LESSONS FOR VIRAL HEPATITIS ELIMINATION

The Slovenian experience

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Slovenia

ESCMID PGEC Ljubljana: September 28, 2019
SLOVENIA

Inhabitants: 2 million

<table>
<thead>
<tr>
<th>HCV RNA prevalence</th>
<th>N HCV RNA positive</th>
<th>N PWUD</th>
</tr>
</thead>
<tbody>
<tr>
<td>est. 0.3%</td>
<td>est. 6,500</td>
<td>est. 6–8,000</td>
</tr>
</tbody>
</table>

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

- IVDU: 62%
- Healthcare related: 27%
- Sexual behaviour: 6%
- Mother-to-child: 6%
- Other: 6%
- Unknown: 6%

N=734


SLOVENIA

22 years of the national policy for HCV management

Slovenian Viral Hepatitis Expert Board

National Healthcare Network for the Management of HCV infection in PWUD

START National Campaigns
Awareness & free HCV testing

DAA Financial assessment
• Model projections to HCV elimination


National Strategy for the Management of HCV Infection

Clinical Guidelines for HCV Treatment An update

Clinical Guidelines for HCV Treatment in PWUD

Clinical Guidelines Optimization of PEG/riba

Clinical Guidelines for HCV treatment with DAAs

SLOVENIA
Availability of standard-of-care treatment for HCV, period 1992 – 2018

Interferon/Ribavirin

Optimised PegInterferon/Ribavirin

Sofosbuvir

Ombitasvir/r+Parietrevir+Dasabuvir

Sofosbuvir+Ledipasvir

±RBV

Elbasvir+Grazoprevir

Sofosbuvir+Velpatasvir

Glecaprevir+Pibrentasvir

Peg Interferon/Ribavirin

PR/Telaprevir/Boceprevir

PR/Simeprevir


Sof+Vel+Vox

SLOVENIA
Availability of standard-of-care treatment for HCV, period 1992 – 2018

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; yet some high-risk groups prioritised)
- PWID: Never contraindicated

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

SLOVENIA: 2014-2030
Model projection: HCV elimination seems feasible
Use of Direct Acting Antivirals, reasonably increasing diagnosis and treatment rates

**HCV incidence**

- 2030: 90% decrease from 2014

**DEATHS of HCV**

- 2030: 77% decrease from 2014

SLOVENIA

22 years of HCV management policy

HEP-Y

Spletna aplikacija za prepoznavanje in informiranje o hepatitistih

Ali ste okuženi z virusom hepatitisa?

https://hepy.mf.uni-lj.si
HCV Testing outside hospital settings:

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

22 years of policy for HCV management

SLOVENIA

22 years of HCV management policy

SLOVENIA 2000-2015
Anti-HCV prevalence by selected groups

- PWID on OST: 29% (N=1050) HCV RNA: 15.6%
- Hemophiliacs: 26.7% (N=374, in 1992)
- Prisoners: 26% (N=378)
- HIV-positives: 7.6% (N=579)
- Hemodialysis: 1.1% (N=1343)
- Health care workers: 0.7% (N=281)
- General Population Adults: 0.4% (N=2 mill.)
- Pregnant women: 0.09% (N=31 849)
- Blood donors: 0.025% (N=1.4 mill.)

SLOVENIA 2000-2015
Anti-HCV prevalence by selected groups

- PWID on OST: 29% (N=1050) HCV RNA: 15.6%
- Hemophiliacs: 26.7% (N=272)
- Prisoners: 0.025% (N=1.4 mill.)
- Health care workers: 26.7% (N=374, in 1992)
- 0.4% (N=2 mill.)
- General Population Adults: 0.09% (N=31849)
- Pregnant women: 0.7% (N=281)
- HIV-positives: 7.6% (N=579)

**A HIGH-risk group:**

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

TEST all the individuals

IMMEDIATELY TREAT all HCV RNA-positives

SLOVENIA in 2017

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

- Decompensated cirrhotics
- Transplant patients
- PWID, prisoners
- Patients with haemophilia
- Patients on haemodialysis

SLOVENIA 1986-2014
Co-infected HIV/HCV

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

Blood transfusion before 1992: 92%
Sexual exposure: 3%

Period 2014-2019:
Increase in acute HCV infection among MSM
- HCV GT 4
- acquired out of Slovenia
SLOVENIA in 2017-2018

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

Complete HCV elimination in patients with haemophilia

- Patients on haemodialysis
- Decompensated cirrhotics
- Transplant patients
- PWID, prisoners
- HIV/HCV co-infect
The analysis tree of haemophiliacs treated for HCV in Slovenia

- **Anti-HCV positive 105**
  - Died prior tested for HCV RNA 7
  - Tested for HCV RNA 98
    - **HCV RNA negative 25**
      - Died prior treated for HCV 7
    - **HCV RNA positive 73**
      - Not treated for HCV 1
      - Treated for HCV 65
        - Died prior treatment termination 1
        - SVR 64
          - Alive 60
          - Died 4

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

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

A complete HCV elimination in patients on haemodialysis

- Patients on haemodialysis
- Transplant patients
- PWID, prisoners
- HIV/HCV co-infect
- Patients with haemophilia
- Decompensated cirrhotics

Maticic M et al. J Hepatol 2018; #THU-126.
HCV micro-elimination in 2018: It became feasible in certain high-risk populations

- Decompensated cirrhotics
- Patients on haemodialysis
- Patients with haemophilia
- Transplant patients
- PWID
- HIV/HCV co-infected

SLOVENIA in 2018

Maticic M et al. EASL ILC 2018. Poster "THU 126"
Percentage of high-risk opioid users receiving drug treatment in European countries

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

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

Since 1995:
HCV TESTING
INTEGRATED: 18 Centers for treatment and prevention of drug addiction  
5 Centers for treatment of viral hepatitis

Since 2007:
COMPLEX HCV MANAGEMENT

An integrated care for HCV treatment in PWUD involving a multidisciplinary team.
SLOVENIA 2007-2018
National healthcare network for managing HCV in PWUD
An integrated approach

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

Medical evaluation/assessment
Clinical management
Counselling, motivation
Treatment (DAAs)
SLOVENIA

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

16% HCV RNA positive
3% treated for HCV

Strategy Network Guidelines

Treatment rate INCREASED by >4x

Coordination of Centers for Prevention and Treatment of Illicit Drug Abuse, Slovenia
SLOVENIA
HCV treatment success in the national healthcare network, 2008-2010

CURED (pegIFN/RBV): 82%

Non-adherent: 4.3%

16% HCV RNA positive
3% treated for HCV

Strategy Network Guidelines

Treatment rate INCREASED by >4x

Coordination of Centers for Prevention and Treatment of Illicit Drug Abuse, Slovenia 2011.
Residence, employment status and education level achieved among PWID with HCV infection before HCV treatment and after successful HCV treatment (N=96)

Significant improvement of lifestyle

SLOVENIA 2001-2013
Significant change in lifestyle of PWUD after SVR (PegIFN/RBV)

Residence, employment status and education level achieved among PWID with HCV infection before HCV treatment and after successful HCV treatment (N=96)

Significant change in lifestyle of PWUD after SVR (PegIFN/RBV)

A modeling study towards HCV micro-elimination in PWID (2016-2026)
FUTURE plans for micro-elimination: PWID in low-threshold settings

In 2019:

MOBILE OUTREACH UNITS:

- Testing
- Fibroscan
- Linkage-to-care

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Average number of prisoners in Slovenia: 1350
SLOVENIA
The cascade of HCV care in 2019

Guestimated prevalence: 0.2%

Number of patients

<table>
<thead>
<tr>
<th>Condition</th>
<th>Number</th>
</tr>
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<tbody>
<tr>
<td>HCV RNA positive</td>
<td>4382</td>
</tr>
<tr>
<td>Diagnosed</td>
<td>3612</td>
</tr>
<tr>
<td>Linked-to-care</td>
<td>2687</td>
</tr>
<tr>
<td>Cured</td>
<td>2382</td>
</tr>
</tbody>
</table>

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