

Protecting and improving the nation's health

Hepatitis C in England 2019 report

Working to eliminate hepatitis C as a major public health threat



Eliminating hepatitis C as a major public health threat in England

2020 impact targets

Reducing HCV related mortality (target 10% reduction by 2020)

Death registrations for Hep C-related end-stage liver disease and cancer fell by 16% between 2015 and 2017

Reducing new chronic HCV infections (target 30% reduction by 2020)

The UAM survey of people who inject drugs (PWID) provides no evidence of any decline in new HCV infections in recent years; estimated rates of infection in 2017 were 20/100 person years, compared to 8/100 in 2011, while prevalence of infection in recent initiates to injecting drug use was similar in 2017 (23%) to 2011 (20%)



113,000 people estimated to be living with chronic Hep C in England

Coverage of key services

Number treated



11,557 people accessed treatment in 2017/18; up 22% on 2016/17, and up 127% on pre-2015 levels

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Proportion of people diagnosed

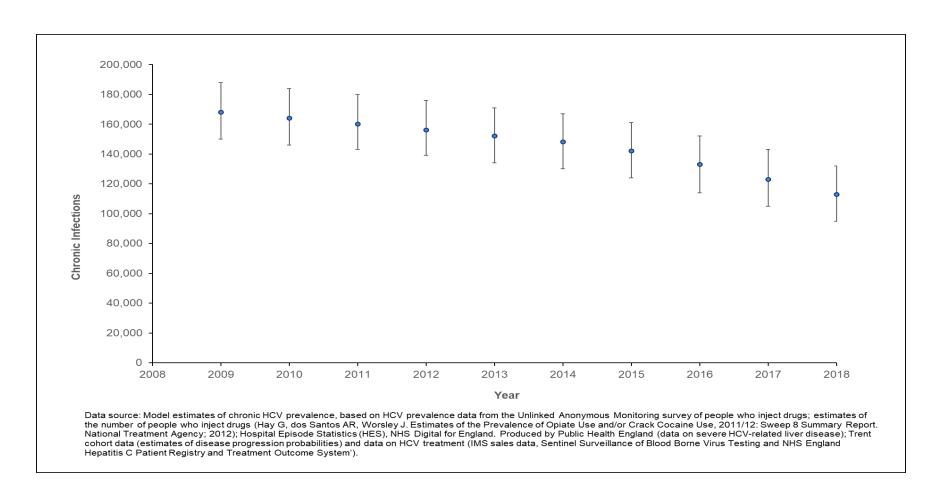
56% of PWID surveyed in 2017 were aware of their current HCV infection

Number of sterile needles/syringes provided



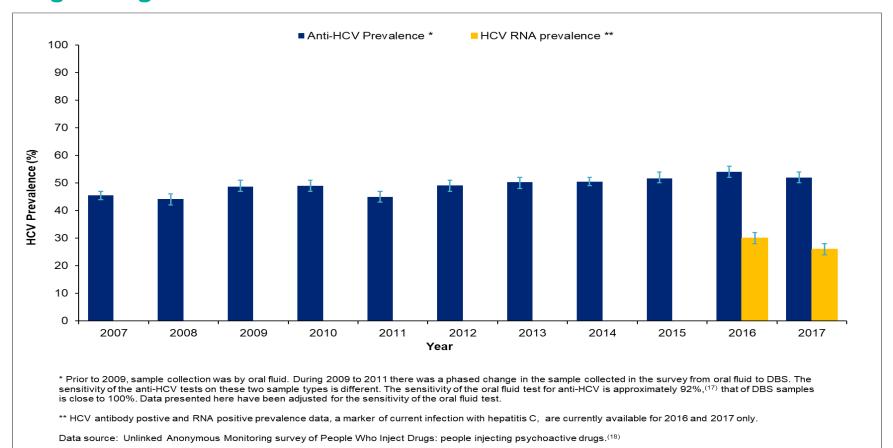
60% of those surveyed reported adequate needle/syringe provision for their needs in 2017

Figure 1. Estimated chronic prevalence of HCV in England, 2009-2018 (1)



^{1.} Ross J. Harris HH, Sema Mandal, Mary Ramsay, Peter Vickerman, Matthew Hickman, Daniela De Angelis. Monitoring the hepatitis C epidemic in England and evaluating intervention scale-up using routinely collected data. Available at: https://doi.org/10.1111/jvh.13063 [Accessed 12/03/2019] Journal of Viral Hep. 2019;00:1-12.

Figure 2. Trend in HCV prevalence among people injecting psychoactive drugs in England: 2007 to 2017



^{17.} Judd A, Parry J, Hickman M, McDonald T, Jordan L, Lewis K, et al. Evaluation of a modified commercial assay in detecting antibody to hepatitis C virus in oral fluids and dried blood spots. Journal of Medical Virology. 2003;71(1):49-55.

^{18.} Public Health England. People who inject drugs: HIV and viral hepatits unlinked anonymous monitoring survey tables (psychoactive): 2018 update. 2018. Available at: https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/729816/UAM_Survey_of_PWID_data_tables_2018.pdf [Accessed: 19/03/2019].

Figure 3. Number of first patient registrations in England where post-HCV cirrhosis was given as either the primary, secondary or tertiary indication for transplant and the number of liver transplants undertaken in patients who were HCV positive (RNA or antibody) at transplant: 2008 to 2017*

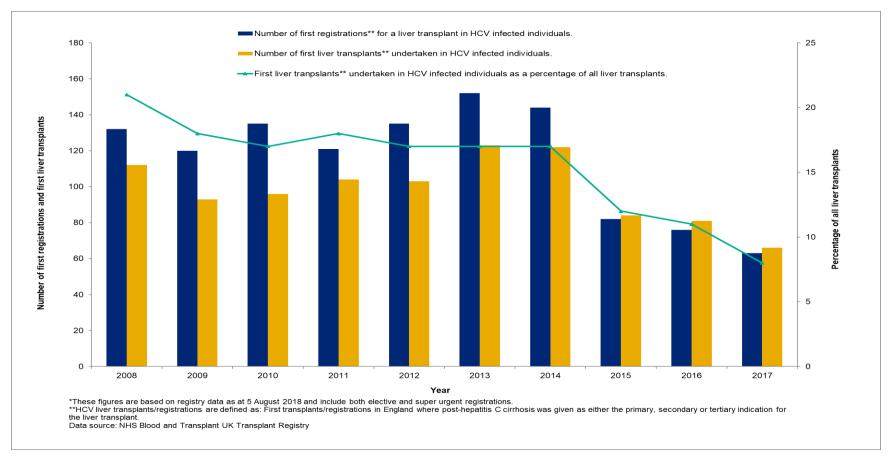
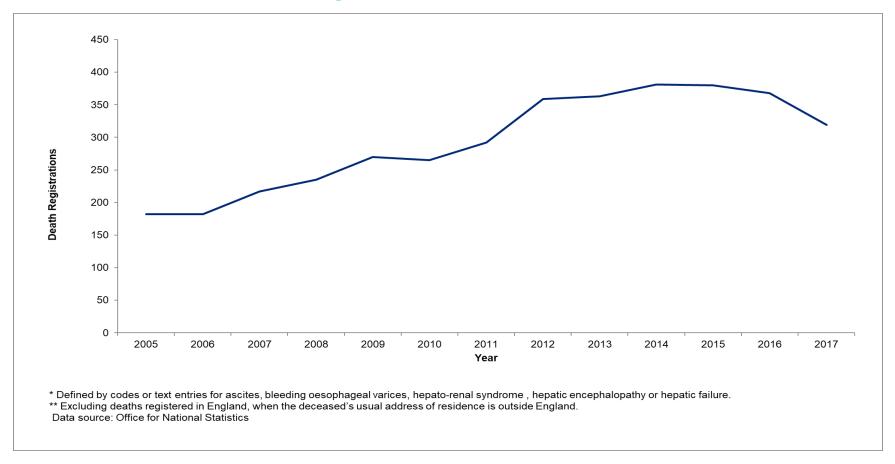
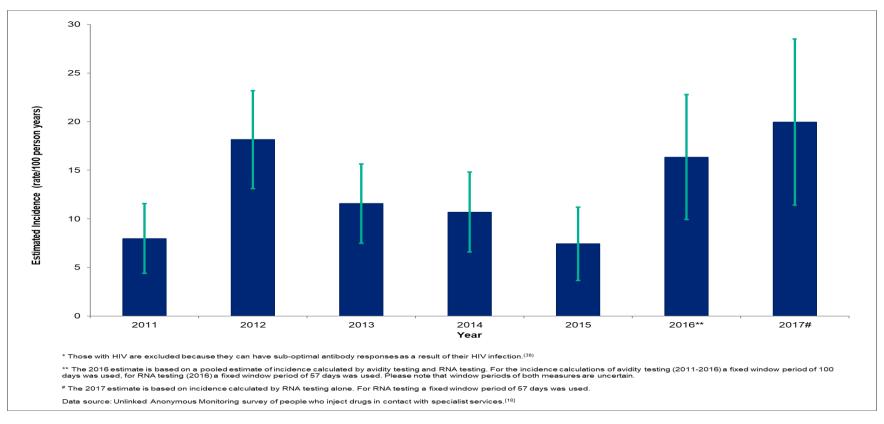


Figure 4. Death registrations for ESLD* or HCC in those with HCV mentioned on their death certificate in England: 2005 to 2017**



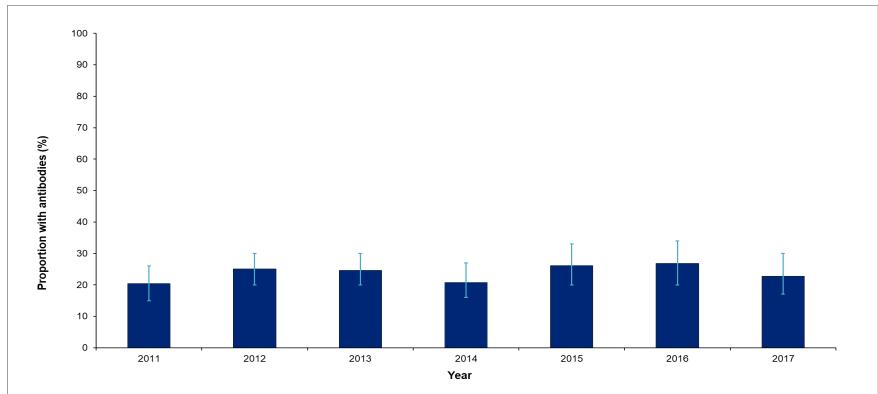
The Office for National Statistics (ONS carried out the original collection and collation of the data but bears no responsibility for their future analysis or interpretation).

Figure 5. Estimated incidence of HCV among people injecting psychoactive drugs in England who reported injecting in the previous year: 2011-2017* (95% CI)



^{18.} Public Health England. People who inject drugs: HIV and viral hepatitis unlinked anonymous monitoring survey tables (psychoactive): 2018 update. 2018. Available at: https://assets.publishing.service.gov.uk/government/uploads/system/uploads

Figure 6. Prevalence of anti-HCV* among people who began injecting psychoactive drugs in the previous three years in England: 2011-2017



^{*} Prior to 2009, sample collection was by oral fluid. During 2009 to 2011 there was a phased change in the sample collected in the survey from oral fluid to dried blood spot (DBS). The sensitivity of the anti-HCV tests on these two sample types is different. The sensitivity of the oral fluid test for anti-HCV is approximately 92%, (17) that of DBS samples is close to 100%. Data presented here have been adjusted for the sensitivity of the oral fluid test.

Data source: Unlinked Anonymous Monitoring survey of people who inject drugs in contact with specialist services. (18)

^{17.} Judd A, Parry J, Hickman M, McDonald T, Jordan L, Lewis K, et al. Evaluation of a modified commercial assay in detecting antibody to hepatitis C virus in oral fluids and dried blood spots. Journal of Medical Virology. 2003;71(1):49-55.

^{18.} Public Health England. People who inject drugs: HIV and viral hepatits unlinked anonymous monitoring survey tables (psychoactive): 2018 update. 2018. Available at: https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/729816/UAM_Survey_of_PWID_data_tables_2018.pdf [Accessed: 19/03/2019].

Figure 7. Number of young adults first tested for anti-HCV and proportion positive by year in 15 sentinel laboratories: 2013 to 2017*

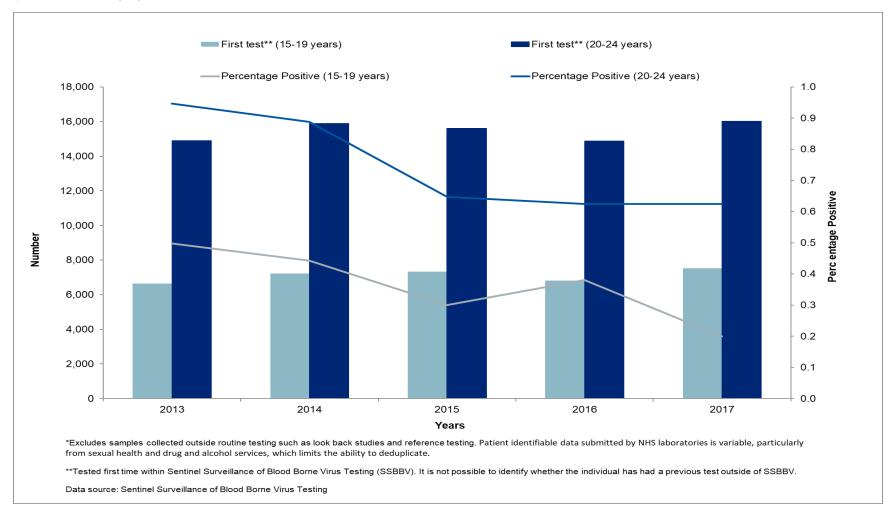
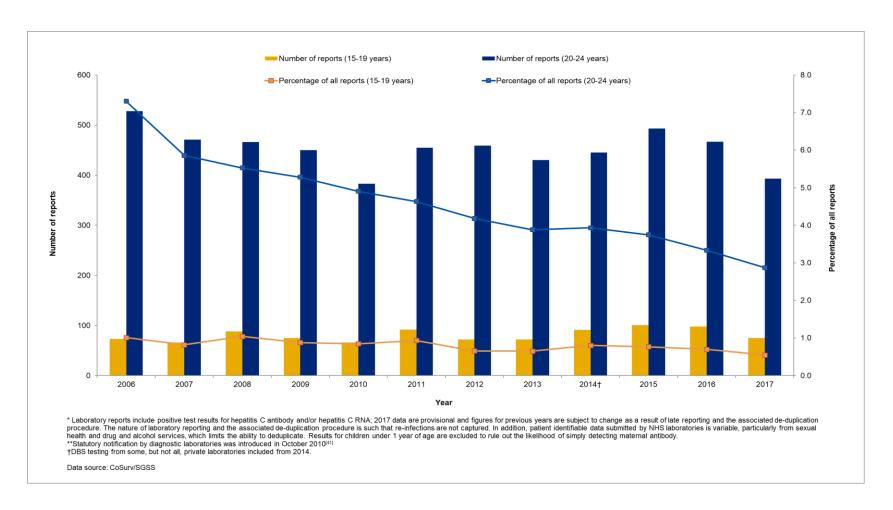
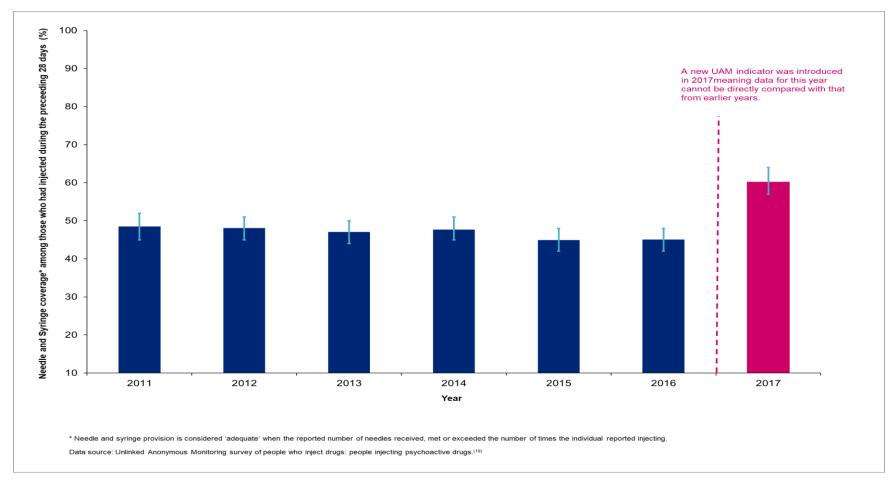


Figure 8. Laboratory reports of HCV in young adults in England: 2006-2017*/**



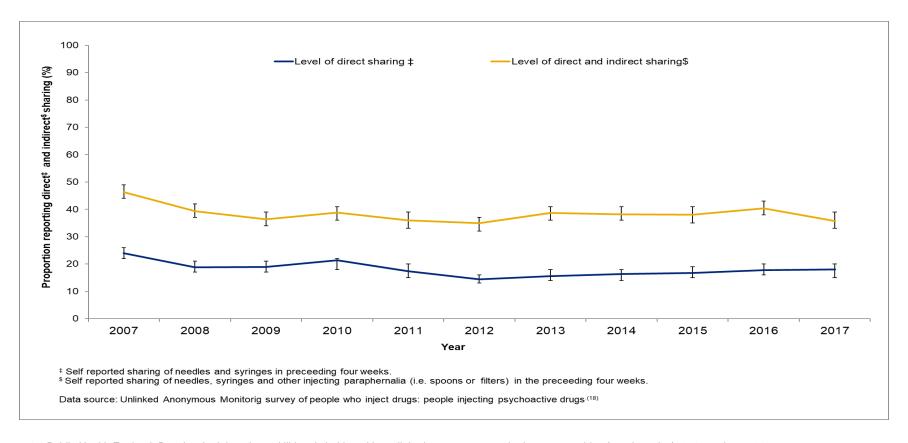
41.Health Protection Agency, Department of Health, Chartered Institute of Environmental Health. Health Protection Legislation (England) - Guidance 2010. 2010. Available from: www.gov.uk/government/organisations/public-health-england/about/our-governance [Accessed 20/02/2018].

Figure 9. Estimated proportion of people injecting psychoactive drugs reporting adequate* needle and syringe provision in England, 2011-2017



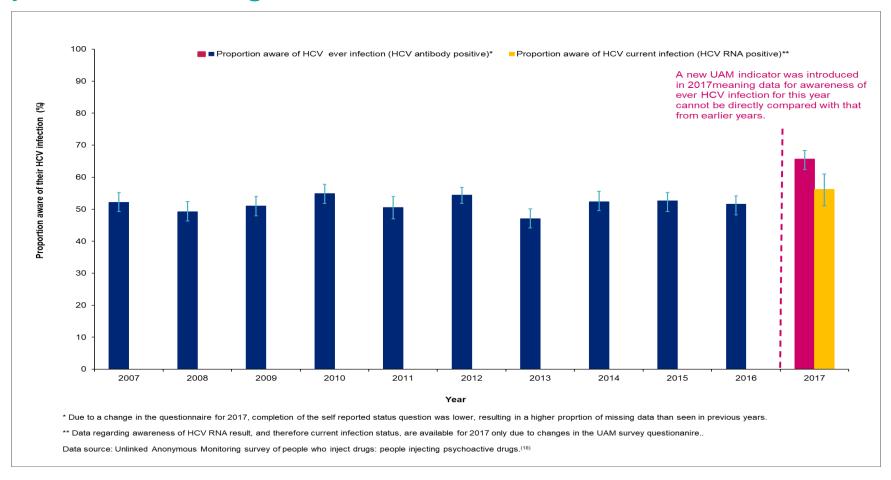
^{18.} Public Health England. People who inject drugs: HIV and viral hepaitits unlinked anonymous monitoring survey tables (psychoactive): 2018 update. 2018. Available at: https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/729816/UAM_Survey_of_PWID_data_tables_2018.pdf [Accessed: 19/03/2019].

Figure 10. Trends in the sharing of injecting equipment and associated paraphernalia in the preceding four weeks among people injecting psychoactive drugs in England 2007 to 2017



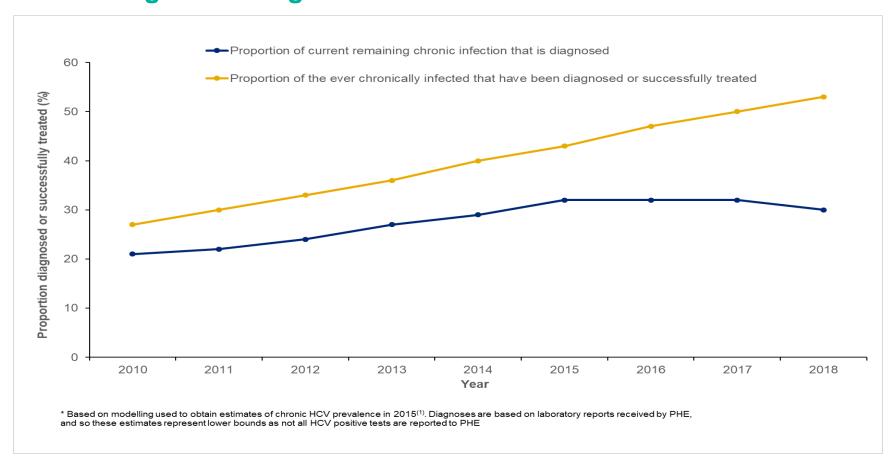
^{18.} Public Health England. People who inject drugs: HIV and viral hepaitits unlinked anonymous monitoring survey tables (psychoactive): 2018 update. 2018. Available at: https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/729816/UAM_Survey_of_PWID_data_tables_2018.pdf [Accessed: 19/03/2019].

Figure 11. Estimated proportion of people injecting psychoactive drugs testing positive for HCV in England, who are aware of their infection, 2007-2017



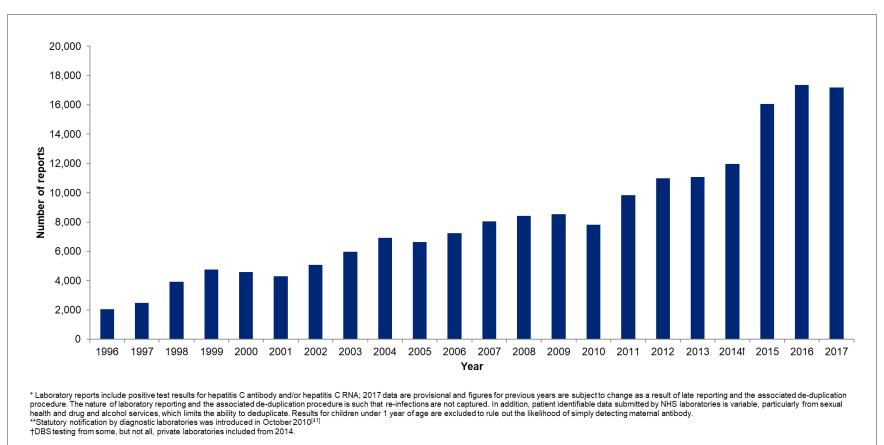
^{18.} Public Health England. People who inject drugs: HIV and viral hepaitits unlinked anonymous monitoring survey tables (psychoactive): 2018 update. 2018. Available at: https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/729816/UAM_Survey_of_PWID_data_tables_2018.pdf [Accessed: 19/03/2019].

Figure 12. Lower bound model estimates of the proportion of chronic HCV infection diagnosed in England 2010 to 2018*



^{1.} Ross J. Harris HH, Sema Mandal, Mary Ramsay, Peter Vickerman, Matthew Hickman, Daniela De Angelis. Monitoring the hepatitis C epidemic in England and evaluating intervention scale-up using routinely collected data. Available at: https://doi.org/10.1111/jvh.13063 [Accessed 12/03/2019] Journal of Viral Hep. 2019;00:1-12.

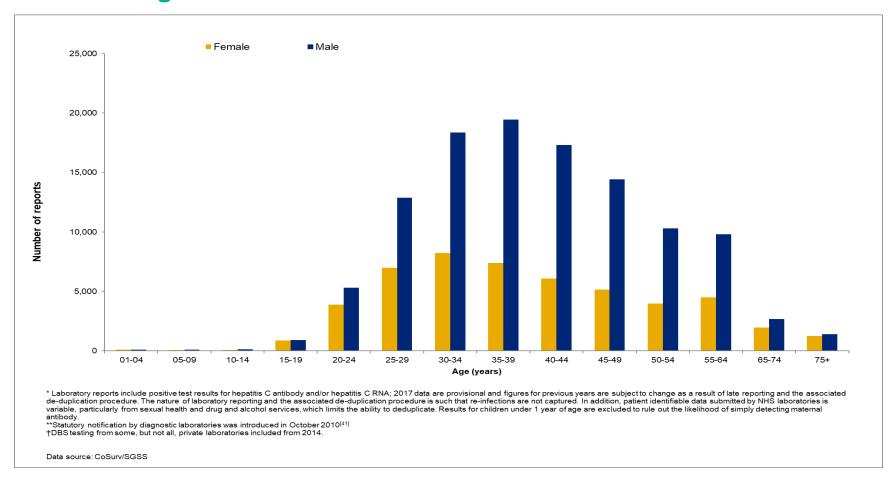
Figure 13. Number of laboratory reports* of HCV from England: 1996 to 2017**



Data Source: CoSurv/SGSS

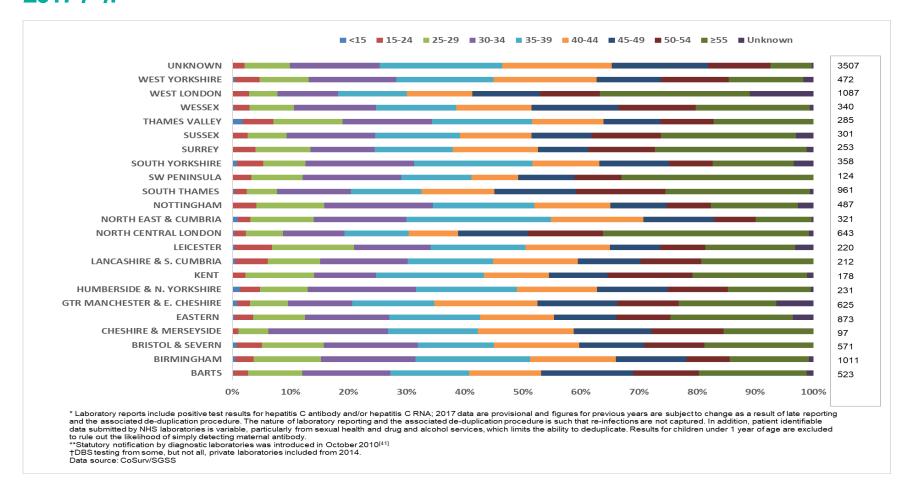
41. Health Protection Agency, Department of Health, Chartered Institute of Environmental Health. Health Protection Legislation (England) - Guidance 2010. 2010. Available from: www.gov.uk/government/organisations/public-health-england/about/our-governance [Accessed 20/02/2018].

Figure 14. Age and sex distribution, where reported, of laboratory reports of HCV from England: 1996 to 2017*/**/I



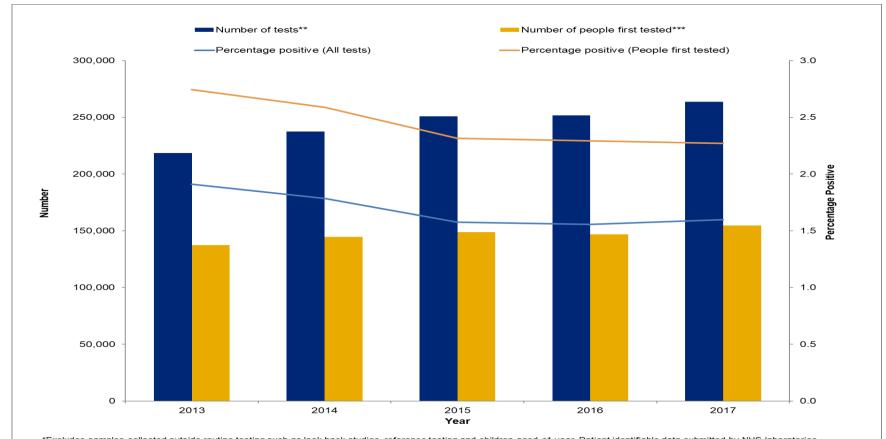
^{41.} Health Protection Agency, Department of Health, Chartered Institute of Environmental Health. Health Protection Legislation (England) - Guidance 2010. 2010. Available from: www.gov.uk/government/organisations/public-health-england/about/our-governance [Accessed 20/02/2018].

Figure 15. Age distribution of laboratory reports of HCV in England by ODN: 2017*/**/I



^{41.} Health Protection Agency, Department of Health, Chartered Institute of Environmental Health. Health Protection Legislation (England) - Guidance 2010. 2010. Available from: www.gov.uk/government/organisations/public-health-england/about/our-governance [Accessed 20/02/2018].

Figure 16. Number of tests and number of people first tested for anti-HCV by year, and proportion positive, in 15 sentinel laboratories: 2013 to 2017*

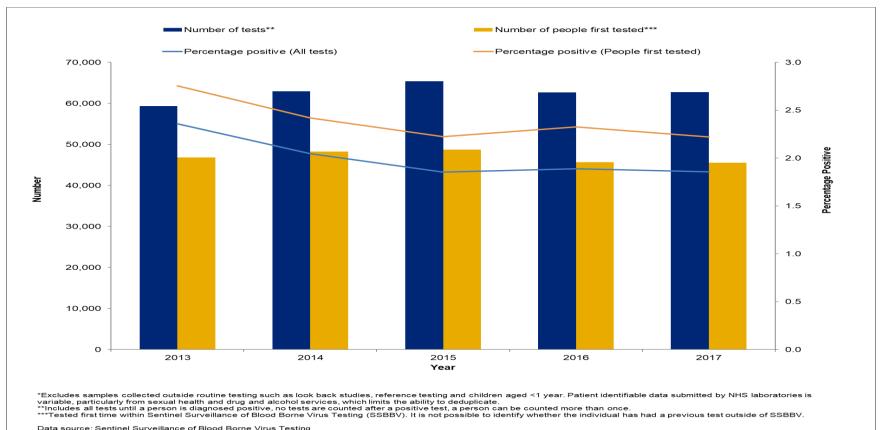


^{*}Excludes samples collected outside routine testing such as look back studies, reference testing and children aged <1 year. Patient identifiable data submitted by NHS laboratories is variable, particularly from sexual health and drug and alcohol services, which limits the ability to deduplicate.

Data source: Sentinel Surveillance of Blood Borne Virus Testing

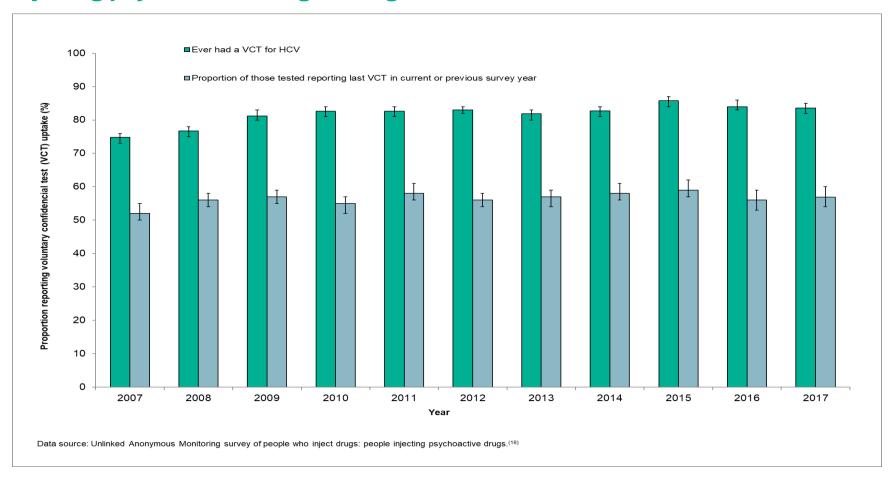
^{**}Includes all tests until a person is diagnosed positive, no tests are counted after a positive test, a person can be counted more than once.
***Tested first time within Sentinel Surveillance of Blood Borne Virus Testing (SSBBV). It is not possible to identify whether the individual has had a previous test outside of SSBBV.

Figure 17. Number of tests and number of people first tested for anti-HCV by year, and proportion positive, through GP surgeries in 15 sentinel laboratories: 2013 to 2017*



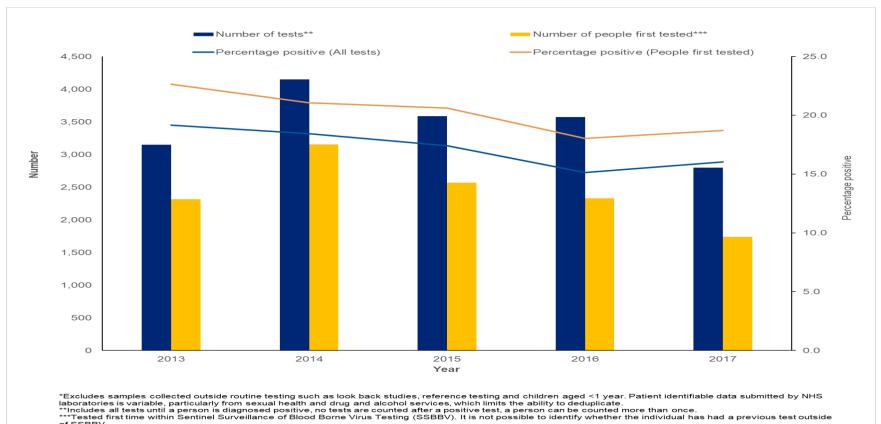
Data source: Sentinel Surveillance of Blood Borne Virus Testing

Figure 18. Trends in reported uptake of VCT for HCV infection among people injecting psychoactive drugs in England: 2007 to 2017



^{18.} Public Health England. People who inject drugs: HIV and viral hepaitits unlinked anonymous monitoring survey tables (psychoactive): 2018 update. 2018. Available at: https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/729816/UAM_Survey_of_PWID_data_tables_2018.pdf [Accessed: 19/03/2019].

Figure 19. Number of tests and number of people first tested for anti-HCV by year, and proportion positive, through drug services in 15 sentinel laboratories: 2013 to 2017*



Data source: Sentinel Surveillance of Blood Borne Virus Testing

Figure 20. Proportion of new receptions to English prisons tested for hepatitis C: financial years 2010/11 to 2017/18*

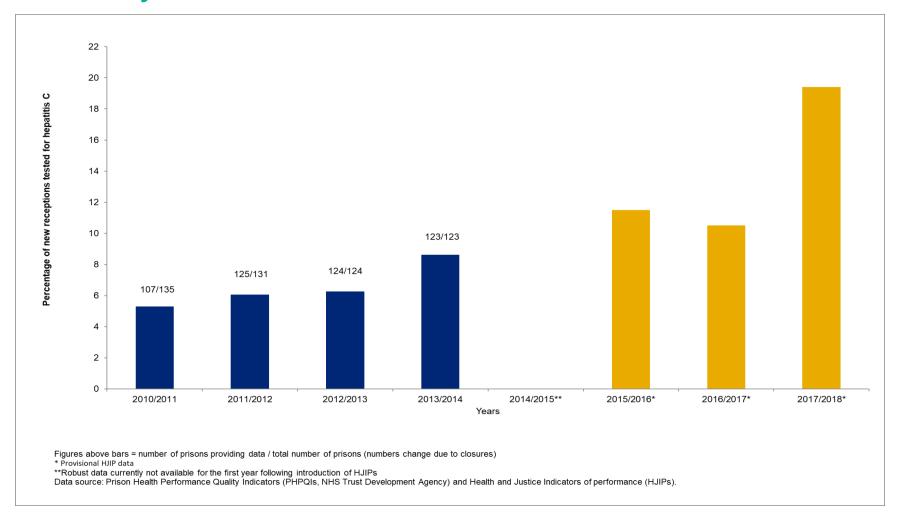
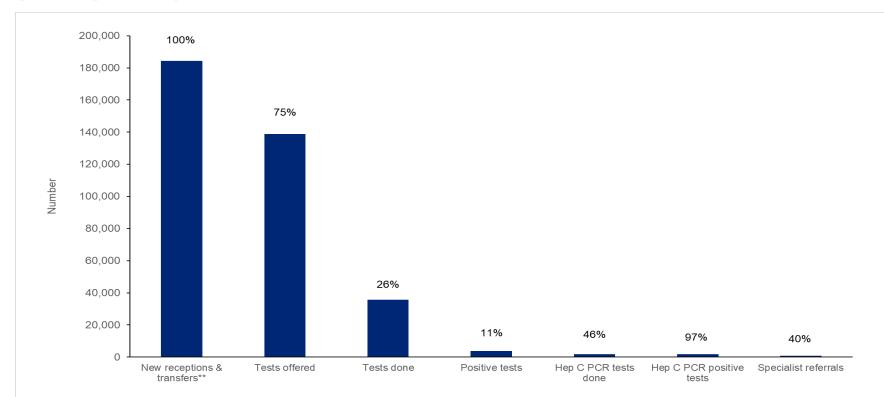


Figure 21. Hepatitis C testing cascade in the English prison estate, 2017/18* (n=112 prisons)



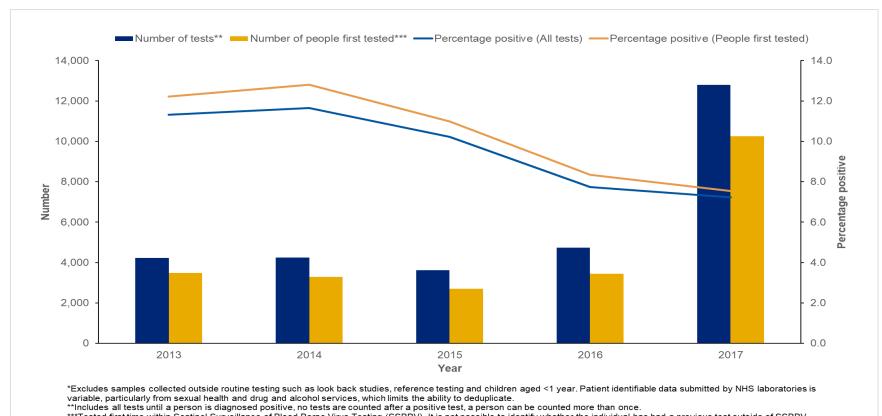
^{*} This is provisional data published in Infection Inside International. Quarterly publication from PHE on public health in prisons and other places of detention with a global focus. Volume 14, Issue 2, July 2018:

Figures above bars = % of those eligible

Data source: NHS England - HJIPs

https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/731240/Infection_Inside_Vol_14_Issue_2.pdf ** Excluding previously confirmed cases.

Figure 22. Number of tests and number of people first tested for anti-HCV by year, and proportion positive, through prisons in 15 sentinel laboratories: 2013 to 2017*



^{***}Tested first time within Sentinel Surveillance of Blood Borne Virus Testing (SSBBV). It is not possible to identify whether the individual has had a previous test outside of SSBBV. Data source: Sentinel Surveillance of Blood Borne Virus Testing

Figure 23. Number of tests and number of people first tested for anti-HCV by year, and proportion positive of South Asian* origin in 15 sentinel laboratories: 2013 to 2017**

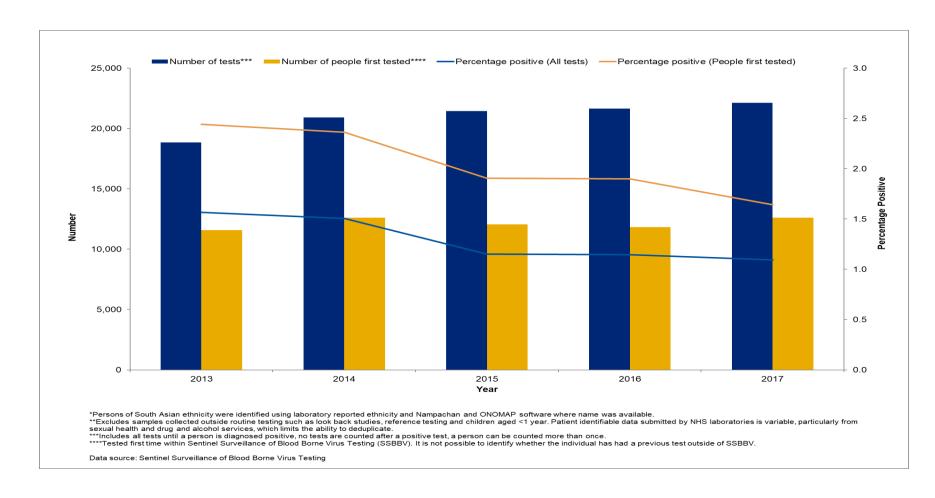
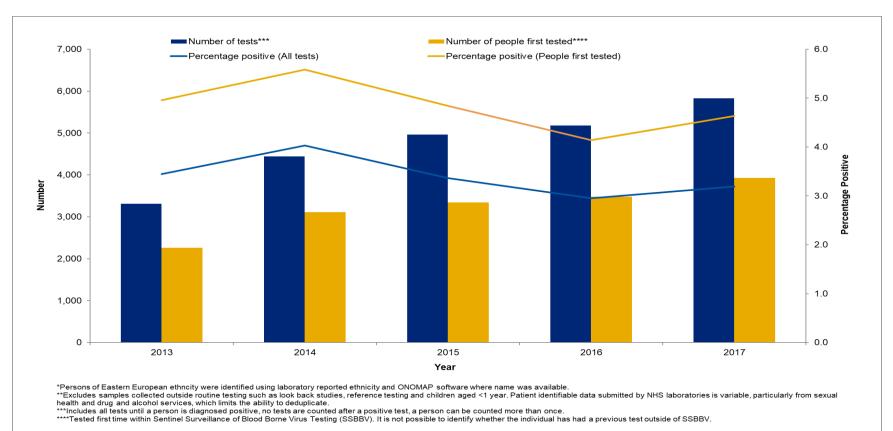


Figure 24. Number of tests and number of people first tested for anti-HCV by year, and proportion positive, in people of Eastern European origin* in 15 sentinel laboratories: 2013 to 2017**



Data source: Sentinel Surveillance of Blood Borne Virus Testing

Figure 25. Rate of HCV among donations from new and repeat blood donors in England: 1991 to 2017*

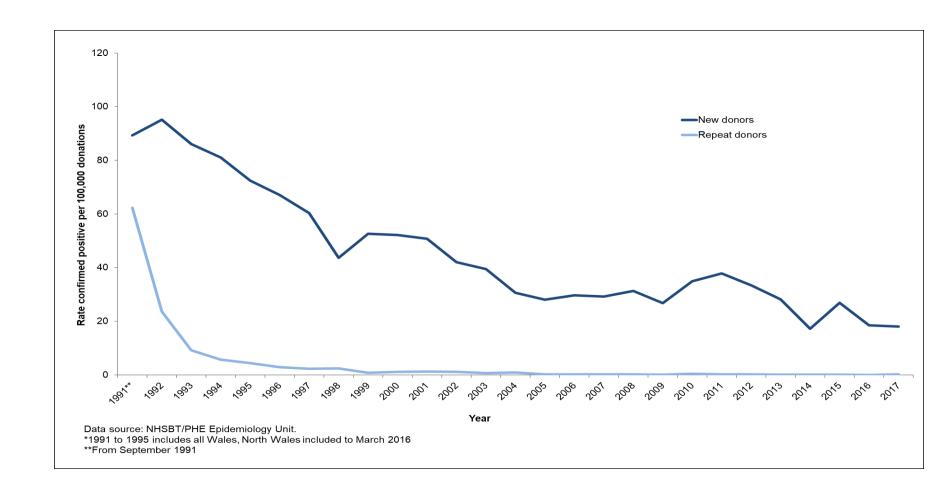
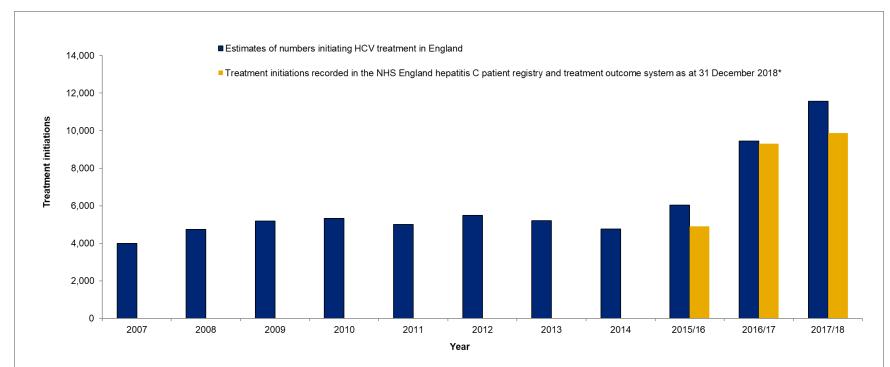


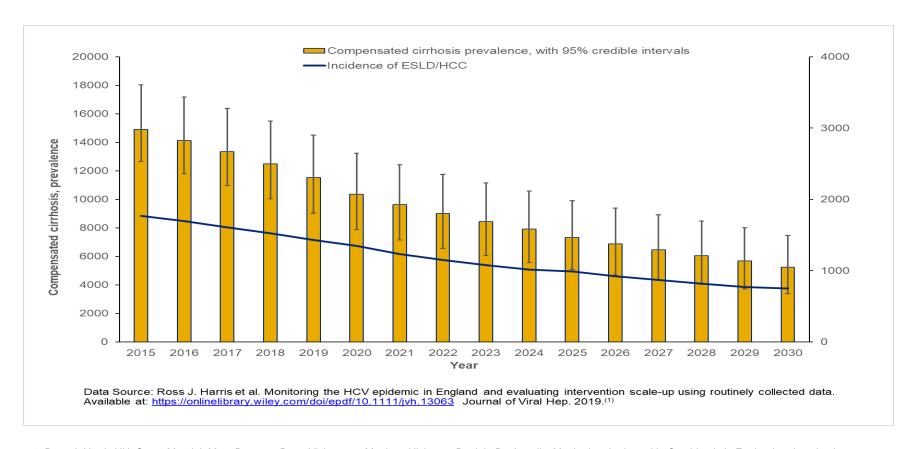
Figure 26. Provisional estimates of numbers initiating HCV treatment in England, 2007- 2017/2018



^{*} Excluding 192 subsequent treatment episodes started in 2015/26 (n=8), 2016/17 (n=42) and 2017/18 (n=140) and 2 episodes that could not be allocated a start date. For the 866 with either missing start dates (n=688) or dates that appeared wrong (for example dates in the future or dates that were decades earlier n = 178) their distribution across the years was assumed to mirror that of those patients with treatment start dates and they were allocated to treatment years accordingly.

Data Sources: (i) NHS England for data from the hepatitis C patient registry and treatment outcome system as at 31 December 2018 (yellow bars) and for DAA drug commissioning data (blue bars) for years 2015/16-2017/18 (commissioning data is based on clinician intention to treat and invoicing and is subject to data quality issues and contract adjustments); (ii) Sentinel surveillance of hepatitis bloodborne virus testing for scaled estimates for 2012-2014; (iii) Estimates from Roche sales, IMS supply chain manager, and Pharmex data for 2007-2011(Harris et al. Journal of Hepatology 2014 vol. 61).

Figure 27. Estimated prevalence of HCV-related compensated cirrhosis and first occurrences of HCV-related ESLD/HCC (right axis); estimates from modelling the HCV epidemic and disease burden.⁽¹⁾



^{1.} Ross J. Harris HH, Sema Mandal, Mary Ramsay, Peter Vickerman, Matthew Hickman, Daniela De Angelis. Monitoring the hepatitis C epidemic in England and evaluating intervention scale-up using routinely collected data. Available at: https://doi.org/10.1111/jvh.13063 [Accessed 12/03/2019] Journal of Viral Hep. 2019;00:1-12.

Figure 28. Distribution of patient treatment episodes, and patients yet to be treated, in the HCV Patient Registry and Treatment Outcome System, by ODN

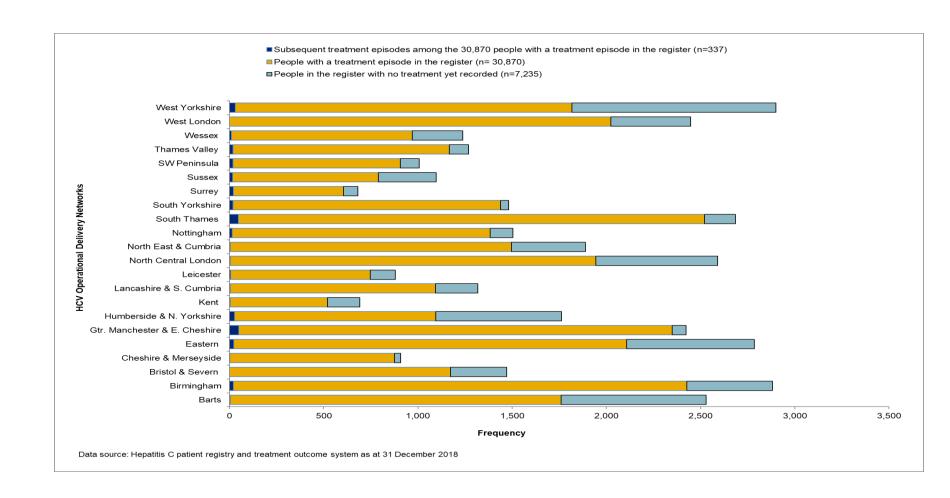


Figure 29. Distribution of injecting route of transmission (%) for patients with a treatment episode in the Hepatitis C Patient Registry and Treatment Outcome System, by ODN (n=30,870)

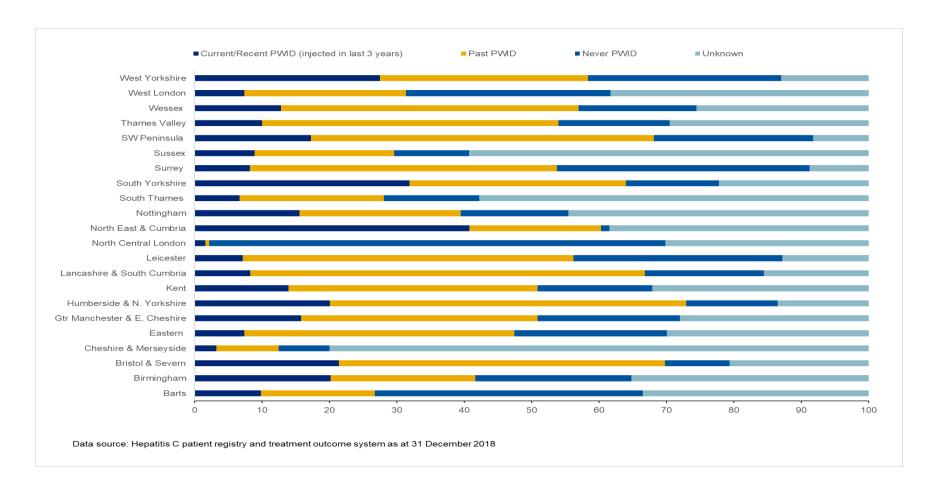


Figure 30. Distribution of source of referral (%) for patients with a treatment episode in the Hepatitis C Patient Registry and Treatment Outcome System, by ODN (n= 30,870)

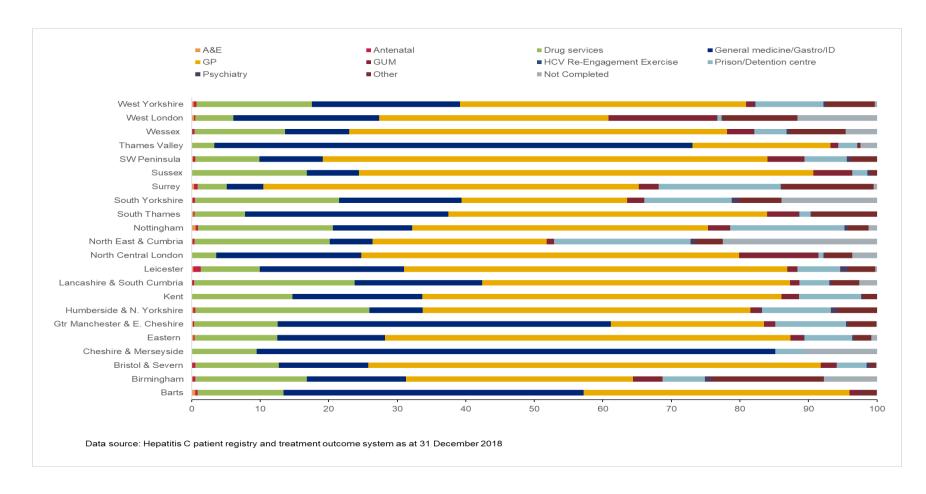


Figure 31. Distribution of disease stage (%) for patients with a treatment episode in the Hepatitis C Patient Registry and Treatment Outcome System, by ODN (n=30,870)

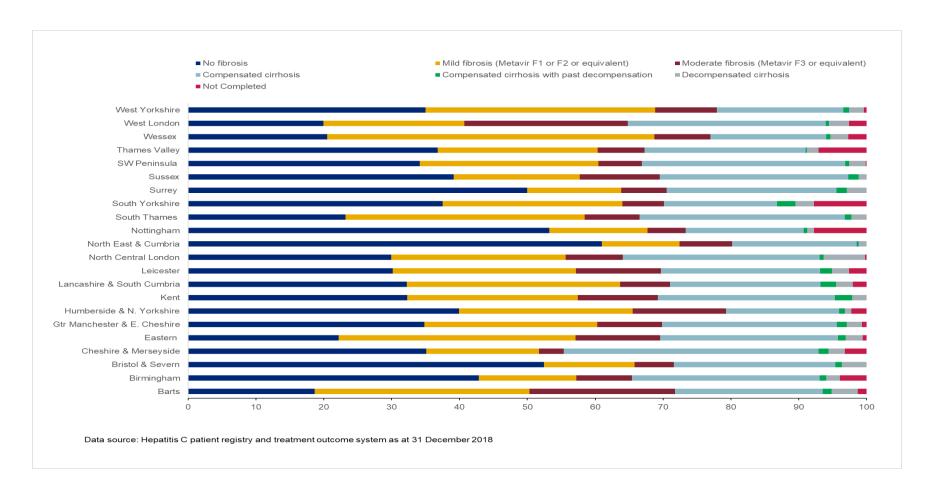
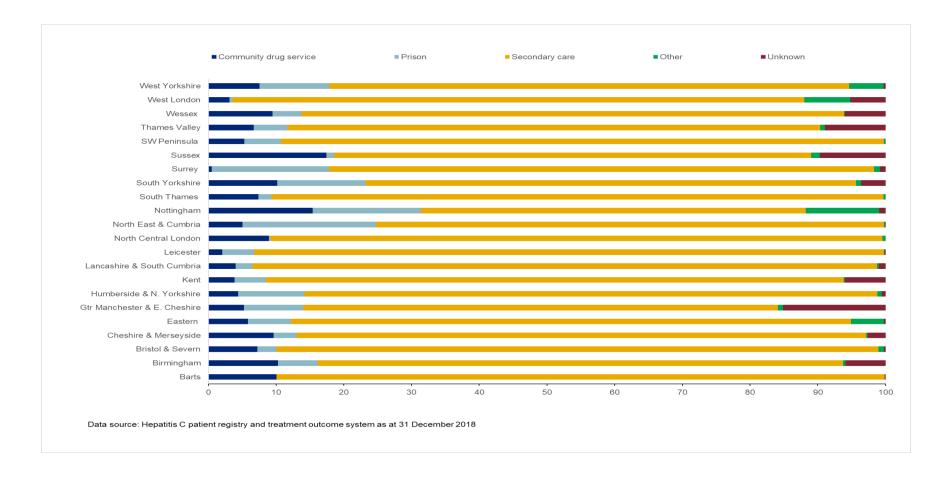


Figure 32. Distribution of treatment setting (%) for patients with a treatment episode in the Hepatitis C Patient Registry and Treatment Outcome System, by ODN (n=30,870)



Appendix 1.* WHO GHSS targets⁽³⁾ for viral hepatitis, relevant to HCV in the UK context, with 2020 targets updated to reflect the draft action plan for the health sector response to viral hepatitis in the WHO European Region.⁽¹⁴⁾

| TARGET AREA | 2020 TARGETS(14) | 2030 | |
|--|--|---|--|
| Impact targets | | TARGETS(3) | |
| Incidence: New cases of chronic viral hepatitis C infection | 30% reduction | 80% reduction | |
| Mortality: Viral hepatitis C deaths | 10% reduction | 65% reduction | |
| Service coverage targets | | | |
| Blood safety:**Proportion of donations screened in a quality-assured manner | 100% | 100% | |
| Safe injections:*** Percentage of injections administered with safety engineered devices in and out of health facilities | 50% | 90% | |
| Harm reduction: A comprehensive package of harm reduction services to all PWID ⁽⁷³⁾ including: | At least 200 sterile needles and syringes provided per person who injects drugs per year At least 40% of opioid dependent PWID receive OST 90% of PWID receiving targeted HCV information, education and | At least 300 sterile needles and syringes provided per person who injects drugs per year | |
| Proportion of people with chronic HCV diagnosed and aware of their infection | communication 50% [75% of estimated number of patients at late stage of viral hepatitis-related liver disease (cirrhosis or HCC) diagnosed] | 90% | |
| Treatment coverage of people diagnosed with chronic HCV who are eligible for treatment | 75% (>90% cured) [90% of diagnosed patients with chronic HCV are linked to care and adequately monitored] | 80% | |

- * Abstracted from the WHO Global Health Sector Strategy for Viral Hepatitis(3) and modified to reflect the draft action plan for the health sector response to viral hepatitis in the WHO European Region⁽¹⁴⁾
- ** In England, 2020 and 2030 targets are already met. (74)
 ***In England, 2020 and 2030 targets are already met in the health care setting as the UK follows the EU Directive for the prevention of sharps injuries in the health care setting, (75) by using safety engineered devices.
- 3. World Health Organization. Global health sector strategy on viral hepatitis, 2016-2021. Towards Ending Viral hepatitis. 2016. Available from:
- http://apps.who.int/iris/bitstream/10665/246177/1/WHO-HIV-2016.06-eng.pdf?ua=1. [Accessed: 01/03/2019].
- 14. World Health Organization. Action plan for the health sector response to viral hepatitis in the WHO European Region. Regional Committee for Europe 66th Session, Copenhagen, Denmark, 12-15 September 2016. Available from: http://www.euro.who.int/en/about-us/governance/regional-committee-for-europe/66th-session/documentation/working-documents/eurrc6610-action-plan-for-the-health-sector-response-to-viral-hepatitis-in-the-who-european-region [Accessed 01/03/2019].
- 74. Joint United Kingdom (UK) Blood Transfusion and Tissue Transplantation Services Professional Advisory Committee. Guidelines for the Blood Transfusion Services in the UK. Available from: http://www.transfusionguidelines.org/ [Accessed 09/07/2018].
- 75. European Agency for Safety and Health at Work. Directive 2010/32/EU prevention from sharp injuries in the hospital and healthcare sector. 2010. Available from: https://osha.europa.eu/en/legislation/directives/council-directive-2010-32-eu-prevention-from-sharp-injuries-in-the-hospital-and-healthcare-sector. [Accessed 08/03/2019].

Appendix 2. Preliminary indicators to monitor the impact of key interventions to tackle hepatitis C virus in England

| | Burden, Impact and Service Coverage Monitoring Areas - Preliminary Indicator (UK indicators in red; Placeholders* in italics) | Data source | Increasing awareness and the numbers and proportion diagnosed Estimated proportion of PWID testing positive for HCV, aware of their infection Lower bound estimates of the proportion of chronic HCV infection diagnosed | UAM survey Modelled estimate Harris |
|---------------------|---|--|---|---|
| Burden | Reducing the burden of infection in England • Estimated prevalence of HCV infection • Risk factors for infection from laboratory reports • Trend in anti-HCV prevalence among PWID | Modelled estimate ⁽¹⁾ CoSurv/SGSS UAM survey | Placeholder: Proportion of population with late stage HCV-related liver disease (cirrhosis/HCC) diagnosed Numbers completing RCGP HCV e-learning Laboratory reports of HCV infection Number of HCV tests (and proportion testing positive) | et al. ⁽¹⁾ TBC RCGP CoSurv/SGSS Sentinel |
| Impact | 1. Reducing HCV-related morbidity and mortality • Estimated incidence of HCV-related ESLD/HCC • Registrations for liver transplants in patients with HCV • First liver transplants undertaken in patients with HCV (% of all liver transplants) • First liver transplants undertaken in patients with HCV HCC (% of all liver transplants in patients with HCV) • Death (registrations) from HCV-related ESLD/HCC | HES NHS BT NHS BT NHS BT ONS | in sentinel laboratories Number of HCV tests via GP surgeries (and proportion testing positive) in sentinel laboratories Reported uptake in voluntary confidential HCV testing among PWID Offer and uptake of HCV testing in adults - both newly presenting to, and all in, drug treatment Offer and uptake of HCV testing in adults currently or previously injecting - both newly presenting to, and all in, drug treatment | surveillance Sentinel surveillance NDTMS NDTMS |
| | Reducing the number of new (incident) infections Estimated incidence of HCV among people injecting psychoactive drugs Prevalence of anti-HCV among recent initiates to drug use Number of HCV tests performed in young adults (and proportion testing positive) in sentinel laboratories Number of HCV laboratory reports in young adults (and proportion of all reports they represent) Placeholder: Estimated number of new infections originating injecting drug use and net migration | UAM survey UAM survey Sentinel surveillance CoSurv/SGSS | Number of HCV tests via drug services (and proportion testing positive) in sentinel laboratories Proportion of new receptions to prisons tested for HCV Number of HCV tests via prisons (and proportion testing positive) in sentinel laboratories Hepatitis C testing cascade in the English prison estate Number of HCV tests in South Asian people (and proportion testing positive) in sentinel laboratories Number of HCV tests in Eastern European people (and proportion testing positive) in sentinel laboratories Rate of hepatitis C infection among new and repeat blood donors | Sentinel surveillance PHPQI/HJIP Sentinel surveillance HJIP Sentinel surveillance Sentinel surveillance Sentinel surveillance |
| Service coverage | Adequate harm reduction Estimated proportion of PWID reporting adequate Needle and syringe provision Sharing of injecting equipment and associated paraphernalia among PWID Number of current and past PWID in drug treatment Proportion of opioid dependent PWID receiving OST Placeholder: Proportion of PWID receiving targeted HCV information | UAM survey UAM survey NDTMS NDTMS; Hay et al. (35) TBC | 3. Increasing numbers accessing treatment • Estimated number initiating HCV treatment • Placeholder: Proportion of diagnosed population linked into care and monitored • Placeholder: Proportion of diagnosed population eligible for HCV treatment who have accessed treatment, and proportion cured • Numbers of people originating from, or born in, South Asia accessing treatment services • Proportion of treatments in those currently injected drugs • Proportion of referrals from services for key risk groups, like drugs services and prisons. • Disease stage of those accessing treatment • Proportion of people treated outside traditional secondary/tertiary care settings via outreach services | Figure 23 TBC TBC HCPR&TOS** HCPR&TOS** HCPR&TOS** HCPR&TOS** |

^{*} Placeholders are for indictors that are not currently available/in development or are absent because key data were not available at the time of publication.

^{**} HCPR&TOS: The Hepatitis C Patient Registry & Treatment Outcome System

^{1.} Ross J. Harris HH, Sema Mandal, Mary Ramsay, Peter Vickerman, Matthew Hickman, Daniela De Angelis. Monitoring the hepatitis C epidemic in England and evaluating intervention scale-up using routinely collected data. Available at: https://doi.org/10.1111/jvh.13063 [Accessed 12/03/2019] Journal of Viral Hep. 2019;00:1-12. 35.Hay G, Rael dos Santos A, Worsley J. Estimates of the Prevalence of Opiate Use and/or Crack Cocaine Use, 2011/12: Sweep 8 report. 2014. Liverpool John Moores University. Available from: https://www.nta.nhs.uk/facts-prevalence.aspx. [Accessed 16/03/2018].