Micro-elimination in small geographical settings – the case of Treatment as Prevention for Hepatitis C (TraP HepC) program in Iceland

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5th International HIV/Viral Hepatitis Co-Infection Meeting
Viral hepatitis elimination in Latin America and globally: How close are we?
20-21 July 2019, Mexico City, Mexico
Disclosures

Gilead provides DAAs in support of the TraP HepC research project
Iceland and Hepatitis C

• Population of 340,000
• Universal health insurance
• Mandatory reporting - HCV Registry since 1991
• Estimated viremic prevalence of HCV 0.3%,
• 800-1000 cases total, >80% already diagnosed

Epidemiology of Hepatitis C in Iceland, prior to TraP HepC

40-70 new cases annually
Incidence 15-23/100,000/year

During 2002-2012 (IFN-era):
18-20 treatment initiations/y
14-15 completed treatment/y

Olafsson et al. J Intern Med 2018
Friðriksson et al. Læknablaðið (Icel Med J) 2017
TraP HepC started in 2016: Organization and stakeholders

- Landspitali University Hospital - project center
- Main collaborator: SAA-National Center of Addiction Medicine
- Gilead provides Harvoni® and Epclusa® in an epidemiological trial setting
- Directorate of Health (Chief Epidemiologist)
- Icelandic Government provides funding for staff, diagnostic tests and other services
TraP HepC: for whom – when – where - which?

- All HCV PCR positive individuals living in Iceland
  - Actively injecting drugs
  - Incarcerated
  - Advanced liver fibrosis/cirrhosis
- DAAs offered from Jan 2016
- Collaboration:
  - Infectious disease
  - Hepatology
  - Addiction medicine
- Treatment regimen:
  - Jan-Oct 2016: ledipasvir/sofosbuvir +/- ribavirin
  - Nov 2016: sofosbuvir/velpatasvir
New diagnosis & "mop-up"

Incidence of: domestic transmission, cirrhosis and HCC

Prevalence among PWID

Overall organization of TraP HepC

Launched in January 2016

0 12 24 36 months

2016

5 10 15 years

2019
TraP HepC – Multidisciplinary team approach

Addiction treatment centers

Remote therapy/Regional healthcare

Virology lab

Pharmacy

Hepatology

Infectious disease

Homeless shelters Psychosocial support services

Prison system

Addiction medicine
Simplified evaluation, treatment and monitoring

- One baseline visit/evaluation:
  - Interview
  - Laboratory data: HCV RNA (PCR), genotyping
  - Fibroscan® (measures stiffness of the liver, fibrosis)
- Treatment initiation in 0-2 weeks
- Data for all patients entered into EPR (electronic patient records) Hep C subsystem
- Data accessible by all team members (web-based)
Enhanced testing and diagnosis among risk groups

- **Education** for health care professionals
  - Lectures, meetings
  - Letters to all physicians in Iceland
- **Increased screening** in emergency rooms
- Screening of all **prison** inmates
- Screening of immigrants/asylum seekers
- Point of care testing (Oraquick®) for hard to reach populations
- Collaboration with NGO´s and patient affiliations
Public awareness campaign

• Flyer to all homes in the country
• Advertisements in all newspapers
• TV + Radio stations – interviews
• Social media
• Open seminars for patients/the public

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LEYNIST C HEIMA HJÁ PÉR?
Kynntu þer áhættaþættina
Gjaldfrjáist símanúmer: 800 1111

LIFRARBÓLGA
MÆLUM MED MÆFÆRÐ

TÍMINN ER NÚNA!
Hafðu samband
800 1111
Strategies to increase adherence and maximize treatment uptake
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**Incentives**

- Taxi pickup
- Pill boxes
- Mobile minutes/Data GB
- Mall vouchers with increasing value
  - ...as patients continue to show up – investment for them
- Tourniquets
- Harm reduction “kits”
Strategies to increase adherence and minimize the number of patients left untreated
• Opioid substitution program (National Center of Addiction Medicine)
• However: Most common iv drugs are stimulants (methylphenidate, amphetamine, cocaine)
• Low threshold for addiction treatment
• Needle syringe programs (NSP)
  – Easy access to needles/syringes in pharmacies
  – Mobile harm reduction units in Reykjavik – increased funding, expanded services
  – Harm reduction kits distributed in health care facilities

The TraP HepC harm reduction box
Overall organization of TraP HepC

- **TraP – active treatment**
  - Initial case-finding
  - Outreach

- **TraP – monitoring of long term effects**
  - New diagnosis & “mop-up”

Incidence of:
- Domestic transmission,
- Cirrhosis and HCC

Prevalence among PWID

Launched in January 2016

- 0 months: 2016
- 12 months: 2016
- 24 months: 2019
- 36 months: 2019
- 5 years: 2021
- 10 years: 2026
- 15 years: 2031
Increased intensity of testing, Iceland 2007-2018

Olafsson S. et al. EASL, 2019
Recruitment and treatment initiations, Jan 2016 – July 2019

After 36-40 months from the start of TraP HepC the WHO service target has been reached

- Of those treated, 91% required one treatment
- 9% required two treatment initiations
- 1% required three treatment initiations
Prevalence of HCV viremia among PWID at Vogur Addiction Hospital 2010-2018 – recent iv use

- Ever used iv
- Currently injecting

TraP HepC started Jan 2016

82.3% drop
Incarceration and prevalence of HCV in prisons

- Highly prevalent among inmates in most countries
- Ongoing injection drug use more common than authorities are willing to admit – potential outbreaks
- The prison setting represents a great opportunity for treatment and prevention
- Most prisons do not offer treatment during incarceration

Iceland: 37 inmates/100,000 inhabitants

HCV PCR positive

Friðriksdottir et al. INHSU 2017
Iceland: TraP HepC Cascade of Care

- Infected: N=800*  
- Diagnosed: N=741  
- Linked to care: N=720  
- Initiated on treatment: N=703  
- Cured: N=633*

*Estimate
TraP HepC: Conclusions

- The program, in its 4th year is progressing as planned with over 90% of estimated infected population initiated on treatment.
- Overall treatment success is high, even with a large proportion of patients with recent injection drug use.
- This has already translated into a significant reduction in prevalence of HCV among PWID and within the prison population.
- Reduction in domestic transmission (incidence) is the primary endpoint, results eagerly awaited!
- Increasing drug use, homelessness, treatment discontinuation and threat of “imported disease” remain significant challenges.
For a treatment program to be successful you need:

- Multidisciplinary team approach, collaboration, dedication and different models of care
- Combination of antivirals and harm reduction, use social media!
- PWID, the drivers of the epidemic, to be a focus of treatment scale-up
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