



Remedis

# 20 YEARS OF EVOLUTION OF THE COMPREHENSIVE MODEL OF CARE FOR PWID TO ENHANCE HCV TREATMENT UPTAKE AND OUTCOME

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7th International Symposium on Hepatitis Care in Substance Users, Cascais, Portugal, 19–21 September 2018

**Abstract**

**Background:** More than 20 years ago we noticed an increasing number of HCV cases among PWID in Czech Republic and we aimed to establish an initial scheme for workup and management in this specific population. HCV treatment access and uptake were suboptimal in PWID compared to other patients' group. It contrasted with the evidence of high antiviral treatment efficacy in this group even with the traditional interferon-based regimens. With the goal to reach drug users and to offer timely and targeted health care services for PWIDs including the personally tailored HCV therapy a Program of Comprehensive Care in Prague has been established.

**Approach:** The basic principles of care: low threshold access to medical services, including basic and specialized health care, blood borne and sexually transmitted diseases testing, pre and post-test counseling as well as harm reduction services such as opiate substitution treatment, psychosocial counseling and crisis intervention, individual and group psychotherapy, etc. All medical and non-medical interventions are concentrated in one location; the program is placed within the premises of outpatient health care center attended also by non-drug users, preventing segregation of patients with „stigmatizing“ disease.

**Outcome:** Number of HCV treated patients increased from several tens in 2003 to nearly 700 in 2017.

We hope to serve as an example of „good practice“ when over the years Remedis became a largest HCV treatment center in the country with no threshold access for PWID. Historically, sustained virologic response with peginterferon and ribavirin exceeded 80% regardless of genotype and new generation antivirals can demonstrate efficacy far over 90%.

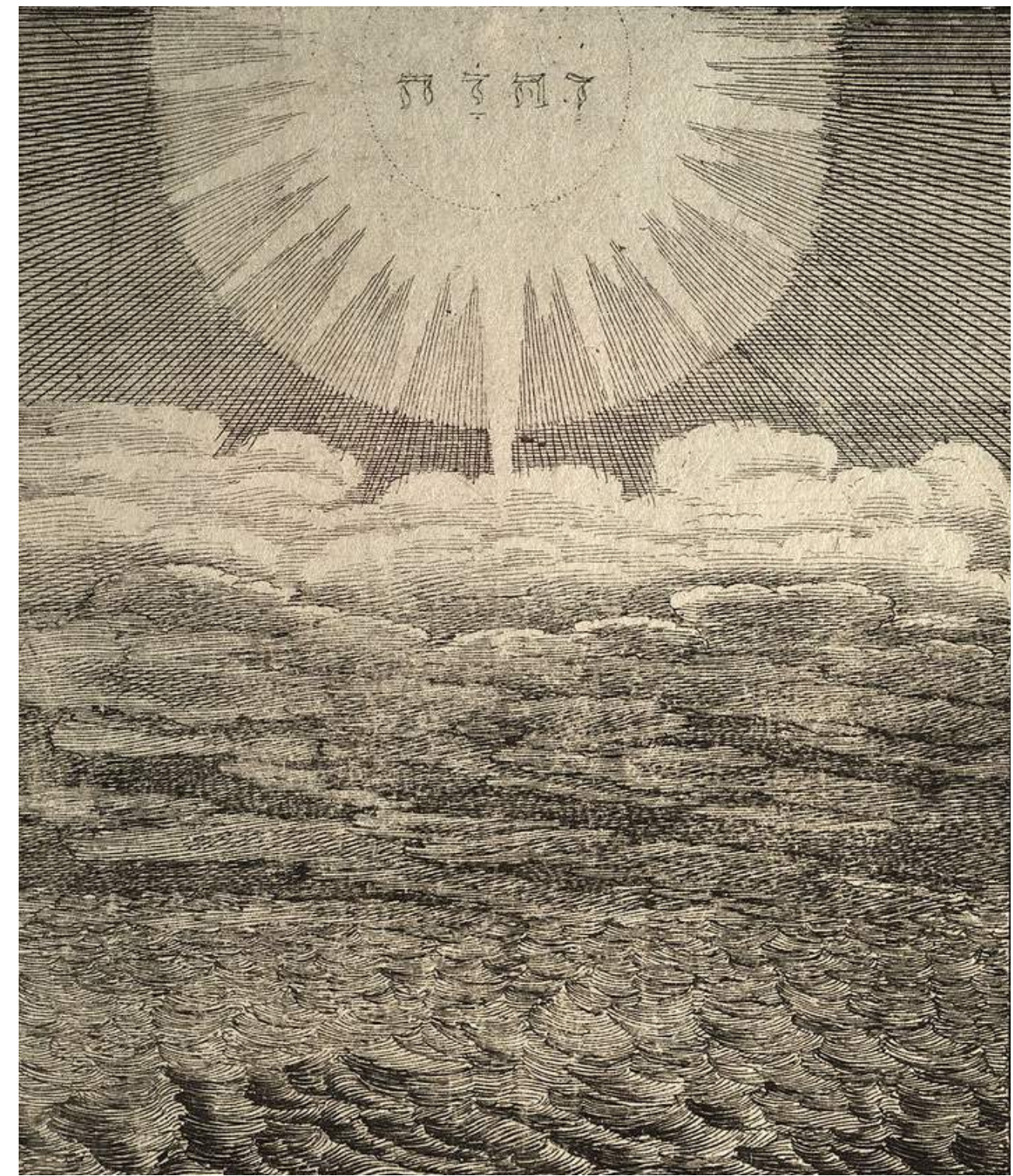
**Conclusion:** Under-one-roof concept proved to be effective and accessible for PWID. The major next step is to enlarge the engagement in Prison program where the most unmet need for HCV management is apparent.

**Disclosure of Interest Statement:** Nothing to disclose.

**Evolution of the program:**

1989 Velvet revolution – political changes in CEE, HCV discovery published

1995–98 “Primal chaos” – HCV, HBV, HAV, HIV, STD, dependence, injecting drugs, somatic complication, personal and societal harms – everything was new and threatening.



CHAOS – Václav Hollar (Czech: [ˈva.tslav ˈholar]; 13 July 1607–25 March 1677), was a Bohemian etcher, known in England as Wenceslaus or. He was born in Prague and died in London, being buried at St Margaret's Church, Westminster



**HCV treatment 1**

Initial attempts to treat HCV with standard interferon (3 times weekly injections of interferon), since 1998 with ribavirin – the first observation that SVR was much higher in adherent IDU / PWID compared to common population

1998 the Program of comprehensive treatment was established with the goal: to concentrate all available „drug“ services in one place to promote effectiveness of various interventions and patient compliance, including adherence to antiviral treatment

Initially large hospital setting proved to be blind alley and was discontinued and shifted to outpatient setting.

2000 hepatology outpatient clinic, internal medicine

2003 on-site buprenorphine OST

2004 clinical psychology

2005 dedicated pharmacy

2006 the Program of comprehensive treatment reformulated in outpatient setting

**HCV treatment 2 (see side panel)**

2007 gastroenterology with endoscopy, ultrasound, on-site liver biopsy

2008 psychiatry, primary care, diabetology

2009 gynecology

2010 Prison Program pilot

2011 on-site methadone OST

2013 Prison program expansion (20 prisons)

2014 outpatient surgery

2014 fibroscan available

2014 gastroenterology in Brno

2015 Addiction medicine in Prague and Brno

2016 Community addiction center opens in Brno

2017 outpatient orthopedics

**HCV treatment 3 (see side panel)**

Currently growing numbers of patients are treated with DAA – both adherence and SVR exceed 90%. Data and evaluation underway.



- Basic principles of the PWID friendly program:**
- No threshold (as for any sick person with any disease)
  - All under one roof
  - Individualised plan for each patient
  - Proactive approach towards the patients
  - Peer to peer dissemination of information
  - Frequent feedback from clients (and evaluations)

At the beginning, our initial question was: who are HCV infected PWIDs? They are polymorbid patients requiring specialized multidisciplinary care and approach.

At the beginning, there was only one doctor and nurse hepatology office and many patients with HCV and addiction problems ...

Issues are multiple:

- Medical
- Epidemiological
- Ethical
- Psychiatric
- Psychosocial
- Financial
- Many others ...

General context:

- Stigma
- Denial
- Lack of resources
- Lack of political will

**Currently on-site available services (2018)**

- Medical care – internal medicine, gastroenterology, hepatology, outpatient surgery, gynecology, primary care, X-ray, ...
- Psychiatry, clinical psychology
- Addiction medicine
- Easy to reach referrals
- BBD, STD, TB testing
- Counselling (psychosocial, harm reduction)
- Opiate substitution treatment
- Psychotherapy (group or individual)
- Social work
- Established collaboration with harm reduction centers in Prague

- Off-site services**
- Prison program
  - Community addiction center
  - Street outreach program (HCV testing)

**Drawings: Our patients**

Photo: Karel Šanda

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**HCV treatment 2**

**Study design – inclusion criteria**

- Prospective recruitment 2003 – 2010 in single center – Remedis Prague, Czech Republic
- Proven chronic hepatitis C based on standard serological and histological criteria with detectable HCV RNA
- History of past or current IDU
- Psychosocially stabilized and **motivated** patient (including those on OST)
- Individualized assessment of eligibility and suitability for antiviral therapy in multidisciplinary setting
- No other selection, restriction or limitation to Tx
- All efficacy analyses were conducted on **Modified intent-to-treat population** – included are all subjects who received at least 1st dose of medication

**Study population**

- n = 345
- Male : female = 284 : 141 (80:19%)
- Average age = 38.6 (±5.5)
- Median age 36 (±5.5)
- Body weight
  - males 78.1 (±12.5) median 77
  - females 63.5 (±12.0) median 60
- HCV clinical characteristics
  - ALT WNL – 26%
  - Male: female 24.6% : 25.4%
  - HCV documented duration – 5.93 years (0.5 – 17 years)
  - Treatment naïve patients: No co-infections

**Duration of IDU career (years)**

**Self reported „main drug“**

**HCV genotypes – 1 vs. non-1**

**Histological stage**

**HCV subtypes**

**Opiate substitution treatment while on HCV therapy**

**Pre-treatment follow-up**

- Mean 14.2 months (0-72 months)
- Prior dependency stabilization
- Psychosocial stabilization
- Other relevant interventions accomplished

**Treatment regimen - standard**

- Pegylated interferon alpha weekly
- + Ribavirin 800-1200 mg/d weight based
- Genotype 1 – 48 weeks
- Genotype 2,3 – 24 weeks

**Results obtained - table**

	RVR week 4		EVR week 12		ETR week 24/48		ITT - SVR week 24/48	
	n=141	n=141	n=141	n=141	n=141	n=141	n=141	
HCV RNA	133 (94.3%)	82 (58.2%)	212 (150.3%)	94 (66.7%)	212 (150.3%)	85 (60.3%)	85 (60.3%)	
HCV positive	107 (75.9%)	13 (9.2%)	21 (15.0%)	2 (1.4%)	7 (5.0%)	3 (2.1%)	3 (2.1%)	
lost to follow-up	8	4	3	2	9	8	0	
lost to follow-up	7	6	5	0	10	6	21	
Total	230	90	230	150	241	107	107**	

**Sustained virological response, genotypes 1d – week 24 of F/U**

**ITT population**

lost to follow-up 21 (8.5%)

SVR-NO 24 (10.4%)

SVR YES 195 (88.9%)

n=120

**Sustained virological response, GENOTYPES non-1 (3, 2)**

**ITT population**

lost to follow-up 10 (9.9%)

SVR-NO 4 (5.9%)

SVR YES 85 (84.2%)

n=120

**Reinfection rate**

(data not updated)

- 3 years standard F/U in 76% of patients
- 2 reinfection documented
- Frequency of 0.6% per person/year
- 1 reinfection after 5 years

**Reasons for good treatment response**

- Low age and short duration of HCV infection
- Early stages of HCV infection (low fibrosis)
- Low body weight (BMI)
- Low somatic comorbidity
- Good adherence / compliance →
  - comprehensive care setting in Remedis
  - HCV antiviral Tx is an integral part of addiction treatment
  - HCV antiviral therapy is considered as one of the steps of an addicted patient recovery

**Conclusions**

- Chronic hepatitis C in certain settings can be nearly fully treatable disease even with former standard of therapy
- IDU's can be successfully treated with higher than average efficacy
- HCV antiviral therapy should optimally be initiated and performed within a comprehensive service setting promoting good adherence
- HCV antiviral therapy can be one of the most powerful preventative measures in low prevalence countries such as the Czech Republic
- **DAA – no substance challenge !!!**

