Hepatitis C: Treatment and care for people who inject drugs
Workshop introduction

Introduction goal
• To introduce participants and facilitators to the training programme
• To establish course expectations and practicalities
• To provide training overview

Training overview
• Module 1: The liver and hepatitis viruses
• Module 2: HCV transmission and risk prevention
• Module 3: HCV prevalence and course of HCV infection
• Module 4: Testing and monitoring
• Module 5: Testing skills development
• Module 6: Treatment options
• Module 7: Managing side effects and optimising treatment strategies
• Module 8: Lifestyle and living with HCV
• Module 9: Co-infection with HIV
• Module 10: Treatment quality, stigma and discrimination
• Module 11: Advocacy: Next steps and action planning
• Module 12: Evaluation
Module 1: The liver and hepatitis viruses

Session goal
This introductory session will provide a basis for the training programme by providing an overview of the liver, its function, hepatitis and related viruses.

Learning objectives
By the end of the session, participants will be able to:
- Describe the structure of the liver and its function
- Define hepatitis and explain the key differences between hepatitis viruses

Topics covered
- Anatomy
- Physiology and function of the liver
- Structure of viruses and reproduction
- Hepatitis and hepatitis viruses

Location of the liver
Location of the liver

Group work

- Describe the functions of the liver and its importance in healthy functioning

Main functions of the liver

- The liver has a wide range of functions
- Processes of nutrients from food
- Stores sugars for later use
- Produces bile
- Production of cholesterol
- Removing various toxins and combating infections
- Processing and storage of vitamins and other essential nutrients
- Maintaining levels of fats, amino acids and glucose in the blood
- Protein synthesis
- Manufacturing and regulating hormones including those that help platelet (blood clotting) formation
Importance of healthy liver function

- Inflammation of the liver interferes with function and can lead to poor health
- Immune system, digestive tract, kidney, brain and cardiovascular system all depend on a healthy and well-functioning liver
- All the body’s major systems and organs affected by a diseased liver
- Liver disease can therefore have many varied symptoms
- If the liver is damaged its ability to fight infections is impaired
- The liver is extremely resilient but liver disease can seriously interrupt essential functions

What is a virus?

- A microscopic infectious agent
- Prolific and found in almost all life forms
- Can only replicate inside the living cells of organisms
- The study of viruses is called virology
- Viruses infect host cells to reproduce
- Viruses can learn to adapt to immune responses
- Viruses are much more difficult to treat than bacteria

Virus reproduction

All viruses follow the same basic steps in what is known as the lytic cycle

- A virus particle attaches to a host cell
- The particle releases its genetic instructions into the host cell
- Injected genetic material recruits the host cell’s enzymes
- Enzymes make parts for more new virus particles
- New particles assemble the parts into new viruses
- New viruses break free from the host cell resulting in death of host cell
- New viruses able to infect host cell
Group work

- What is hepatitis?
- What are the viruses that cause hepatitis?
- What are their key characteristics and differences?

Hepatitis and viral spread

- Hepatitis means 'liver inflammation' and most often caused by a virus
- The five main hepatitis viruses are types A, B, C, D and E
- HAV & HEV spread by ingestion of contaminated food or water
- HBV spread through infected blood to blood contact as well as contact with infected body fluids
- HCV is spread through blood to blood contact and highly infectious
- Very rarely HCV can also be passed on through other infected body fluids

Hepatitis, liver disease and damage

- All the hepatitis viruses cause inflammation of the liver
- Symptoms can include jaundice (dark urine, extreme fatigue, nausea, vomiting and abdominal pain.)
- Hepatitis infections can be asymptomatic and hard to detect without proper testing.
- HBV & HCV can cause long term, chronic illness and liver damage reducing the liver’s function
- Significant liver damage from HCV can take years to develop but can be serious and life threatening
Video

- Liver Good Life – animated film showing liver function

Summary learning points

- The liver is highly specialised and as many functions
- Full liver function is essential for good health
- Liver disease can seriously interrupt essential functions
- Hepatitis means liver inflammation most often caused by a virus
- There are five main types of viral hepatitis
- Hepatitis C is highly contagious

Module 2:
HCV transmission and risk prevention
Module 2: HCV transmission and risk prevention

Module goal
To provide an overview of HCV transmission routes and risk prevention strategies

Learning objectives
By the end of the module, participants will be able to:
- Explain the main ways by which HCV is transmitted
- Summarize the main HCV prevention messages
- List the main interventions that can prevent HCV transmission
- Discuss changes in service delivery and practice that can reduce HCV transmission

Topics covered
- HCV transmission routes and risk factors
- Prevention messages
- Key prevention interventions
- Simultaneous delivery of interventions
- Factors that hinder safer injecting
- Tailoring of prevention messages
- Risk factors and transmission prevention

Group work
- How is HCV transmitted?

HCV Transmission

HCV is transmitted through blood-to-blood contact:
- Sharing of injecting equipment
- Tattooing or body piercing
- Medical or dental procedures with unsterilized equipment
- Needlestick and blood spill accidents in healthcare setting
- Sharing of crack pipes, snorting straws
- Sharing personal such as razors, toothbrushes, and nail scissors
- Unprotected high-risk sex where there is potential exposure to blood
- From mother to infant during pregnancy or during labour
- Through blood transfusion
Group work

- What are the main HCV prevention messages?

Video

- How small is the hepatitis C virus? – an animated film

- A film on hepatitis C survival in used syringes
HCV prevention strategy limitations

'It is conceivable that HCV prevention has failed not so much because the wrong strategy was pursued, but because efforts have been too small-scale and therefore weak in relation to the number of factors favouring HCV transmission'


Group work

- List the main interventions known to reduce HCV transmission among PWID

Group work

- What hinders PWID from injecting safely?
Video

- Does cleaning syringes work? – the impact of bleach on HIV and HCV in syringes

Group work

Practice and service delivery improvements:
- Identify changes in your practice that will improve outcomes for IDU’s
- What changes in service delivery that will improve outcomes for IDU’s?

Summary learning points

- HCV is mainly transmitted through blood-to-blood contact
- HCV is very small and highly infectious and only minute amounts of infected blood needed to transmit infection
- The main risk for PWID arises from the sharing infected needles and syringes
- Optimal coverage of NSP and comprehensive access to OST is associated with reducing HCV transmission
- Lack of provision and poor access to services often hinders PWID from adopting safer practices
Module 3: HCV prevalence and course of HCV infection

Module goal
To provide an overview of global and regional HCV prevalence and the natural course of infection

Learning objectives
By the end of the module, participants will be able to:
- Summarize HCV prevalence rates with understanding of global and regional variations
- Evaluate how prevalence in their own local areas compares with the epidemic more generally
- Discuss the natural course of HCV infection and the main factors that can influence disease progression

Topics covered
- Global and regional prevalence of HCV and trends within affected populations
- How HCV affects the functions of the liver
- Progression and stages of HCV
- The acute phase
- Spontaneous HCV clearance
- The chronic phase
- Compensated cirrhosis, end stage liver disease and cancer

Global prevalence of hepatitis C infection

![Map showing global hepatitis C prevalence]
The silent epidemic

'While the urgency of preventing and treating HIV infection among people who inject drugs has overshadowed the more 'silent' epidemic of viral hepatitis, the latter is increasingly recognised as a major public health problem, particularly in cases in which people living with HIV are co-infected with HBV and/or HCV.'

Nick Walsh, The silent epidemic: Responding to viral hepatitis among people who inject drugs, IHRA 2010

Hepatitis C and public health burden

The prevalence of hepatitis C worldwide is largely unknown:

- Most PLWHCV have no symptoms and unaware of infection in the early stages
- Studies suggest over 200 million people around the world are infected
- Wide national and regional variance in HCV prevalence patterns
- Spreads rapidly among IDUs
- Many denied access to comprehensive testing, prevention and treatment opportunities
- Limited political commitment to mobilize comprehensive responses to HCV
- Global public health burden with morbidity and mortality expected to continue to rise in coming decades unless action taken
HCV and injecting drug use in Central and Eastern Europe

- Estimates of between 2.1 and 3.1 million IDUs across region
- PWID major risk group for HCV infection
- 60-90% of identified cases of HCV are among PWID due to sharing of injecting equipment
- HCV prevalence among PWID in the EU reaches up to 90%, depending on country and setting
- High proportions of PWID become infected with HCV in first years of injecting
- Prevalence among people who have injected for 1-2 years is usually 10-20%
- Prevalence grows consecutively and can reach 80-90% after 10 years of injecting

It is important to motivate people so that they understand the importance of applying prevention strategies even if injecting has occurred for some time.

HCV and prisoners across Central and Eastern Europe

- PWID and prisoners have become the main risk groups for infection
- 20–40% of prison and other detention population living with HCV
- Rates of HCV among PWID who inject are routinely 2 or 3 times higher than non injecting prison population.
- Prison conditions contribute to elevated HCV rates
- Factors include:
  - High incarceration rates of PWID
  - Lack of access to basic HR interventions including NSP and OST
  - Lack of access to basic health care
  - Prison policies and discrimination
  - Prison practices including tattooing without sterile equipment

Group work

- How do the regional estimates of IDU and HCV infection compare with your local experience?
Group work

What do the following terms mean in relation to hepatitis infection?

- Acute infection
- Chronic infection
- Asymptomatic
- Extra-hepatic
- Fibrosis
- Cirrhosis

HCV and liver damage over time

- Stage 1: Some inflammation but minimal effect on function
- Stage 2: Some limited accumulation of scar tissue (fibrosis) but with liver function
- Stage 3: Extensive fibrosis (cirrhosis) and scarring but with relatively normal functioning
- Stage 4: Substantial cirrhosis damaging liver and impairing vital functions

Treatment can slow, halt or reverse liver damage in stages 1 to 3.

Extent and rate of progression of liver damage within individuals is variable although several factors influence fibrosis progression.

Group work

What % of HCV infected people develops chronic HCV infection?

What % of HCV infected people develops serious liver disease?

How long might this take?

What factors might stop, slow down or increase the risk of disease progression?
Natural History of HCV progression

Acute infection

- Acute infection is a term for the first six months after a person gets HCV
- Average time before HCV antibodies are detectable after initial exposure is six to seven weeks
- More than 90% of those infected will test positive for HCV antibodies after three months
- Most people (75%) do not develop symptoms
- Symptoms can include fatigue, stiff or aching joints, weight loss, fever or jaundice
- 15-25% will spontaneously clear the virus without treatment
- Up to 85% go on to develop persistent chronic infection

Chronic infection

- Of those infected with HCV
- While some people clear the virus after initial infection, most will go on to develop a long term or chronic infection
- Hepatitis C is said to be chronic when someone has been infected for longer than six months
- 75-85% will develop persistent (chronic) infection
- Most will remain stable over decades and never develop serious liver problems
- Progression of HCV-related disease is usually slow
- Can take 10 to 50 years before serious liver damage occurs
Late stage chronic infection

Of the 75-85% with chronic infection:

- 5-20% will develop cirrhosis (extensive scarring of the liver)
- Progression of HCV-related disease is usually slow
- Can take 10 to 50 years before serious liver damage occurs
- 1-3% will develop liver cancer or need a liver transplant
- 1% will die as a result of their disease

Factors that may increase the risk of developing liver disease include:

- Older age at time of infection, co-infection with HIV, chronic hepatitis B, and high alcohol use

Factors affecting disease progression

<table>
<thead>
<tr>
<th>Alcohol</th>
<th>Alcohol significantly speeds up the rate of fibrosis</th>
</tr>
</thead>
<tbody>
<tr>
<td>Age and duration of infection</td>
<td>People over 40 are progressively more susceptible to faster rates of fibrosis.</td>
</tr>
<tr>
<td>Gender</td>
<td>Men are more likely to have faster progression to cirrhosis than women</td>
</tr>
<tr>
<td>Co-infection with HIV and Hepatitis B</td>
<td>HIV-HCV co-infection causes progression of liver damage</td>
</tr>
<tr>
<td>Fatty liver</td>
<td>Fat accumulates in the liver if it is unable to metabolize it properly due to liver damage or excessive intake of fat through diet</td>
</tr>
</tbody>
</table>

Summary learning points

- HCV is a major public health burden with over 200 million people infected globally
- Spreads rapidly among PWID and prevalence as high as 90% in depending on country and setting
- HCV disease progresses through stages occur over many decades
- 80% of people infected with HCV develop chronic infection
Module 4: Testing and monitoring

Module goal
To introduce participants to best practice regarding the different tests, which are encountered in the diagnosis and management of HCV

Learning objectives
By the end of the module, participants will be able to:
§ Explain the different tests that are used to identify and confirm the presence of HCV
§ Describe how tests are used to monitor liver health and treatment response
§ Discuss the benefits and disadvantages of different types of test

Topics covered
§ Why get tested?
§ Who needs access to testing?
§ The main types of test relevant to the diagnosis and management of HCV (Antibody testing, HCV RNA testing, Liver Function Tests, Liver biopsy)
§ Improving access to testing

Group work

• Why would a PWID want to know their HCV status and are there reasons why they may not want to know?
Reasons for and against testing

Reasons for:
- Certainty
- Taking responsibility for your own health
- Protecting others

Reasons against:
- Anxiety/worry/not in the right ‘space’ to deal with the result
- High cost or lack of treatment provision
- Cases where testing is primarily used as surveillance, not therapeutically (some prisons)

Persons for whom HCV screening is recommended

- Persons who have injected illicit drugs in the recent and remote past, including those who injected only once and do not consider themselves to be drug users
- Persons with conditions associated with a high prevalence of HCV infection including those with HIV infection
- Children born to HCV-infected mothers
- Current sexual partners of HCV-infected persons*

AASLD Practice Guidelines (Hepatology, 2009)

* although the prevalence of infection is low, a negative test in the partner provides reassurance, making testing of sexual partners of benefit in clinical practice

Group work

- What tests are relevant to HCV?
What tests are relevant to HCV?

- Diagnostic tests
  - The antibody test (serologic assays)
  - HCV RNA testing (molecular and genotyping assays)
- Assessment of liver damage
  - Blood tests
  - Liver biopsy

What does European guidance say about testing and treatment for PWID?

'When to refer: All IDUs with a positive antibody test and a positive PCR should be followed up by a repeated test after three to six months, and if the test is still positive, should be considered for eradication therapy. Liver function status is important in the evaluation of the need for medication therapy'

European Monitoring Centre for Drugs and Drug Addiction (2010)

Antibody testing (serologic assays)

- A blood test
- Confirms exposure to HCV
- Window period - usually 6-12 weeks (may be up to 6 months)
- 20% of people clear the virus spontaneously
- HCV RNA testing needed to confirm active infection

Quicker/less-invasive alternatives:
- Rapid Test
- Dried blood spot
HCV RNA testing

- Ribonucleic acid (RNA) is the molecule HCV uses to reproduce itself
- A positive HCV RNA test indicates:
  - Active, replicating virus present
  - Risk of infecting others
  - Risk of becoming ill

HCV RNA tests

- Molecular assays test whether active virus:
  - Is present (qualitative assays): used to confirm diagnosis
  - In what amount (quantitative assays): guides treatment decisions
- Current tests use either:
  - RT-PCR, reverse transcription polymerase chain reaction or
  - TMA, transcription-mediated amplification
- Genotyping assays identify HCV genotype and subtype
- Recent research shows that a person's own DNA (the IL-28B gene) varies and also influences treatment outcomes

Liver function tests (LFTs)

- Raised alanine aminotransferase (ALT) and aspartate aminotransferase (AST) can:
  - Indicate liver damage
  - Be increased by other factors
  - Vary from normal to markedly raised over a few days
- Traditional LFTs are not effective predictors of liver damage in chronic HCV
- Other LFTs include: ALP, GGT, bilirubin, albumin and prothrombin time
- The best way to assess liver damage is by liver biopsy
HCV tests and what the results mean

<table>
<thead>
<tr>
<th>Diagnosis</th>
<th>Antibody test result</th>
<th>HCV RNA (viral load test)</th>
<th>Alanine Aminotransferase (ALT): Liver enzyme</th>
</tr>
</thead>
<tbody>
<tr>
<td>Prior, cleared HCV infection</td>
<td>Positive</td>
<td>Undetectable on two tests, performed at least 6 months apart</td>
<td>May be up to 7, fluctuate, or be persistently raised</td>
</tr>
<tr>
<td>Acute HCV infection</td>
<td>Negative/positive</td>
<td>Detectable within 2 weeks, usually very high</td>
<td>May be up to 7 times above normal level</td>
</tr>
<tr>
<td>Chronic HCV infection</td>
<td>Positive</td>
<td>Detectable</td>
<td>May be persistently normal, fluctuate, or persistently raised</td>
</tr>
</tbody>
</table>

Liver biopsy and alternatives

Liver biopsy:
- Test in which liver tissue is removed for assessment using a hollow needle
- Tests for inflammation and fibrosis
- May cause pain
- Small risk of bleeding
- Very small risk of serious complications/death

FibroScan:
- An ultrasound technique that also tests for fibrosis
- Non-invasive
- Greater safety
- Requires specialist equipment
- Not yet as well-evidenced as biopsy

Biopsy results

- Inflammation is graded from none to extensive
- Fibrosis is graded from none, through minimal through to extensive/cirrhosis
- Fibrosis can progress at different rates:
  - A third develop cirrhosis in less than 20 years (rapid fibrosers)
  - Intermediate fibrosers develop cirrhosis after about 30 years
  - Just under a third may take as long as 50 years (slow fibrosers)
Group work

- In what services could PWID be tested for HCV?

Possible HCV testing settings

- Family doctors
- Gastroenterologists/hepatologists
- One Stop Health Shops
- Antenatal Clinics
- Hospitals
- Sexual Health clinics
- Community Drug Treatment services
- Needle and Syringe Programmes
- Residential Drug Treatment services
- Prison Medical Services

Group work

Access to testing:
- In your area, where can PWIDs go to get
  - Antibody testing?
  - HCV RNA testing?

Indicate any ways the answer varies for:
- a) current PWIDs not in treatment
- b) PWIDs in treatment
- c) ex-PWIDs who are no longer in treatment.
Summary learning points

- For PWID there are reasons for and against testing e.g. access to treatment
- HCV testing uses antibody testing with confirmation using HCV RNA (PCR)
- Rapid test and dried blood spot antibody testing offer PWID advantages over conventional blood tests
- Testing for viral genotype help predict treatment response
- Liver biopsy remains the "gold standard" for assessing inflammation and fibrosis but FibroScan is a safer, less invasive alternative

Module 5: Testing skills development

Module goal
To identify principles of good practice for HCV testing and give participants an opportunity to develop the skills required for pre and post-test discussion.

Learning objectives
By the end of the module, participants will be able to:
- Summarise the main elements of high quality pre and post-test discussion for HCV testing
- Practice skills that are relevant to pre and post-test discussion

Topics covered:
- Pre-test discussion
- Giving a negative test result
- Giving a positive test result
Group work

- Counselling or discussion?

Counselling skills

- Establishing a professional context for the discussion e.g. confidentiality boundaries
- Warmth, empathy and respect
- Verbal/non-verbal communication skills
- Open (not leading) questions, probing and clarifying
- Recognising and referring psychological needs that require skilled help

Pre-test discussion 1 – Risk exposure

- Confidentiality
- Rationale – In their own words, why do they want testing?
- Previous HIV tests?
- Injecting and other risk behaviour:
  - Sharing needles/syringes/other injecting equipment
  - Throat/ingestion/oral
  - Needle-stick injury
  - Accidental mixing of equipment
  - tattooing, piercing
  - sexual risk
  - Skiffing with shared trays
  - Crack pipe sharing
  - other risk factors
- Risk behaviours within last 3 months (window period)?
- Does testing seem necessary?
- Also consider HIV, HBV testing and HAV, HBV immunisation
Pre-test discussion 2 – Preparing for the result

If the result is positive:
- Medical/health implications
- Available treatment options
- Potential physical, social and financial impact
- Who would they tell?
- What supports do they have?

Whether the result is positive OR negative:
- Minimising risks to self and others
- What is their decision a) test now, b) test later, c) do not test?
- Consent (if proceeding with testing)

Giving negative results

- Results should be given in person wherever possible, by the person who took the test
- Use the opportunity to reinforce risk reduction messages and strategies
- Plan repeat test if further risk taking has occurred during window period

Giving positive results

- Do they understand what to do next?
- Clarify support needs:
  - Family and friends
  - Local peer support groups (HCV or drug user)
  - Relevant professionals
  - Liver/HCV charities
  - Online resources
- Interim support role for the person giving the test result
Group work

- Working in pairs
- Read your case study
- Take turns conducting the pre-test discussion (about 15 minutes each)

Summary learning points

- Discussing the reasons for and against testing and preparing someone for the possible outcomes of testing is a skilled task
- To fulfil the role properly, a detailed understanding of risk exposure and how this can be reduced for PWID is required
- Whether the result is positive or negative, there are a number of key messages that need to be conveyed when giving results

Module 6: Treatment options
Module 6: Treatment options

Module goal
To enable participants understand the best current treatment options, factors that influence outcomes and potential future treatment opportunities.

Learning objectives
By the end of the module, participants will be able to:
- Summarize current medical treatment options with reference to their effectiveness
- Describe ways that genotype and other factors influence treatment outcomes
- Discuss main benefits and drawbacks of different treatment options
- List main treatment developments that are likely to emerge within the next five years

Topics covered:
- Overview of conventional treatment
- Goals and considerations for treatment
- Interferons and ribavirin
- Contraindications
- Understanding treatment effectiveness for different genotypes
- Treatment for people with cirrhosis
- Retreatment
- Potential new treatments

Group work

- Identify the goals of HCV treatment
- How are they measured?

Goals of treatment

- Primary goal of treatment is eradication of virus
- Secondary goal is a healthier liver
- Improvement is measured by:
  - Normalized liver enzymes
  - Lowered or undetectable viral load
  - Possibly a follow-up liver biopsy
  - Sustained viral response (SVR)
- Even without a sustained response or significantly lower viral load, treatment can decrease progression of liver scarring during treatment period
Considering treatment

- Conventional (pegylated interferon and ribavirin) treatment offers the best chance of clearing the hepatitis C virus.
- Interferon is a man-made drug which mimics the naturally occurring interferon produced as part of the body’s immune response to a viral infection.
- The aim of the drug is to prevent the virus from multiplying and causing further liver damage.
- However, deciding whether or not to treat HCV is an individual and complex decision.
- Responses to treatment are variable.

Individualised treatment

“Treatment decisions should be individualized based on the severity of liver disease, the potential for serious side effects, the likelihood of treatment response, the presence of comorbid conditions, and the patient’s readiness for treatment.”


Video

- Receiving treatment – personal stories 1
- “My Story of C” – a video diary
Group work

From the perspective of a person diagnosed as HCV positive

- What are the important considerations for starting treatment?
- What might be the reasons for delaying treatment?
- What other options might be available?

Video

- Receiving treatment – personal stories 2
- ‘HCV Facts: Focussing on interferon treatment’
  A video of experiences of treatment, interviews with
  PWHCV and healthcare professionals

Optimal treatment of chronic HCV infection

- Treatment is a combination of two drugs
- Pegylated interferon (PegIFN) and ribavirin (RBV)
- Regimen based on extensive clinical trials
- Key components of therapy:
  - Appropriate dose of the drugs,
  - Optimal duration of therapy
  - Need for a different regimen for patients with differing genotypes
  - On-going monitoring and support
Recommendations for HCV genotyping

'HCV genotyping should be performed in all HCV-infected persons prior to interferon-based treatment in order to plan for the dose and duration of therapy and to estimate the likelihood of response'

AASLD PRACTICE GUIDELINES Diagnosis, Management, and Treatment of Hepatitis C: An Update recommending individualized treatment responses for those with HCV, 2007

HCV Genotypes

- HCV mutation has resulted in seven recognized genetic variations
- Variations are known as genotypes and numbered 1 to 7
- Genotypes also have identified sub-types ie 1a and 1b
- Identifying of Hepatitis C genotype essential to deliver optimum course of treatment
- Knowing the exact strain of HCV is helpful in defining its epidemiology

Distribution of hepatitis C genotypes

- Epidemiology of Infectious Diseases. Available at: http://ocw.jhsph.edu. Copyright © Johns Hopkins Bloomberg School of Public Health. Creative Commons BY-NC-SA.
Group work

- What are the drugs used in treatment of hepatitis C infection?
- How are they administered?
- How do they work and what are their characteristics?
- How long are they prescribed as treatment?

Interferons

- Naturally occurring proteins that operate in two primary ways
  - Firstly they directly hinder the replication process of the virus
  - Secondly they enhance the immune response.
- There are three types of interferon, alpha, beta, and gamma
- Standard interferon is broken down relatively fast by the body
- Has to be injected three time a week
- Effectiveness decreases, allowing HCV to multiply in between injections

Pegylated interferon

- Pegylation is a process whereby changes are made to the interferon
- These slow the rate at which it is broken down without changing basic nature of drug
- Allows consistent levels of the drug to circulate in the body
- Consequently allows more consistent attack on the virus
- Pegylated interferon only has to be injected once a week
Ribavirins

- Ribavirin is a synthetic antiviral
- Ribavirin is ineffective against hepatitis C on its own
- Works very successfully with interferon
- Incorporates into standard treatment for hepatitis C
- Inhibits viral growth and has anti-viral properties
- Ribavirin comes in pill or capsule form and is taken orally, twice daily

Treatment regimes

Current recommended PEG-IFN and RBV treatment regime is:
- 24 weeks for genotypes 2 and 3 with 800 mg of ribavirin daily
- 48 weeks for all other genotypes with 1000-1200 mg of ribavirin daily

Length of treatment depends on:
- Viral response after 12 weeks
- Genotype
- Viral load
- HIV in those co-infected

Effectiveness of combination therapy for HCV 1

PEG-IFN and RBV therapy have been shown overall to be 55% effective
- Sustained viral response (SVR) meaning virus was no longer detectable in blood 6 months
- SVR was over 40% for people with genotype 1
- SVR around 80% for those with genotypes 2 or 3
- Treatment trials also shown to reduce both inflammation and fibrosis
- This even happens in patients who do not have an SVR

* the latest trials are now producing figures of 50% for genotype 1
**Treating cirrhosis**

- Should be offered to people with moderate liver damage
- People with compensated cirrhosis can be treated
- Treatment is less likely to be effective, and side effects may be worse
- People with decompensated cirrhosis cannot be safely treated for hepatitis C

*Patients with HCV-related cirrhosis who achieve an SVR, regardless of the genotype, should continue to be monitored at 6 to 12 month intervals for the development of HCC.*

**Group work**

Contraindications:
- What are the contraindications to interferon treatment?
- What are the contraindications to ribavirin treatment?
Contraindications to interferon and ribavirin

- Heart disease (both PEG-IFN and Rbv)
- Cirrhosis (PEG-IFN)
- Autoimmune diseases (PEG-IFN)
- Severe depression or psychosis (PEG-IFN)
- Organ transplant, except liver transplant (PEG-IFN)
- Pregnancy (Rbv)
- Impaired renal function (Rbv)

Treatment failure and retreatment

- There is a growing group of people who fail to clear the virus
- Nil responders show no appreciable decline in viral load within 12 weeks
- On-going treatment rarely results in further decline in viral load
- Relapse means that HCV becomes and remains undetectable during treatment but reappears within weeks or months after treatment
- Partial responders have some chance of achieving SVR if treatment is extended to 72 weeks

Potential new treatments

- Many new treatments for hepatitis C are in development
- Including direct-acting antiviral drugs (DAA), which target specific HCV enzymes.
- Many are oral drugs, from the same families as HIV medications (protease and polymerase inhibitors)
- As with HIV drugs, combination therapy may be essential in order not to develop resistance
- A high level of adherence (taking over 95% of doses on time) is likely to be important
- New drugs likely to be used in combination with current therapy and standards of care
- PEG-IFN is likely to continue to be part of HCV treatment but treatment may be shorter
- In long-term indications are that it will be possible to replace interferon with combination of HCV specific oral drugs
Summary learning points

- Conventional (pegylated interferon and ribavirin) treatment offers the best chance of clearing HCV
- Treatment can improve liver health without completely clearing the virus
- Determining genotype is essential to plan treatment dose, duration of therapy and determine likelihood of treatment outcome
- Treatment can be effective with people with moderate liver damage and early stages of cirrhosis
- Many new treatments for HCV are in development and may replace current treatment in future years

Module 7: Managing side effects and optimising treatment strategies

Module 5: Managing side effects and optimising treatment strategies

Module goal
To enable participants understand how treatment side effects can compromise adherence and treatment outcomes and. To consider interventions and strategies that can reduce side effects and optimize treatment effectiveness and the degree in which complementary and alternative interventions may help those with HCV.

Learning objectives
By the end of the module, participants will be able to:

- List the main side effects to different forms of treatment
- Discuss a range of intervention strategies that can reduce the impact of treatment side effects
- Discuss how integrated care provision can optimise treatment outcomes
- Evaluate the evidence for interventions that may complement medical treatment

Topics covered
- Why get tested?
- Who needs access to testing?
- The main types of test relevant to the diagnosis and management of HCV (Antibody testing, HCV RNA testing, Liver Function Tests, Liver biopsy)
- Improving access to testing
Side effects and treatment disruption

- By itself, hepatitis C treatment can be complicated
- Side effects are common, increase complexity and contribute to treatment disruption
- Often uncomfortable, sometimes debilitating and even life threatening
- Treatment adherence imperative as suboptimal therapy fails to eradicate virus
- Management of side effects integral to effective hepatitis C treatment

Group work

- List the minor and major side effects associated with combined pegylated interferon and ribavirin therapy?

Minor side effects

Side effects that may occur with hepatitis C treatment are:

- Fatigue or tiredness
- Flu-like symptoms including fever, sweating, chills, muscle aches
- Headaches
- Insomnia
- Diarrhea
- Nausea and loss of appetite
- Irritability, tearfulness
- Hair loss (temporary)
- Rash
- Mouth sores
- Dry or itchy skin

Even more minor side effects can interfere with quality of life and can hamper treatment goals
Major side effects

- Certain side effects can lead to severe medical and rarely, potentially life-threatening complications requiring dose reduction or treatment cessation
- Depression and emotional changes especially in people who have previous history of depression or mental illness
- Anaemia (abnormally low red blood cell count)
- Other blood changes like leucopenia or neutropenia (decrease in number of white blood cells) and thrombocytopenia (reduction in platelets)

Treatment management strategies

- Multidisciplinary approach to patient care most effective strategy to optimize therapy
- Critical roles in educating patients about the disease and their therapy
- To help identify quality of life concerns
- Integrated approach to support before, during and after treatment

Group work

Mapping an integrated response to HCV:
- Map a multidisciplinary approach to patient care
- Identify professional and non-professional roles and responsibilities
- Determine communication structures
- Describe how your model will be effective in identifying and meeting needs of PWID and with HCV
Group work

- What are complementary and alternative medicines or therapies (CAM)?
- How effective are they in treating hepatitis C?

Defining complementary and alternative therapies (CAM)

- Definition can be difficult
- Group of diverse medical and health care systems, practices, and products
- CAM attempts to use the body's natural self-healing abilities to restore balance
- Not generally considered part of conventional (Western) medicine
- Complementary therapies used in conjunction with conventional medicine
- Alternative medicine refers to use of CAM in place of conventional medicine
- Includes acupuncture, massage, yoga, Tai Chi, meditation and herbal medicine

Herbal supplements for hepatitis C

The most widely used, and studied herbs and herbal products:
- **milk thistle (silymarin)** - antioxidant
- **astragalus** enhances immune function
- **dandelion** is used for all kinds of liver problems
- **bupleurum** reduces liver inflammation
- **garlic** detoxifies and protects the body from infection
- **licorice root** contains glycyrrhizin, which has antiviral activity
- **artichoke** promotes the outflow of bile from the liver to the gall bladder
- **thioctic (alpha-lipoic) acid** a natural antioxidant
- **gingko biloba** is sometimes used to improve memory loss and blood circulation.
CAM: Key points

- CAM treatment not proven effective for treating HCV or its complications
- ‘Not proven’ doesn’t mean it doesn’t work
- Many PLWHCV report benefits from physical and herbal therapies
- Cultural significance of CAM variable
- Important not to replace conventional HCV therapy
- Healthcare professionals need be aware of CAM usage
- Increase and raise awareness about possible adverse effects or drug-interactions
- There maybe interactions with oral HCV antiviral drugs leading to increased drug toxicity and reduced effectiveness

Summary learning points

- Side effects with combination combined pegylated interferon and ribavirin therapy are common, increase complexity and contribute to treatment disruption
- Management of side effects integral to effective HCV treatment
- Minor side effects can be distressing and interfere with quality of life
- Major side effects can lead to severe medical complications and rarely, be life threatening
- Multidisciplinary approach to patient care most effective strategy to optimise treatment
- Complementary and alternative medicines are largely unproven to be effective in the treatment of HCV

Module 8: Lifestyle and living with HCV
Module 8: Lifestyle and living with HCV

Module goal
To consider the impact of lifestyle on someone living with HCV and the potential non-medical impact of HCV on a person's life.

Learning objectives
By the end of the module, participants will be able to:
- Evaluate the role of lifestyle factors that can affect the course of infection and well-being including: alcohol and other drug use, stress, and diet.
- Discuss the main non-medical issues that can arise when living with Hepatitis C with reference to the key sources of support that are available.

Topics covered
- Alcohol and other drugs
- Enhancing well-being
- Living with HCV
- Information, advice, and support

Group work
Which substance is most harmful?
- Using worksheet provided
- Generate a hepatitis harm hierarchy for someone with HCV
- Work in pairs

Impact of alcohol on hepatitis C
- There is no consensus about whether occasional, moderate consumption is harmful
- Heavy alcohol intake (210–560 grams per week) increases risk of cirrhosis by about 2.5 times
  - One 70cl bottle of 40% ABV spirit contains about 224 grams/alcohol
  - Three 75cl bottles of 12% wine contains about 216 grams/alcohol
  - Ten 500 ml cans/bottles of 5% lager contains about 200 grams/alcohol
- Increased alcohol intake is related to decreased response to interferon (may be reversed by abstinence)
- Over 50 grams of alcohol a day is highly likely to worsen fibrosis
Alcohol, hepatitis C and treatment

- Persons with chronic HCV infection should be advised to abstain from alcohol use.
- Heavy/binge/dependent drinkers should be encouraged to stop and offered treatment and support if needed.
- Complete suspension of alcohol intake while on treatment or restricting its use to an occasional drink during the course of the treatment is recommended.
- Treatment is not contraindicated for persons who have an occasional drink of alcohol or who have a past history of alcohol dependence.

Impact of other drugs on hepatitis C

- Tobacco: some evidence of direct impact on HCV progression
- Cannabis: 'daily use' associated with developing fibrosis, but modest use improves treatment retention and outcomes.
- Heroin: laboratory evidence suggests morphine increases viral replication and liver changes.
- Cocaine and amphetamines: Immune suppression can result from cocaine and other stimulants. Cocaine/alcohol (coca-ethylene) combined can increase liver injury.

Group work

Which of the following is most and least likely to improve the health and well-being of someone with HCV and why?

- Stress management
- Good general diet
- Silymarin (Milk thistle) or other dietary supplements
- Regular exercise
- Good sleep
Group work

- Beyond its impact on health, in what other ways can HCV affect people's lives e.g. our relationships, work, leisure, opportunities and entitlements?

Living with HCV

- Transmission prevention and its impact
- Telling others (or not)
- Sexual relationships
- Libido
- Relationship strain on partners/family of living with someone with HCV
- Dealing with healthcare systems
- Disclosure, illness and work
- Welfare benefits
- Insurance and mortgages

Summary learning points

- Of all drugs, continued alcohol use is the most serious threat to health for someone with HCV
- Diet, exercise and rest are the key factors that promote health and well-being for someone with HCV
- Beyond health, HCV can have a wide range of impacts in areas such as a person's sex life, work, friendships and finances
- Support from peers and professionals is available in many ways and can be valuable for living happily and successfully with HCV
Module 9: Co-infection with HIV

Module goal
To consider how co-infection with HCV and HIV amongst PWID is a growing issue and why understanding the clinical implications of co-infection are essential for safe and effective treatment and care.

Learning objectives
By the end of the module, participants will be able to:
- Identify the differing characteristics of HCV and HIV
- Discuss the main ways that co-infection with HIV/HCV affects treatment and care

Topics covered
- HCV and HIV main characteristics
- Prevalence of HCV/HIV co-infection
- Effects of HIV on HCV
- Liver disease progression in those who are co-infected
- Treatment issues

HIV/HCV Co-infection
- Co-infection is when person infected with two or more different disease-causing organisms
- Infection with HCV is the most common co-infection in people with HIV
- Complications related to HIV/HCV co-infection becoming an increasingly important medical issue
- HIV/HCV co-infection is a growing problem worldwide
- Developing treatment responses reflect the differing disease progression of both HCV and HIV
- Although HCV and HIV are very different viruses they share many characteristics
Hepatitis C Among Injecting Drug Users in the New EU Member States and Neighbouring Countries

- HIV and HCV share characteristics
- Both are RNA viruses
- Similar blood-to-blood transmission routes
- Overlapping routes of transmission result in a high frequency of co-infection
- Co-infection is common among active and former PWID
- Rate of co-infection may be as high as 90%
- Similar risk prevention messages
- Treatment for co-infection can be effective

WHO European Region HIV/HCV co-infection prevalence

- It is estimated that 4-5 million people living with HIV (PLHIV) are co-infected with HCV around the world
- Prevalence of HCV infection in individuals infected with HIV in the region is very high
- Highest rates in Eastern Europe
- Averaging 40% and reaching 50-90% in urban areas
- 20-40% in Belarus, the Czech Republic and the Russian Federation
- More than 40% in Latvia and Lithuania
- 80% in Estonia and Ukraine
- Central European countries (except the Czech Republic and Poland)
- HCV co-infection usually lower than 5%
- Prevalence rates higher where high rates of injecting drug use
Regional challenges to HIV/HCV co-infection

- Co-infection common among active and former PWID
- Minority of HCV/HIV co-infected patients are treated for HCV
- Compounding effect makes treatment and care a major challenge
- Co-infection reduces chance of recovery from acute HCV
- Morbidity and mortality among PLWHIV/HCV decreased significantly
- Liver-related disease associated with chronic HCV infection now far more worrying
- Liver disease predominant cause of death in people co-infected

HIV/HCV co-infection and treatment implications

- HIV exacerbates the development of HCV
- Combination drug regimens can successfully treat HCV
- HIV can be successfully treated in most people with hepatitis C
- Generally HIV treatment first in order to control HIV replication
- Increase CD4 count strengthens immune system improving HCV treatment outcomes
- In people with early-stage HIV disease and advanced hepatitis C, it may be better to start hepatitis C treatment first, so the liver can more easily handle HIV drugs
- Many HIV medications can cause liver toxicity (hepatotoxicity)

Impact of HCV infections on HIV disease progression

- HCV has little or no effect on the response to ART or on immunological, virological or HIV-related clinical disease progression
- HCV antibodies do not influence progression
- Patients on HAART do not have any major differences in HIV-related mortality from HCV/HIV-co-infected patients or those infected with HIV alone
- However, increased risk for liver disease-related morbidity and mortality in hepatitis-co-infected HIV, as well as more hepatotoxicity with ART
Group work

Review handouts:
- Risk of HCV progression in HIV-positive people
- Timeline for HIV-positive people on HCV treatment
- Consider the differences for those with mono-infection and those with co-infection

Treatment options people co-infected with HCV/HIV (1)

- Managing treatment is more complex than treating people with only one infection
- Requires application of good clinical management
- Decision to start treatment individualized
- Takes into account varying factors including:
  - CD4+ count
  - Health of liver
  - Overall health
  - Chances of successful treatment
  - Willingness to undergo treatment

Treatment options people co-infected with HCV/HIV (2)

- Generally HIV treated first
- Raising CD4+ cell counts to prevent life-threatening infections
- Treating HCV maybe prioritised if immune system is strong and liver disease has progressed
- Side effects of anti-HIV or HCV meds can be compounded
- Treatment success is lower if a person is co-infected
Summary learning points

- Infection with HCV is the most common co-infection in people with HIV
- Complications related to HIV/HCV co-infection becoming an increasingly important medical issue
- HIV/HCV co-infection is a growing problem worldwide
- Developing treatment responses reflect the differing disease progression of both HCV and HIV
- Morbidity and mortality among PLWHIV/HCV decreased significantly
- HIV can be successfully treated in most people with hepatitis C

Module 10: Treatment quality, stigma & discrimination

Module goal
To develop participants’ capacity to provide or advocate for inclusive, high quality services that are accessible to people affected by HCV who currently or formerly inject

Learning objectives
By the end of the module, participants will be able to:
- Distinguish a range of factors that can hinder or enable IDUs’ access to HCV testing and treatment
- List cross-cutting ways in which different populations’ needs require special consideration
- Summarise key sources of guidance that relate to HCV treatment for drug users

Topics covered
- Hepatitis C and stigma
- Obstacles to the provision of HCV treatment and care
- Good practice in integrated services
- Obstacles to the uptake of HCV treatment and care
- Guidelines on HCV treatment for drug users
Hepatitis C: status and blame

Regarding stigma “research on the mode of transmission has shown that contraction through intravenous drug use is most stigmatised. Hepatitis C, while perceived as having secondary status to HIV (Treloar and Rhodes, 2009), is more closely associated with intravenous drug use because this is by far the most common route to its contraction in the developed world (Butt et al., 2007), unlike HIV. There is therefore an assumption that people with hepatitis C are – or have been – intravenous drug users, with the attendant blame for acquiring the disease and putting other people at risk of infection.”


Hepatitis C: experiences of stigma and discrimination

“Well, you could come and visit, but where are you going to use the washroom?”  (The grandmother of a woman with chronic HCV)

Butt, G., Paterson, B.L. and McGuinness, L.K. (2007). Living with the stigma of hepatitis C. Western Journal of Nursing Research, 30 (2), 204–21.

“Most people who have been diagnosed with hepatitis C face some form of stigma or prejudice in their daily lives. It could be hearing a phrase like “you people,” or a slight pause when you divulge your HCV status. Friends may stop calling, employers and co-workers may act differently, or it could be as subtle as a facial expression. In any event, we all know how it feels to be treated differently based on our being HCV.”


Cross-cutting factors

- Prison incarceration
- HIV co-infection
- Gender
- Ethnicity
- Age (too young, too old)
- Disability
- Sexuality
- Non-opiate users e.g. primary amphetamine or cocaine users
- Mental health problems
Obstacles to the provision of testing and treatment 1

- Limited political commitment to HCV
- HCV more poorly understood than HIV
- Disease progression can take decades (except co-infection with HCV
- Failure rate of treatment is a deterrent
- Knowledge of HCV treatment tends to be poorer than for HIV
- Treatment and care providers poorly informed about HCV


Obstacles to the provision of testing and treatment 2

- Access to medicines
- Intellectual Property Rights
  - Refers to copyright, trademarks, and patents
  - Patents are most relevant to medicines
  - The World Trade Organisation’s agreement on Trade-Related Aspects of Intellectual Property Rights (TRIPS) provides the legal framework
  - Patents protected for 20 years
- The costs of testing and treatment
  - Even in E. Europe/Central Asia standard 48 week treatment with ribavirin and pegylated interferon can cost $20,000

Obstacles to the provision of testing and treatment 3

- State/police repression of IDUs and denial of access to the full range of services (health, legal, social) available to the general population
- Limited access to primary health care, OST and antiretroviral therapy (ART) for people co-infected with HIV
- Drug use, injecting and OST used as an exclusion criterion for HCV treatment
- Lack of cooperation between drug treatment and infectious diseases specialists
Good practice example

Health care delivery to drug users: program of comprehensive care “PCC-Prague”, in Prague, the Czech Republic

- All services are concentrated within the premises of a single primary health care centre that is also attended by non-drug users. This helps to prevent segregation and stigmatization of patients.
- Additionally, when other specialist services are needed, such as outpatient surgery, dentistry, gynaecology, etc., they are available within the primary health care centre.

Obstacles to the uptake of testing and treatment

- State/police repression of PWID
- HCV advocacy lags behind HIV advocacy (lack of capacity in FSU)
- Diagnosis not straightforward. Antibody test then PCR
- HCV more clearly associated with injecting therefore testing may mean active or deductive disclosure of drug use
- PWID poorly informed about HCV
- Treatment side effects/toxicity may be assumed to outweigh benefits of treatment

Current guidance on HCV treatment for IDUs

HCV/HIV co-infection:

"Efforts must also be made, via multidisciplinary health-care services, to increase the applicability and availability of treatment, especially in more vulnerable populations, including but not limited to migrants, injecting drug users (IDUs), prisoners, people with psychiatric illnesses and people who consume too much alcohol."

- Treatment of patients on opioid substitution therapy should not be deferred.
- Initiation of HCV treatment in active drug users should be considered on a case-by-case basis.
- Medical, psychological and social support from a multidisciplinary team should be provided for these patients.
### Current guidance on HCV treatment for IDUs (1)

**HCV/HIV co-infection:**

"Active drug use should not be an absolute exclusion criteria since full benefits of HBV and HCV therapy are not compromised when active drug users are successfully retained in treatment. Patients who require treatment should be offered opiate substitution therapy, including heroin maintenance programmes, where medically available. If the patient is not ready to stop drug use, any assessment for initiation of HBV or HCV treatment should be made on a case-by-case basis (AIII)."

### Current guidance on HCV treatment for IDUs (2)

"Substitution therapy as a step towards cessation should be considered. Help provided (e.g. through needle- and syringe-exchange programmes) reduces the risk of further reinfection, including parenteral viral transmission. (AIII)."

**Short Statement of the First European Consensus Conference on the Treatment of Chronic Hepatitis B and C in HIV Co-Infected Patients, March 2005**

Endorsed by the European Association for the Study of the Liver (EASL), the European AIDS Clinical Society (EACS), the European Society of Clinical Microbiology and Infectious Diseases (ESCMID), the European Federation of Internal Medicine (EFIM), the International AIDS Society (IAS), the French Society of Infectious Diseases (SFPII) and the European AIDS Treatment Group (EATG).

New EASL Clinical Practice Guidelines for "Management of Hepatitis C Virus Infection" are in development.

### Current guidance on HCV treatment for IDUs (3)

59. Treatment of HCV infection can be considered for persons even if they currently use illicit drugs or who are on a methadone maintenance program, provided they wish to take HCV treatment and are able and willing to maintain close monitoring and practice contraception (Class IIa, Level C).

60. Persons who use illicit drugs should receive continued support from drug abuse and psychiatric counseling services as an important adjunct to treatment of HCV infection (Class IIa, Level C).

Summary learning points

- Experience varies but HCV status and being a PWID can each be a cause of stigma and discrimination
- Beyond stigma, there are many factors than can inhibit both the provision and uptake of HCV testing and treatment
- Guidance is nevertheless clear that PWID should have access to testing and treatment for HCV
- Neither active drug use or ongoing OST treatment are reasons to exclude people from treatment

Module 11: Advocacy: next steps and action planning

Module goal
To review opportunities for advocacy identified throughout the training and reflect on ways that these can be translated into action

Learning objectives
By the end of the module, participants will be able to:
- List priorities for improvement to HCV treatment and care in their settings.
- Evaluate actions that could be taken to produce achievable improvements within identified priority areas

Topics covered
- Understanding advocacy and its purpose
- Experiences of advocacy
- Action planning
What is advocacy?

Advocacy

“A combination of individual and social actions designed to gain political commitment, policy support, social acceptance and systems support for a particular health goal or programme.”


Purpose of advocacy

- Promote people’s rights and help maintain control over their own lives
- Promote social inclusion and raise awareness of the obstacles faced by excluded and isolated individuals
- Support and empower people to speak for themselves, speaking on behalf of people who are unable to speak for themselves
- Help people to explore the range of options open to them and clarifying a particular course of action
Advocacy and enabling

- Can enable people who are marginalized, such as PWIDs, to express their views, to be heard and to have a say in crucial decisions that affect their lives and motivate for powerful larger scale change.

Advocacy and empowerment

- A way of enabling and empowering people to make informed choices and to gain, and remain, in control of their own lives.
- It helps people to have access to the information or provision they need, become aware of the options open to them and make their views and wishes known.
- Advocacy safeguards people through encouraging good practice and preventing neglect or abuse.

Main models of independent advocacy

- Individual professional advocacy - This is carried out by professional, trained, paid or unpaid individuals who are independent of any service provider or agency.
- Citizen advocacy - The objective of citizen advocacy is to encourage ordinary people to become more involved with the welfare of those who might need support in their communities.
- Collective advocacy - when a group of people with common views on a particular subject or similar experiences join together to make their voices heard.
Group work

Experiences of advocacy
- What was achieved?
- How was it achieved?
- What lessons were learned?

Looking back on the training, what are the priorities for change that most stand out for you?
These might be:
- Problems affecting the provision of services (what is available)
- Problems affecting the uptake of services (whether/how services are used)
- They might be changes that relate to:
  - Your own practice
  - Your organisation as a whole
  - Your local community, health or care system
  - National and political systems

Action planning
- Which areas are ones that you may be able to have most impact on?
- Which are most likely to improve the lives of people who inject drugs?
- Each person should identify one realistic:
  - Immediate priority that they could change immediately
  - Long-term priority that might require a year or more to influence
- Try to express these in the following terms:
  - <Who> will do <what> by <when> [using what resources]
Action planning example

'I will invite HCV advocates from a well-known group in Megacity to talk to PWIDs attending our needle and syringe programme about peer support to improve retention within HCV treatment as part of our service review day in September and provide a free lunch for up to 20 people who attend using a grant from BigPharma drug company.'

Module 12: Evaluation

Module goal
To provide trainers with insight into the effectiveness of their training materials and methods and to offer participants a structured way to comment on the training and learning process.

This training module is supported by an evaluation tool that has been chosen as an alternative to more typically used models. The evaluation model used is considered to provide more meaningful and constructive feedback and allow for genuine improvements in course design and delivery.