

Appendix A. Summary of new evidence

Summary of new evidence from 4-year surveillance	Summary of new intelligence from 4-year surveillance (from topic experts or initial internal intelligence gathering)	Impact
PH43 – 01. Recommendation 1 – Awareness-raising about hepatitis B and C among the general population Evidence statements: Q1, Q2, Q3, Q4, Q5, Q8, Q9, Q10, E1; IDE		
No evidence identified	No evidence identified	None
PH43 – 02. Recommendation 2 – Awareness raising for people at risk of hepatitis B or C infection Evidence statements: Q1, Q2, Q3, Q4, Q5, Q8, Q9, Q10, Q14, Q15, Q16, Q23, Q28, Q29, E1; IDE		
<p>A study⁷ assessed the effectiveness of outreach testing for hepatitis C virus (HCV) in an immigrant Pakistani population. HCV awareness meetings were undertaken in mosques and the Pakistani Women's centre followed by short-term outreach HCV testing in the same locations. Venous blood was taken and tested for HCV. 177 people were tested out of approximately 250 who attended with 2.9% testing positive. It was determined that immigrant Pakistanis retain a higher prevalence of HCV compared to the population of their adopted country and that outreach targeted testing can be achieved using religious and cultural gatherings, with only modest investment in staff time.</p> <p>A systematic review¹⁴ including 48 studies evaluated the barriers and enablers associated with hepatitis B testing in migrant Chinese populations. It was reported that interventions that were primarily focused on increasing knowledge had only modest positive effects on testing. However, evidence on the</p>	No evidence identified	<p>New evidence was identified that does not have an impact on the recommendation.</p> <p>The evidence identified indicated that awareness raising has a positive effect, although this effect in the specific population groups evaluated may be small. Overall, the findings of the studies are in line with recommendation 2 which states that 'Local organisations should run awareness-raising sessions to promote hepatitis B and C testing in venues and at events popular among groups at increased risk', that 'awareness-raising material tailored to the needs of groups at increased risk' should be provided and that 'organisations should consider offering testing for hepatitis B and C at awareness-raising sessions'.</p>

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effects of providing culturally appropriate services for hepatitis B on increasing uptake was limited.		
PH43 – 03. Recommendation 3 – Developing the knowledge and skills of healthcare professionals and others providing services for people at increased risk of hepatitis B or C infection Evidence statements: Q2, Q18, Q20, Q21, Q28, Q29, Q30, E2, E5, E8; IDE		
No evidence identified	No evidence identified	None
PH43 – 04. Recommendation 4 – Testing for hepatitis B and C in primary care Evidence statements: Q28, E5, E6, E11		
<p>A systematic review² determined the effect of introducing point-of-care (PoC) or dried blood spot (DBS) analysis on the uptake of hepatitis C virus (HCV) testing in high risk populations. The frequency of testing and/or new diagnosis following the introduction of PoC and/or DBS testing of high risk populations was searched. No studies on PoC testing determining frequency of testing were found. Six studies were reviewed on DBS with the injection of drugs being the most common risk factor for HCV infection. Evidence indicated that the introduction of DBS testing increased uptake of testing, new diagnosis or both. It was concluded that DBS testing availability may increase the uptake for HCV testing in high-risk populations but that there was no evidence regarding the efficacy of PoC testing in these populations.</p> <p>A cross-sectional study⁴ analysed the reasons for low hepatitis B virus (HBV) testing among migrants for whom testing was recommended under national guidance in a UK city. NHS and HBV laboratory</p>	No evidence identified	<p>New evidence was identified that does not have an impact on the recommendation.</p> <p>The findings are in line with recommendation 4 which states ‘GPs and practice nurses should offer testing for hepatitis B and C to adults and children at increased risk of infection, particularly migrants from medium- or high-prevalence countries and people who inject or have injected drugs’ and ‘GPs and practice nurses should offer testing for hepatitis B and C to people who are newly registered with the practice and belong to a group at increased risk of infection’.</p> <p>For people who inject drugs the finding also supports recommendation 6 ‘services should have access to dried blood spot testing for hepatitis B and C for</p>

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<p>surveillance data was analysed determining that in total 12% of migrants were tested. It was found that the majority of GPs did not use guidance to inform HBV testing in migrants stating that workload and a lack of human, and financial resources were the most significant barriers to increased testing. The study concluded that the majority of migrants from medium to high risk prevalence regions have no evidence of HBV testing and that increased GP awareness and support for primary care was needed to increase testing.</p> <p>A systematic review⁹ analysed the effectiveness of interventions to increase hepatitis C testing uptake among high-risk groups. 8 studies were reviewed and a narrative synthesis undertaken. 3 studies looked at primary care, 1 dried blood spot testing, 2 at outreach provisions and 2 at interventions to improve hepatitis C management. Evidence suggests that increases in testing uptake can be achieved but the resource implications associated with their implementation needs to be examined.</p>		<p>people for whom venous access is difficult’.</p>
<p>PH43 – 05. Recommendation 5 – Testing for Hepatitis B and C in prisons and immigration removal centres Evidence statements: Q16, Q27, Q28, E1, E6; IDE</p>		
<p>No evidence identified</p>	<p>New evidence was identified that does not have an impact on the recommendation.</p> <p>A study by Public Health England¹² evaluated a pathfinder programme to introduce opt-out testing for hepatitis B and C in English prisons. It was found that the number of individuals testing positive for hepatitis B was low but that there was an increase in those testing positive for hepatitis C. It was concluded</p>	<p>New evidence was identified that does not have an impact on the recommendations.</p> <p>This is an ongoing trial of opt-out policy and does not impact recommendation 5 which currently states that ‘all prisoners and</p>

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	that some of these may not have been identified without the switch from risk based 'opt-in' to universal 'opt-out' testing although the precise number remains unclear due to data collection and reporting problems.	immigration detainees are offered access to confidential testing for hepatitis B and C when entering prison or an immigration removal centre and during their detention'. Phase 2 of this work is due to be published in late 2017. Once this has been published, surveillance will be undertaken to establish if the findings directly impact this recommendation.
PH43 – 06. Recommendation 6 – Testing for Hepatitis B and C in drugs services Evidence statements: Q18, Q20, Q21, Q24, Q25, Q28, Q29, Q30, E1, E4, E5, E6, E7, E8, E9; IDE		
<p>A study¹ assessed the use of dried blood spot (DBS) testing for hepatitis C testing in drug users. People who inject drugs attending needle exchange scheme community services and those in prison were offered the DBS test including the self-administered DBS. High rates of hepatitis C virus (HCV) infection were found in all settings with an increase in testing uptake on the second testing occasion. DBS testing for HCV was found to be an effective alternative to conventional blood testing methods with increased uptake in both health care settings.</p> <p>A systematic review⁸ thematically assessed the views and experiences of hepatitis C virus (HCV) testing and diagnosis among people who inject drugs. Of the 28 studies reviewed, 3 major themes emerged: missed opportunities for provision of information leading to delays in seeking testing; shifting priorities</p>	No evidence identified	<p>New evidence was identified that does not have an impact on the recommendation.</p> <p>The findings of the studies are in line with many parts of Recommendation 6 – Drugs services should have access to: dried blood spot testing for hepatitis B and C for people for whom venous access is difficult, offer and promote hepatitis B and C testing to all service users and ensure people diagnosed with hepatitis B and C are referred for specialist care.</p>

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<p>between HCV testing and other needs testing as unexpected and routine with an unawareness of HCV testing being common and part of a routine health assessment. The study concluded that there are modifiable factors that affect the uptake of HCV testing and that any intervention development for this population should focus on these 3 areas.</p> <p>A retrospective study¹⁰ assessed the uptake of hepatitis C services and treatment following diagnosis by dried blood spot (DBS) testing in people who inject drugs. DBS testing records were linked to the Scottish hepatitis C virus (HCV) clinical database before regression analysis was undertaken. 1322 people were tested with 476 testing positive for HCV. 32% of the people who tested positive attended a specialist clinic. The study showed that DBS testing in non-clinical settings has the potential to increase diagnosis and, with sufficient support, treatment of HCV among people who inject drugs.</p> <p>A study¹¹ assessed the effect on Hepatitis C testing and diagnosis following the launch of Scotland's Action Plan on Hepatitis C and the introduction of dried blood spot (DBS) testing. Increases were observed in both the number of tests being undertaken, positive tests reported and new diagnoses when compared to pre-Action plan. In drug services (RR=3.5, p<0.001) and prisons (RR=1.2, p<0.001), no change in general practice was noted. Following introduction of DBS testing, there was a 3 fold increase in testing (RR=3.5, p<0.001) and 12 fold</p>		

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<p>increase in positives (RR=12.1, p<0.001) in drug services. It was determined that the introduction of DBS testing in community drug services made an appreciable contribution in efforts to diagnose the HCV-infected population in Scotland.</p> <p>A cohort study¹³ assessed the impact of dried blood spot (DBS) hepatitis C testing of people who inject drugs. 1123 DBS tests were carried out with 946 people receiving one test. Of those, 31% tested positive. Overall retention within the services or those treated who tested positive was 64%. It was found that DBS testing in people who inject drugs is a complementary technique to conventional venepuncture for the diagnosis of hepatitis C.</p>		
<p>PH43 – 07. Recommendation 7 – Testing for Hepatitis B and C in sexual health and genitourinary medicine clinics Evidence statements: IDE</p>		
<p>A survey⁵ of men who have sex with men (MSM) attending 4 genitourinary clinics in Manchester (n=2030) was identified. Hepatitis C virus (HCV) positivity was found to be significantly associated with HIV status (p<0.001). HCV was also associated with HIV-negative MSM who engaged in high-risk sexual practices. The study concluded that all MSM attending sexual health clinics must have a risk assessment and should be offered HCV screening based on the risk.</p>	<p>No evidence identified</p>	<p>New evidence was identified that does not have an impact on the recommendation.</p> <p>The findings of the evidence corroborate recommendation 7 for sexual health and genitourinary medicine clinics to 'offer and promote hepatitis B and C testing to all service users at increased risk of infection, including people younger than 18'.</p>

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PH43 – 08. Recommendation 8 – Contact tracing Evidence statements: IDE		
No evidence identified	No evidence identified	None
PH43 – 09. Recommendation 9 – Effective delivery and auditing of neonatal hepatitis B vaccination Evidence statements: IDE		
No evidence identified	No evidence identified	None
PH43 – 10. Recommendation 10 – Commissioning locally appropriate integrated services for hepatitis B and C testing and treatment Evidence statements: Q7, E5; IDE		
No evidence identified	No evidence identified	None
PH43 – 11. Recommendation 11 – Laboratory services for Hepatitis B and C testing Evidence statements: IDE		
No evidence identified	No evidence identified	None
Research recommendations		
RR – 01 How can case-finding for hepatitis B and C be improved? What modifiable factors influence whether or not specific groups at increased risk of hepatitis B and hepatitis C infection are identified and tested?		
No evidence identified	No evidence identified	None
RR – 02 How can the uptake of hepatitis C treatment be improved? What factors influence whether or not specific groups at increased risk will begin and complete hepatitis C treatment?		
No evidence identified	No evidence identified	None
RR – 03 What cost-effective interventions can be used to increase hepatitis B case-finding among migrant populations in primary and secondary care?		
No evidence identified	No evidence identified	None

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RR – 04 What cost-effective interventions ensure continuity of care for prisoners who are diagnosed with chronic hepatitis B or C in prison?		
No evidence identified	No evidence identified	None
RR – 05 How cost effective are alternative testing sites, such as community pharmacist programmes, for increasing the number of people who are tested and treated for hepatitis B and C?		
No evidence identified	No evidence identified	None
RR – 06 What are the most effective ways of involving people from groups at increased risk in awareness-raising about, and promoting testing and treatment for, hepatitis B and C infection? Specifically, how cost effective are peer mentor programmes at increasing the number of people at increased risk who are tested and treated for hepatitis B and C?		
No evidence identified	No evidence identified	None
RR – 07 What impact does increased knowledge and awareness of hepatitis B and C among the general public have on the uptake of testing and treatment?		
No evidence identified	No evidence identified	None
RR – 08 Which interventions for other communicable diseases could be used to encourage people at increased risk of hepatitis B and C infection to take up the offer of testing and treatment?		
No evidence identified	No evidence identified	None
RR – 09 How many children in the UK are infected with chronic hepatitis B and C and which subgroups of the population do they come from?		
No evidence identified	No evidence identified	None
RR – 10 How many people in the UK are infected with chronic hepatitis B and C and which subgroups of the population do they come from?		
No evidence identified	No evidence identified	None

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RR – 11 How cost effective are cohort testing programmes as a stand-alone programme, or as an extension of the NHS Health Check programme?		
No evidence identified	No evidence identified	None
Gaps in the evidence		
<p>Gap – 01 - There is a lack of robust, quantitative studies on identifying, testing and treating hepatitis B and C (that is, studies that are applicable to the UK context). In particular there is a lack of reliable data on:</p> <ul style="list-style-type: none"> a) the number of people in the UK with chronic hepatitis B and C. In particular, there is no national information on the number of children infected. b) local information on the number of people with chronic hepatitis B and C. c) interventions to increase hepatitis B and C testing among migrant populations. d) interventions to increase hepatitis B and C testing in non-health settings, for example, prisons. 		
No evidence identified	No evidence identified	None

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<p>Gap – 02 There is a lack of qualitative studies on hepatitis B and C, including studies focused on:</p> <ul style="list-style-type: none"> a) cultural issues which may act as a barrier to testing and treatment. b) knowledge of, barriers against, and facilitators for hepatitis C testing and treatment among migrant populations. c) knowledge of, barriers against, and facilitators for preventing hepatitis B and C among men who have sex with men. d) knowledge of, barriers against, and facilitators for improving the prevention of maternal transmission of hepatitis B. e) knowledge of, barriers against, and facilitators for preventing hepatitis B among injecting drug users. f) how former drug users, both from a service user and provider perspective, regard testing for hepatitis. g) the views, perspectives and experiences of hepatitis B and C testing among people whose past behavior has put them at risk but who choose not to disclose this information. This includes people who have previously injected drugs or worked as commercial sex workers. h) the views, perspectives and experiences of hepatitis B and C testing among practitioners and people at increased risk of infection, according to the practitioner's level and type of knowledge. i) prisoners' views of hepatitis testing and treatment and the views of those working with them. j) the acceptability of different sampling methods for testing for hepatitis. k) factors which encourage people to have a liver biopsy or discourage them from this. l) the knowledge GPs have regarding identification of at-risk patients. m) why people referred by GPs for a hepatitis test drop out of appropriate care pathways and whether or not an integrated services/one-stop-shop approach would improve uptake rates. n) understanding of hepatitis B and C care pathways. 		
<p>A qualitative study³ was undertaken to determine the barriers and opportunities for hepatitis B testing and contact tracing in a UK Somali population. The views</p>	<p>No evidence identified</p>	<p>New evidence was identified that does not have an impact on the recommendation.</p>

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<p>of 30 people were recorded through semi-structured interviews and focus groups to investigate hepatitis B understanding, testing and contact tracing. A lack of understanding of the disease was cited as the major barrier to testing and contact tracing. The population also co-identified hepatitis B with 'jaundice' and stated that infected people are not stigmatised within the community. The infection is commonly viewed as relatively trivial and short lived. It was determined that any public health initiatives to promote testing and contact tracing in this population should focus on improving hepatitis B understanding and avoid translation of hepatitis B into terms meaning 'jaundice'.</p> <p>Semi-structured interviews⁶ (n=10) were undertaken to obtain prison officers' views about hepatitis B testing and treatment. The findings indicated that although hepatitis C testing was supported it was overridden if the prisoner posed a threat to the overall security of the prison. All officers interviewed showed limited knowledge about hepatitis C. It was concluded that, although prison security transcends health, the prison staff have a potential role in promoting or discouraging hepatitis C testing and educational opportunities should be a component of commissioned hepatitis services in prisons.</p> <p>A systematic review¹⁴ including 48 studies evaluated the barriers and enablers associated with hepatitis B testing in migrant Chinese populations. Stigma was consistently associated with hepatitis B, and there was weak but consistent evidence of stigma acting as a barrier to care. Evidence for the effectiveness of practitioner education interventions for decreasing</p>		<p>The studies identified looked to answer gaps in the qualitative evidence base. They highlight possible barriers to testing but would not directly change current recommendations. It is also considered that the area raised, concerning a lack of knowledge and understanding acting as a barrier to testing, is addressed by the current recommendations.</p>

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the number of missed opportunities for testing was also reported to be limited. A prompt in patient records for primary care physicians improved uptake of testing.		
Gap – 03-There is a lack of evidence on the role of the voluntary sector in promoting and offering tests for hepatitis B and C.		
No evidence identified	No evidence identified	None
Gap – 04 There is a lack of evidence on what is happening in the 'real world'. This includes the views of people: a) at risk of hepatitis B and C. b) who have been identified and/or tested and/or treated. c) who have dropped out at different stages of the care pathway.		
No evidence identified	No evidence identified	None
Gap – 05 There is a lack of qualitative and quantitative evidence on the acceptability of dried blood spot testing among different communities.		
No evidence identified	No evidence identified	None
Gap – 06 There is a lack of evidence on how hepatitis B and C status could be assessed when testing for other diseases and blood-borne viruses.		
No evidence identified	No evidence identified	None

References

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On-going research

Ongoing research was identified through experts and the initial intelligence gathering (NIHR research in progress). If this was within the scope for PH43 it has been included:

- [Hepatitis C assessment through to treatment trial](#)
 - This cluster RCT provides an assessment of a complex intervention performed in primary care for improvement in targeted case finding

and invitation to hepatitis C testing for people at high risk of infection. The trial end date was December 2016. Stakeholder correspondence indicates that trial results will be published in 2018.

- [Chronic viral hepatitis in ethnic minorities](#)
 - This cluster RCT provides an assessment of the effectiveness of contacting first and second generation immigrants from GP practices to improve the testing rate for hepatitis B and C. The trial end date is June 2017, with intention to publish in March 2018.
- [PHE research on opt-out testing for hepatitis B and C in prison](#)
 - This research is due to publish by the end of 2017.