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Successful Cascade of Care and Cure HCV in 5382 Drugs Users: How Increase HCV Treatment by Outreach Care, Since Screening to Treatment

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Abstract

Introduction: In France 33% of patients didn't take care of hepatitis C because there were no diagnosed. Drug injection was main contamination route of hepatitis C virus (HCV) in France. French guidelines were to treat all inmates and drug users, even fibrosis level. Access of HCV screening, care and treatment in drugs users, prisoners and homeless was low in France. They were considered as difficult to treat populations. All these patients need specific support. Hepatitis Mobile Team (HMT) was created in July 2013 to increase screening care and treatment of hepatitis B and C patients. HMT was composed of hepatologist, nurses, social workers and health care worker.

Objective: increase outreach screening care treatment access and cure of our target population. Patients and methods Target population was drugs users, prisoners, homeless, precarious people, migrants and psychiatric patients. We proposed part or all of our services to our 42 medical and social partners: HCV HBV screening by DBS (dried blood test); outside DBS and FIBROSCAN in converted van; Outreach open center; Drug users information and prevention, Free blood tests in primary care;, Staff training; Social screening and diagnosis; Mobile liver stiffness Fibroscan in site; Advanced on-site specialist consultation; Easy access to pre-treatment commission; Low cost mobile phones for patients; Individual psycho-educative intervention sessions; Collective educative workshops; Peer to peer educational program; Specific one day hospitalizations. All services were free for patients and for partners.

Results: from 2013 July to 2018 December, we did 8382 DBS for 5382 people (3053 HCV DBS) and 2302 Fibroscan*. HCV new positive rate was 21.3%. Our HCV active file was 651patients included these 24.8% new patients screened by DBS; 98% realized HCV genotype, HCV viral load and FIBROSCAN. DAA treatment was proposed to 96%; 95% started treatment, 4% were lost follow up or refused treatment. After treatment, there was 7 relapse and 3 reinfections by drug injection and cured rate of 94%. Sociological evaluation showed that 4 program qualities for patients: free access, closeness (outside hospital), speed (of the results) and availability (of nurse and social workers). Conclusions: Specific follow-up of drugs users and other HCV high-risk patients including screening, early detection, diagnosis and treatment increase rate of treated and cured patients, with low rate of relapse and reinfections.

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Introduction

In 2016, the World Health Organization (WHO) set an ambitious goal to eliminate hepatitis C as a major public health threat by 2030 [1]. Specific targets include increasing sterile needles/syringes distributed from 20 to 200 per person per year for PWID, reducing new hepatitis C infections by 80% and hepatitis C-related deaths by 65%, increasing hepatitis C diagnoses from <20% to 90% and the number of people receiving hepatitis C treatment from less 10% to 80%. Drug injection was main contamination route of hepatitis C virus (HCV) in France and western Europe since 1990 [2]. Although highest European HCV screening rate in France, 33% of patients didn't take care of hepatitis C because there were no diagnosed [3]. On 2018, the International Network of Hepatitis in Substance Users (INHSU) published recommendations for good practices about HCV pathway on drug users [4]. There were detailed on table 1.

From 2016 French guidelines [5] were to treat all inmates and drug users, even fibrosis level with direct antiviral agents (DAA). Success rate of DAA, one or tow pills per day for 8 or 12 weeks therapy, was 95 to 97%. Before that, access of HCV screening, care and treatment in drugs users, prisoners and homeless was low in France. They were considered as difficult to treat populations. All these patients need support especially psycho-educative interventions. The Mobile Hepatitis Team (MHT was set up in 2013, following the publication of an scientific report on reducing risks of infection amongst drugs users in 2011 [1], which recommends screening all drug users for HCV and establishing multidisciplinary clinics with 'all-in-one' screening to treatment and providing medical and social care.

Objective and Methods

Our main objective was to increase outreach screening care treatment access and cure of our target population. Target population was drugs users, prisoners, homeless, precarious people, migrants and psychiatric patients. It was not phase IV study and we don't need any IRB or specific authorization. HMT was composed of 1 hepatologist, 3 nurses, 1 secretary, 2 social workers, one health care worker, for a cross-disciplinary approach. Resources include two specific cars, on van, serology point-of-care testing (POCT), and two mobile FIBROSCAN®. Forty two different medical and social units were partners: low and high threshold drug units, retention and detention center medical units, outside psychiatric units, emergency and homeless food/hosting units. We proposed part or all of our services to our medical and social partners. There were 15 services for half million people area in south of France. All services were free for patients and for partners. Services were organized in 4 sucessive steps:

For Early Detection and Primary Prevention

1. On-sites screening by serology Point of Care Testing PDBS (dried blood test) for HIV HBV HCV

2. Green thread: outside POCT/DBS and FIBROSCAN® in specific converted van in outdoor sites.

3. BOUSSOLE outreach open center 5 days a week Reception Information and support

4. Prevention information sessions toward drug users in day-care or housing structures

5. Free blood tests in primary care for patients without social insurance

6. Training of socio-medical institutions staff with trimestral days of exchange or on-demand and on-premises.

For linkage to care and fibrosis assessment:

7. Social screening and diagnosis (by using EPICES, specific social score)

8. On-premises mobile FIBROSCAN® for indirect measurement of liver fibrosis in site

9. Advanced on-site specialist consultations.

For access to treatment:

10. Easy and rapid access to pre-treatment commission with hepatologists, nurses, pharmacist, social worker, GP, psychiatric and/or addictologist.

11. Low cost mobile phones lending to patients to keep in touch with MHT

For follow up during and after treatment

12. Individual sessions of therapeutic education inside an ARS (Regional Health Agency) authorized program.

13. Therapeutic support groups (nurse, psychologist,

Table 1. INHSU recommendations

Epidemiology and prevention of HCV
1) PWID should be provided with appropriate access to OST and sterile drug injecting equipment as part of wide-spread comprehensive harm reduction programs (Class I, Level B).
(2) PWID should be offered HCV treatment, given they are at elevated risk of HCV transmission and successful treatment may yield transmission reduction benefits (Class IIa, Level C).
Natural history of HCV and effects of drugs on the liver
(1) PWID should be counselled to moderate alcohol intake, or abstain if evidence of advanced liver disease (Class I, Level A).
(2) Cessation of injecting is not required to limit HCV disease
progression (Class IIa, Level C).
Testing of HCV infection
(1) An anti-HCV test is recommended for HCV testing among PWID, and if the result is positive, current infection should be confirmed by a sensitive RNA test (Class I, Level B).
(2) PWID who are anti-HCV negative should be routinely and voluntarily tested for HCV antibodies/RNA and if neg-ative, every 12 months. Testing should also be offered following a high risk injecting episode (Class IIa, Level B).
(3) PWID who are anti-HCV antibody positive and HCV RNA negative (through spontaneous or treatment-induced clear- ance) should receive regular HCV RNA testing, every 12 months or following a high risk injecting episode (Class IIa, Level B).
Non-invasive liver fibrosis assessment
(1) Non-invasive assessments have a reduced risk and greater acceptance than liver biopsy, may enhance HCV screening and disease assessment among PWID, and should be offered, if available (Class I, Level B).
(2) Combining multiple non-invasive assessments is recom- mended, when possible (Class I, Level B).
Pre-therapeutic assessment
(1) Pre-therapeutic education should include discussions of HCV transmission, risk factors for fibrosis progression, treatment, reinfection risk and harm reduction strategies (Class I, Level B).
(2) Pre-therapeutic assessment should include an evaluation of housing, education, cultural issues, social function-ing and support, finances, nutrition and drug and alcohol use. PWID should be linked into social support services, and peer support if available (Class I, Level B).
(3) Models of HCV care integrated within addiction treatment and primary care health centers, as well as prisons, allow successful pre-therapeutic assessment (Class I, Level B).
(4) Peer-driven interventions delivered within OST settings may lead to higher rates of treatment initiation and should be offered, if available (Class IIa, Level C).
(5) Care coordination in conjunction with behavioural interven- tions can increase likelihood of PWIDs being evalu-ated and initiating treatment and should be offered, if available (Class I, Level B).
Indications for treatment
(1) PWID should receive HCV assessment, with treatment deci- sions based on an individualised evaluation of so-cial, lifestyle, and clinical factors (Class I, Level B).
(2) Treatment is recommended for PWID with chronic HCV infection (Class I, Level A).

PEG-IFN and DAA-based treatment: treatment recommendations
(1) Evaluation of safety and efficacy of interferon-free DAA regimens is required in PWID (Class I, Level C).
(2) Sofosbuvir, sofosbuvir/ledipasvir, paritaprevir/ritonavir/ombi- tasvir/dasabuvir, daclatasvir, and simeprevir can be used in PWID on OST (Class I, Level B).
(3) The decision to institute therapy in PWID should be based on the availability of agents locally and individual disease characteristics of infected persons. For regions without access to interferon-free DAA therapy, PWID with early liver disease should generally be advised to await access to interferon-free DAA regimens. For those with access to highly effective interferon-free DAA therapy, anyone with chronic HCV infection should be considered for therapy, taking into account social circumstances, adherence and medical and social co- morbidities (Class I, Level B).
(4) DAA therapy does not require specific methadone and buprenorphine dose adjustment, but monitoring for signs of opioid toxicity or withdrawal should be undertaken (Class I, Level B).
Impact of drug use on adherence and SVR
(1) Adherence assessments should consider missed doses and treatment discontinuation (Class I, Level B).
(2) PWID should be counselled on the importance of adherence in attaining an SVR (Class I, Level A).
(3) A history of IDU and recent drug use at treatment initiation are not associated with reduced SVR and decisions to treat should be made on a case-by-case basis (Class I, Level B).
(4) PWID with ongoing social issues, history of psychiatric disease and those with more frequent drug use during therapy are at risk of lower adherence and SVR and need to be monitored closely during therapy (Class I, LevelB).
Impact of mental health on adherence and SVR
(1) Pre-treatment assessment should include an evaluation of previous or current psychiatric illness, engagement with a drug and alcohol counselor or psychiatrist and discussions around potential treatment options (Class I, Level A).
(2) In cases of acute major and uncontrolled psychiatric disorders, a pre-treatment psychiatric assessment is rec-ommended (Class IIa, Level C).
(3) In case of relevant psychiatric co-morbidities with an increased risk for interferon-associated psychiatric side effects interfer- on-free DAA therapy should be considered (Class IIb, Level C).
Treatment management
(1) HCV treatment for PWID should be considered on an individualized basis and delivered within a multidisciplinary team setting (Class I, Level A).
(2) Access to harm reduction programs, social work and social support services should be a component of HCV clinical management (Class I, Level A).
(3) Peer-based support should be evaluated as a means to improve HCV clinical management (Class I, Level B).
HCV treatment in prisons
(1) Screening and assessment for HCV should be offered to PWID in custody (Class IIa, Level C).
(2) Antiviral treatment for PWID in custody is feasible and clinically effective and should be offered to PWID in custody (Class IIa, Level B).

Reinfection following successful HCV treatment
(1) PWID should not be excluded from HCV treatment on the basis of perceived risk of reinfection (Class I, Level B).
(2) Harm reduction education and counselling should be provided for PWID in the context of HCV treatment to prevent HCV reinfection following successful treatment (Class I, Level B).
(3) Following SVR, monitoring for HCV reinfection through annual HCV RNA assessment should be undertaken on PWID with ongoing risk behaviour (Class I, Level B).
Treatment of acute HCV
(1) PWID with acute HCV symptoms should be monitored for 12– 16 weeks (including HCV RNA levels) to allow potential spontaneous clearance (Class I, Level B).
(2) PEG-IFN mono-therapy for 24 weeks may be considered for PWID with acute HCV (Class I, Level B).
(3) Strategies to optimize adherence should be used in the setting of acute HCV, with consideration of directly observed PEG-IFN therapy (Class I, Level B).
HIV/HCV co-infection
(1) HCV-infected PWID should be screened for HIV (Class I, Level C).
(2) The accelerated HCV disease progression in HIV/HCV should be considered in treatment decision-making; HCV treatment should be prioritized in HIV/HCV patients regardless of fibrosis stage (Class I, Level B).
(3) HIV/HCV-coinfected PWID should be treated and retreated with the same DAA regimens as HCV-monoinfected persons, after recognizing and managing interactions with antiretrovi- ral medications (Class I, Level B).
(4) Early introduction of cART should be offered to all people with HIV infection (Class I, Level A).
(5) Potential drug–drug interactions between HIV, HCV and OST need to be considered. Consultation with a frequently updated database/prescribing information is indicated (Class I, Level A).
Management of hepatitis B virus (HBV) co-infection
(1) PWID should be vaccinated for hepatitis A virus and HBV (Class I, Level B).
(2) HBV DNA testing should be performed on all patients with evidence of chronic HBV infection (hepatitis B surface antigen positive) (Class I, Level A).
(3) PWID with active HBV/HCV co-infection should be treated according to guidelines for monoinfection (for both infections) (Class IIb, Level C).

sophrologist, nutritionist, pharmacist).

14. Expert patient support with Peer to peer educational program

15. Dedicated day hospitalizations

Every MHT partner could choose part or all our services. Our services did not replace existing services but only completed them.

Results

From 2013 July to 2018 December, MHT met 5382 people (Figure 1). Eighty eight per cent of people are drugs users or former drug users; 97% are precarious. MHT did 8382 DBS of whom 3053 HCV DBS and 2302 Fibroscan*. HCV new positive serology rate was 21.3%. With addition of known HCV patients and after HCV viral load measure, our active file was 651 patients included these new patients screened by DBS. Main sites of patients screening were outdoor sites (Green Thread), prison and drug users units (Figure 2).

Ninety eight per cent of HCV serology positive patients realized all blood tests and FIBROSCAN. DAA treatment was proposed par PTC to 96% of them; 95% started DAA treatment, 2% were lost follow up and 3% refused treatment. After treatment, there were 7 relapsers and 3 reinfections by drug injection. Our cured rate was 94%. A total of 359 people have received psycho-educative interventions. Sociological evaluation of our project showed that 4 program main qualities for

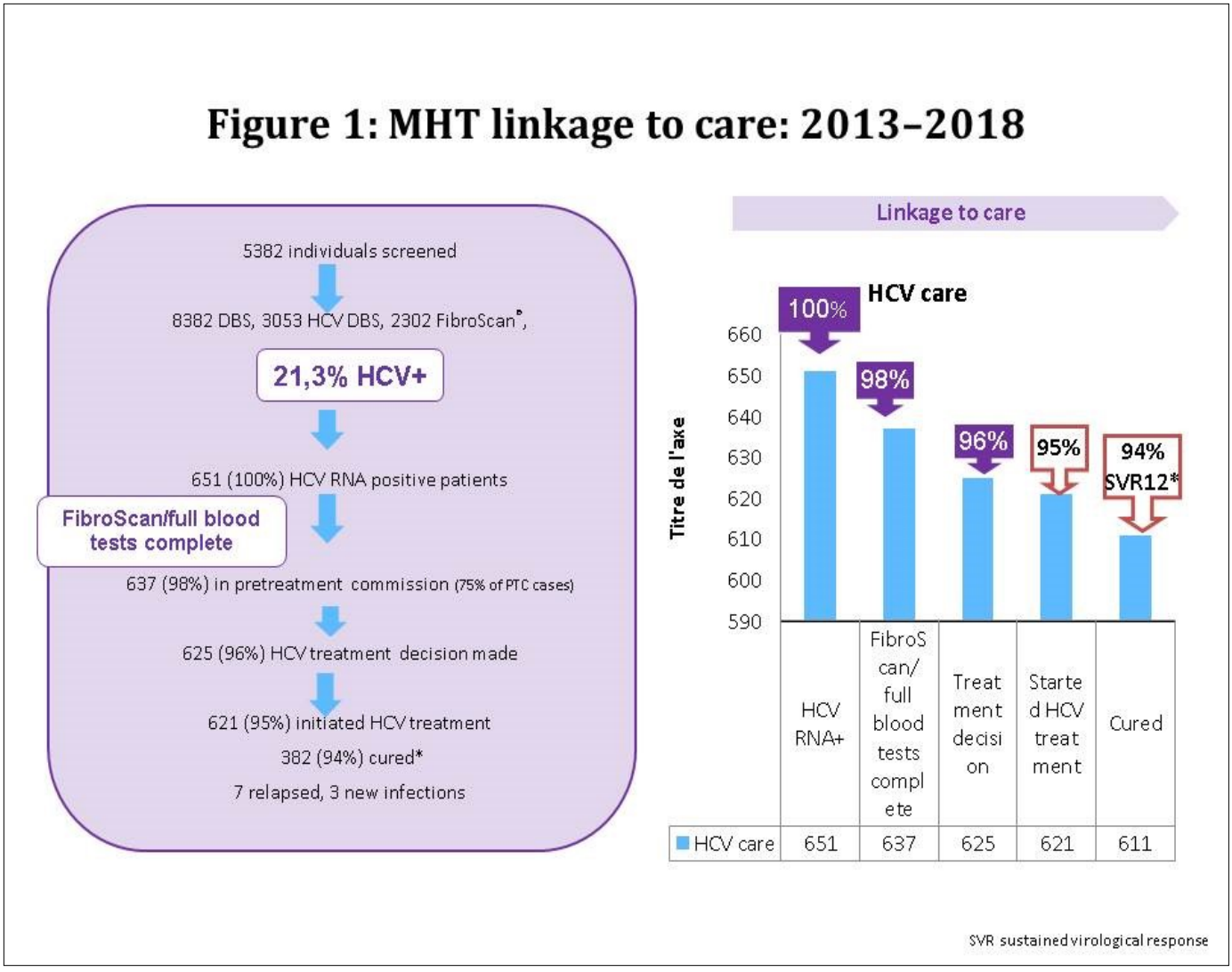

Figure 1. MHT linkage to care: 2013–2018

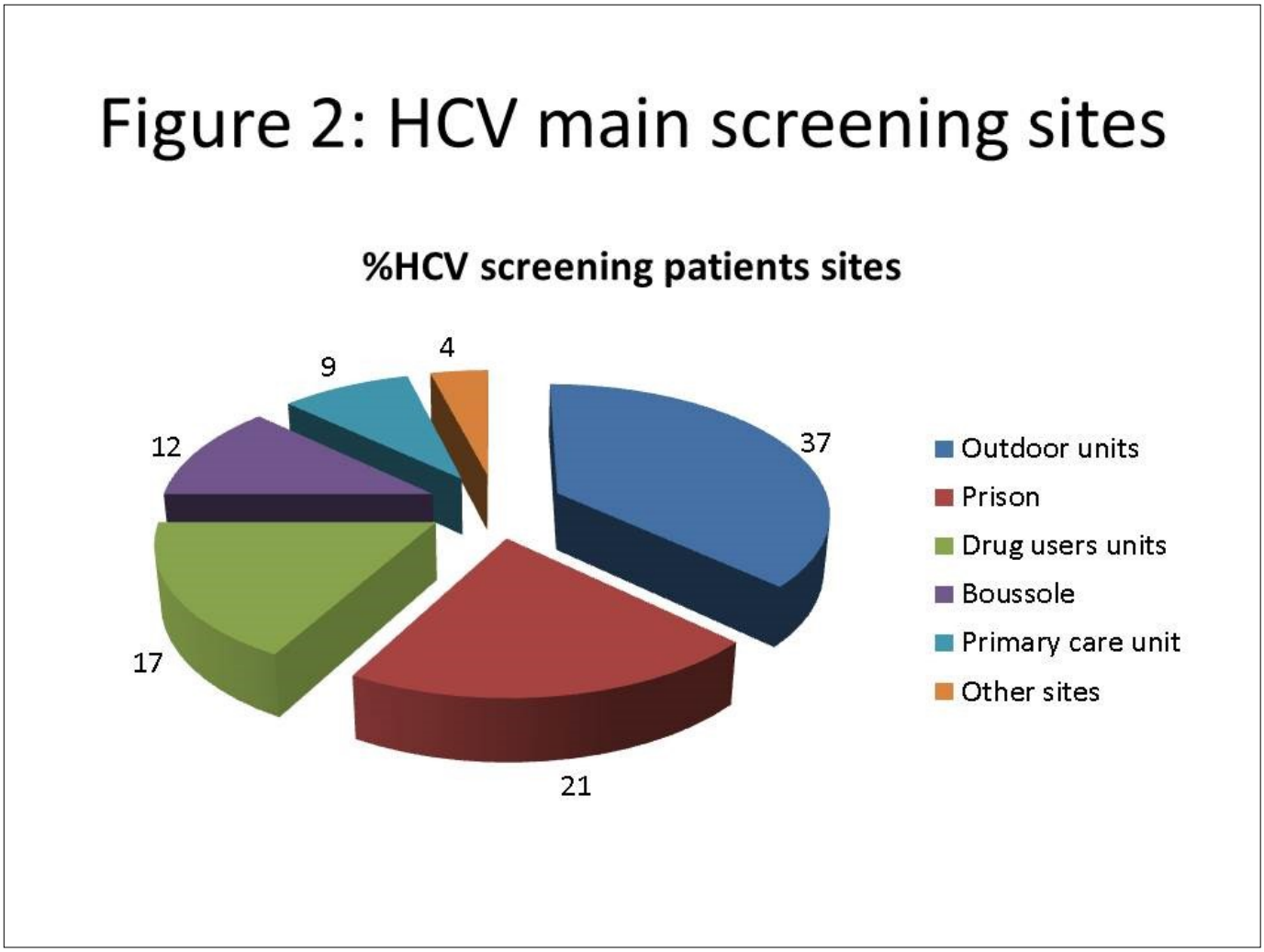

Figure 2. HCV main screening sites

patients were free access, closeness (outside hospital), speed (of the results) and availability (of nurse and social workers).

Discussion

Specific follow-up of drugs users and other HCV high-risk patients including screening, early detection, diagnosis and treatment increase rate of treated and cured patients, with low rate of relapse and new infections. MHT offers 'all-in-one' care for drug users and vulnerable people with HCV, using outside social and medical teams. MHT was partnered with organizations including hospital services, psychiatric units, non-hospital organizations such as drug services, and the associative section such as patient associations and a hepatitis network.

Highlights of the model included rapid DAA initiation of diagnostic procedures after first contact rapid specialist consultation as needed, within 72 hours, an easy link between outside structures and hospital (with a date of appointment and orientation hospital partners) coverage over a wide geographical and socially disadvantaged area with a territory of almost 500,000 people, a telephone-interpreting service to enable treatment of people who do not speak French. In conclusion, with invested teams and adherence to the project, use of a MHT could increase the number of drug users and vulnerable people with HCV who are supported, treated and cured. Next step was to develop test to cure sessions like in Australia [7-8] to create HCV pathway simplification (Figure 3). There was too many under diagnosed HCV patients, especially in homeless, prisoners and drugs users [9].

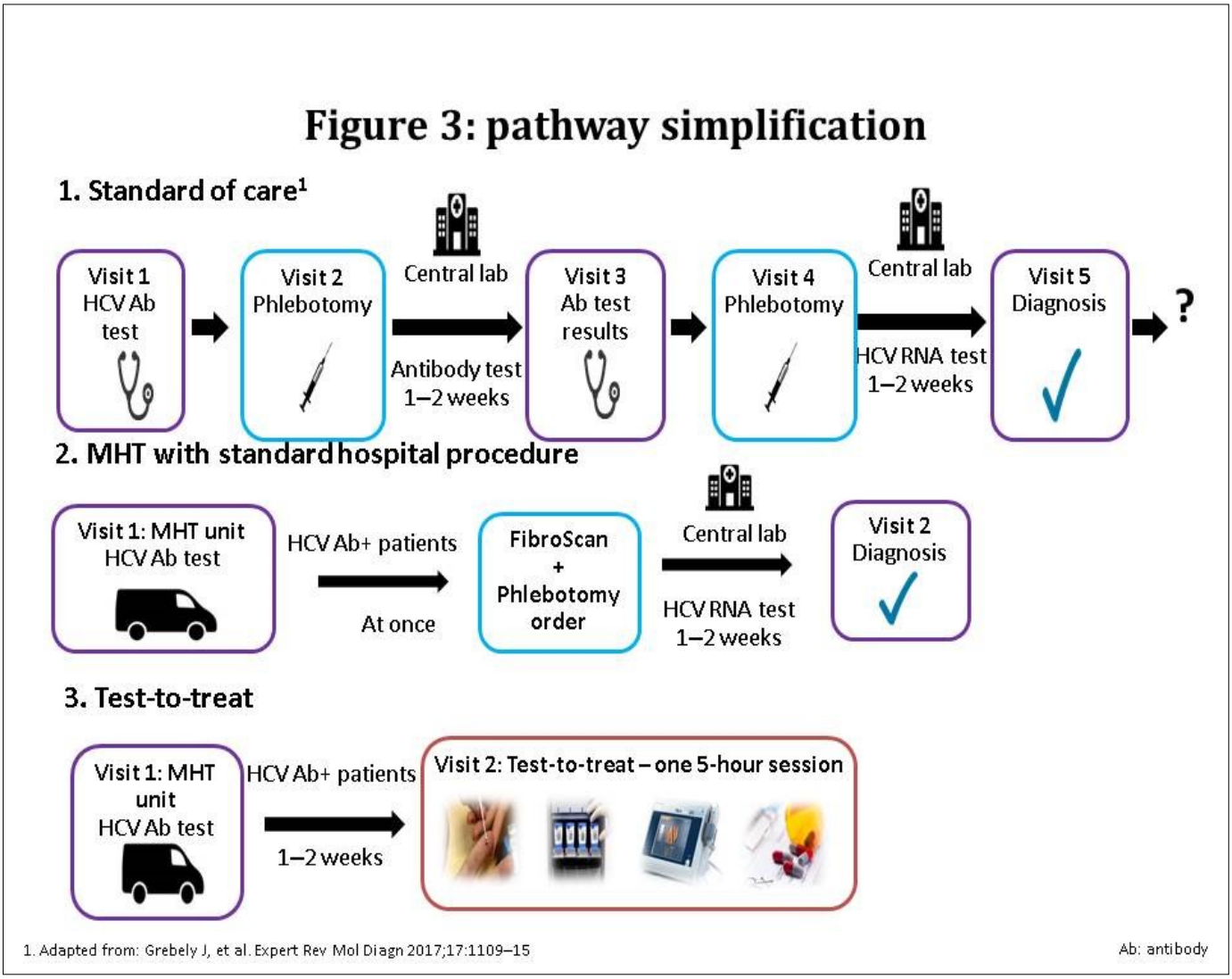

Figure 3. pathway simplification

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