

# HCV screening in hospitalized patients: new challenges and opportunities for the target of microelimination

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**D**ear Editor  
Chronic hepatitis C is a major public health problem in the World Health Organization (WHO) has launched a global programme to achieve rather ambitious HCV elimination goal for 2030 [1-3]. Considering microelimination as the result of targeted initiatives, in Italy screening activities in key frail populations (people who inject drugs, prisoners, migrants) and in birth cohort 1969-1989 have been started. However, Covid-19 has significantly affected the number of patients who have been diagnosed or treated and new HCV models of care are emerging [4, 5]. In particular, hospitalized patients may represent an ideal population for opportunistic HCV screening to referral treatment [6]. Data on epidemiology of case finding HCV infection during hospitalization in Friuli Venezia Giulia (North East Italy) are missing. Herein, we report our clinical experience with hospital screening to assess HCV active infection prevalence and to evaluate the feasibility HCV testing for linkage to care and antiviral treatment. All subjects aged 18 years or older consecutively admitted to Internal Medicine, Neurology, Gynecology and Surgery in our Hub Hospital Pordenone (Friuli Venezia Giulia) from 05.09.2022 to

30.06.2023 were screened with in-hospital reflex HCV testing. During the hospital stay, hepatologists examined all viremic subjects, as the result of laboratory alert or specialist advice.

Among 4.043 (median age: 70 years old, 59% female) inpatients screened, 117 (2.9%) were HCV-Ab positive. All were tested for HCV-RNA and 45 (1.1%) were HCV-RNA positive.

The highest prevalence of HCV-RNA positivity (86%) was found in patients admitted to Internal Medicine. We registered only 3 non-Italian patients; they were from Albania, Burkina Faso and Ukraine with active HCV infection. Median age of HCV-RNA positive patients was equal to 75 years old (66.6% females); median ALT levels 40U/L, median HCV-RNA levels were 6,1 log IU/mL while most prevalent genotypes were 2 (2a/2c) and 1b. HBV or HIV co-infections were not detected. Only 3 patients (6.6%) belonged to 1969-1989 cohort. We assessed liver fibrosis with FIB-4 in non-compliant patients while Vibration-controlled Transient Elastography (VCTE) was used in fit subjects. Advanced liver fibrosis was excluded in all patients and the reasons for hospital admission were not due to liver failure. Patients admitted to Internal Medicine were predominantly hospitalized for sepsis, pneumonia, heart failure. Median Charlson Comorbidity Index (CCI) was equivalent to 8; in particular 35 patients (77.7%) had neurological and cardiovascular co-morbidities while polypharmacy (>4 drugs) was showed in 40 patients (88.8%). Five

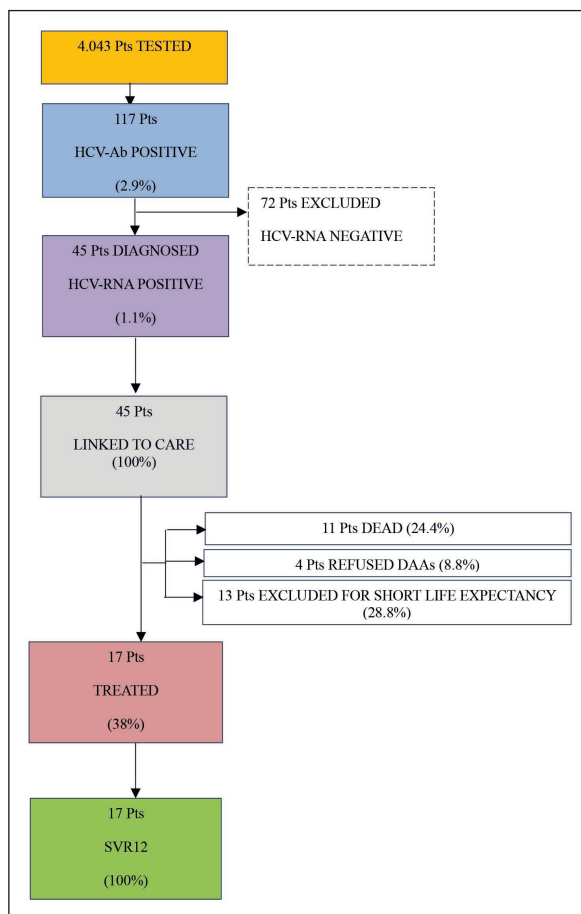
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patients (11%) were unaware of HCV infection and the suggested testing in cohabitants revealed another subject with HCV infection. 33.3% of viremic patients never been referred to a specialist center, even if they were aware of their infection.

All patients underwent linkage to care evaluating treatment and for all patients with hepatitis C, counselling to caregivers and patients was provided. Of the 45 patients HCV-RNA+: 11 patients died during hospital admission or immediately following discharge, 4 refused treatment with Direct Antiviral Agents (DAAs), 13 (29%) patients were excluded due to short life expectancy (<6 months), 17 (38%) (median age: 70 years, range: 30-90) were treated after the hospital discharge



**Figure 1** - HCV care cascade in Hospital of Pordenone (Italy). Abbreviations: Pts, patients; Ab, antibody; DAAs, Direct Antiviral Agents; SVR12, Sustained Virological Response at week 12.

and all patients achieved sustained virological response at week 12 (SVR 12) without side effects (Figure 1). Antiviral treatment of all patients was planned in collaboration with General Practitioners (GPs) sparing hospital visits. No laboratory tests during therapy were prescribed. Clinicians had tried to persuade the 4 over eighty patients who refused treatment but they reported stigma "I'm fine like this!".

In conclusion, hospital HCV screening is feasible because HCV active infection has been frequently found in patients admitted in Hospital. In our real life, most viremic patients were elderly Italian-born, with mild liver disease and multiple co-morbidities. Hospital screening recalls that known viremic patients lost to follow-up or never referred, however submerged people with hepatitis C still exist. In-hospital reflex HCV testing has enabled optimal linkage to care for the first visit [7]. Antiviral treatment is safe and efficacious in elderly patients; it should be always proposed for the patient's benefits on quality of life and for spread of infection to caregivers [8].

However, according to our data, a remarkable proportion of patients with HCV infection died during hospital stay (24.4%) or had a reduced life expectancy (29%). This latter topic suggests to clinicians to avoid futile HCV testing to optimize resources and reduce costs. Furthermore, reasons for hospital admission and severe co-morbidities may delay a prompt test and treatment program.

Finally, we treated 3 patients (17.6%) born between 1969 and 1989 recommending that the extension of testing programme to subjects born before 1969 could lead to improved screening effectiveness.

In our opinion, milestone to move Italy toward HCV elimination is implementation of opportunistic HCV screening tests among hospitalized patients in association with new optimized diagnostic algorithms (as reflex HCV test). Although the diagnosis and the first step of linkage to care of hepatitis C usually take place in Hospital, simplified and decentralized models with GPs or other specialists are necessary for both elderly and young patients to improve care cascade [9].

#### Conflict of interest

None to declare.

#### Funding sources

None to declare.

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