



Pharmacy-based testing for hepatitis B and hepatitis C

Overview

The Hepatitis C Trust is coordinating a national roll out of hepatitis C (HCV) and hepatitis B (HBV) testing in community pharmacies following a very successful pilot project in 2009. The pilot diagnosed 1 in 6 of the people tested with either HCV or HBV. This represents a significantly higher proportion of positive tests compared to those undertaken in GP surgeries (1 in 7 and 1 in 25 respectively for HCV; see appendix 2).

The Hepatitis C Trust is offering free training and supporting materials to areas wanting to offer HCV, or HCV and HBV, testing and where funding for the tests and the pharmacists' time to deliver them can be identified locally (see appendix 1).

Aim

The HPA estimates that 216,000 people have hepatitis

C in England but only about 86,000 diagnoses have been recorded.ⁱ Community pharmacies are ideally placed to deliver basic public health information as well as, with the right training and support, screening for conditions such as viral hepatitis. The Hepatitis C Trust's Pharmacy Testing Programme is designed to increase awareness and testing for hepatitis B and C through targeted, on-demand testing for people less likely to access mainstream services.

Diagnosing someone with hepatitis B just a few weeks into the pilot made me realise that viral hepatitis is a serious problem in the local community and offering testing could make a real difference to people's lives. The service gained momentum throughout the three months of the pilot project and I hope we can resume testing on an ongoing basis as soon as possible.

- Dev Dalvair, D R Dalvair Pharmacy, Sandwell

Background

Low diagnosis rates of viral hepatitis present a serious public health challenge for the UK and local health services. Prevalence of both hepatitis B and hepatitis C is rising across the UK and yet the majority of the up to 500,000 people affected are undiagnosed.ⁱⁱ Undiagnosed and untreated, these viruses can go on to cause cirrhosis, liver cancer and ultimately kill.



Stigma, distance, confidentiality concerns or just a lack of awareness that they may be at risk create some of the major barriers to testing across the country. Pharmacies provide a convenient, widely frequented locations with long opening hours and without the need for an appointment and are often regularly visited by people likely to be at higher risk of hepatitis C. They are therefore very well placed to provide testing and information services to populations who may not otherwise be tested.

The Programme

The Hepatitis C Trust will work with PCTs, Local Authorities, drug and alcohol teams and other local agencies as well as pharmacists in participating community pharmacies. Pharmacies typically involved are those that have a significant client group who are likely to be at risk of viral hepatitis infection, often needle exchange clients or areas with large first-generation migrant populations from high prevalence countries (such as South Asian communities). Pharmacists will attend a half-day training session devised and delivered by The Hepatitis C Trust and a Blood Borne Viral Hepatitis Specialist Nurse. Tests offered, delivered and test results will be monitored locally in each pharmacy and centrally by the Hepatitis C Trust.

The Hepatitis C Trust provides:

- Support and advice on service design, developing pathways and raising awareness.
- Training for pharmacy staff. This includes an overview of the viruses, risk factors, pre- and post-test discussions and delivery of Dry Blood Spot or Oral Fluid testing.
- Ongoing support to pharmacy staff.
- Posters, leaflets and other materials for use in pharmacies and for signposting.
- Programme monitoring and evaluation and some programme support.

Local agencies provide:

- Funding to cover the cost of the tests and payments to pharmacists for their delivery (approximately £550 per pharmacy per quarter, see appendix 1 for indicative costings).



Appendix 1: Testing cost summary & analysis

Based on the results of the pilot project, the average cost to run the service in one pharmacy for three months would be between £550 and £650.

In addition to an average payment to pharmacies of £15 per each, these costs are based on an average of 1 test per week per pharmacy (12 tests per quarter), with an HCV screen and HBV screen conducted on each sample and two samples requiring confirmation of current hepatitis C infection (see tables below for breakdown).

Dry Blood Spot testing kits are available from several sources, often locally as well as through national labs. Approximate costs of dry blood spot tests from the HPA Manchester lab and Concateno diagnostics are:

HPA lab	
Testing kit	£7.12
Hepatitis C Screen (antibody test)	£3.65
Hepatitis B Screen (surface ag + core)	£8.16
HIV Screen (1 & 2)	£5.44
Hepatitis C confirmation (PCR and genotype)*	£83.78
Costs per pharmacy per quarter	
£18.93 for a kit & screens for hepatitis B and C x 12 tests	£227.16
£15 payment to pharmacies x 12 tests	£180
£83.78 hepatitis C confirmation x 2 tests*	£167.56
Total	£574.72

Concateno lab	
Testing kit	£3.20
Test handling charge	£7
Hepatitis C Screen (antibody test)	£9
Hepatitis B Screen (surface ag only)	£4
HIV Screen (1 & 2)	£5
Hepatitis C confirmation (PCR only)*	£40
Costs per pharmacy per quarter	
£27.50 total for kit & basic screens x 12 tests	£278
£15 payment to pharmacies x 12 tests	£180
£40 hepatitis C confirmation x 2 tests*	£80
Total	£538

*Hepatitis C confirmations are done only where the sample shows a positive result for the hepatitis C screen, indicating the person has antibodies to hepatitis C. In the pilot 1 in 7 tests were hepatitis C antibody positive.

These costs compare favourably to failing to diagnose patients who will then present with cirrhosis in future years. Treating patients for hepatitis C has been found to be cost effective per Quality Adjusted Life Yearⁱⁱⁱ and is recommended by the NICE. NICE costs relevant hepatitis C related procedures as follows:

Health state	Cost per year: (2007/08 prices)
SVR	£311
Mild chronic HCV	£142
Moderate chronic HCV	£862
Compensated cirrhosis	£1,368
Decompensated cirrhosis	£10,964
Hepatocellular carcinoma	£9,770
Liver transplantation	£44,225
Post Liver transplantation	£1,665



Appendix 2: Executive summary of pilot project report

Diagnosing viral hepatitis in the community: a 3-month pharmacy testing pilot

Between May and August 2009, 19 pharmacies undertook a total of 234 tests (mean average of 12 tests per pharmacy over the 3 months), which diagnosed 35 people with hepatitis C antibodies and 4 people with hepatitis B surface antigens^{iv} (including 1 patient co-infected with hepatitis B and C).

This means that on average 15% of tests resulted in a positive hepatitis C diagnosis. This is a significantly higher proportion of positive hepatitis C tests compared to those undertaken in GP surgeries: the HPA reported hepatitis C positive tests in 4% of those carried out by GPs in 2008^v.

This pilot diagnosed a slightly lower proportion of people with hepatitis B than traditional testing routes: 1.7% of those tested in pharmacies were HBV positive and 2.1% of those tested in other settings were HBV positive (excluding antenatal screening).^{vi}

Key findings:

- 1 in every 6 people tested were hepatitis B or C positive (15% hepatitis C positive and 1.7% hepatitis B positive. As one person was co-infected with both hepatitis B and C, a total of 16.2% of people tested were hepatitis B or/and C positive).
- Of the 35 hepatitis C diagnoses, 25 were men and 10 were women. 31 were current (17) or former (14) injecting drug users. Most people diagnosed (17) had multiple risk factors.
- All 4 of the positive hepatitis B diagnoses were male. Two were born in and had undertaken medical or dental surgery in a high-prevalence country, one had previously injected and snorted drugs and one had previously injected drugs.
- Between 1 and 27 tests were delivered over the three-month period in each pharmacy (mean average of 12 tests per pharmacy).
- The proportion of positive diagnoses varied significantly between pharmacies.
- All clients who were tested and completed an anonymous evaluation form (19) stated that they found this testing convenient and would recommend the service to friends who might be at risk. 18/19 stated that getting tested at a pharmacy was preferable to a GP setting.

The Hepatitis C Trust concludes that hepatitis C testing in pharmacies is a feasible and efficient route of diagnosing people with the virus. Since this project was primarily designed to examine the efficiency of hepatitis C testing, The Hepatitis C Trust believes that the efficiency of testing hepatitis B in pharmacies should be further evaluated through a pilot study that targets pharmacies in areas with populations likely to be at risk from hepatitis B, for example areas with large first-generation migrants from high-prevalence countries.



The Hepatitis C Trust recommends that:

- PCTs across the country should work with pharmacies that have high-risk clients (e.g. methadone users, needle exchange clients or first-generation migrants from high-prevalence countries) to offer hepatitis C testing.
- PCTs and pharmacies should work in partnership with local drug services to promote the testing service.
- Given the added cost of conducting a hepatitis B test at the same time as a hepatitis C dried blood spot tests is small (an extra £6.07), and some of the risk factors are the same, clients should be tested for both hepatitis B and C at the same time.
- Pharmacists offering testing should be proactive in engaging clients about risk factors and offering tests where appropriate.
- Health Boards in Scotland, Wales and Northern Ireland should pilot hepatitis B and C testing in community pharmacies.

The full report, *Diagnosing viral hepatitis in the community: a 3-month pharmacy testing pilot* (January 2010) can be downloaded from www.hepctrust.org.uk/News_Resources/resources/reports

Appendix 3: Testing and Diagnosis rates in England

Region	Estimated number of people with HCV ⁱ	Estimated % of people with HCV ⁱ	Total lab reported diagnosed with HCV ⁱⁱ	% of estimate who have been diagnosed & reported	Total undiagnosed / unreported	%age undiagnosed / unreported
East Midlands	14,994	0.35%	5,010	33%	9,984	67%
Eastern	14,703	0.27%	7,775	53%	6,928	47%
London	53,145	0.71%	9,189	17%	43,956	83%
North East	7,262	0.28%	2,439	34%	4,823	66%
North West	29,505	0.43%	19,810	67%	9,695	33%
South East	24,029	0.29%	10,828	45%	13,201	55%
South West	16,615	0.34%	11,893	72%	4,722	28%
West Midlands	18,670	0.35%	8,657	46%	10,013	54%
Yorkshire & Humberside	22,130	0.44%	9,964	45%	12,166	55%
England	201,053	-	85,565	43%	115,488	57%

ⁱ Source: *Commissioning template for estimating HCV prevalence by PCT and numbers eligible for treatment*. HPA, 2010. www.hpa.org.uk/Topics/InfectiousDiseases/InfectionsAZ/HepatitisC/ (accessed 21st July 2011; estimated % calculated from population numbers given in the tool)

ⁱⁱ Source: *Hepatitis C in the UK: 2011 report*. HPA, 2011. <http://www.hpa.org.uk/Publications/InfectiousDiseases/BloodBorneInfections/1107HepCintheUK2011report/> (accessed 6th September 2011)



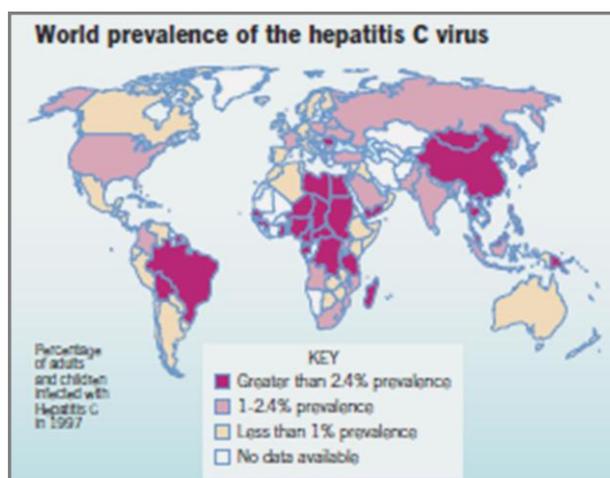
Appendix 4: The need to test current & former drug users for hep C

While a growing number of drug services are offering routine hepatitis C testing, considerable gaps in availability and uptake remain. NDTMS data show that in 2009-10 approximately 70% of adults in drug treatment services (which includes 114,580 people who do or have injected drugs) were offered a hepatitis C test of whom 56% declined, suggesting that just 39.2% of adults in drug treatment services were tested for hepatitis C in 2009-10.

Data from the most recent HPA anonymous survey of injecting drugs users found 49% with hepatitis C, of whom 45% were unaware of their infection.^{vii} There are an estimated 306,150 opiate and/or crack cocaine users aged 15 to 64 in England.^{viii} In addition, 30% of the approximately 300,000 former injecting drug users in England are believed to have hepatitis C.^{ix}

Appendix 5: The need to test people from high prevalence countries

Approximately 3% (170 million) of the world's population has, or has had, hepatitis C but prevalence varies considerably both between and within countries. In most places the prevalence of hepatitis C infection is less than 3% but it is higher – up to 15% - in some countries in Africa and Asia and highest in Egypt. Parts of Eastern Europe also see high rates of hepatitis C.



Source: World Health Organization 1999.

Knowledge of how higher rates of hepatitis C abroad are reflected in UK populations from these countries is still relatively scarce. Recent research has found hepatitis C prevalence at 1.6% in people of South Asian origin, rising to 2.7% in those born in Pakistan.^x This is much higher than general UK prevalence, estimated to be about 0.67%.^{xi} More than 10% of people who died from hepatitis C in the UK between 1996 and 2009 were born in Pakistan or Bangladesh.

2010 data from new blood donors also suggest hepatitis C is more prevalent in this community; people of South Asian origin comprise 3.2% of new donors but 12% of those diagnosed with hepatitis C. Overall about 60% of new donors who were diagnosed were born outside of the UK – 43% of them in Eastern Europe and 32% in Asia.^{xii}

ⁱ HPA. *Hepatitis C in the UK: 2011 Report*. http://www.hpa.org.uk/web/HPAwebFile/HPAweb_C/1309969906418

ⁱⁱ Hepatitis B Foundation. *Rising Curve: Hepatitis B in the UK*, 2007

ⁱⁱⁱ 'Improving Hepatitis C Healthcare Conference: Executive Summary' (The Hepatitis C Trust, April 2007)



^{iv} One of the four patients who tested positive for hepatitis B was re-tested and the re-test came back negative indicating the first result was either a false positive or sign of an early infection which was cleared.

^v Hepatitis C in the UK (The Health Protection Annual Report 2009), p. 27

^{vi} Health Protection Report: volume 3, number 16 (Health Protection Agency, 24 April 2009)

<http://www.hpa.org.uk/hpr/archives/2009/hpr1609.pdf> accessed on 03.12.09

^{vii} http://www.hpa.org.uk/web/HPAwebFile/HPAweb_C/1309969861526

^{viii} 2009/10 figures. Hay et al. *Estimates of the Prevalence of Opiate Use and/or Crack Cocaine Use, 2009/10: Sweep 6 report*. The Centre for Drug Misuse Research, University of Glasgow

<http://www.nta.nhs.uk/uploads/prevalencestats2009-10fullreport.pdf>

^{ix} Harris RJ et al *Hepatitis C prevalence in England remains low and varies by ethnicity: an updated evidence synthesis* European Journal of Public Health Advance Access published June 26, 2011

^x Uddin et al. *Prevalence of chronic viral hepatitis in people of south Asian ethnicity living in England: the prevalence cannot necessarily be predicted from the prevalence in the country of origin*. Journal of Viral Hepatitis May 2010; 17(5):327-35.

^{xi} Harris RJ et al *Hepatitis C prevalence in England remains low and varies by ethnicity: an updated evidence synthesis* European Journal of Public Health Advance Access published June 26, 2011

^{xii} HPA. *Hepatitis C in the UK: 2011 Report*. http://www.hpa.org.uk/web/HPAwebFile/HPAweb_C/1309969906418