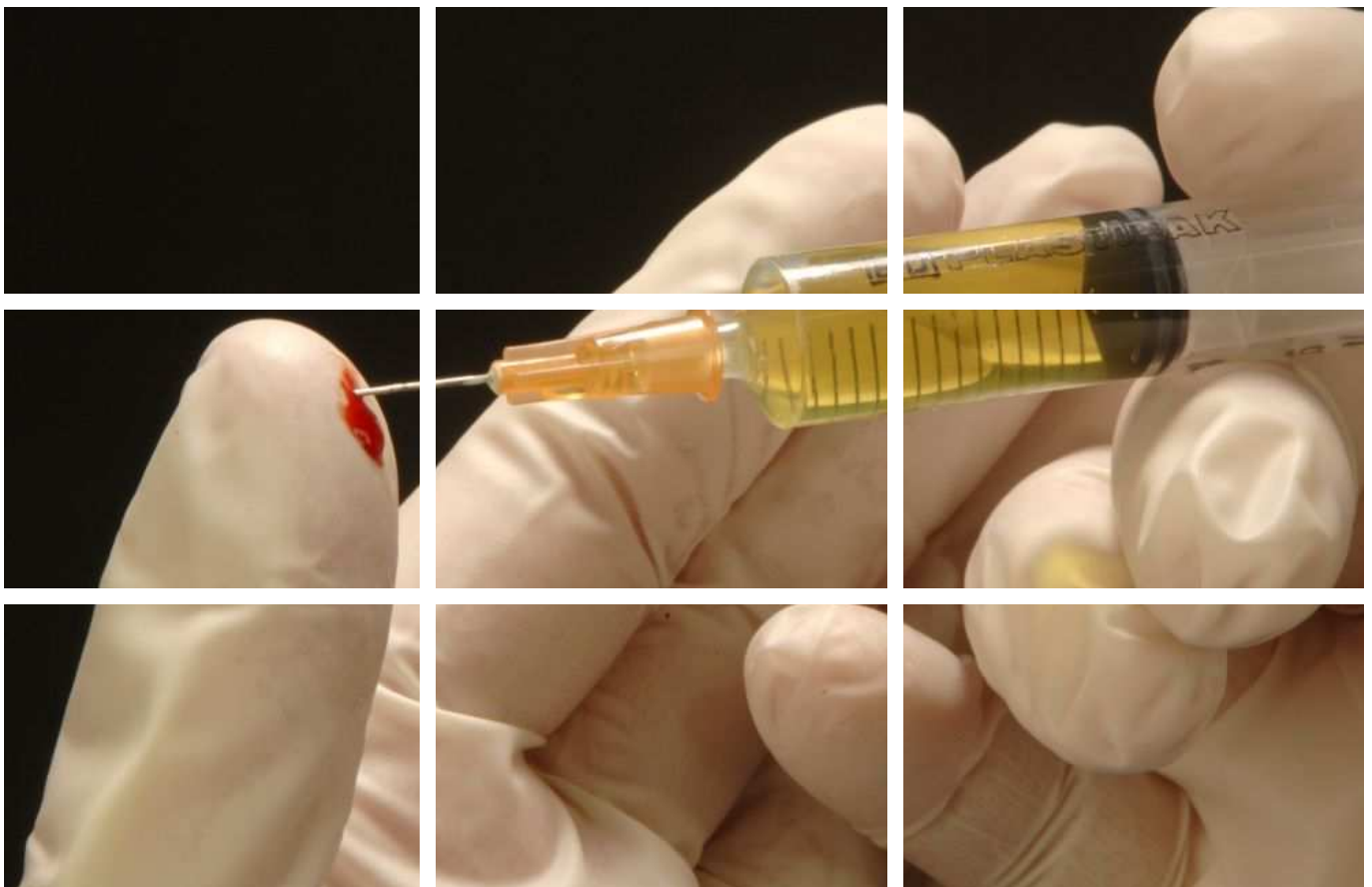


Hepatitis C in London

Annual Health Protection Agency Review (2009 data)



Health Protection Agency London

May 2011

Summary

Hepatitis C remains a major public health problem with an estimated 185,000 individuals with chronic infection in the UK¹. The Hepatitis C Action Plan for England, published in 2004, specified areas for action which included surveillance and research, increasing awareness and reducing undiagnosed infections, high-quality health and social care services and prevention².

This report focuses on the epidemiology of hepatitis C in London, using in the main, routinely available surveillance data .

Summary

Hepatitis C is a blood borne virus. Infection is usually asymptomatic in the early years. The majority of infected individuals are unable to clear hepatitis C naturally and without successful treatment chronic infection can span several decades and can be life-long. Persistent infection can lead to chronic liver disease, and in some cases hepatocellular carcinoma.

An estimated 51,000 people in London are infected with hepatitis C, the majority of whom remain undiagnosed. The number of laboratory reports of confirmed hepatitis C diagnoses has decreased in London in recent years, with 861 diagnosed in 2009 compared to nearly 1,200 diagnosed in 2006. This may reflect changes in laboratory reporting. The incidence of hepatitis C appears to be declining, as evidenced by a reduction in infections in younger adults.

Males are more often diagnosed as having hepatitis C than females, with the peak age group being those aged 35 to 44 years old.

Injecting drug use remains the major risk factor, accounting for two-thirds of hepatitis C cases in London. It is estimated that three in every five injecting drug users have hepatitis C. In the last ten years sex between men has emerged as an important route of transmission and has been identified as a risk factor in one in 12 hepatitis C cases. Individuals originating from South Asia, where the prevalence of hepatitis C is high, are also particularly at risk. In London, one in 33 South Asians tested positive for hepatitis C in 2009.

If left untackled, hepatitis C infection will result in great costs, both in terms of morbidity and mortality due to chronic disease, but also in financial costs due to treatment of the late complications of the infection. The estimated cost of treating those already identified in London is £54 million.

Raising awareness leading to increased testing is important to identify previously unrecognised cases. Unfortunately fewer tests were conducted in 2009 than in 2005, although there was a slight increase from 2008 to 2009. Since 2005, testing has increased in primary care, however, testing in drug services has remained static and testing in GUM has decreased.

Prevention is primarily focused on injecting drug users (IDUs) and encouragingly there has been marked success in changing the reported behaviour of IDUs in terms of sharing of drug paraphernalia.

Treatment can be effective at clearing the virus. It is estimated that over 1,478 people received treatment for hepatitis C in 2009 in London. Accurate figures are not available however as treatment information was only provided by a third of clinics.

It is vital that those testing positive are referred appropriately. However, only half of PCTs in London were reported as having a treatment care pathway for people with hepatitis C and the provision for prisoners is not clear.

Recommendations

- Clear and robust commissioning arrangements for hepatitis C need to be maintained during the current NHS reorganisation.
- All primary care organisations should ensure that integrated and robust pathways of care are available for patients with hepatitis C, ideally coordinated through a clinical network.
- Providers of prison health services should develop testing strategies and care pathways that allow equitable access to treatment services for offenders.
- All commissioners of hepatitis C services should review the coverage of hepatitis C testing services in their area and take measures to increase testing.
- Commissioners and providers of services for injecting drug users should ensure that a broad range of prevention services (in addition to needle and syringe exchange) is available and that a high rate of testing in those attending specialist services for drug users is maintained. Lead agencies should ensure widespread access to testing for hepatitis C using alternative specimens (for example, oral fluid and dried blood spot).
- Commissioners should ensure that acute trusts provide robust information on the numbers of patients with hepatitis C who are referred, seen and treated for hepatitis C and their clinical outcomes.

1. Epidemiology and burden of hepatitis C

The Health Protection Agency (HPA) report 'Hepatitis C in England. The Health Protection Annual Report. 2009' provides a comprehensive review of the epidemiology of hepatitis C in England and Wales (available at www.hpa.org.uk)¹.

Hepatitis C is a blood borne virus. Infection is often initially asymptomatic. The majority of infected individuals cannot clear hepatitis C naturally and without successful treatment chronic infection can span several decades and can be life-long. Persistent infection can lead to chronic liver disease, and in some cases hepatocellular carcinoma.

Information from various sources can be used to build up a picture of hepatitis C epidemiology in the London. However, unfortunately we do not have complete information about hepatitis C across the region as there is no prevalence survey of the local general population.

Laboratories in London do report confirmed hepatitis C diagnoses to the HPA. However, as hepatitis C is usually asymptomatic and there is no laboratory marker of recent infection, laboratory reports often reflect patterns of testing, rather than trends in incidence or prevalence³. In addition, laboratories have only been mandated to report since October 2010 and therefore prior to this reporting is inconsistent and incomplete. These factors mean it is often difficult to accurately interpret trends in laboratory reports. However, Figure 1 highlights that the number of laboratory reports of confirmed hepatitis C diagnoses from laboratories in London has decreased from a peak of nearly 1,200 in 2006 to 861 in 2009.

Nine laboratories in London participate in the Sentinel Surveillance of Hepatitis Testing Study which means that they collect more detailed information about testing (further information on page 10)⁴. Information from this study indicates that adult males aged between 25 to 64 years old have more than double the number of diagnoses than females of the same age (Figure 2). The highest numbers of diagnoses were in males aged 35 to 44 years old followed by males aged 45 to 54 years old and then in males aged 25 to 34 years old.

The principle risk factor for hepatitis C is injecting drug use. Data on risk exposures are available for around 350 individuals testing positive between 2002 and 2006 and show that injecting drug use was the main exposure in London accounting for two-thirds of hepatitis C cases (Table 1). Over the last ten years sex between men has emerged as an important route of transmission and was a risk factor in one in 12 cases⁴ (see Box 1 for more information⁵).

The prevalence of hepatitis C among injecting drug users is known to be high. The HPA's Unlinked Anonymised Prevalence Monitoring Survey (see page 10) measures the changing prevalence of hepatitis C in current and former injecting drug users (IDUs)⁶. In London, this survey estimated the prevalence of hepatitis in injecting drug users to be 59% in 2009, a level similar to that seen five years before.

Figure 1: Laboratory confirmed diagnoses of hepatitis C from laboratories in London (2000 to 2009)³

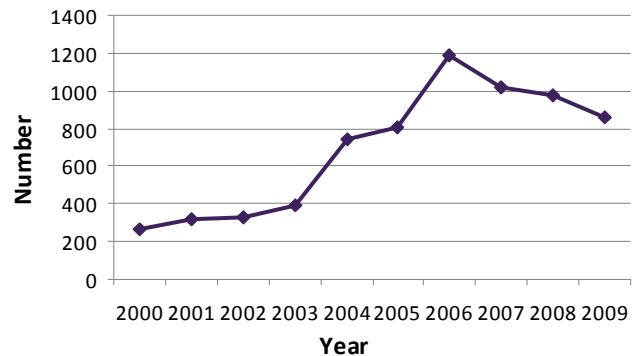


Figure 2. Age-group and gender of individuals testing positive for anti-HCV in sentinel laboratories in London⁴ (2005 to 2009)

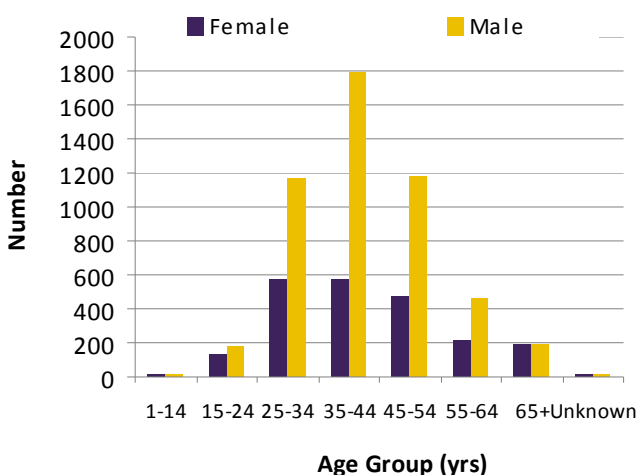


Table 1. Laboratory confirmed cases by risk exposure in sentinel laboratories in London⁴ (2002 to 2006)

| Risk exposure | Percentage of known cases |
|--------------------------|---------------------------|
| IDU | 68.6% |
| Born/lived abroad | 9.7% |
| Sexual - sex between men | 8.4% |
| Blood transfusion | 5.0% |
| Sexual - not stated | 3.0% |
| Other | 2.0% |
| Vertical infection | 1.7% |
| Sexual - heterosexual | 1.0% |
| Occupational | 0.3% |
| Blood product | 0.3% |
| Not completed | 0.3% |

Box 1: Hepatitis C in men who have sex with men (MSM) - Results from enhanced surveillance (SNAHC)⁵

HPA and collaborators established an enhanced surveillance system, *The Enhanced Surveillance of Newly Acquired Hepatitis C infection in men who have sex with men (SNAHC)*⁵ in January 2008, collecting data prospectively from 22 centres in London, Manchester and the South East.

Between January 2008 and March 2010, 218 newly acquired hepatitis C cases were reported, 84.4% of which were from London centres. The median age at diagnosis was 38 years (range 19-62), the majority were UK born (63.3%) and of white ethnic origin (90.8%). The majority of MSM (94.4%) had already been diagnosed with HIV. The main reason for these men undertaking a HCV test, was as a result of raised liver function tests (LFTs). A history of intravenous drug use was reported for 21.1% (46/218) of cases, 30 of whom had injected within the previous six months.

Men reported a high number of sexual partners within the three months prior to their diagnosis. The majority had unprotected insertive and receptive intercourse. The majority of men reported a sexual health screen in the last 12 months, two-thirds of whom were diagnosed with one or more STI.

Three-quarters described the use of recreational drugs during the previous 12 months. The most commonly reported drugs were cocaine (61.5%), ketamine (33.3%), ecstasy (31.3%) and methamphetamine (19.8%). Two-thirds of those who reported drug use, reported having sex whilst under the influence of drugs, with a quarter of these men reporting this as occurring 'often'.

The findings provide evidence of ongoing sexual transmission of hepatitis C among HIV positive MSM, many of whom engage in high risk sexual practices and frequently use recreational drugs during sex. This highlights the need for targeted public health initiatives and continued enhanced hepatitis C surveillance in this group. Furthermore, these data emphasise the need for hepatitis C assessment for all MSM with abnormal LFTs as well as routine screening for HIV positive MSM.

Other groups have also been shown to be at increased risk of infection, including individuals originating from South Asia where the prevalence of hepatitis C is high, particularly those born in Pakistan⁷. Sentinel surveillance indicates that 2.9% of South Asians tested at London sentinel laboratories between 2005 and 2009 were positive for hepatitis C (Figure 3). Although there has been a slight increase in testing since 2006, fewer South Asians were tested in 2009 than in 2005.

As most new infections are acquired via injecting drug use, which often begins in late adolescence and early adulthood, the number of positive tests in individuals aged 15 to 24 years can be used as a proxy indicator of incidence. There does appear to be a downward trend in the number of 15 to 24 year olds testing positive in the sentinel laboratories in London from 82 in 2005 to 30 in 2009, although numbers are small⁴. This is in the context of a slight increase in tests in 20 to 24 year olds and a slight decrease in testing in 15 to 19 year olds (Figure 4). The proportion of tests that are positive is decreasing in those aged 20 to 24 years old (from 2.1% in 2005 to 0.7% in 2009) and 15 to 19 years old (from 1.0% in 2005 to 0.5% in 2009).

It is important to estimate the number of people likely to need treatment to plan services effectively and we have to rely on modelling for this. To support commissioners, the HPA has developed such a model and in London it is estimated that 51,203 people are infected with hepatitis C⁸ (Table 2). The estimated number of individuals with Hepatitis C varies from 2,965 in Camden Primary Care Trust (PCT) to 941 in Barking and Dagenham PCT (Table 2).

Estimates of the future burden of disease and the costs of treatment, based on modelling by the HPA in 2007, are also shown by PCT in Table 2⁸. The estimated cost of treating those individuals already identified varies between almost £3.1 million in Camden PCT to £1.0 million in Barking and Dagenham PCT and £54 million for London overall.

Figure 3: Number of South Asians tested and the proportion testing positive for anti-HCV in sentinel laboratories in London (2005 to 2009)⁴

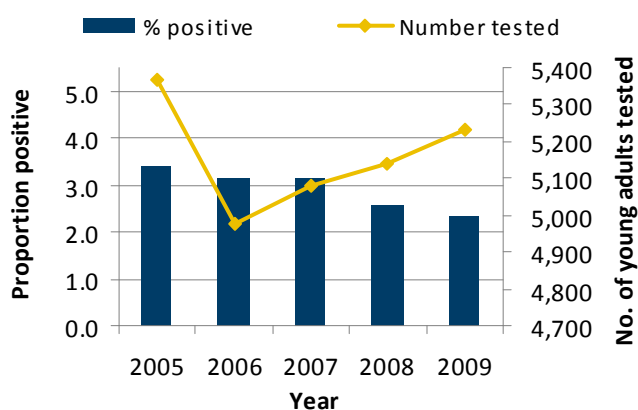


Figure 4: Number of young adults tested and the proportion testing positive for anti-HCV in sentinel laboratories in London (2005 to 2009)⁴

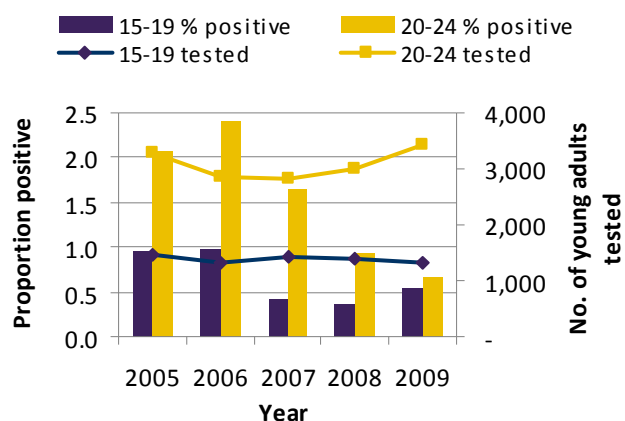


Table 2: Estimates of hepatitis C prevalence, burden, treatment and cost of treatment by PCT in London⁸

| HPU | PCT | Estimated total infected population | Estimated Burden in 2015 | | | Estimated cost of treating those already identified | Estimated annual additional no. requiring treatment | Estimated annual cost of treating additional cases |
|-----------------------------|-------------------------|-------------------------------------|--------------------------|-------------------------|------------|---|---|--|
| | | | Mild/ Moderate | Cir-rhotic or end stage | Died | | | |
| North East & Central London | Barking and Dagenham | 941 | 603 | 30 | 64 | £998,351 | 15 | £139,769 |
| | Barnet | 1,478 | 947 | 46 | 100 | £1,568,779 | 23 | £219,629 |
| | Camden | 2,965 | 1,900 | 93 | 201 | £3,147,170 | 47 | £440,604 |
| | City & Hackney Teaching | 1,392 | 892 | 44 | 94 | £1,477,822 | 22 | £206,895 |
| | Enfield | 1,702 | 1,091 | 54 | 115 | £1,806,787 | 27 | £252,950 |
| | Haringey Teaching | 1,647 | 1,055 | 52 | 112 | £1,748,386 | 26 | £244,774 |
| | Havering | 1,014 | 649 | 32 | 69 | £1,075,922 | 16 | £150,629 |
| | Islington | 2,423 | 1,552 | 76 | 164 | £2,571,413 | 38 | £359,998 |
| | Newham | 1,595 | 1,022 | 50 | 108 | £1,693,454 | 25 | £237,084 |
| | Redbridge | 1,409 | 903 | 44 | 96 | £1,495,045 | 22 | £209,306 |
| | Tower Hamlets | 1,813 | 1,162 | 57 | 123 | £1,924,323 | 29 | £269,405 |
| Waltham Forest | 1,139 | 730 | 36 | 77 | £1,209,259 | 18 | £169,296 | |
| North West London | Brent Teaching | 1,650 | 1,057 | 52 | 112 | £1,751,733 | 26 | £245,243 |
| | Ealing | 1,680 | 1,076 | 53 | 114 | £1,782,754 | 27 | £249,586 |
| | Hammersmith & Fulham | 1,428 | 915 | 45 | 97 | £1,515,156 | 23 | £212,122 |
| | Harrow | 1,021 | 654 | 32 | 69 | £1,084,115 | 16 | £151,776 |
| | Hillingdon | 1,334 | 855 | 42 | 90 | £1,416,290 | 21 | £198,281 |
| | Hounslow | 1,151 | 737 | 36 | 78 | £1,221,347 | 18 | £170,989 |
| | Kensington & Chelsea | 1,515 | 971 | 48 | 103 | £1,608,250 | 24 | £225,155 |
| Westminster | 2,141 | 1,372 | 67 | 145 | £2,272,544 | 34 | £318,156 | |
| South East London | Bexley | 1,010 | 647 | 32 | 68 | £1,071,742 | 16 | £150,044 |
| | Bromley | 1,528 | 979 | 48 | 104 | £1,621,311 | 24 | £226,984 |
| | Greenwich Teaching | 1,646 | 1,055 | 52 | 112 | £1,747,580 | 26 | £244,661 |
| | Lambeth | 2,616 | 1,676 | 82 | 177 | £2,776,473 | 41 | £388,706 |
| | Lewisham | 1,978 | 1,267 | 62 | 134 | £2,099,474 | 31 | £293,926 |
| | Southwark | 2,559 | 1,639 | 80 | 174 | £2,715,636 | 41 | £380,189 |
| South West London | Croydon | 2,328 | 1,491 | 73 | 158 | £2,470,472 | 37 | £345,866 |
| | Kingston | 888 | 569 | 28 | 60 | £942,101 | 14 | £131,894 |
| | Richmond & Twickenham | 1,198 | 768 | 38 | 81 | £1,271,868 | 19 | £178,061 |
| | Sutton & Merton | 2,285 | 1,464 | 72 | 155 | £2,424,986 | 36 | £339,498 |
| | Wandsworth | 1,730 | 1,109 | 54 | 117 | £1,836,411 | 27 | £257,097 |
| London | | 51,203 | 32,807 | 1,610 | 3,472 | £54,346,953 | 812 | £7,608,573 |

The total infected is based on estimates extrapolated from a national or regional level model estimate undertaken in 2003. The estimated burden in 2015 is the predicted distribution of the above cases based on national level models of progression and incidence. It does not allow for any additional incident cases, or for the impact of treatment (although the latter is expected to be very small).

The estimated cost of treating those already identified is based on costs estimated by NICE in 2006 and assuming that 50% of the estimated 2003 infected population had been identified by 2006. The estimated cost of treating newly identified cases each year is based on diagnosis rates of 7% of the estimated prevalence in 2003. This may include some people who have acquired infection since 2003, and some that acquired infection some time ago but have newly presented for testing. It does not also allow for those already treated (which is likely to be small) and is based on historical rates of drop-out.

2. Increasing awareness and reducing undiagnosed infections

Hepatitis C infection is usually asymptomatic in the early years, and therefore many individuals remain undiagnosed. The Hepatitis C Action Plan² identified that awareness-raising was therefore an important component of reducing the burden of undiagnosed infection.

The awareness campaigns in England are now well established. In 2009, the Department of Health launched new campaigns targeting former IDUs (Get Tested, Get Treated) and the UK population of South Asian origin (Hepatitis C. The more you know, the better).

Trends in testing are one indicator of increased awareness and unfortunately there has been an apparent trend for a fall in testing in London since 2005, although there was a slight rise from 2008 to 2009⁴. The data in Figure 5 from sentinel surveillance show the numbers tested and proportions positive in London⁴. The proportion testing positive for hepatitis C has decreased from 5.0% in 2005 to 2.4% in 2009.

Information from the sentinel surveillance indicates that testing was most often conducted by general practitioners (Figure 6)⁴. However, this data does not include dried blood spot testing and oral fluid testing (commonly used in drug services). Trend data suggests that testing by general practitioners has increased in the last five years, in contrast to testing in GUM services, which has declined (Figure 7).

Testing in drug services (including dried blood spot testing and oral fluid testing) has increased slightly between 2005 and 2009 (Figure 8). The proportion testing positive for hepatitis C has declined from 40% in 2005 to 27% in 2009.

Figure 5: Number of individuals tested and the proportion testing positive for anti-HCV in sentinel laboratories in London (2005 to 2009)⁴

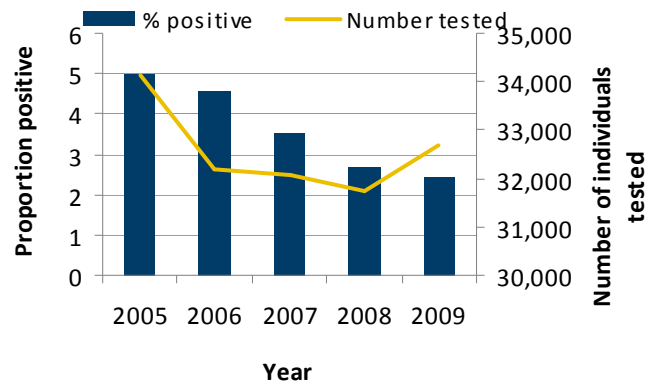
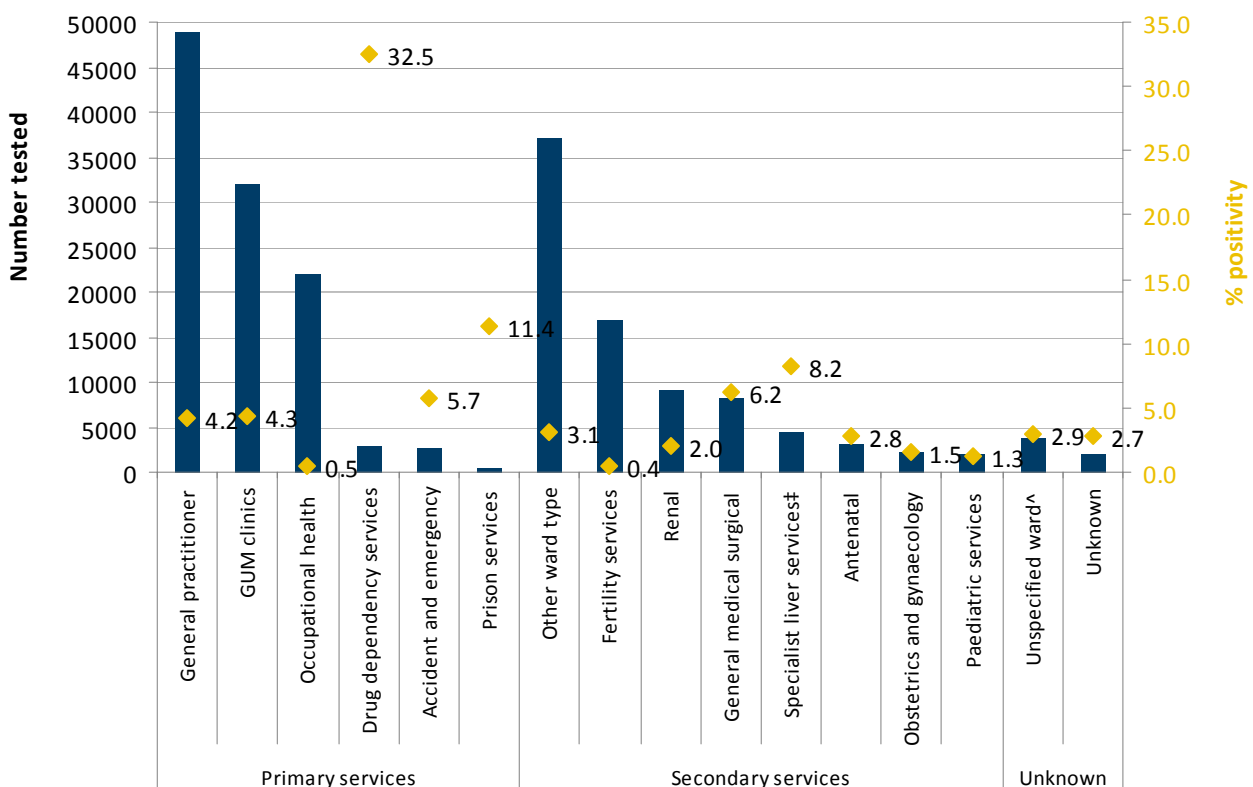


Figure 6: Number of individuals tested for anti-HCV and the proportion testing positive by service type in sentinel laboratories in London (2005 to 2009)⁴



Sentinel surveillance data indicates that of all positive tests, over a third were detected in hospital (36.8%), just under 30% were detected in primary care and just under 20% in GUM (Figure 9)⁴.

The proportion of people tested that are positive varies considerably with the source of testing (Figure 6)⁴. It is particularly high in those testing in drug dependency services (one in three people) and in prison services (one in nine people). This compares to one in 25 people tested in general practice and GUM, one in 16 tested in general medical and surgery and one in 17 tested in A&E.

Figure 7: Number of Hepatitis C tests by service type in sentinel laboratories by year in London (2005 to 2009)⁴

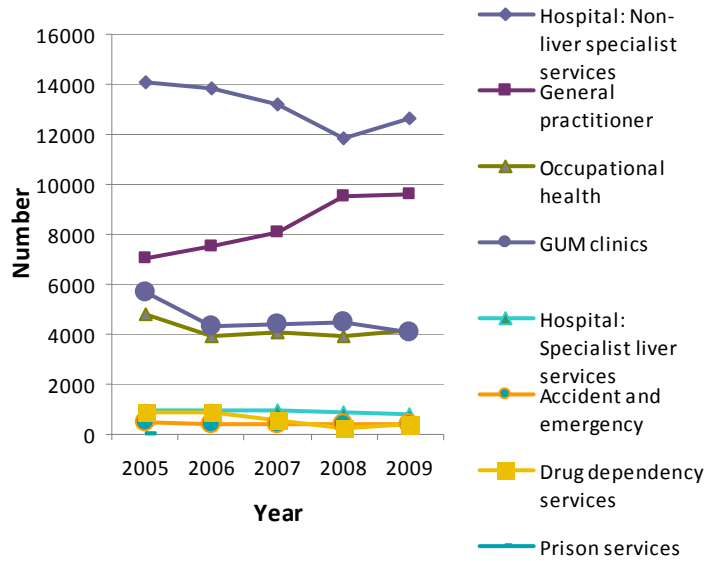


Figure 8: Number of injecting drug users tested and testing positive for anti-HCV in sentinel laboratories in London (2005 to 2009)⁴

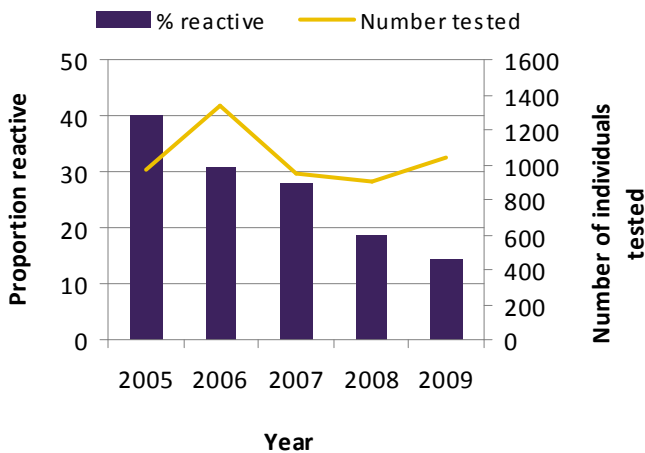
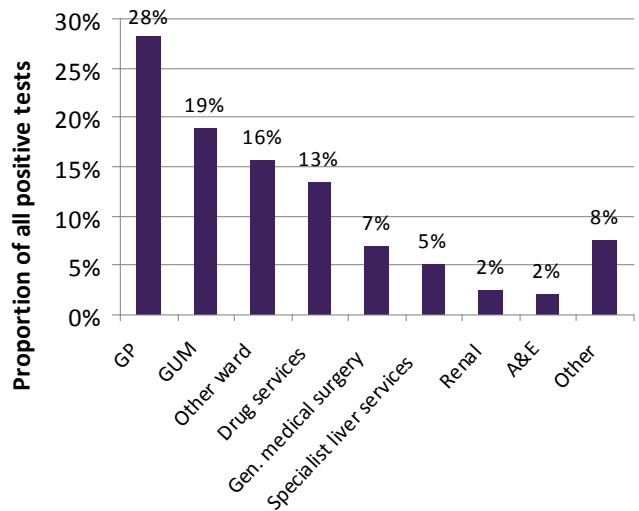


Figure 9: Proportion of all hepatitis C positive diagnoses by service type in sentinel laboratories in London (2005 to 2009)⁴



3. Prevention and harm reduction

Prevention strategies primarily focus on injecting drug use, as this is the most important risk factor for acquisition of the virus in England today.

Reducing the number of individuals who begin injecting drugs; encouraging injectors to quit injecting; reducing risky behaviour (like sharing needles and syringes) in those who continue to inject, and the early diagnosis and treatment of those who become infected with hepatitis C are all components of the prevention programme.

The delivery of successful prevention programmes in this challenging risk group requires the integrated input of government, professional organisations and public health and healthcare professionals from a variety of clinical, social and drug service backgrounds.

The HPA's Unlinked Anonymised Prevalence Monitoring Survey monitors levels of risk and protective behaviours among IDUs⁶.

It is encouraging to see that the proportion of IDUs taking up the offer of a hepatitis C test has increased over the last 10 years and in 2009 reached 87% in London (Figure 10)⁶. However, two thirds remain unaware of their infection (66.5%).

There is also a marked downward trend in the proportions of IDUs that report sharing equipment, with one in six reporting direct sharing and one in three reporting both direct and indirect sharing in 2009 (Figure 11)⁶. Direct sharing is the sharing of needles and syringes amongst those who inject in the previous four weeks. Indirect sharing is the sharing of mixing containers, filters or the water used to prepared drugs.

One of the most obvious successes in harm reduction is the marked increase in hepatitis B vaccination uptake from 39% IDUs in 2000 to 68% in 2009 (Figure 12)⁶.

Figure 10: Hepatitis C test uptake amongst injecting drug users and their awareness of their hepatitis C infection in London (2000 to 2009)⁶

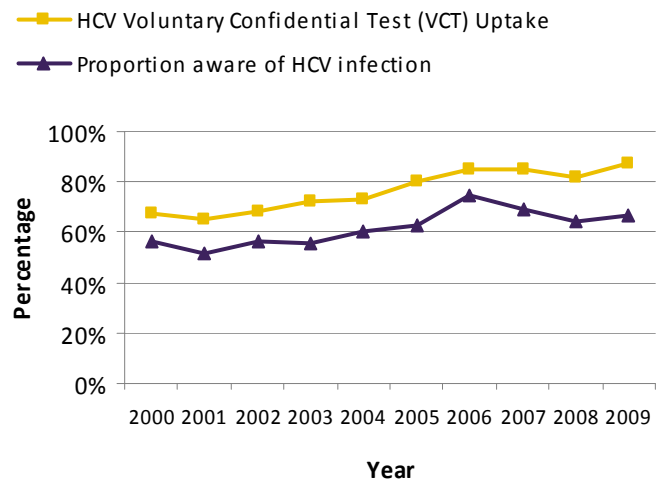


Figure 11: Level of direct and indirect sharing amongst injecting drug users in London (2000 to 2009)⁶

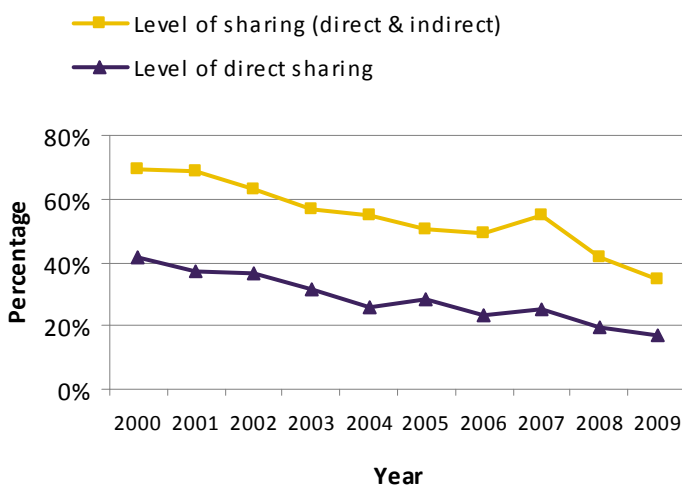
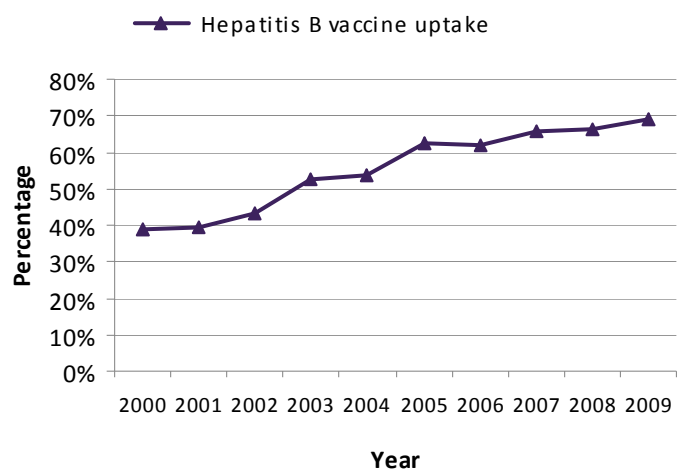


Figure 12: Uptake of hepatitis B vaccination amongst injecting drug users in London (2000 to 2009)⁶



4. Treatment of individuals with hepatitis C

Antiviral treatments are available that will successfully clear the virus in more than half of those treated (up to 80% success rate if the genotype is favourable). Unless a major increase in those receiving effective treatment occurs, however, the future burden of hepatitis C-related disease is likely to be substantial as indicated in Table 2. All national data sources (hospital admissions from end-stage liver disease (ESLD); liver transplants and deaths) show that HCV-related liver disease is continuing to increase year-on-year.

Only a small proportion of those tested for hepatitis C will typically receive treatment. This is often due to issues around referral e.g. patients are not appropriately referred to a specialist, or do not attend appointments. In addition, treatment is not indicated or appropriate in all patients. Co-ordination of high quality services for assessment and treatment was one of the key issues in the Hepatitis C Action Plan.

Currently there are no national surveillance systems to monitor referral, uptake or response to treatment. In 2009/10, the HPA undertook a pilot study to explore feasibility of estimating the number of individuals undergoing treatment for hepatitis C. Amongst other things, the study collected data on: (i) the use of the drugs, Interferon and Ribavirin, by hospitals that treat patients with hepatitis C, and (ii) information supplied via questionnaire by clinical centres on the numbers of individuals seen and treated.

Based on the number of doses of drugs purchased in 2008, it is estimated that 1,478 patients were treated for hepatitis C in London in 2008. Table 3 summarises the data that have been reported by clinical centres that treat patients with hepatitis C in London in 2008. This data is far from complete, with just over a third of centres responding to the query from HPA Colindale. The nine centres that responded reported starting treatment on 541 patients.

Table 3: Estimated numbers of patients treated in London based on information supplied by clinical centres on the numbers of individuals seen and treated (HPA pilot study undertaken in 2009/10)

| Number of hospitals/ centres treating patients with hepatitis C | Number of hospitals/ centres returning questionnaire data | Number of new patients seen | Number of patients starting treatment in 2008 | Number of patients completing treatment in 2008* |
|---|---|-----------------------------|---|--|
| 28 | 9 | 649 | 541 | 481 |
| * comprises patients starting treatment in 2007 and 2008 | | | | |

It is essential that robust treatment care pathways are in place in order for patients to be referred and treated appropriately. In October 2010, the HPA conducted a survey of Health Protection Units (HPUs) which sought information on the proportion of PCTs that had treatment care pathways in place, the proportion that had specific provision for prisoners and the proportion of Drug Action Teams (DATs) that had joint prevention plans.

The extent to which HPUs were involved in the development of treatment care pathways or prevention plans in London is summarised in Table 4. Only half of PCTs in London (17/33) were reported as having treatment care pathways. It was not clear how many areas had care pathways with specific provision for prisoners.

Table 4: Results of a survey of HPUs in London regarding treatment care pathways in their area (HPA survey of HPUs)

| HPU | No. of PCTs | Proportion with treatment care pathway | No. of prisons | Proportion of care pathways with specific provision for prisoners | Proportion of HPU involvement in development or review | No. of DATs | Proportion of DATs with joint prevention plans | Proportion of HPU involvement in DAT Prevention Plan |
|-----------------------------|-------------|--|----------------|---|--|-------------|--|--|
| North East & Central London | 12 | 33% | 2 | Less than half | More than half | 13 | Less than half | More than half |
| North West London | 8 | 38% | 1 | Not known | Less than half | 8 | Not known | None |
| South East London | 6 | 100% | 2 | More than half | All | 6 | Not known | None |
| South West London | 5 | 80% | 2 | Not known | More than half | 5 | Not known | Not known |

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6. More information about specific data sources

Sentinel Surveillance of Hepatitis Testing Study: This was set up in 2002 to enhance routine surveillance of hepatitis C. The study collects data on laboratory test results and demographic data for all individuals tested for hepatitis C antibody in 24 sentinel laboratories in England, covering approximately one third of the population. There are nine participating centres in London; HPA Colindale, North Middlesex Hospital, St Barts and the London Hospital, King's College Hospital, St George's Hospital, Chelsea and Westminster Hospital, Ealing Hospital, Northwick Park Hospital and University College Hospital. Limitations of the data include some duplication of individual patients and exclusion of dried blood spot, oral fluid, reference testing, and testing from hospitals referring all samples which do not have the original location identified. Individuals aged less than one year, in whom positive tests may reflect the presence of passively-acquired maternal antibody rather than true infection, are excluded.

Unlinked Anonymised Prevalence Monitoring Survey: This survey measures the changing prevalence of hepatitis C in current and former injecting drug users (IDUs) who are in contact with 60 specialist drug agencies (e.g. needle exchange services and treatment centres) in England, Wales and Northern Ireland.⁶ The programme also monitors levels of risk and protective behaviours among IDUs.

7. Acknowledgments

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The report was reliant on the following:

Health Protection Agency Colindale

Sarah Collins, Lisa Brant and Dr Sam Lattimore (Sentinel Surveillance of Hepatitis Testing & oral fluid testing data provided by Concanteno Plc) - <http://www.hpa-bioinformatics.org.uk/hepc/home.php>

Dr Vivian Hope (Data from Unlinked Anonymous Monitoring Survey of HIV and Hepatitis in Injecting Drug Users)

Dr Helen Harris & Dr Brenda Thomas (Results of a pilot study to explore feasibility of estimating the numbers of individuals undergoing treatment for hepatitis C)

Dr Mary Ramsay (Commissioning Template for Estimating HCV Prevalence by PCT and Numbers Eligible for Treatment; general comments and help with co-ordination of data for the template)

Health Protection Agency North West

Kathy Chandler & Dr Catherine Quigley (compiled the regional template report & collated each region's data)