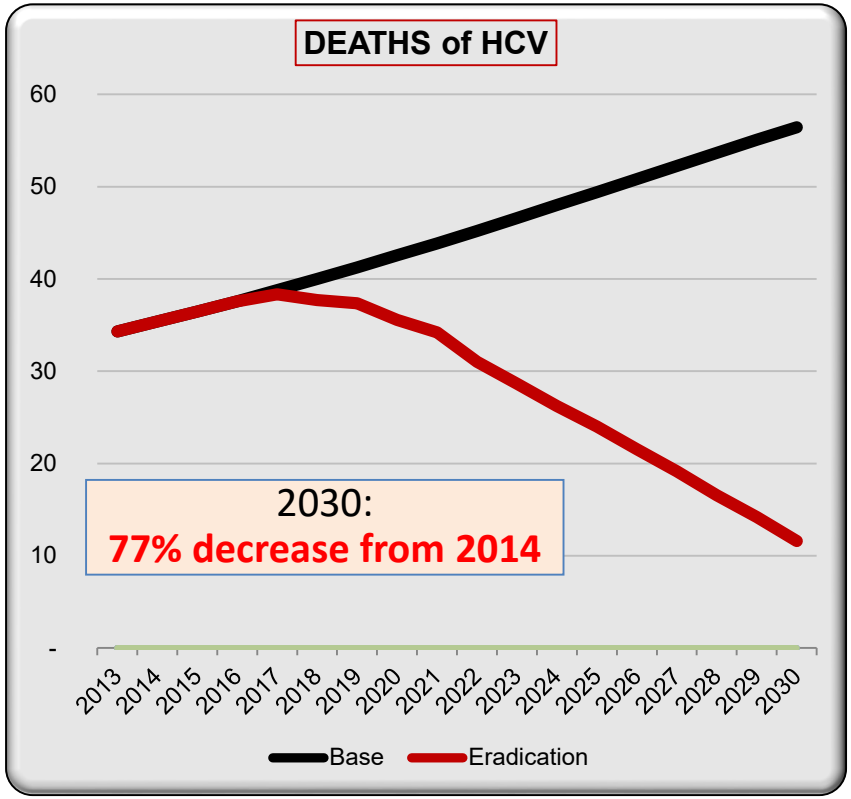
Matičič M et al. Isis 1999; 8: 49-51. Matičič M, Kastelic A. Zdrav Vestn 2009; 78: 529-39.
Matičič M, Poljak M. Zdrav Vestn 2010: 79. 58-78.
National Viral Hepatitis Expert Group. Consensus guidelines for DAA treatment. Ljubljana, December 6, 2017.

SLOVENIA: 2014-2030

Model projection: HCV elimination seems feasible

Use of Direct Acting Antivirals, reasonably increasing diagnosis and treatment rates





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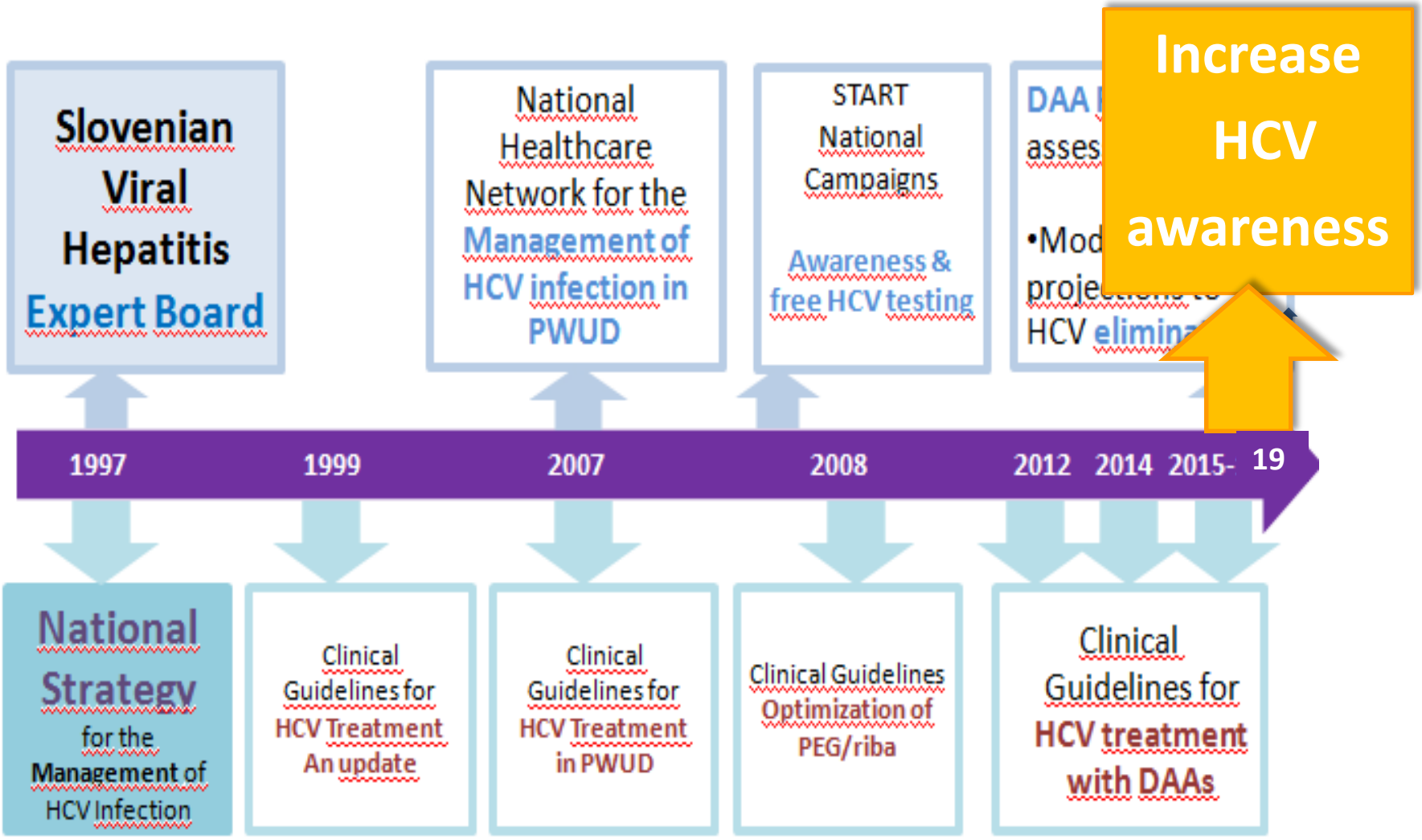
SLOVENIA

22 years of HCV management policy



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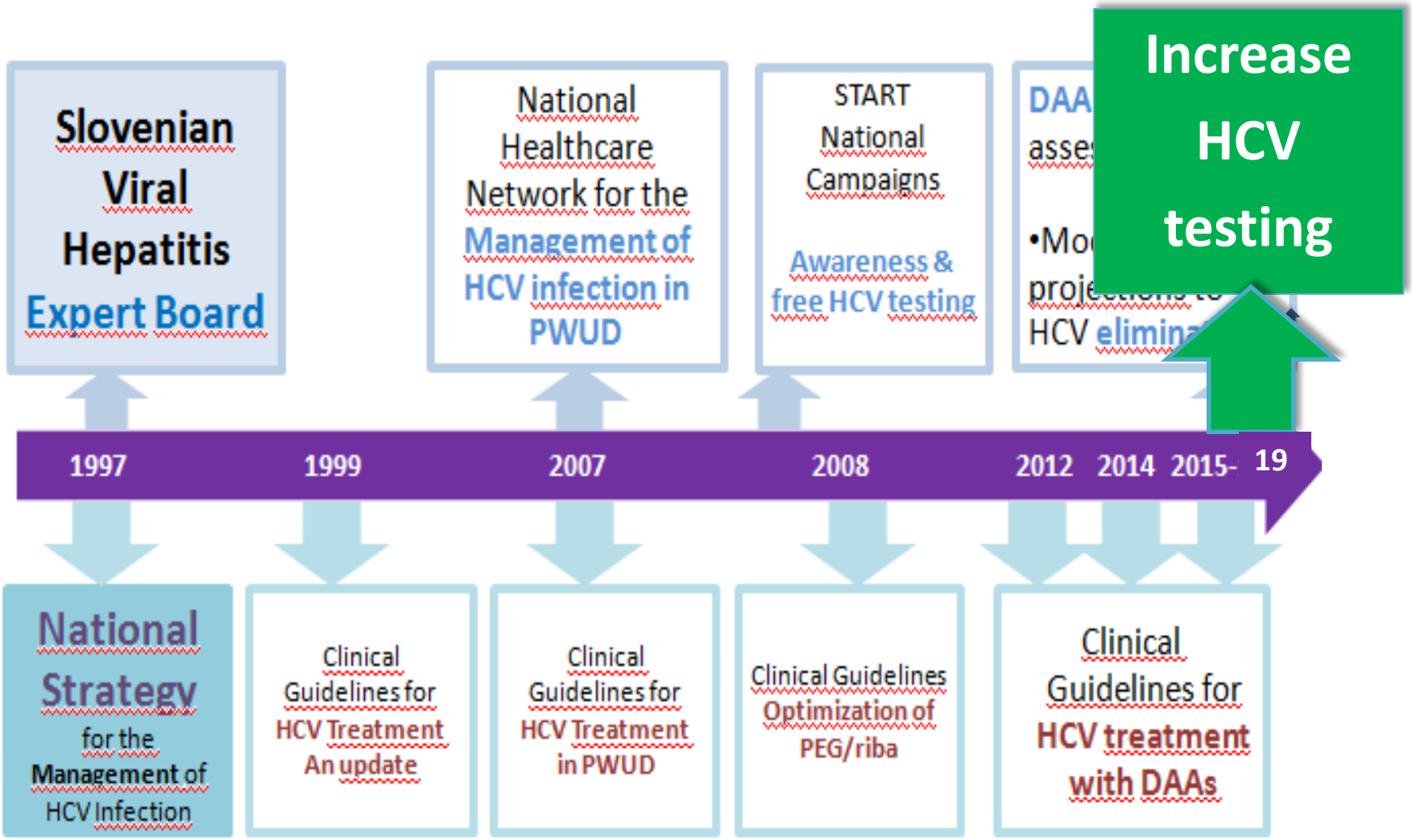
Vprašalnik
Opisi virusnih hepatitisov
Kam po pomoč
Preprečevanje
Primeri
O HEP-Y
HEP-Y
Spletna aplikacija za prepoznavanje in informiranje o hepatitisih
Ali ste okuženi z virusom hepatitisa?
https://hepy.mf.uni-lj.si
Univerza v Ljubljani
Medicinska Fakulteta
Univerza v Ljubljani
Fakulteta
za računalništvo
in informatiko
Institut
"Jožef Stefan"
Ljubljana, Slovenija
REPUBLIKA SLOVENIJA
MINISTRSTVO ZA IZOBRAŽEVANJE,
ZNANOST IN ŠPORT
Javni štipendijski, razvojni,
invalidski in preživninski
sklad Republike Slovenije
EVROPSKA UNIJA
EVROPSKI
SOCIALNI SKLAD
NALOŽBA V VAŠO PRIHODNOST

SLOVENIA

22 years of HCV management policy



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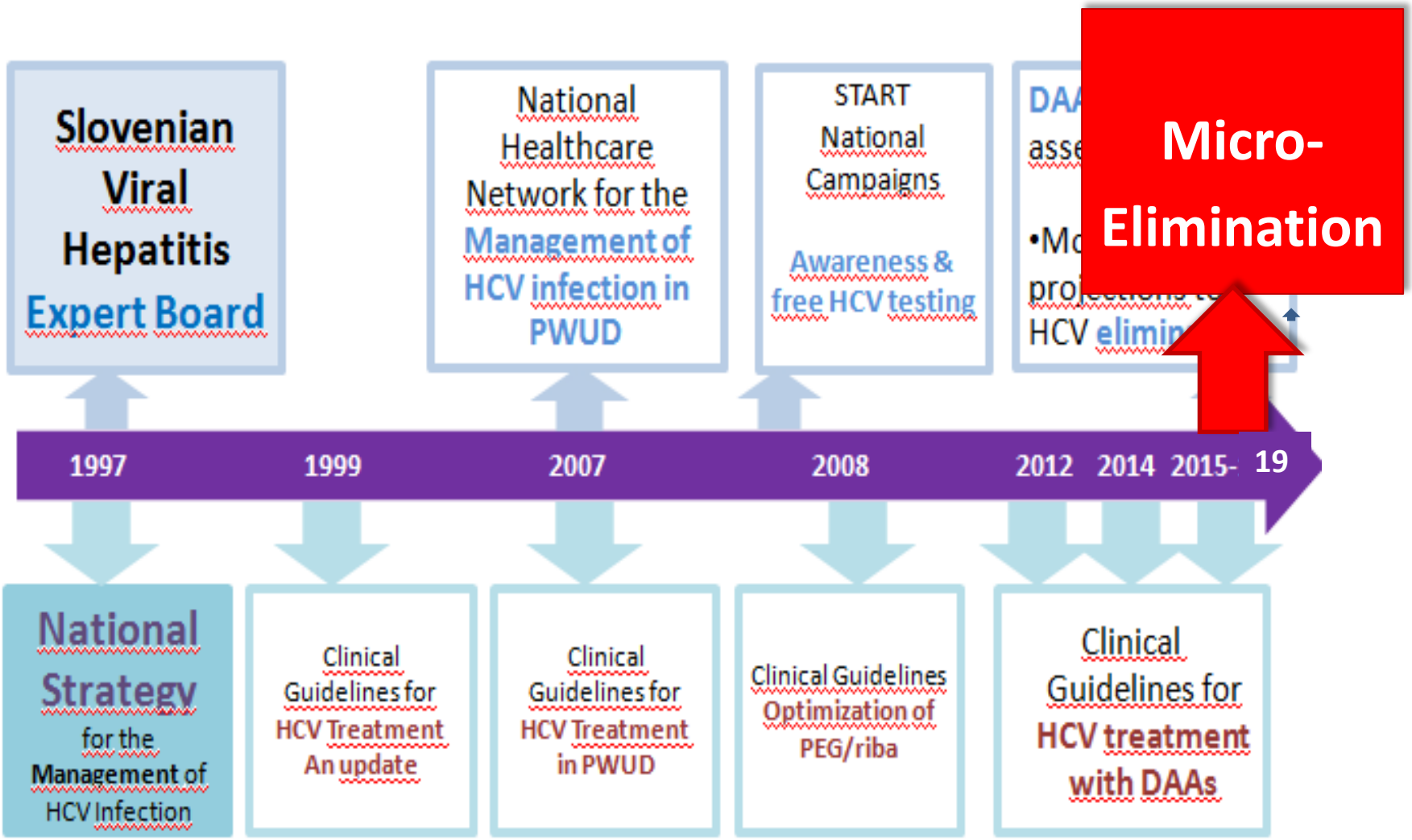
National Viral Hepatitis Expert Group. Consensus guidelines for DAA treatment. Ljubljana, December 6, 2017.

HOW to increase HCV TESTING??

HCV Testing outside hospital settings :

- ✓ GPs
- ✓ Certain specialists (extrahepatic manifestations of HCV)
- ✓ STI specialists
- ✓ Anonymous free-of-charge testing
- ✓ Outside healthcare settings - Within high-risk groups:
  - Network of OST Centers
  - MSM NGOs
  - Prisons

22 years of HCV management policy



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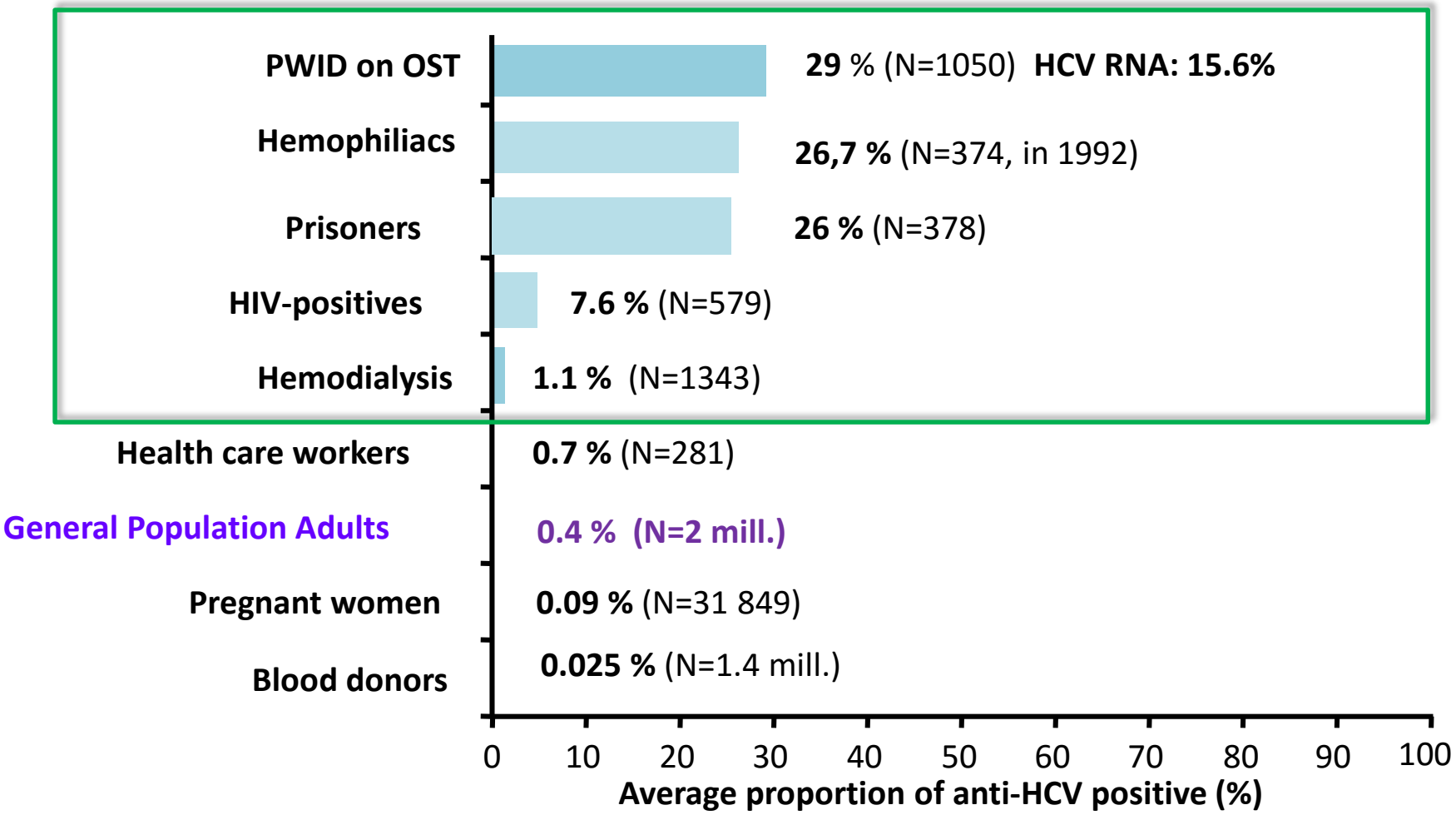
SLOVENIA 2000-2015

Anti-HCV prevalence by selected groups



Maticic M. JEADV 2008; Kastelic A et al. 2nd Slovenian Conference on HCV Infection in IVDU, March 2007; Skamperle M et al. Acta Dermatoven APA 2014; 23: 25-6. http://www.emcdda.europa.eu/publications/country-overviews/si; Kopilovic B et al. Euro Surveillo 2015; 20(22): pii=2144

SLOVENIA 2000-2015

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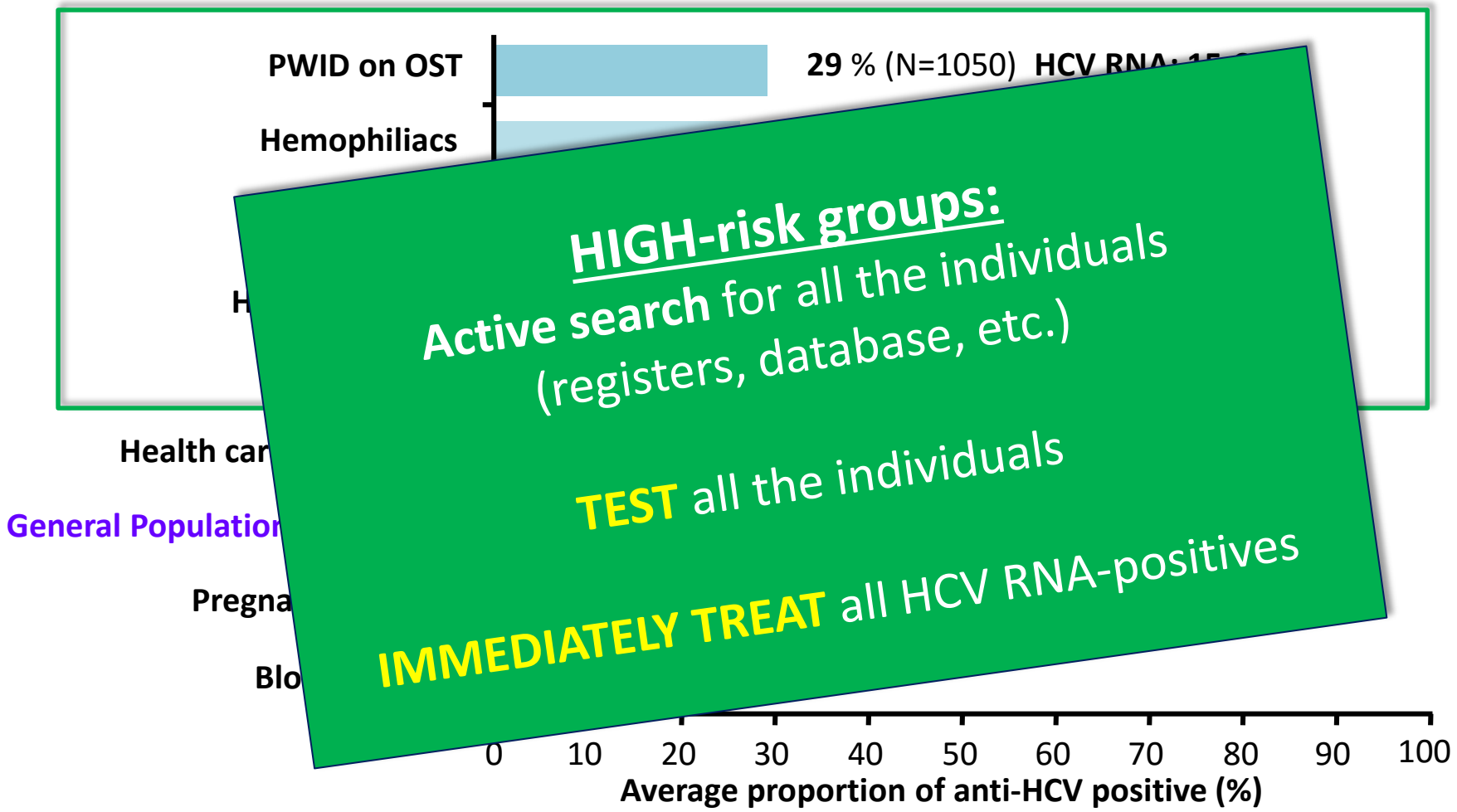


HIGH-risk groups:

Active search for all the individuals (registers, database, etc.)

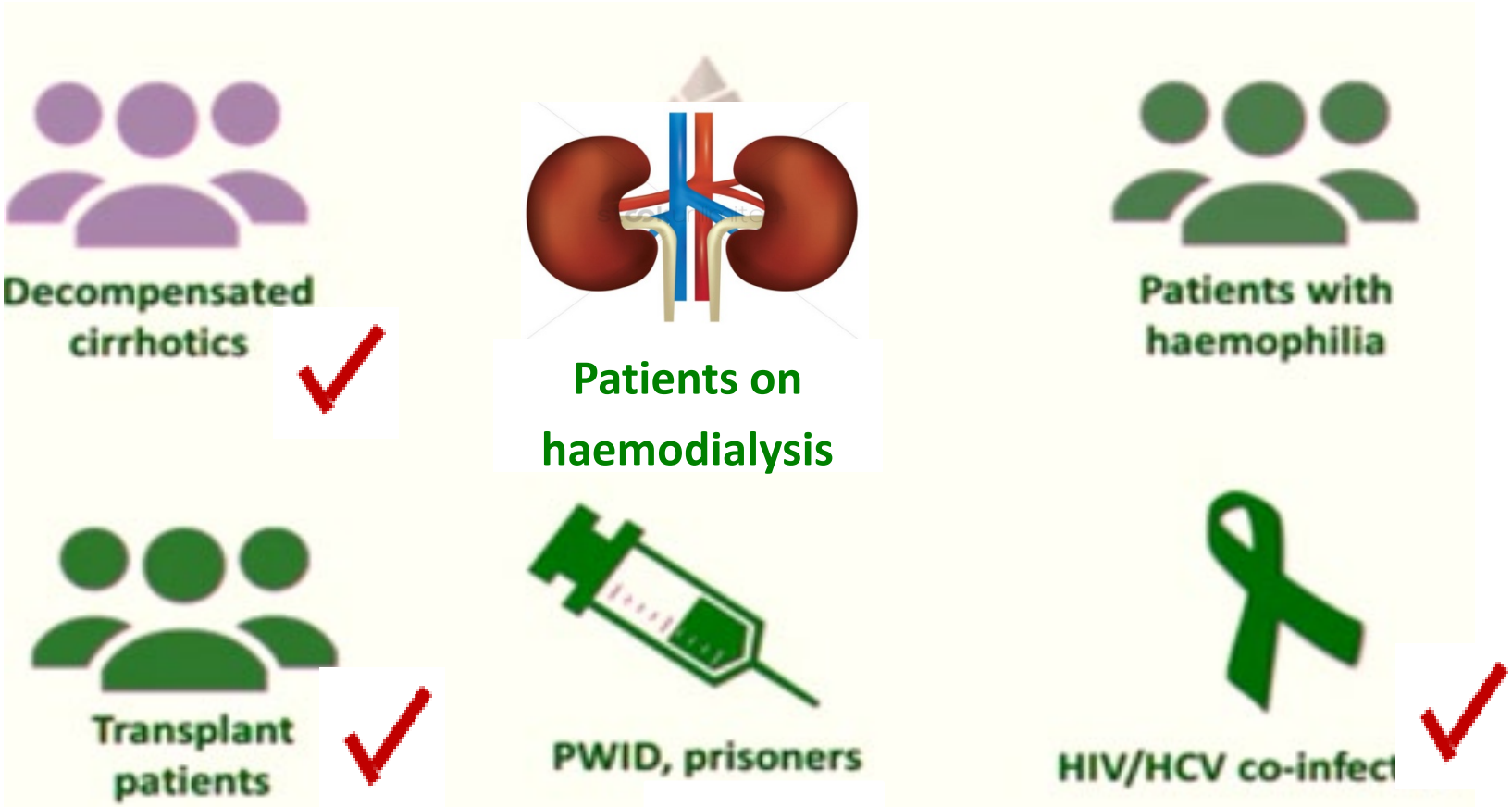
TEST all the individuals

IMMEDIATELY TREAT all HCV RNA-positives

Maticic M. JEADV 2008; Kastelic A et al. 2nd Slovenian Conference on HCV Infection in IVDU, March 2007; Skamperle M et al. Acta Dermatoven APA 2014; 23: 25-6. http://www.emcdda.europa.eu/publications/country-overviews/si; Kopilovic B et al. Euro Surveillo 2015; 20(22): pii=2144

SLOVENIA in 2017

HCV micro-elimination:
It became adopted in certain high-risk populations



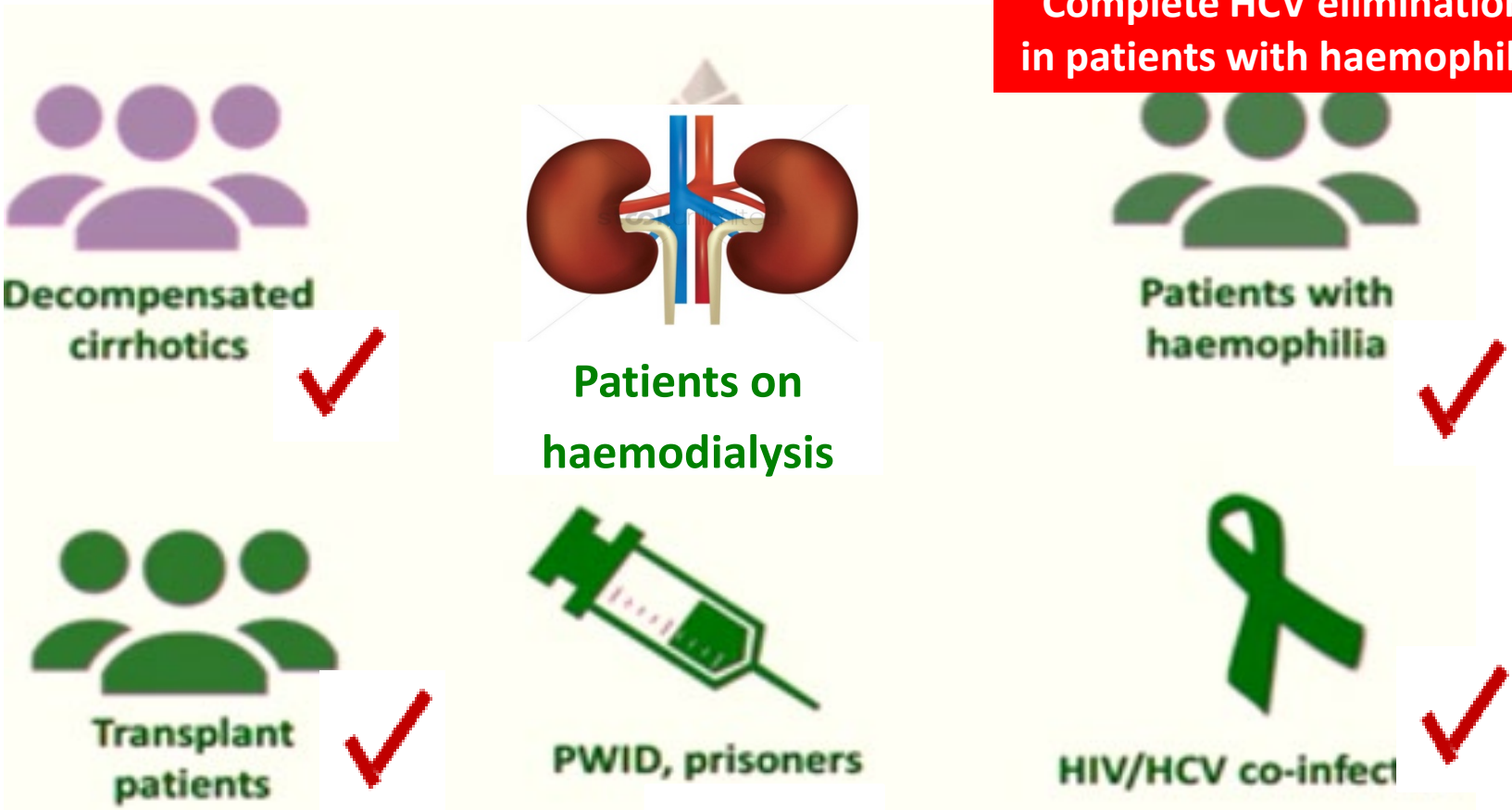
Lazarus JV et al. J Hepatol. 2017;67: 665-6.

Maticic M et al. EASL ILC 2018. Poster #THU-126.

SLOVENIA in 2017-2018

HCV micro-elimination:
It became completed in certain high-risk populations

Complete HCV elimination in patients with haemophilia



Maticic M et al. J Hepatol 2018; #THU-146.

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HCV infection in HAEMOPHILIACS

- A comprehensive management of haemophiliacs has been organized systematically and with extreme care **since 1967**
- Donated blood has been **tested since 1992**
- The management of HCV infection in those infected before 1992 has been organized systematically for over two decades with all of them **screened for HCV in the mid-1990s**

Benedik Dolničar M. Patients with haemophilia in Slovenia: from 1967 untill present. Zdrav Vestn 2015; 84: 383-91.
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SLOVENIA

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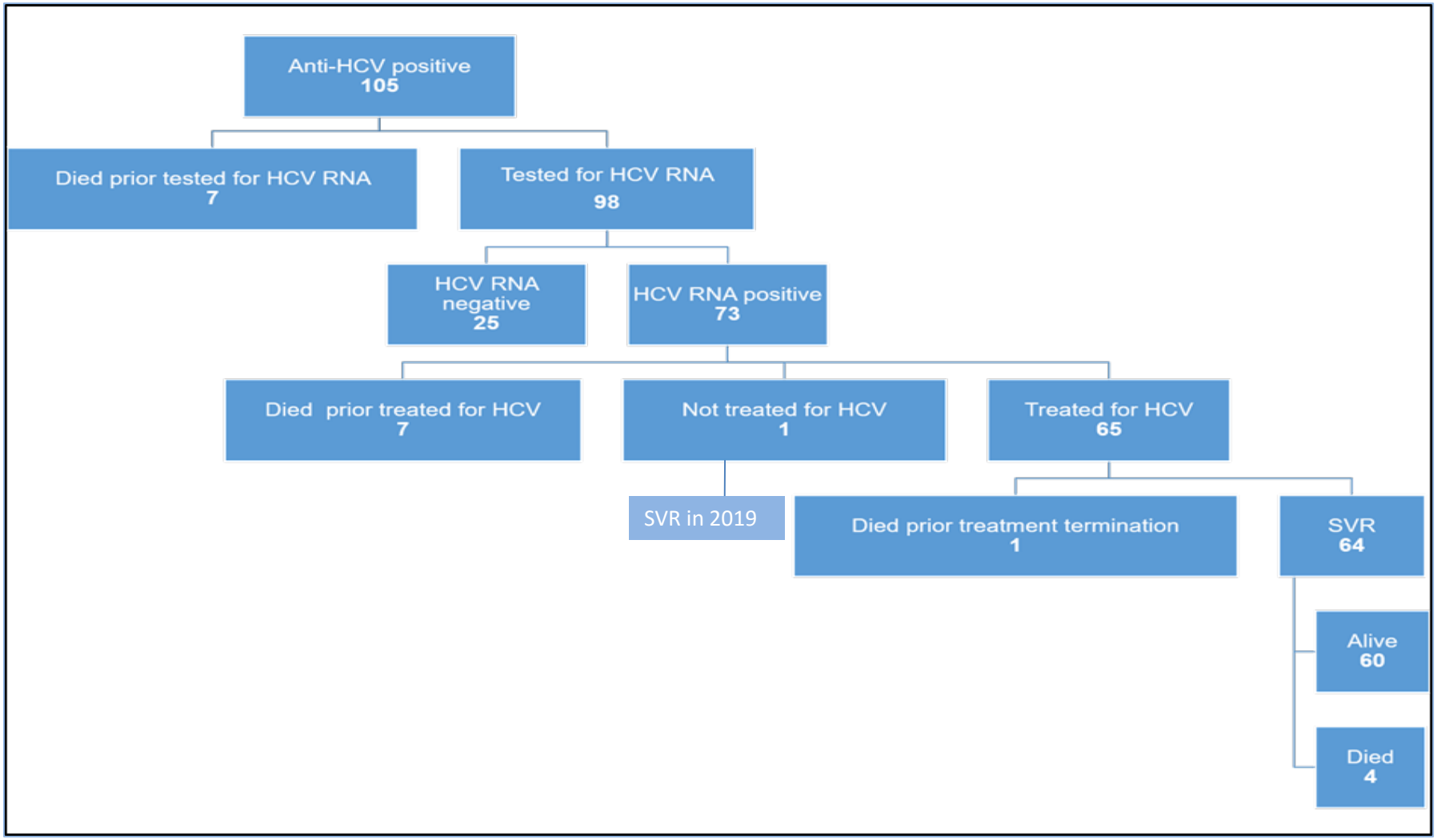
- Donated blood has been **tested since 1992**
- The management of HCV infection in those infected before 1992 has been organized systematically for over two decades with all of them **screened for HCV in the mid-1990s**
- With the advent of DAAs, **a national strategy for HCV micro-elimination** in this sub-population was prepared by a multidisciplinary expert team
- In case the patient has not been treated yet successfully, he was **actively invited to the infectologist** (repetedly, if necessary!!!)
- DAA treatment was prioritised and introduced **immediatelly**

Benedik Dolničar M. Patients with haemophilia in Slovenia: from 1967 untill present. Zdrav Vestn 2015; 84: 383-91.
Matičič M, et al. Management of hepatitis C in Slovenia. ISIS 1999; 8: 49-51.

SLOVENIA

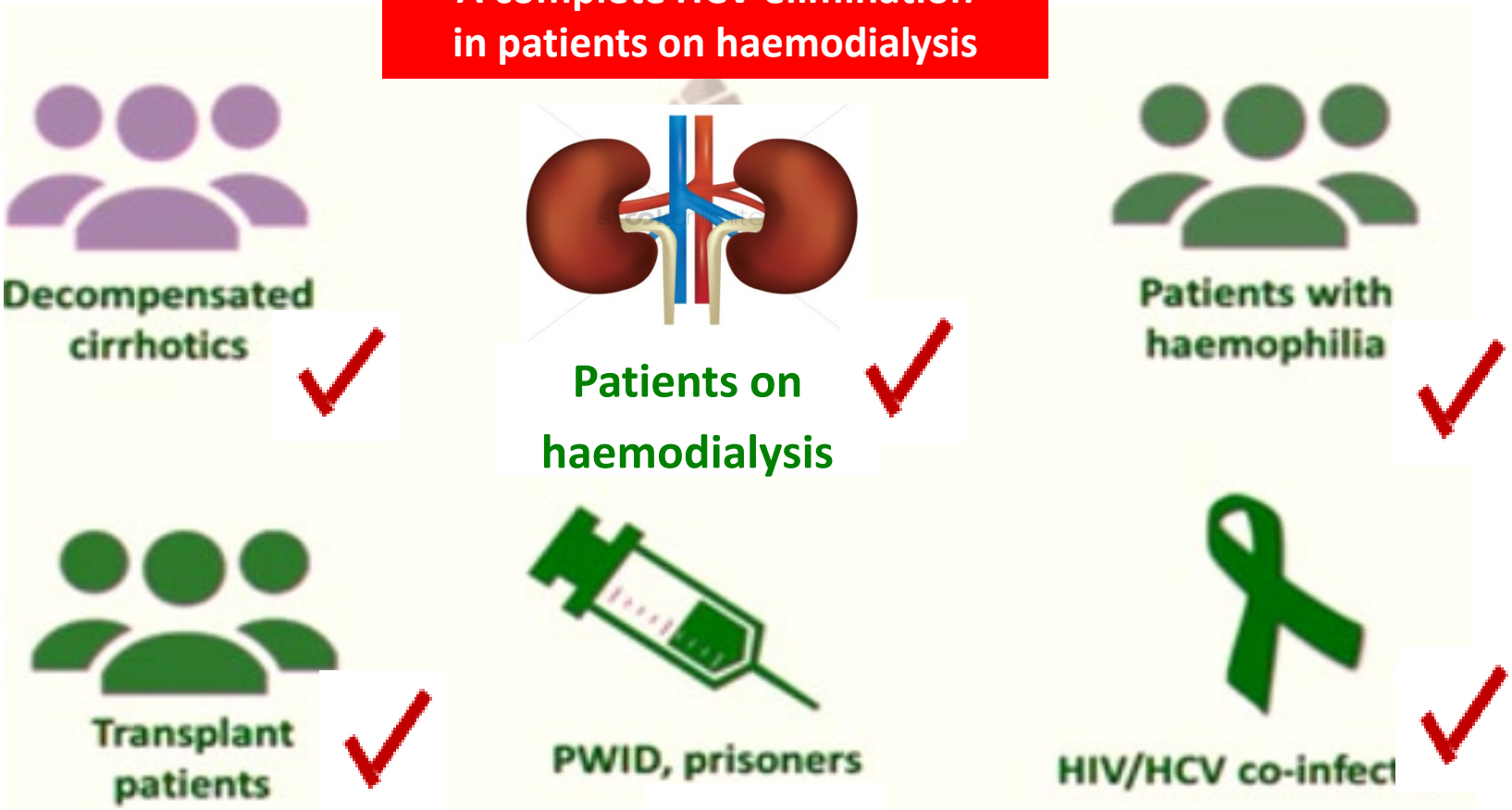
The analysis tree of haemophiliacs treated for HCV



Maticic M et al. J Hepatol 2018; #THU-146.

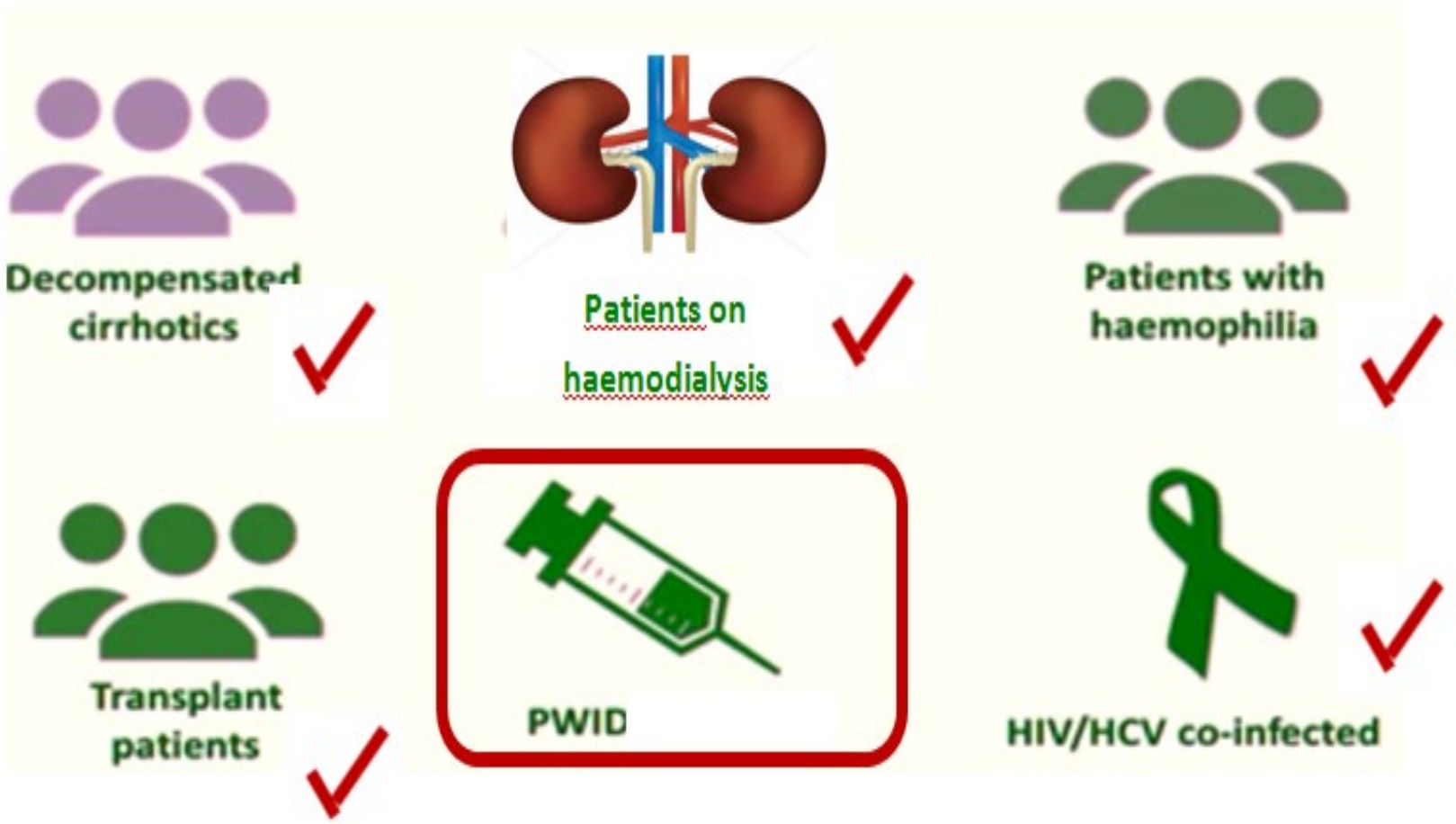
HCV micro-elimination: It became feasible in certain high-risk populations

A complete HCV elimination in patients on haemodialysis



Lazarus JV et al. J Hepatol. 2017;67: 665-6.
Maticic M et al. J Hepatol 2018; #THU-126.

HCV micro-elimination in 2018: It became feasible in certain high-risk populations



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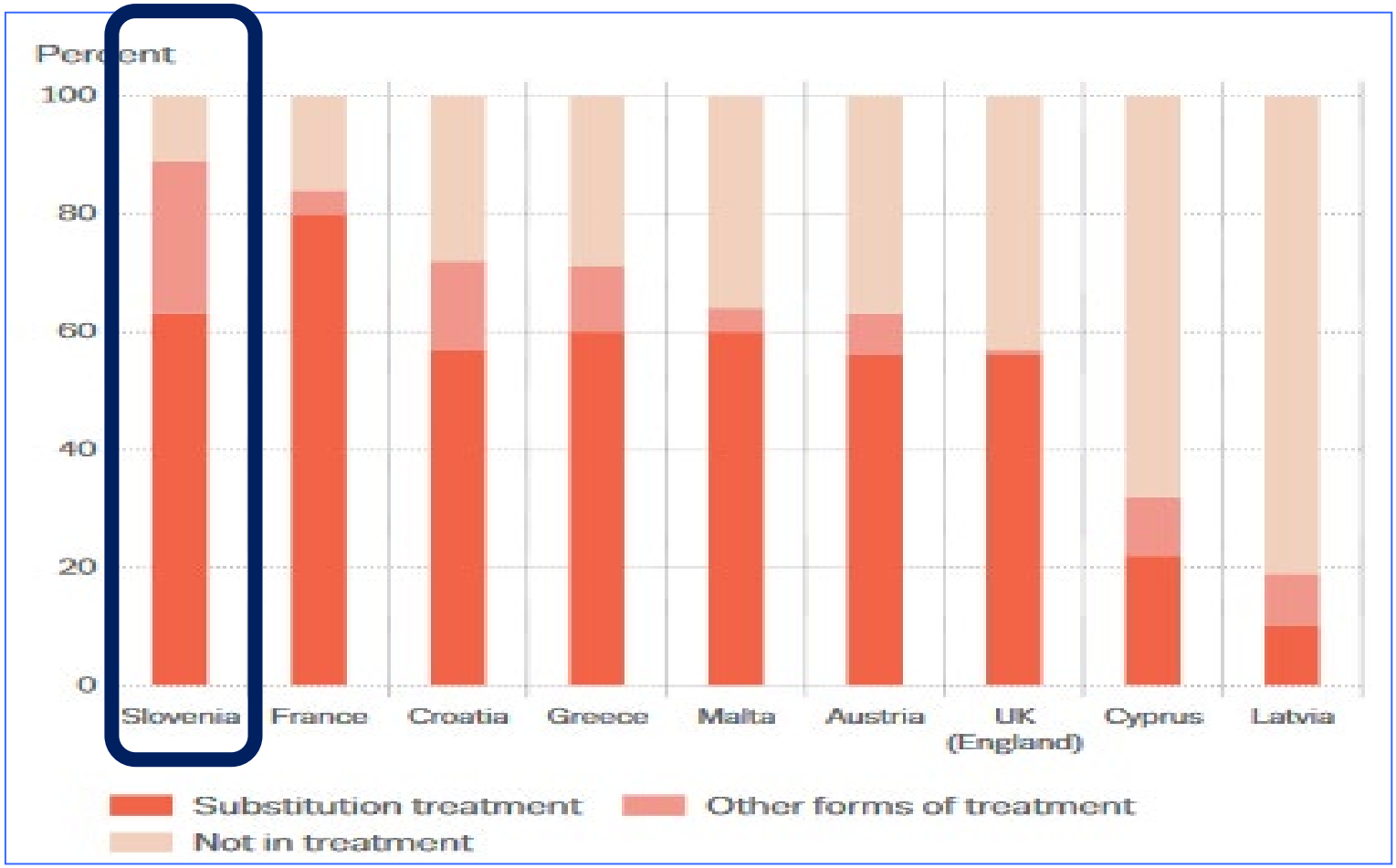
Maticic M et al. EASL ILC 2018. Poster

Percentage of high-risk opioid users receiving drug treatment in European countries



EMCDDA 2017. European Drug Report : Trends and Developments.
http://www.emcdda.europa.eu/system/files/publications/4541/TDAT17001ENN.pdf

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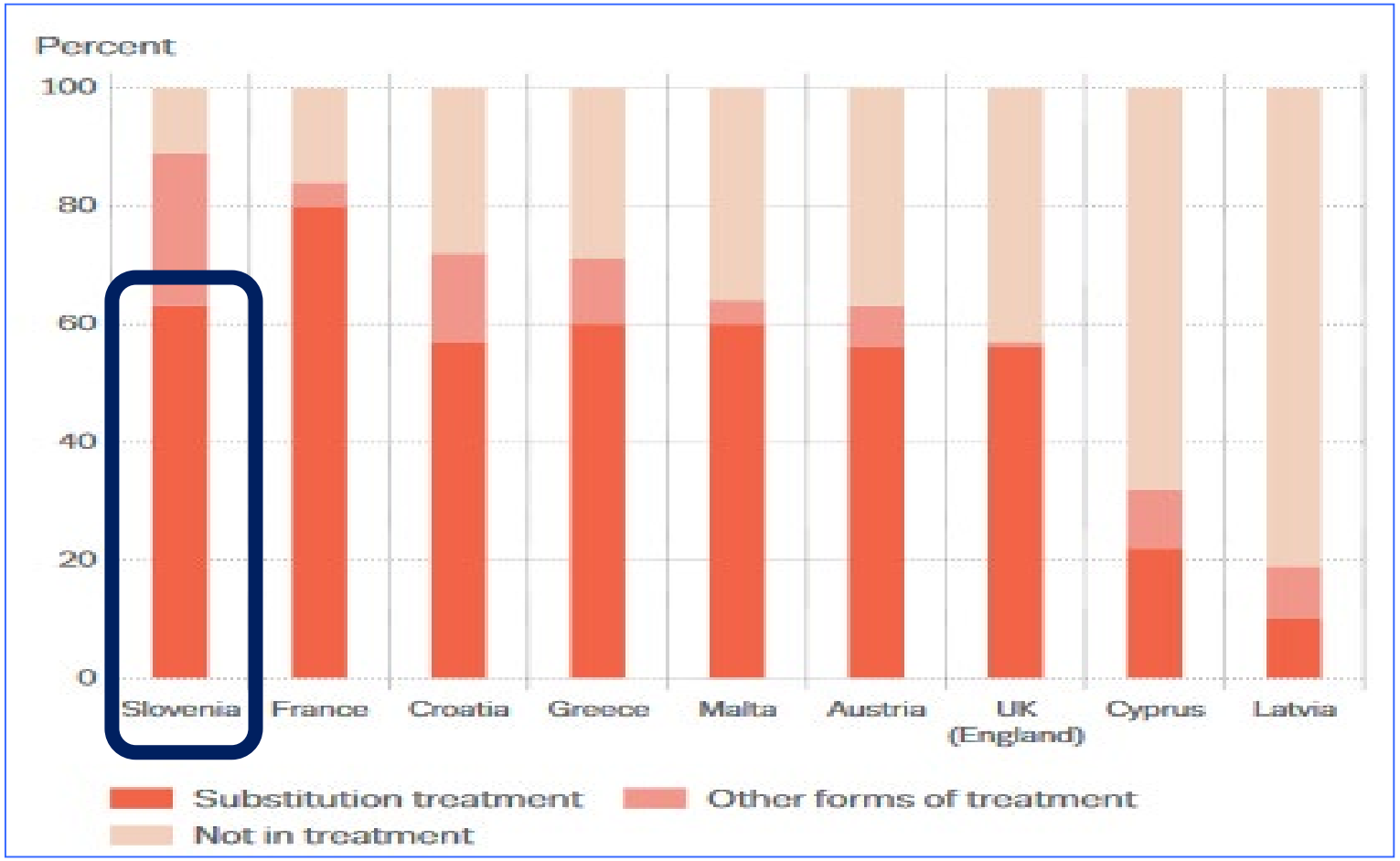

EMCDDA 2017. European Drug Report : Trends and Developments.
http://www.emcdda.europa.eu/system/files/publications/4541/TDAT17001ENN.pdf

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A NETWORK
of 18 Centers for treatment and prevention of drug addiction

NIJZ. National Drug Report. 2017 http://www.nijz.si/sites/www.nijz.si/files/publikacije-datoteke/np_2017_zadnja.pdf.

SLOVENIA

National healthcare network for HCV management in PWID

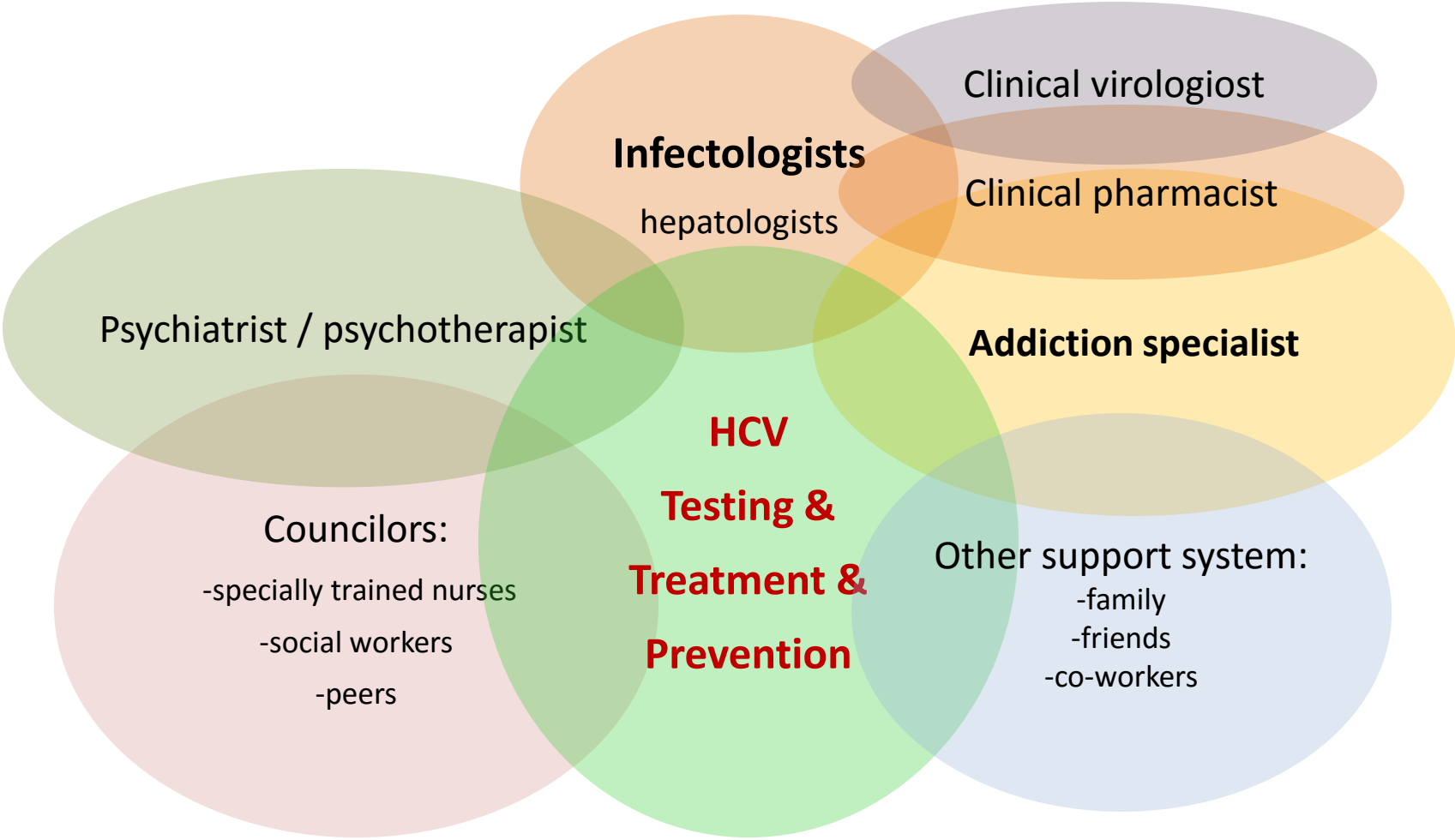
INTEGRATED : 18 Centers for treatment and prevention of of drug addiction
5 Centers for treatment of viral hepatitis

Maticic M, Kastelic A. Zdrav Vestn 2009; 78: 529-39.
Maticic M et al. BMC Infect Dis 2014; 14(Suppl 6): 12-3.

SLOVENIA since 2007

National healthcare network for managing HCV in PWUD

A multidisciplinary team



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Maticic M et al. BMC Infect Dis 2014; 14(Suppl 6): 12-3.

SLOVENIA since 2007

National healthcare network for managing HCV in PWUD

An integrated approach

Drug treatment centre

Counselling to **prevent** HCV infection

Testing for HCV infection (every 6–12 months)

HBV/HAV vaccination

Identification of HCV treatment eligible patients

Transient elastography on the spot (**Fibroscan®**)

Motivation, assessment

Linkage-to-care

Viral hepatitis centre

Medical evaluation/assessment

Clinical management

Counselling, motivation

Treatment (DAAs)

Matičič M, Kastelic A. Zdrav Vestn 2009;78:529–39.

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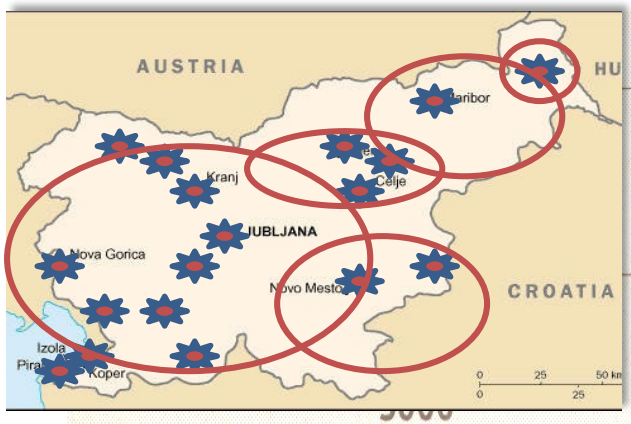
HCV treatment success
in the national healthcare network, 2008-2010



Coordination of Centers for Prevention and Treatment of Illict Drug Abuse, Slovenia 2011.
Maticic M, Kastelic A. Zdrav Vestn 2009; 78: 529-39.
Maticic M et al. Suchtmed 2013; 15: 245.
Maticic M et al. BMC Infect Dis 2014; 14(Suppl 6): 12-3.

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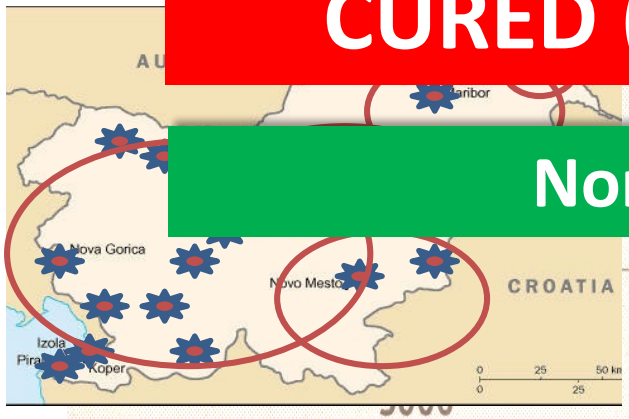
HCV treatment success
in the national healthcare network, 2008-2010

CURED (pegIFN/RBV): **82%**

Non-adherent: 4,3%



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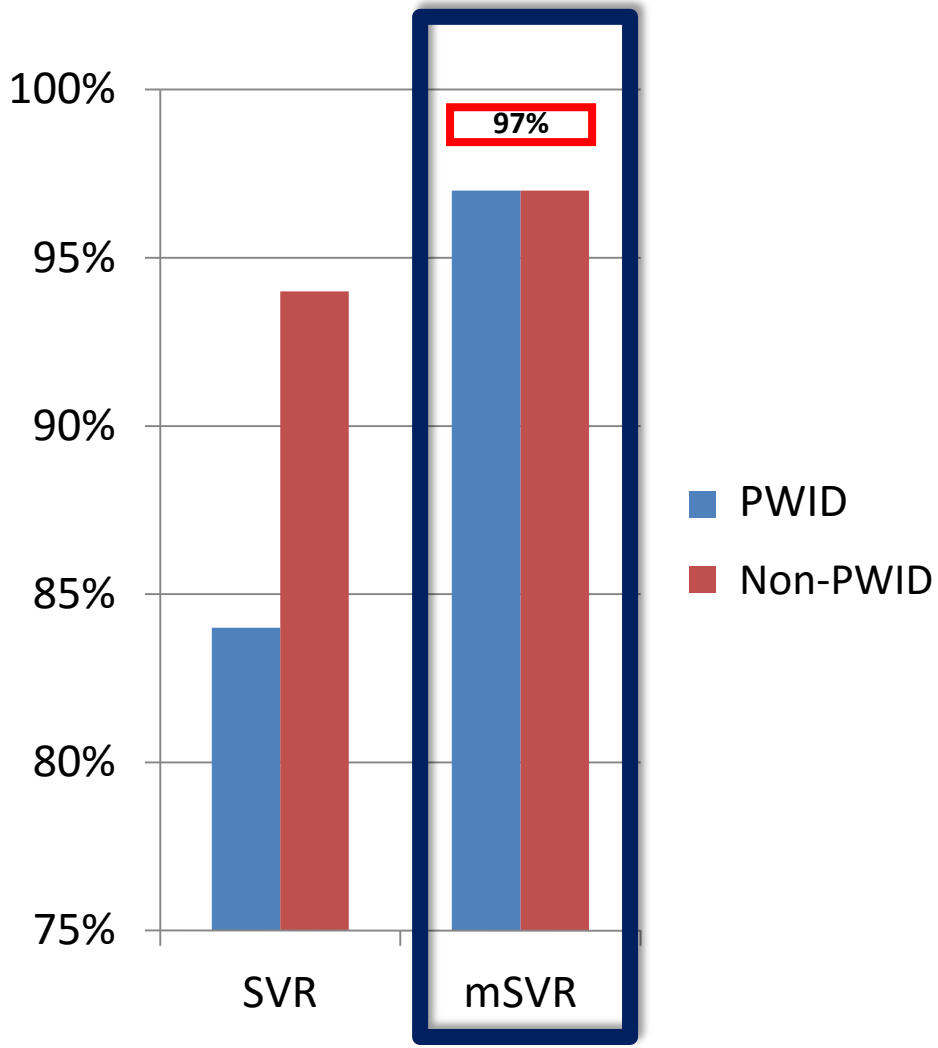
Maticic M et al. Suchtmed 2013; 15: 245.
Maticic M et al. BMC Infect Dis 2014; 14(Suppl 6): 12-3.

Efficacy of DAA treatment (SVR), period 2015-2017

PWID vs. non-PWID



DAA treated: N=383

PWID: n=173

Non-PWID: n=210

Treatment success: mITT

PWID: **SVR=97%**

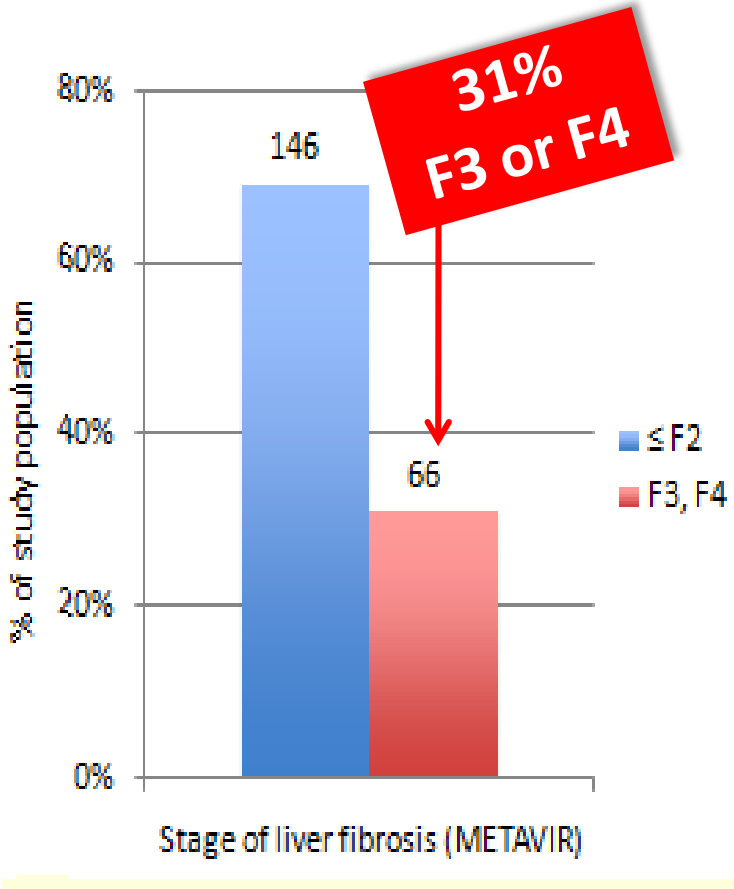
Non-PWID: **SVR=97%**

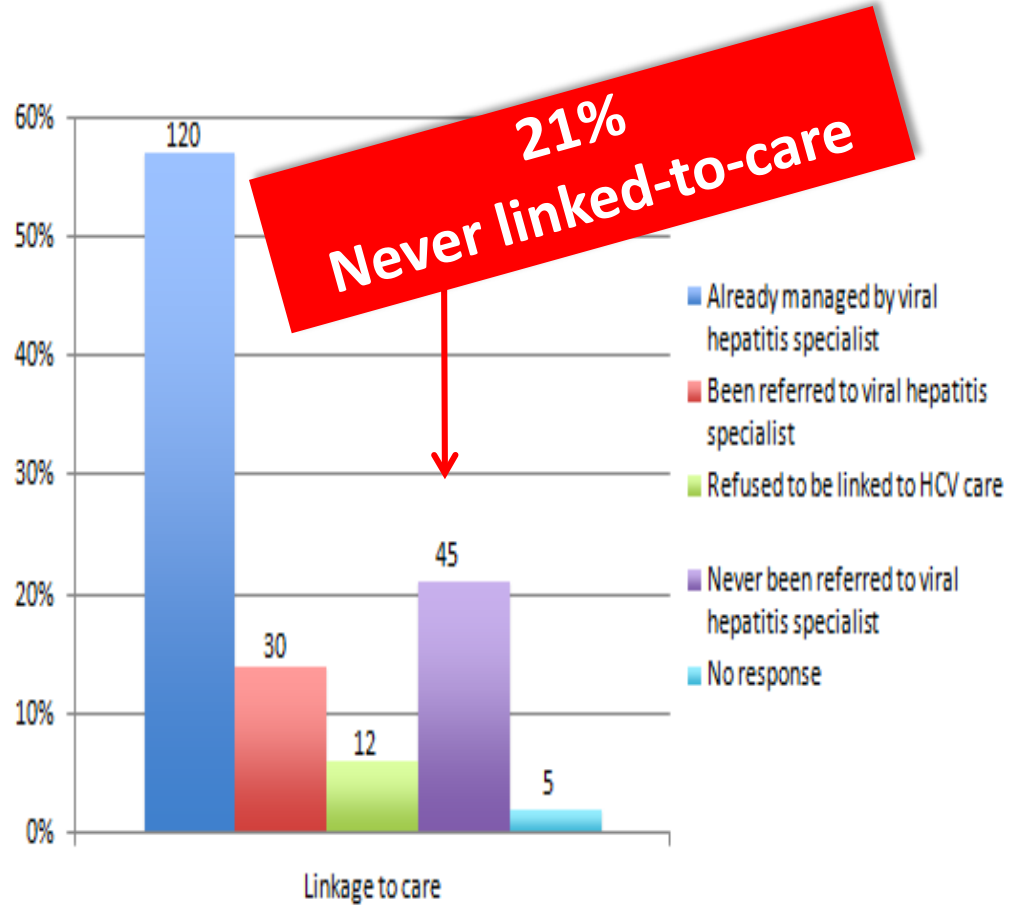
Maticic M, et al. ECCMID, Amsterdam 2019. Poster #Sun-133.

SLOVENIA

Network of Centres for Prevention and Treatment of Drug Addiction

Stage of fibrosis and linkage-to-care in PWUD

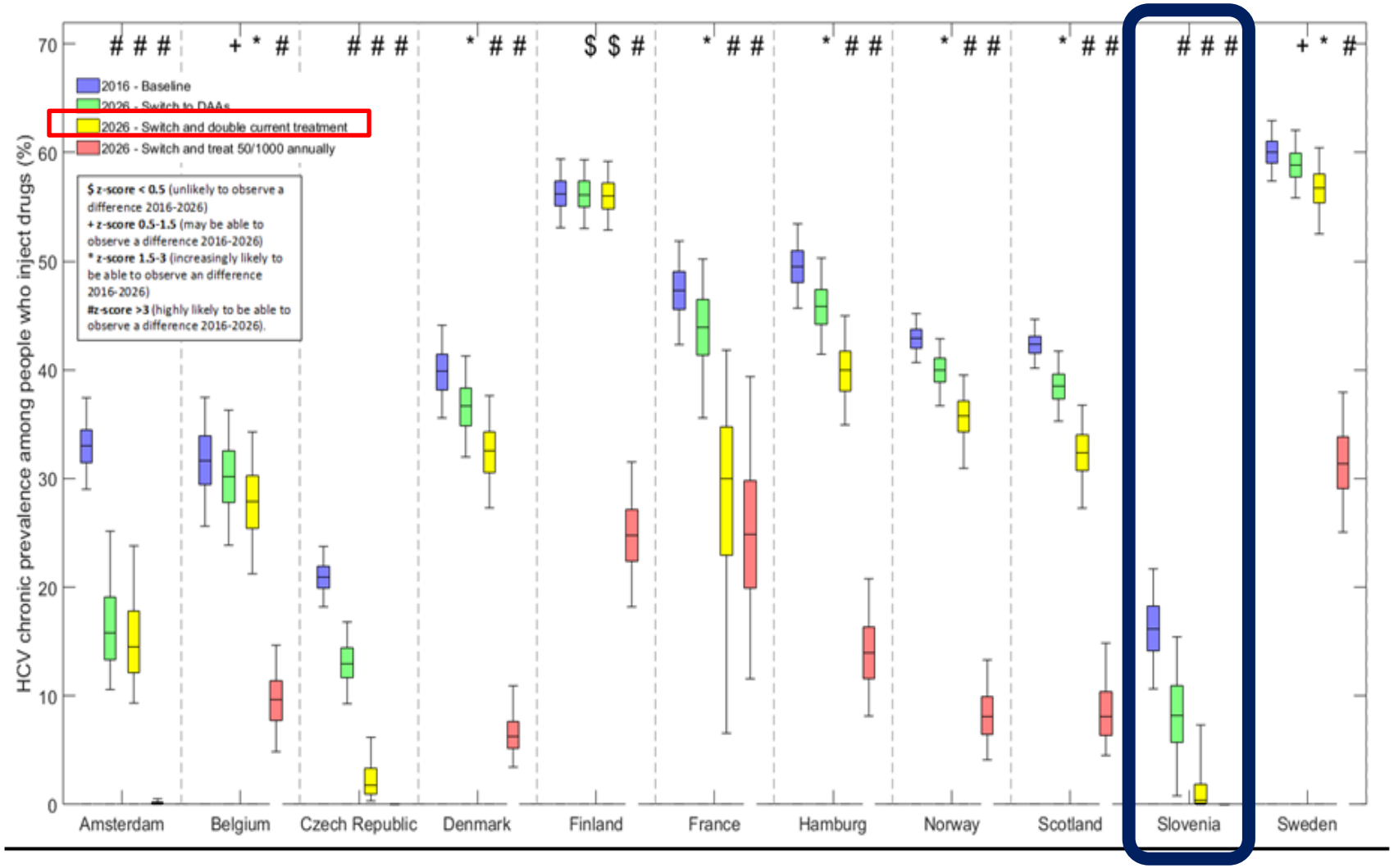




Results of a national study, period 2016/2017 (N=212)

Klesnik M et al. INHSU 2017, New York, September 5-8,2017. Abstract #76.

A modeling study towards
HCV micro-elimination in PWID (2016-2026)



Frasier H et al. J Hpatol 2018; 68(3):402-11.

FUTURE plans for micro-elimination:
PWID in low-treshold settings

In 2019:

MOBILE OUTREACH UNITS:

Testing

Fibroscan

Linkage-to-care

REPUBLIC OF SLOVENIA
MINISTRY OF HEALTH

univerzitetni klinični center ljubljana
University Medical Centre Ljubljana

Univerza v Ljubljani
Medicinska fakulteta

association
SLOVENIA HEP

Cernosa J et al. National Conference on HCV in PWID. Ljubljana, March 6, 2019.

FUTURE plans for micro-elimination: **PRISONERS**

Average number of prisoners in Slovenia: 1350

Prison	Number of known HCV-positive prisoners
LJUBLJANA	146
MARIBOR	76
NOVO MESTO	74
CELJE	4
Total	**300 (22%)**

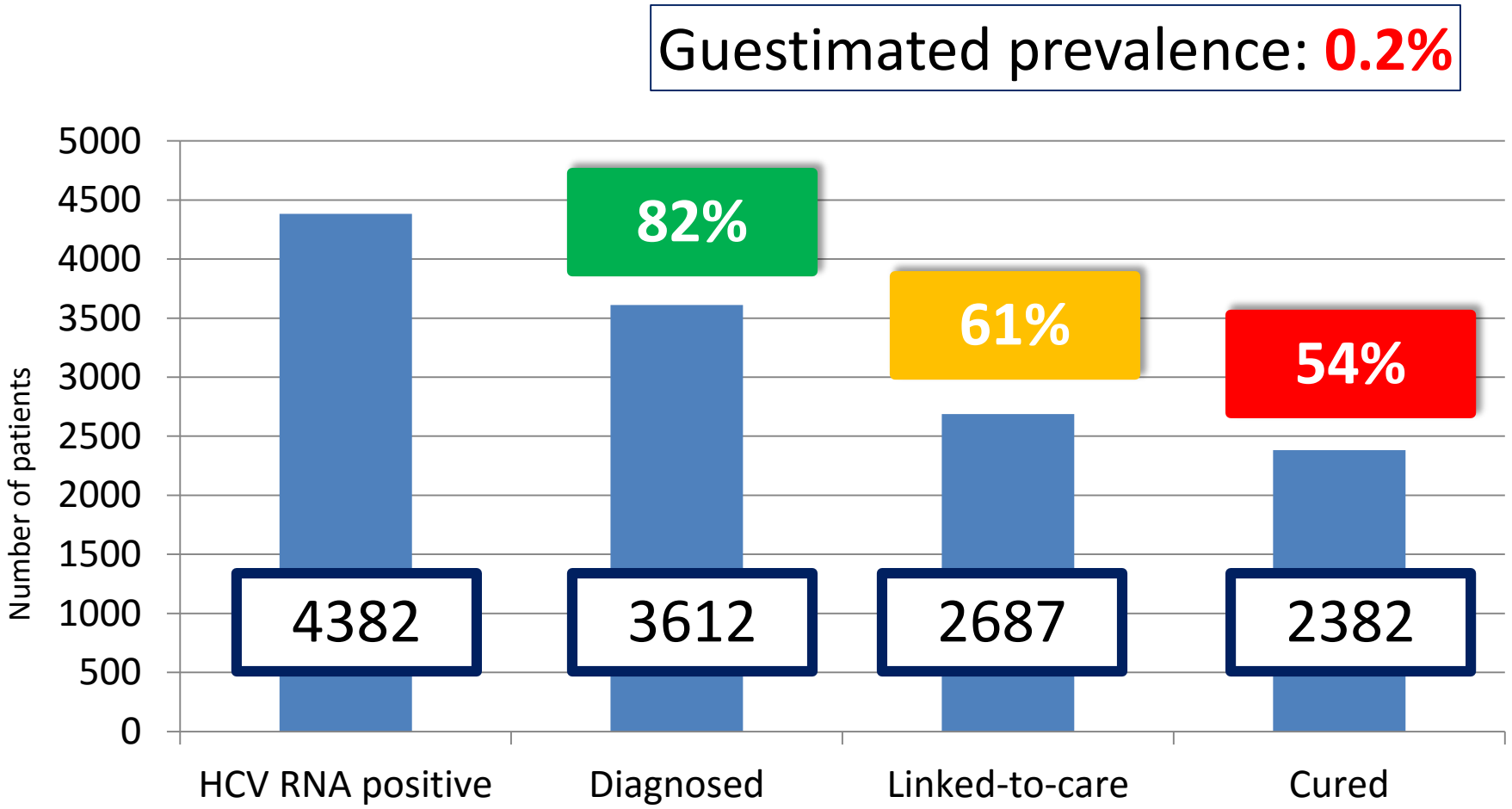
N=276 → Managed at the infectologist

N=94 (34%) → HCV CURE while in prison

Videcnik Zorman J et al. National Conference on HCv in PWID. Ljubljana, March 6, 2019.

SLOVENIA

The cascade of HCV care in 2019



ECDC . Monitoring HCV infection – Report from Slovenia. ***March 2019****. Unpublished data.*

CONCLUSION

Slovenia:

- Has a potential to eliminate HCV as a public health problem before 2030
- Micro-elimination has been completed in some major high-risk groups
- However, an increase in identifying the infected and linkage-to-care is still needed
- Cooperation between medical services and non-medical organisations is crucial

Thank you!