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Hepatitis C diagnosis and management:

a primary care and public health partnership approach

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INTRODUCTION

Hepatitis C virus (HCV) remains a major public health threat. HCV is a contagious bloodborne viral infection that affects the liver and can lead to cirrhosis and cancer. There is no vaccine available and infection may be asymptomatic in its early stages. The risk of transmission can be reduced substantially through modifiable health behaviours and prompt treatment. With new direct-acting antiviral treatments (DAA), HCV is curable in the vast majority of people but, despite this, many individuals remain undiagnosed and untreated.[1] Healthcare services and public health are committed to eliminating HCV in England and effective therapy is now available to everyone who is infected.

EPIDEMIOLOGY IN THE UK

Official estimates are that around 89 000 people in the UK were living with chronic HCV in 2019, many of whom are some of the most vulnerable and marginalised people in society such as people who inject drugs (PWID), prisoners, the homeless, and migrants from endemic countries.[2] A high proportion of those living with HCV are thought to be undiagnosed and this underlines the importance of continued efforts to find and treat these individuals, as most GPs will have several infected people registered at their practice.

The use of DAA drugs has increased as their costs have fallen, transforming the treatment landscape. Combining DAA treatments with harm reduction strategies and sustained testing offers the possibility of eliminating HCV as a major public health threat in line with World Health Organization goals.[3,4]

Scaled up and improved access to DAA treatment likely contributed to HCV infection in the UK decreasing by more than 20% between 2015 and 2019, and a 19% reduction in deaths since 2015.[2] Despite this progress, the COVID-19 pandemic is likely to have a significant impact on HCV goals in the UK as well as globally through reductions in service access impinging on prevention, testing, diagnosis, treatment, and, in some countries, surveillance systems.[4]

WHAT ARE THE RISK FACTORS FOR HCV?

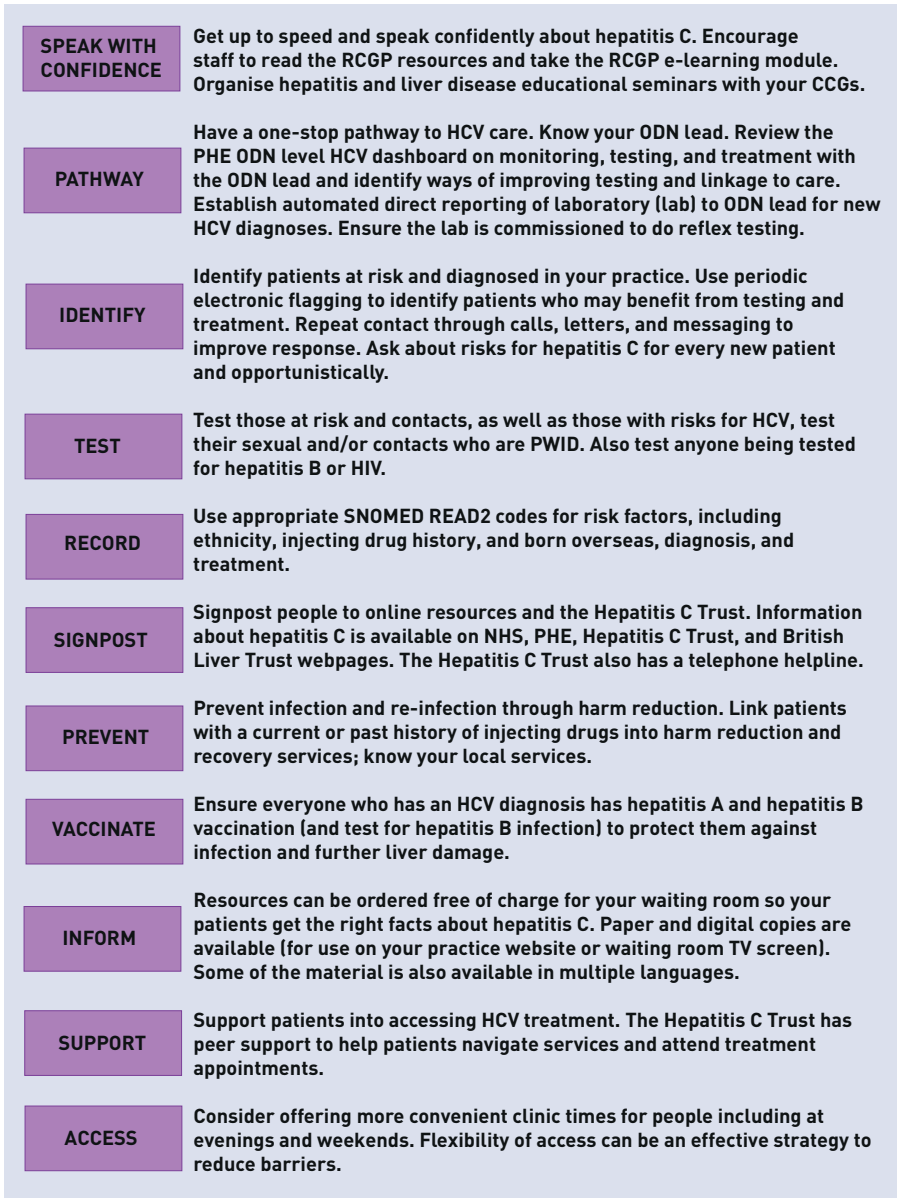
Box 1 provides an overview of HCV risk factors. Injecting drug use remains the most important single risk for transmission of HCV in the UK and around 90% of HCV infections in England are thought to relate to injecting drugs,[2] even where drug use occurred as a single event, perhaps many years prior to diagnosis. An estimated 28% of injecting drug users are currently infected with HCV, about half of whom are unaware of their status.[5]

Box 1. Overview of HCV risk factors

- Injecting drug use (current/ever).
- Sharing of snorting equipment.
- Born in high-prevalence region (Africa, the Middle East (especially Egypt), the Mediterranean, Eastern Europe, and South Asia).
- Blood transfusion before September 1991 or a blood product (such as clotting factor) before 1986 in the UK.
- Unsterile tattooing/body piercing.
- Unsterile medical/dental procedures/blood transfusions in high-prevalence countries.
- Time in prison.
- Needlestick injury.
- Mother-to-child transmission.
- Sexual transmission in men who have sex with men (MSM).
- Sexual transmission in those who are HIV positive.

HCV = hepatitis C virus.

Figure 1. Suggested strategies and actions to increase HCV testing and treatment uptake in primary care.
CCG = clinical commissioning group. HCV = hepatitis C virus. HIV = human immunodeficiency virus. ODN = operational delivery network. PHE = Public Health England. PWID = people who inject drugs. RCGP = Royal College of General Practitioners.



The asymptomatic nature of HCV is such that symptoms of liver damage occur late and can be non-specific. Primary care clinicians will only diagnose HCV if they proactively ask about risk factors. A patient management system that flags at-risk patients using risk algorithm software can support this proactive approach.[2]

In the early stages of HCV infection, when symptoms do occur, they may include flu-like muscle aches, fever, tiredness, and loss of appetite as well as abdominal pain and nausea. Many people with chronic HCV complain of feeling tired and this often improves with treatment.

Approximately 20% of individuals will clear the virus with the remainder progressing to chronic HCV. Untreated, these individuals, who may remain unaware of their illness, are at risk of end-stage liver disease and primary liver cancer, both of which have poor survival rates. Infection with HCV does not confer lifetime immunity and re-infection can occur.[6]

WHAT CAN GPS DO?

A key strategy to reduce undiagnosed and untreated HCV infection involves raising awareness among the public and professions, offering opportunistic testing to a greater proportion of those who are at risk and ensuring follow-up assessment for curative treatments. A variety of initiatives have been initiated, but their success depends on implementation by stakeholders such as GPs in primary care.[2] Figure 1 summarises some of the initiatives GPs can put in place locally to target at-risk groups.

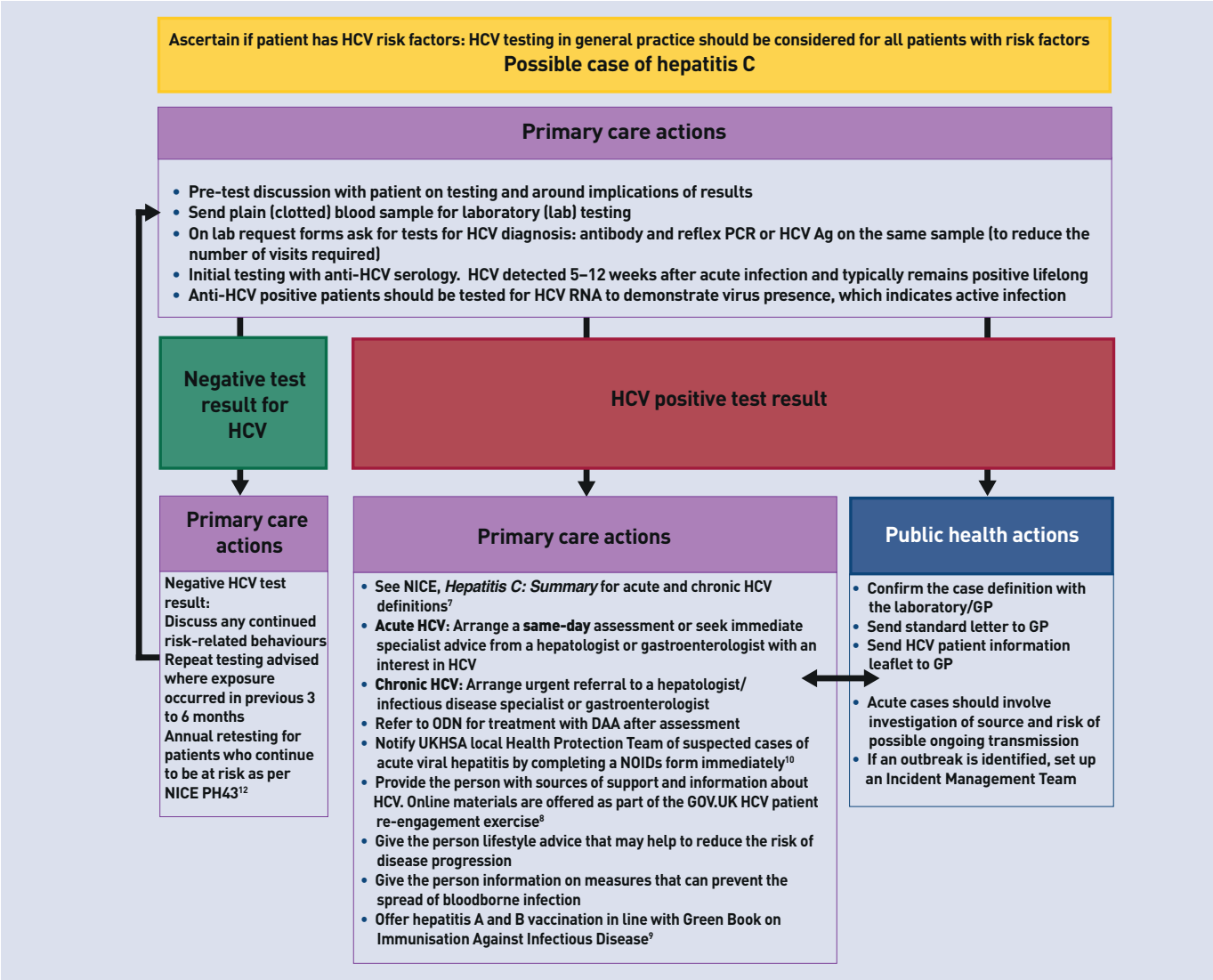


Figure 2. The role of primary care and public health in management of HCV cases.
Ag = antigen. DAA = direct-acting antiviral. HCV = hepatitis C virus. NICE = National Institute for Health and Care Excellence. NOIDs = notifications of infectious diseases. ODN = operational delivery network. PCR = polymerase chain reaction. UKHSA = UK Health Security Agency.

Where GPs identify an at-risk individual, or where a liver function test reveals unexplained raised transaminase levels, opportunistic HCV testing should be offered. Figure 2 is based on National Institute for Health and Care Excellence (NICE) guidance for the management of HCV cases in primary care[7] and gives a summary of testing and management.[8–10]

WHAT DO I NEED TO KNOW ABOUT DAA AND OPERATIONAL DELIVERY NETWORKS?

The first-line treatment for HCV are DAA. These have been rolled out in an NHS England and NHS Improvement (NHSEI) managed care programme through 22 HCV operational delivery networks (ODNs),[11] led by a hospital clinician and bringing together prevention, testing, diagnosis, and treatment services. DAA treatments are shorter in duration, have fewer side effects, and are more effective than previous interferon-based therapies. DAAs cure infection (defined as a sustained virological response [SVR]) in more than 95% of cases[6] but are most effective when started before the onset of cirrhosis. If cirrhosis is present then the patient will need to remain under surveillance, despite clearing the virus, to monitor for hepatocellular carcinoma. From 2018, NICE approved use of new DAAs, which can be used where previous treatment has failed or re-infection has occurred and are effective in more than 97% of failed first treatments.[6,7]

WHAT IS THE ROLE OF PUBLIC HEALTH IN RESPONDING TO AN HCV CASE?

The aim of the public health response to an HCV case is to support primary care by confirming, with the laboratory and/or the referring GP, whether the patient has acute HCV infection or not, providing the practice

with standard information letters and patient information leaflets, and advising on specialist referral for treatment.

All confirmed HCV cases are recorded by the UK's Health Security Agency (UKHSA) Health Protection Teams (HPTs) using case management software. For all acute cases, an enquiry should be made about the circumstances surrounding any exposure, particularly if a healthcare setting, local business, or previous blood transfusion is reported. In such circumstances, the HPT may investigate the source and possible ongoing transmission risks. If an outbreak is identified, an Incident Management Team may be established and all individuals who have potentially been exposed will need to be identified, risk assessed, and offered testing, if appropriate. This may require further coordination between HPTs and primary care as per Figure 2 for contact tracing and management of outbreak.

CONCLUSIONS

GPs have a pivotal role to play in the drive to identify undiagnosed HCV cases and to encourage testing and referral for treatment of at-risk patients within their populations. A number of strategies are available to increase awareness and to promote opportunistic testing of patients and referral for new curative treatments but these are reliant on GPs working in close partnership with HPTs and the ODN where HCV cases are diagnosed, so that the appropriate public health actions and treatment and care can be initiated.

Achievement of the UK and global goal of elimination of hepatitis C as a major public health threat by 2030 is contingent on finding and treating infected people, which relies on collective and concerted efforts across all health care services and public health sectors.

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