Public Health England

Protecting and improving the nation's health

Hepatitis C in the UK
2019 report

Working to eliminate hepatitis C as a major public health threat

Public Health England

Eliminating hepatitis C as a major public health threat in the UK

2020 impact targets

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

Preliminary figures suggest a fall in deaths from Hep C-related end-stage liver disease and cancer of 19% by 2018

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

Surveys of people who inject drugs (PWID) do not suggest a reduction in new HCV infections; HCV prevalence in recent initiates to injecting was similar in 2017 (22%) to that in 2008 (24%)

143,000 people estimated to be living with current HCV infection in the UK (2018)

Coverage of key services

Number treated

Provisional estimates suggest that 15,200 people accessed treatment in 2018/19; up 6% on the previous year and up 138% on pre-2015 levels

Proportion of people diagnosed

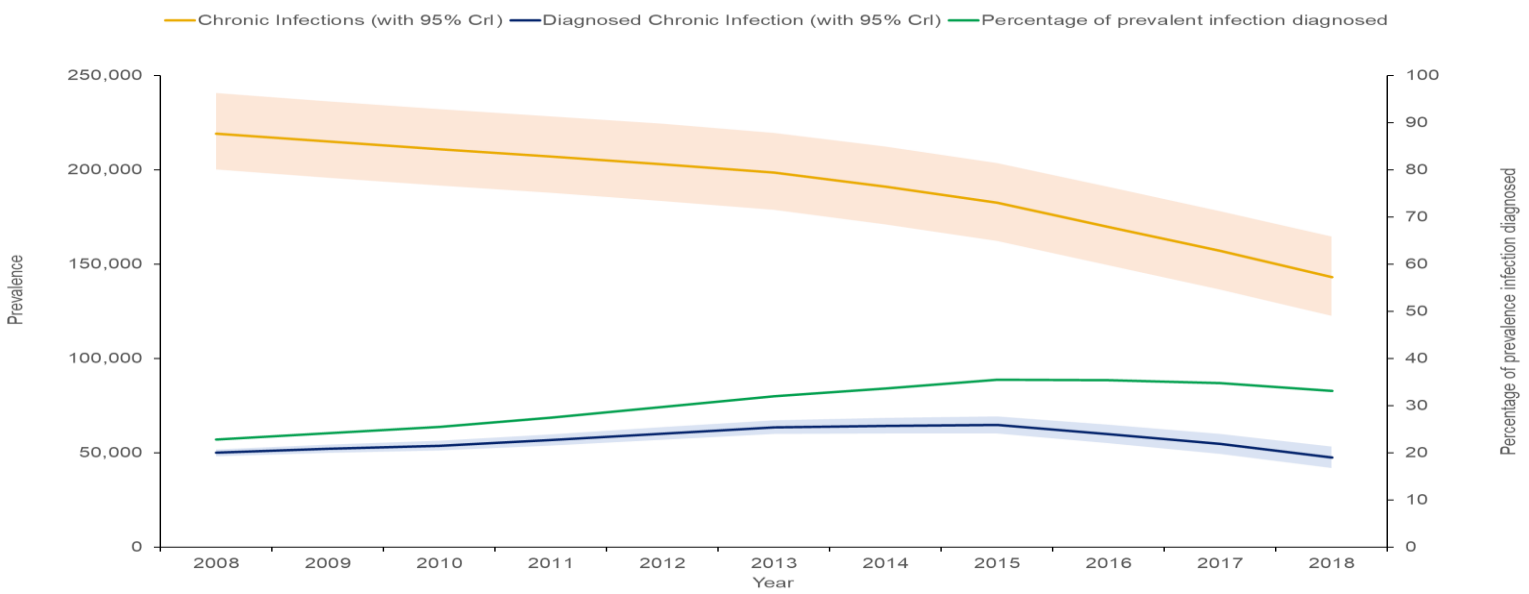
Around half of PWID sampled in UK surveys were aware of their current HCV infection in 2018. An estimated 95,600 people are thought to be undiagnosed

Number of sterile needles/syringes provided

63% of those surveyed reported adequate needle/syringe provision for their needs in 2018

Hepatitis C in the UK, 2019 report

Figure 1: Estimated chronic prevalence of HCV infection in the UK, 2008-2018



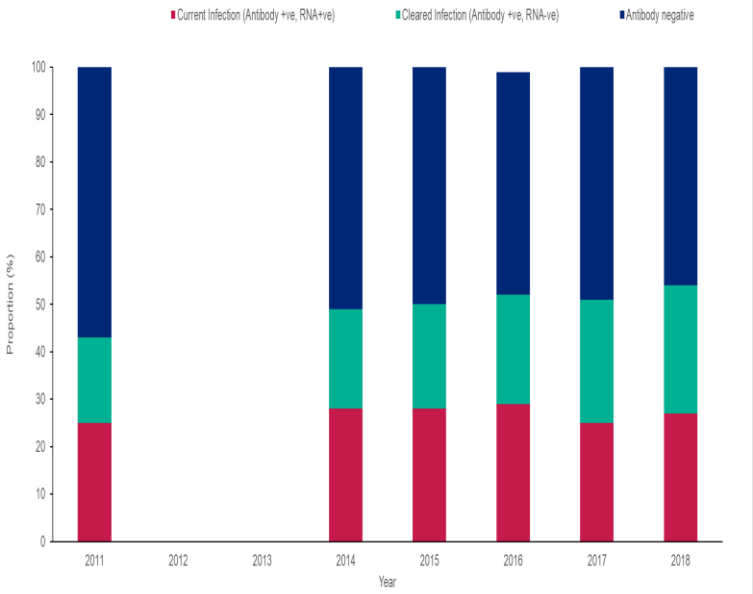
Data source: England model estimates of chronic HCV prevalence, based on HCV prevalence data from the Unlinked Anonymous Monitoring (UAM) survey of people who inject drugs; estimates of the number of people who inject drugs;[22] Hospital Episode Statistics (HES), NHS Digital for England. Produced by Public Health England (data on severe HCV-related liver disease); Trent Cohort data (estimates of disease progression probabilities); HCV antibody positive laboratory reports received by Public Health England (diagnosis data); and data on HCV treatment (IMS sales data, Sentinel Surveillance of Blood Borne Virus Testing and NHS England Hepatitis C Patient Registry and Treatment Outcome System).Similar estimates are incorporated for Wales and Northern Ireland using comparable data sources (PEDW/hospital data on severe liver disease, numbers of people who inject drugs attending needle and syringe provision, drug prevalence survey data, UAM data and diagnosis and treatment numbers and diagnostic data from national laboratory systems). The data that informed the component of the estimate attributable to Wales are provisional and sensitive to accuracy of the data used for some of the key parameters including the extent that coding of ESLD and HCC in national datasets reflects true levels of disease. Estimates for Northern Ireland are also provisional.Estimates for Scotland for 2008, 2013 and 2018 are from NHS Scotland[23], with the assumption of a linear trend between time points. The 2018 estimate for Scotland is end of year prevalence, whereas previous estimates are

22. Hay G, Rael dos Santos A, Worsley J. Liverpool John Moores University; 2014. Estimates of the Prevalence of Opiate Use and/or Crack Cocaine Use, 2011/12: Sweep 8 report. Available from: https://www.drugsandalcohol.ie/21931/1/estimates-of-the-prevalence-of-opiate-use-and-or-crack-cocaine-use-2011-12.pdf Accessed [16/08/2019].

23. Health Protection Scotland. Surveillance of hepatitis C testing, diagnosis and treatment in Scotland, 2019 update. Available from: https://hps.scot.nhs.uk/web-resources-container/surveillance-of-hepatitis-c-testing-diagnosis-and-treatment-in-scotland-2019-update/ Accessed [05/09/2019].

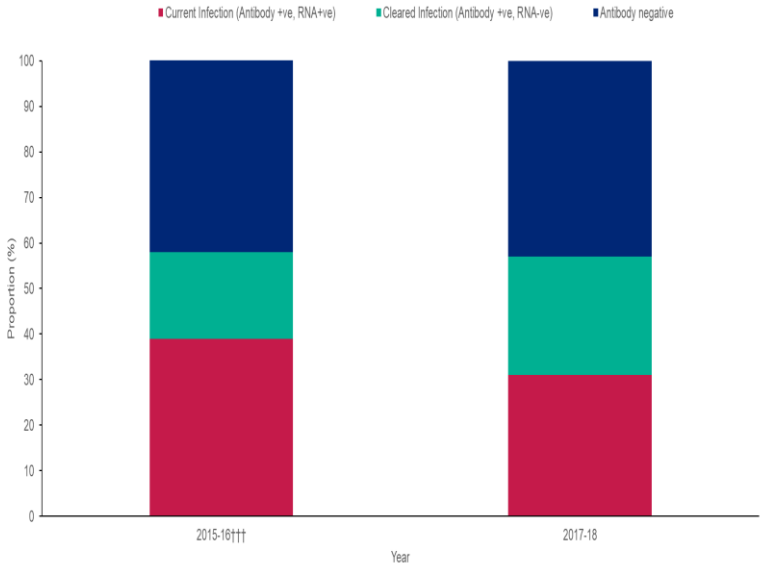
Figure 2: Trend in HCV prevalence among people injecting psychoactive drugs in the UK: 2011 to 2018

England, Northern Ireland and Wales*,**,***



* Data are shown for those years where there are HCV RNA testing data available; UAM data will be available for other years once retrospective testing of survey data are complete.
** Retrospective analysis of HCV RNA (2011-2016) was performed as part of the EPITOPE study, funded by the National Institute for Health Research (NIHR) Programme Grants for Applied Research programme (Grant Reference Number RP-PG-0616-20008). The views expressed are those of the author(s) and not necessarily those of the NIHR or the Department of Health and Social Care.
*** Estimates for chronic and cleared HCV infection have been adjusted to take into account antibody-positive samples with missing RNA status. The ratio of chronic/cleared infection was applied to the antibody-positive samples with missing RNA status by year and by geography (English regions, Wales, Northern Ireland).
Data sources: Unlinked Anonymous Monitoring (UAM) survey of people who inject psychoactive drugs[2] conducted by Public Health England with assistance from Public Health Wales and the Public Health Agency Northern Ireland

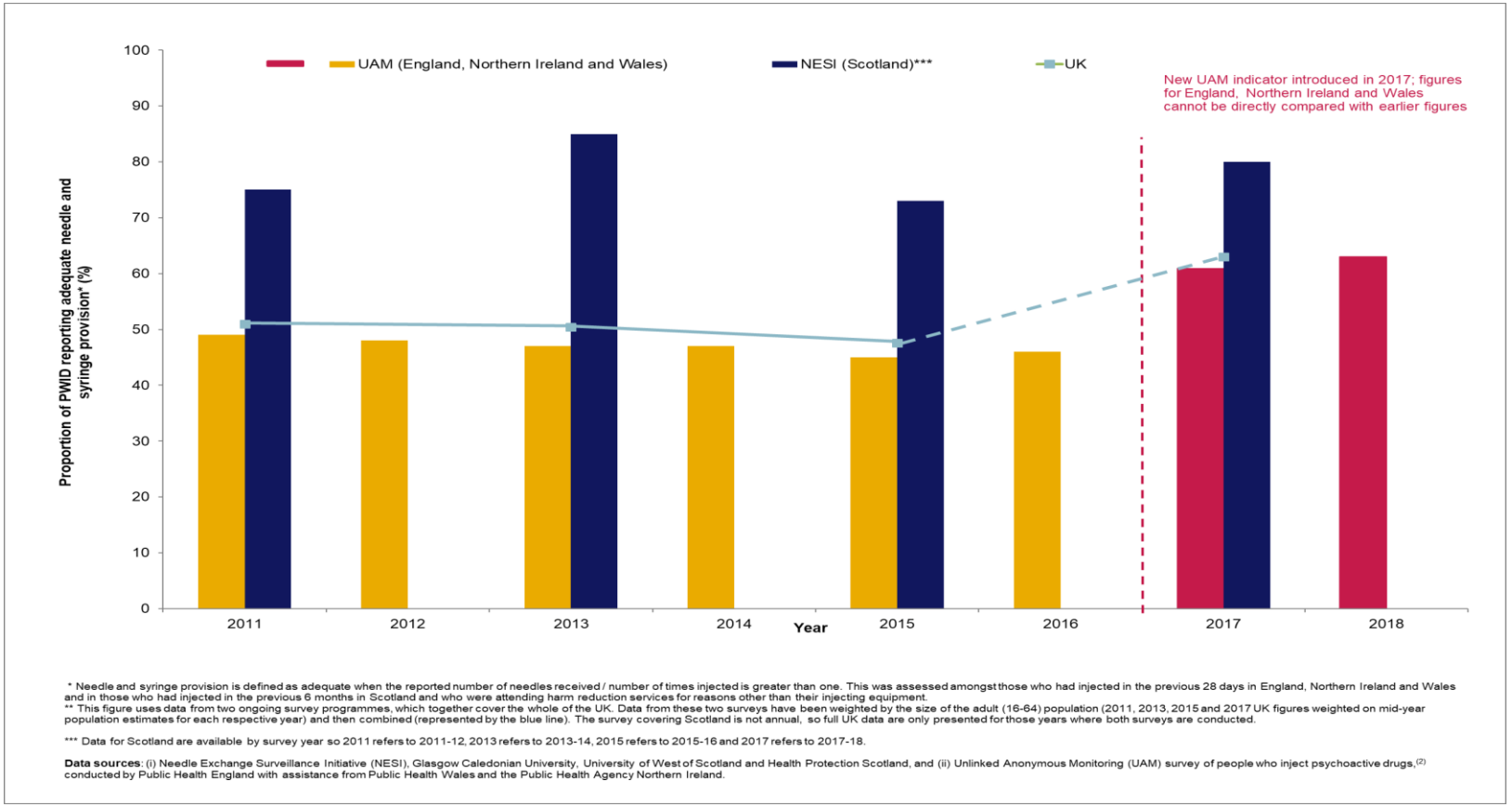
Scotland†,††



†Data are shown for those years where are HCV RNA testing data are available.
†† Estimates for chronic and cleared HCV infection have been adjusted to take into account antibody-positive samples with missing RNA status. The ratio of chronic/cleared infection was applied to the antibody-positive samples with missing RNA status by year and healthboard (GGC/Tayside/rest of Scotland).
†††Antibody prevalence for 2015-16 is different to that reported previously (58%) as a result of recently updated laboratory data.
Data sources: Needle Exchange Surveillance Initiative (NESI), Glasgow Caledonian University, University of West of Scotland and Health Protection Scotland.

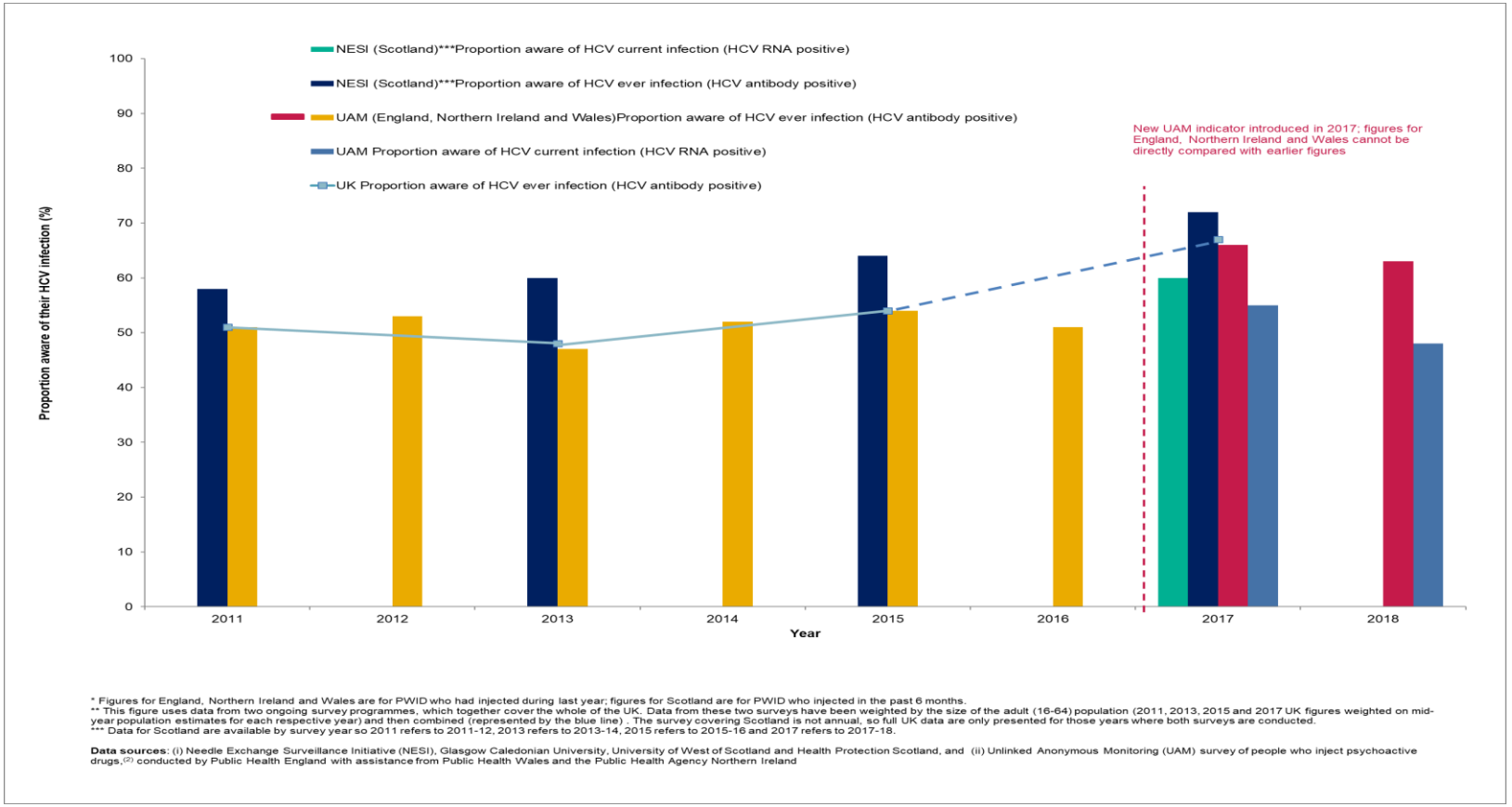
2. Public Health England. Unlinked Anonymous Monitoring Survey of PWID in contact with Specialist Drug Services. 2019 Available from: www.gov.uk/government/statistics/people-who-inject-drugs-hiv-and-viral-hepatitis-monitoring Accessed [16/08/2019].

Figure 3: Estimated UK-wide proportion of PWID reporting adequate* needle and syringe provision, 2011-2018**



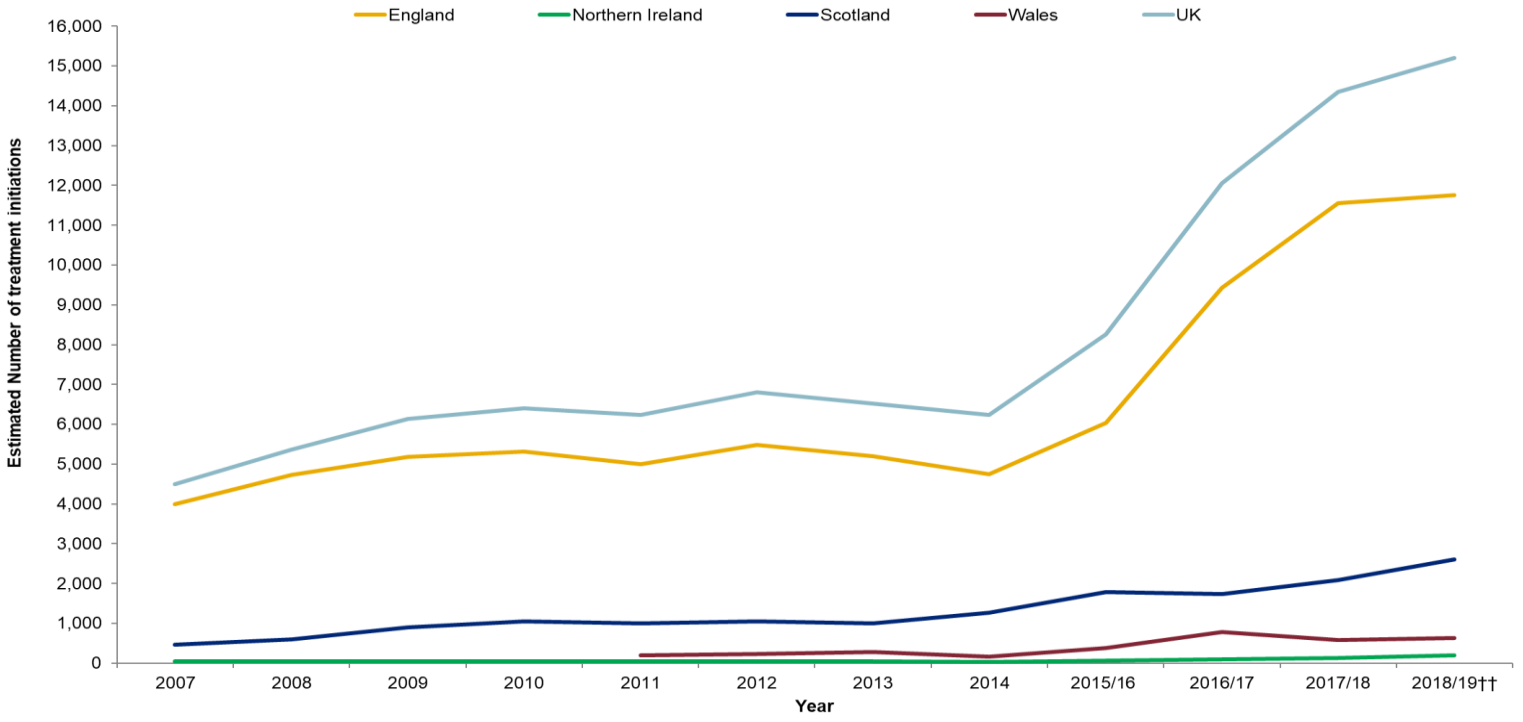
2. Public Health England. Unlinked Anonymous Monitoring Survey of PWID in contact with Specialist Drug Services. 2019 Available from: www.gov.uk/government/statistics/people-who-inject-drugs-hiv-and-viral-hepatitis-monitoring Accessed [16/08/2019].

Figure 4: Estimated UK-wide proportion of PWID testing positive for HCV* who are aware of their infection, 2011-2018**



2.Public Health England. Unlinked Anonymous Monitoring Survey of PWID in contact with Specialist Drug Services. 2019 Available from: www.gov.uk/government/statistics/people-who-inject-drugs-hiv-and-viral-hepatitis-monitoring Accessed [16/08/2019].

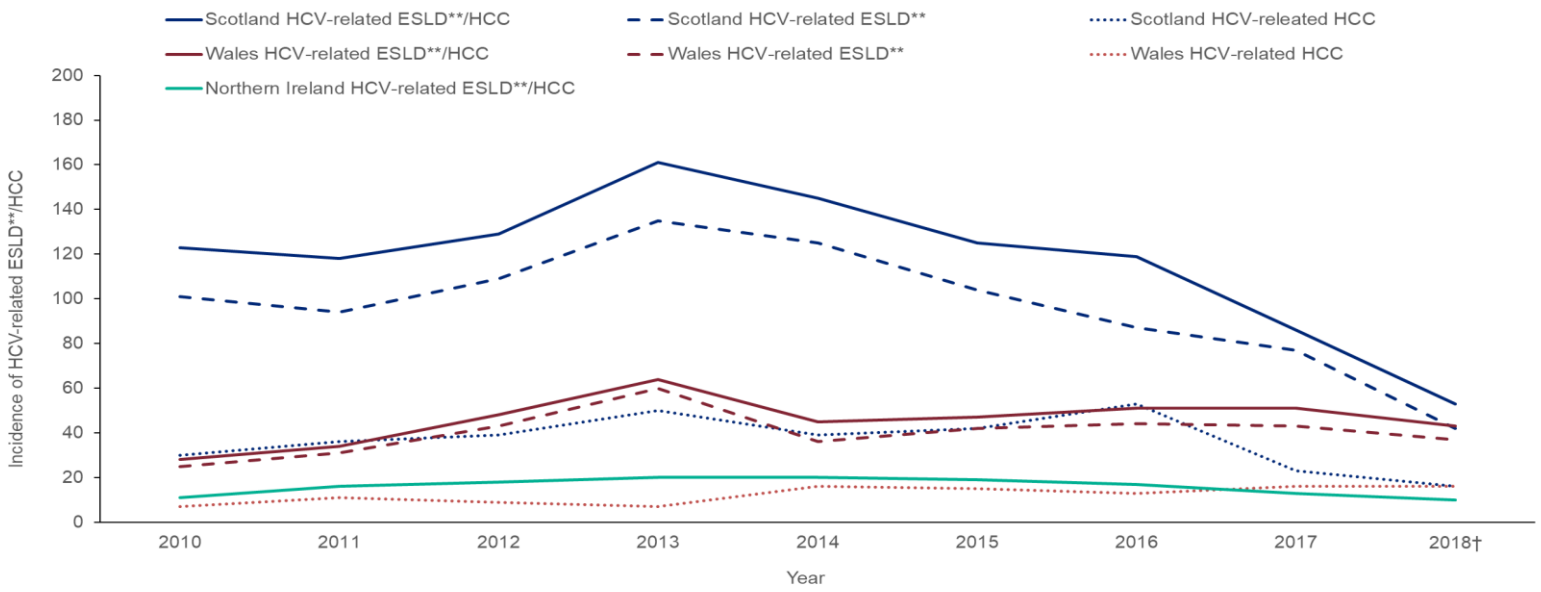
Figure 5: UK-wide estimates of numbers initiating HCV treatment, calendar years 2007-2014 and financial years 2015/16-2018/19*,**



* Data for Scotland are only available by financial year between 2007 and 2014 so these have been grouped with calendar years. For example, data for calendar year 2011 are grouped with data for the financial year 2011/12
** Data for Wales not available for 2007-2010; one Health Board is missing in 2014 and data, where available, are subject to data quality issues.
†† Data for 2018/19 are provisional.

Data Sources: (i) Regional Hepatology Unit for Northern Ireland; (ii) Health Protection Scotland, using data supplied by hepatitis C treatment centres; (iii) Public Health Wales using data from treatment services in the Health Boards; (iv) NHS England for 2015/16, 2016/17 and 2017/18; provisional estimates for England based on new DDA drug treatments only, and on commissioning data which includes clinician intention to treat and invoicing, rather than patient level treatment registry data: these data are subject to data quality issues and contract adjustments; (v) Sentinel surveillance of hepatitis bloodborne virus testing for scaled estimates for 2012-2014 for England; (vi) Estimates from Roche sales, IMS supply chain manager, and Pharmex data for England for 2007-2011(Harris et al. Journal of Hepatology 2014 vol. 61 j 530–53)

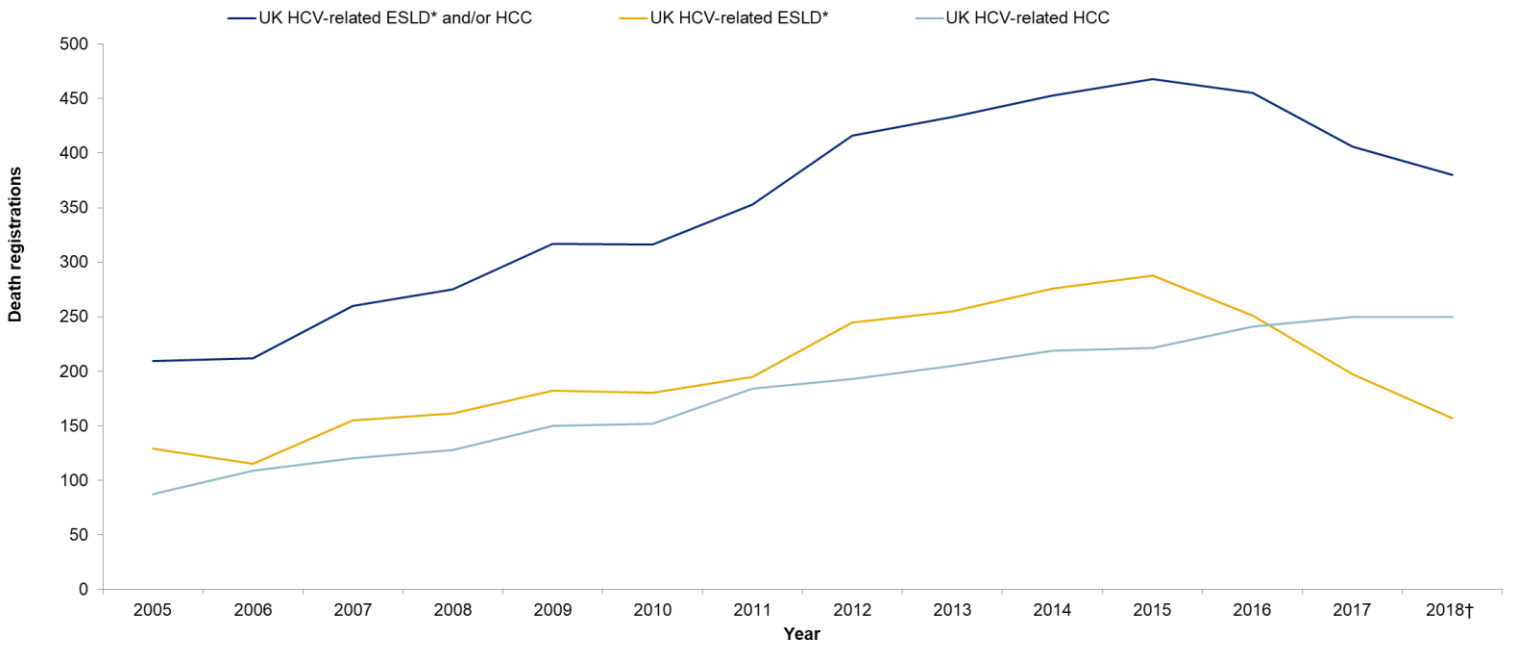
Figure 6: Preliminary estimates of incidence* of HCV-related ESLD**/HCC in UK countries: 2010-2018*



* For Wales and Northern Ireland, an episode of HCV-related ESLD/HCC is defined as the FIRST if there have been no previous episodes of HCV-related ESLD or HCV-related HCC for that individual in the previous 5 years (0.4% in England are estimated to have had a previous episode more than 5 years earlier). However, in Northern Ireland an individual who has previously been recorded as a new case may be also be counted again if a new HCV-related HCC or ESLD episode takes place 5 or more years after the preceding HCV-related HCC or ESLD episode. For Scotland, these data refer to first-time hospital admissions for ESLD and/or HCC among individuals with chronic HCV infection at time of admission, derived based on linkage of records on individuals diagnosed with anti-HCV to hospital data and exclusion of those who have cleared their infection (either spontaneously or from therapy) prior to admission based on HCV PCR test and SVR status data in laboratory and clinical surveillance databases.
** Defined by codes for ascites, bleeding oesophageal varices, hepato-renal syndrome, hepatic encephalopathy or hepatic failure.
† 2018 figure is provisional for Northern Ireland.

Data source: Hospital Inpatient System, Hospital Information Branch, Information & Analysis Directorate, Department of Health, NI system for Northern Ireland; Patient Episode Database for Wales (PEDW). NHS Wales Informatics Service for Wales; Health Protection Scotland, in association with the Information Services Division.

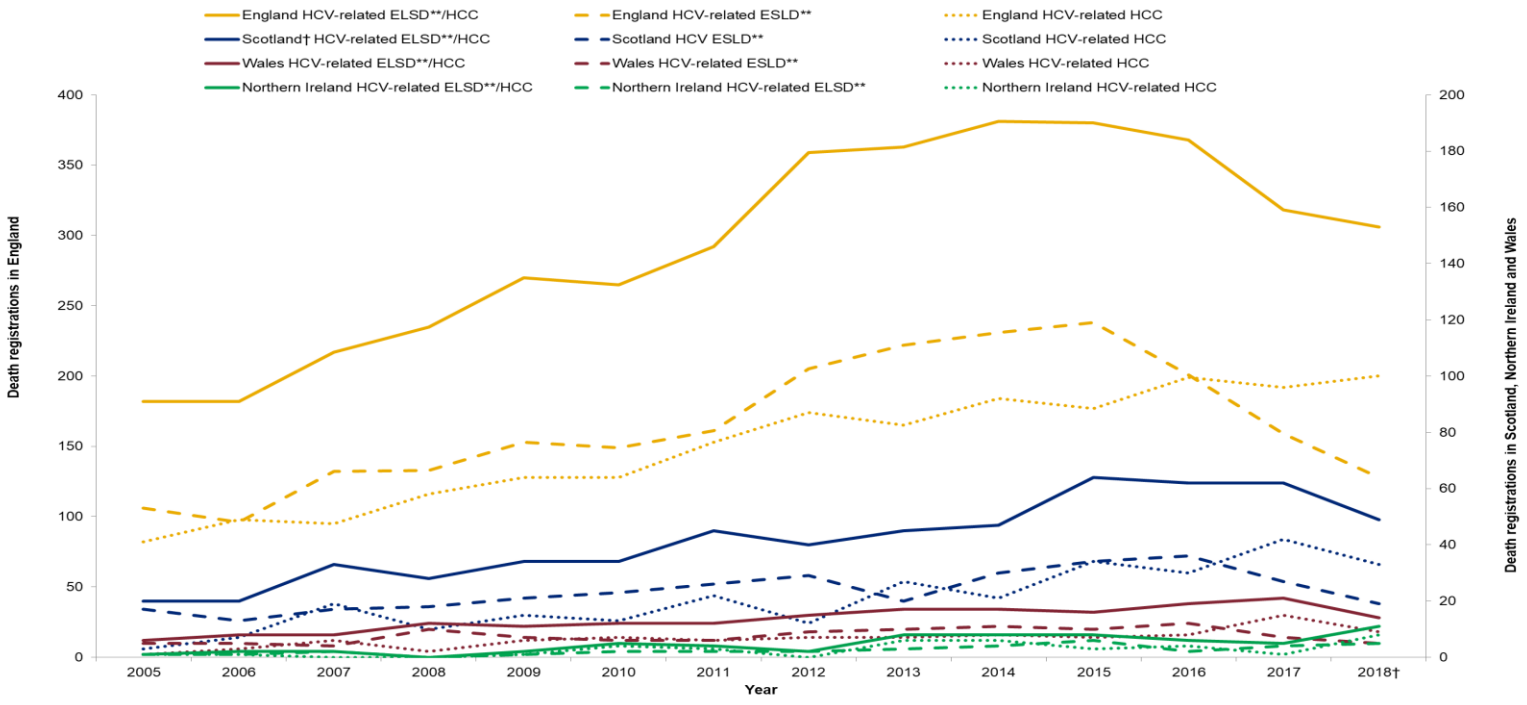
Figure 7: Death registrations* for HCV-related ESLD** and HCC in the UK: 2005 to 2018



* Death registrations for England, Northern Ireland and Wales are those where HCV is mentioned on the death certificate. Data for Scotland are based on year of death and obtained via record linkage. In Scotland, data on deaths from ESLD/HCC are obtained via record-linkage of Scotland's National Hepatitis C Diagnoses Database to the national deaths register; thus, ESLD/HCC deaths for all individuals diagnosed with HCV (antibody positive) infection in Scotland are reported (including those with, but also those without, hepatitis C recorded on their death record).
** Defined by codes or text entries for ascites, bleeding oesophageal varices, hepato-renal syndrome, hepatic encephalopathy or hepatic failure.
† 2018 data are provisional.

Data source: Office for National Statistics for England and Wales; Deaths registration data as supplied by Public Health Agency (Health Intelligence) and NI Statistics and Research Agency; Health Protection Scotland in association with the Information Services Division

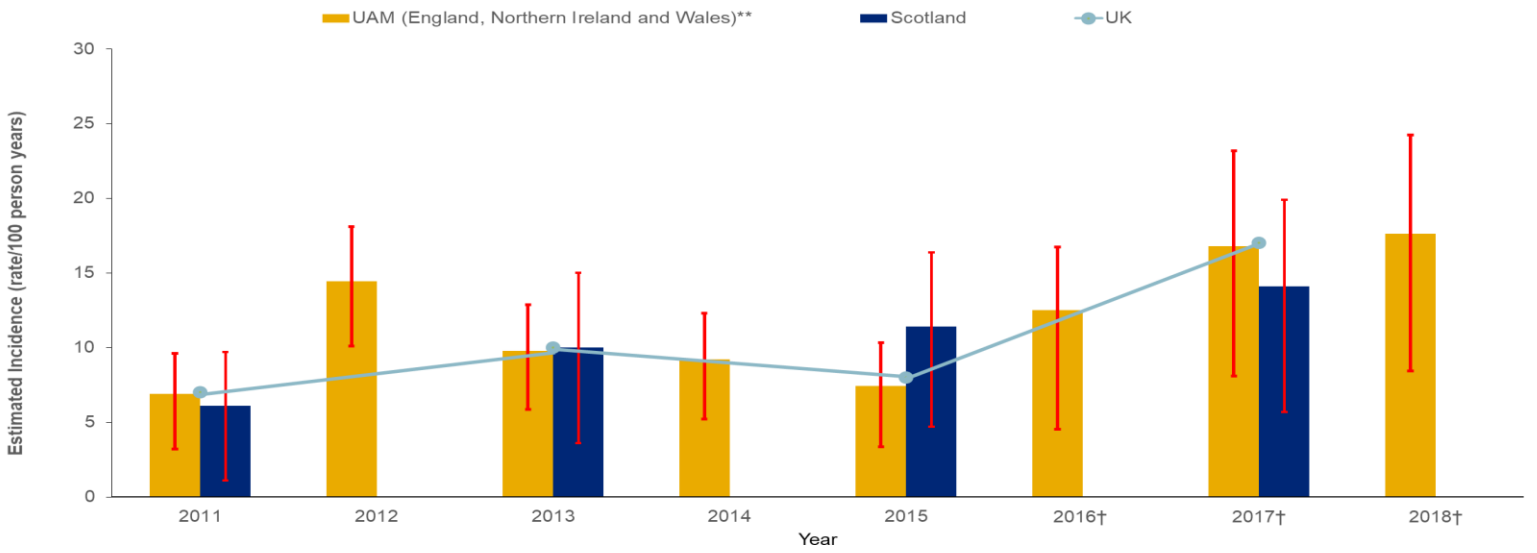
Figure 8: Death registrations* for HCV-related ESLD** and HCC in UK countries: 2005 to 2018



* Death registrations for England, Northern Ireland and Wales are those where HCV is mentioned on the death certificate. Data for Scotland are based on year of death and obtained via record linkage. In Scotland, data on deaths from ESLD/HCC are obtained via record-linkage of Scotland's National Hepatitis C Diagnoses Database to the national deaths register; thus, ESLD/HCC deaths for all individuals diagnosed with HCV (antibody positive) infection in Scotland are reported (including those with, but also those without, hepatitis C recorded on their death record).
** Defined by codes or text entries for ascites, bleeding oesophageal varices, hepato-renal syndrome, hepatic encephalopathy or hepatic failure.
† 2018 data are provisional

Data source: Office for National Statistics for England and Wales; Deaths registration data as supplied by Public Health Agency (Health Intelligence) and NI Statistics and Research Agency; Health Protection Scotland in association with the Information Services Division

Figure 9. Estimated UK-wide incidence of HCV among PWID, 2011-2018*

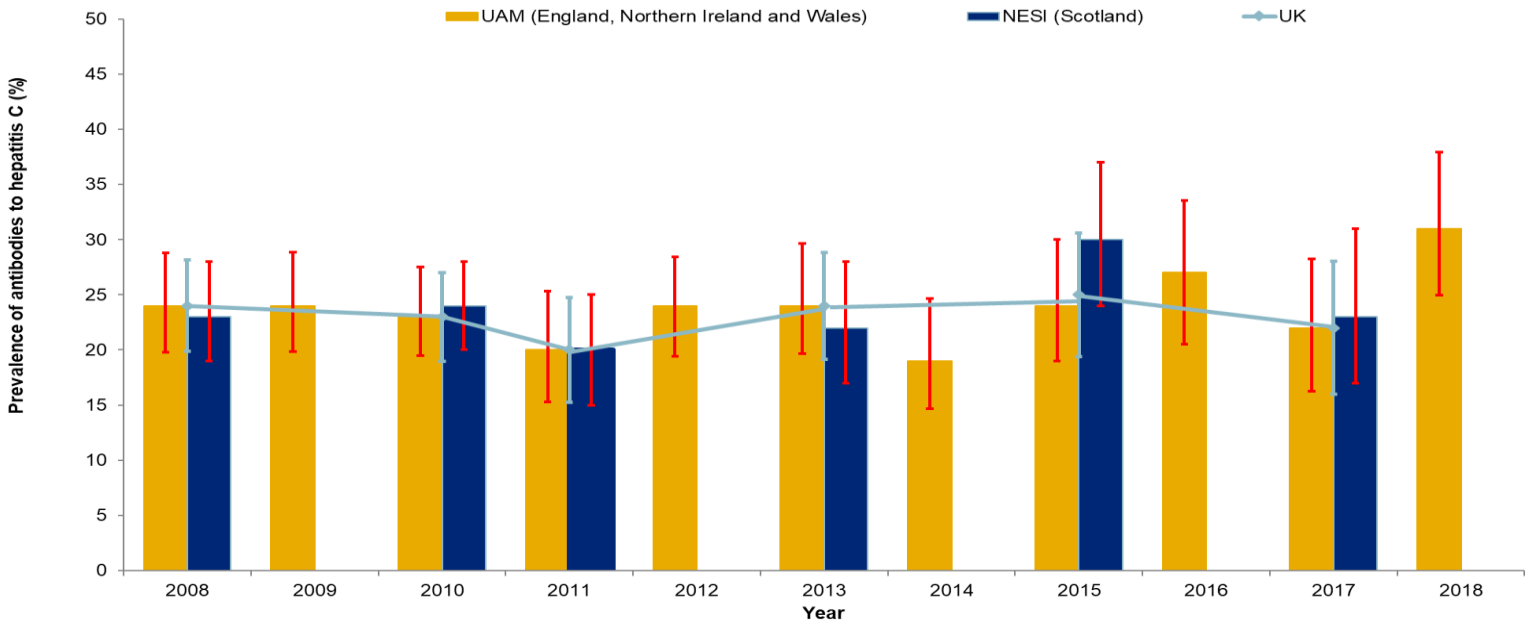


* This figure uses data from two ongoing survey programmes, which together cover the whole of the UK. Data from these two surveys have been weighted by the size of the adult (16-64) population (2011, 2013, 2015 and 2017 UK figures weighted on mid-year population estimates for each respective year) and then combined (represented by the blue line). The NESI (Scotland) are available by survey year so 2011 refers to 2011-12, 2013 refers to 2013-14, 2015 refers to 2015-16 and 2017 refers to 2017-18. UK data are only presented for those years where both surveys are conducted. Confidence Intervals (95%) have been shown for the UAM
(England, Northern Ireland and Wales) and NESI (Scotland) data.
** In the UAM survey, those with HIV are excluded because they can have sub-optimal antibody responses as a result of their HIV infection.[60]
† Incidence rate was calculated using the formula I = ((365/T)n)) / ((N − n) + (365/T)n) * 100 were n is the number of incident infections, N is the total number of susceptible (anti-HCV-negatives), and T is the window period. A fixed window period of 100 days was used for RNA testing and of 51 days was used for avidity testing. Please note that window periods of both measures is uncertain. Incident infections were detected as those antibody-negative, RNA-positive (NESI: all years, UAM: 2017 onwards) or those with weak antibody avidity (UAM: 2015 and before). The UAM 2016 estimate is based on a pooled estimate of incidence calculated by avidity testing and RNA testing.
Data sources: (i) Needle Exchange Surveillance Initiative (NESI), Glasgow Caledonian University, University of West of Scotland and Health Protection Scotland, and (ii) Unlinked Anonymous Monitoring (UAM) survey of people who inject psychoactive drugs,[2] conducted by Public Health England with assistance from Public Health Wales and the Public Health Agency Northern Ireland.

2. Public Health England. Unlinked Anonymous Monitoring Survey of PWID in contact with Specialist Drug Services. 2019 Available from: www.gov.uk/government/statistics/people-who-inject-drugs-hiv-and-viral-hepatitis-monitoring Accessed [16/08/2019].

60.Cullen KJ, Hope VD, Croxford S, Shute J, Ncube F, Parry JV. Factors associated with recently acquired hepatitis C virus infection in people who inject drugs in England, Wales and Northern Ireland: new findings from an unlinked anonymous monitoring survey. Epidemiology and Infection. 2015;143(7):1398-407.

Figure 10. Estimated UK-wide prevalence of antibodies to hepatitis C among people who began injecting drugs in the previous three years, 2008-2018.*



* This figure uses data from two ongoing survey programmes, which together cover the whole of the UK. Data from these two surveys have been weighted by the size of the adult (16-64) population (2011, 2013, 2015 and 2017 UK figures weighted on mid-year population estimates for each respective year) and then combined (represented by the blue line). The NESI (Scotland) are available by survey year so 2011 refers to 2011-12, 2013 refers to 2013-14, 2015 refers to 2015-16 and 2017 refers to 2017-18. UK data are only presented for those years where both surveys are conducted. Confidence Intervals (95%) have been shown and are fairly wide due to the relatively small (and declining) numbers of recent initiates in the sample. Therefore the power to detect a reduction is low (if prevalence decreased by 50% then this would be detected with 80% power in the UAM study, comparing samples of 152 recent initiates from one year to another (within that currently sampled). However, to detect a 25% reduction would require a sample size of over 600 in each group (over 1200 in total).

Data sources: (i) Needle Exchange Surveillance Initiative (NESI), Glasgow Caledonian University, University of West of Scotland and Health Protection Scotland, and (ii) Unlinked Anonymous Monitoring (UAM) survey of people who inject psychoactive drugs,[2] conducted by Public Health England with assistance from Public Health Wales and the Public Health Agency Northern Ireland.

2. Public Health England. Unlinked Anonymous Monitoring Survey of PWID in contact with Specialist Drug Services. 2019 Available from: www.gov.uk/government/statistics/people-who-inject-drugs-hiv-and-viral-hepatitis-monitoring Accessed [16/08/2019].

Appendix 1.* WHO GHSS targets[1] 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.[11]

TARGET AREA	2020 TARGETS[11]	2030 TARGETS[1]
Impact targets		
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[61] 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 communication	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	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(1) and modified to reflect the draft action plan for the health sector response to viral hepatitis in the WHO European Region(11)

** In England, 2020 and 2030 targets are already met.(62)

***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,(63) by using safety engineered devices.

1. 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 [29/07/2019].

11. World Health Organization. Action plan for the health sector response to viral hepatitis in the WHO European Region. 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 [29/07/2019].

61. World Health Organization. WHO, UNODC, UNAIDS technical guide for countries to set targets for universal access to HIV prevention, treatment and care for injecting drug users – 2012 revision. 2013. Available from: http://www.who.int/hiv/pub/idu/targets_universal_access/en/. Accessed [16/08/2019].

62. 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 [16/08/2019].

63. 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 [16/08/2019].

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

	Impact and Service Coverage Monitoring Areas • **Preliminary UK Indicator**
Burden	• Prevalence of chronic HCV infection (modelled estimates) • Estimated prevalence of chronic HCV among PWID
Impact	**1. Reducing HCV-related morbidity and mortality** • Estimated incidence of HCV-related ESLD/HCC • Deaths from HCV-related ESLD/HCC
	2. Reducing the number of new (incident) infections • Estimated incidence of HCV among PWID • Estimated prevalence of anti-HCV among recent initiates to drug use
Service coverage	**1. Adequate harm reduction** • Estimated proportion of PWID reporting adequate needle/syringe provision
	2. Increasing the proportion diagnosed • Estimated proportion of PWID testing positive for HCV, who are aware of their infection • Modelled estimates of the proportion diagnosed
	3. Increasing numbers accessing treatment • Number initiating HCV treatment