



Annual Epidemiological Report

July 2020

Hepatitis C in Ireland, 2019

Key Facts

Number of cases, 2019: 474

Crude notification rate, 2019: 10/100,000 population

The number of notifications of hepatitis C decreased by 19% in 2019 compared to 2018 (n=584). While notifications have declined each year since 2012, the annual rate of decline was lower between 2015 and 2018 (3-5%).

The highest notification rates in 2019 were in the greater Dublin area; 64% of cases in 2019 were notified by HSE East. Seventy four percent of 2019 cases were male and the median age at notification was 42 years for males and 41 years for females.

Most hepatitis C infections in Ireland are acquired through sharing equipment when injecting drugs.

There was an increase in hepatitis C notifications in men who have sex with men (MSM) in 2016. The number of cases identified as MSM decreased by more than 50% in 2017 and remained stable in 2018 and 2019.

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Background

The hepatitis C virus (HCV) was first identified in 1989. It primarily affects the liver and is a major cause of liver disease worldwide. Hepatitis C is most commonly transmitted through sharing contaminated equipment when injecting drugs or through receipt of unscreened blood or blood products (this is no longer a risk in Ireland).^{1,2,3} Sexual, occupational and vertical (mother to infant) transmission can also occur but are less common. The risk of sexual transmission is increased in men who have sex with men (MSM), particularly those who are HIV positive or have other sexually transmitted infections.⁴ The overall prevalence of chronic hepatitis C in adults in Ireland was estimated to be between 0.4 and 0.8%⁵ in 2016. This is similar to other northern European countries.⁶

The acute stage of hepatitis C infection is usually asymptomatic, but approximately 75% of those infected develop chronic infection, which can cause cirrhosis of the liver, hepatocellular carcinoma (liver cancer) and liver failure. Between 5 and 40% of those who are chronically infected develop cirrhosis after 20-40 years of infection.¹ Of those with cirrhosis, 1.5 to 2.5% will go on to develop hepatocellular carcinoma (liver cancer) each year.¹ Liver disease progression is faster in those with high alcohol consumption and in those who are co-infected with HIV and/or hepatitis B.⁷

There have been major advances in the treatment of hepatitis C in recent years with the approval of several new oral direct acting antiviral drug regimes (DAA) from late 2014 onwards. Sustained virological response (SVR) rates of over 95% have been reported with these drug regimes.⁸ SVR is regarded as a virological cure and is associated with significantly improved morbidity and mortality. A national hepatitis C treatment programme was established in Ireland in 2016. This programme aims to provide treatment for all people living with hepatitis C in Ireland (<https://www.hse.ie/eng/national-hepatitis-c-treatment-programme/>).

Methods

The figures presented in this summary are based on data extracted from the Computerised Infectious Disease Reporting (CIDR) System on 8th June 2020. These figures may differ from those published previously due to ongoing updating of notification data on CIDR. These data have not yet been extensively validated and should be considered provisional. Notification rates are expressed per 100,000 population and are calculated using the 2016 census (www.cso.ie).

Epidemiology

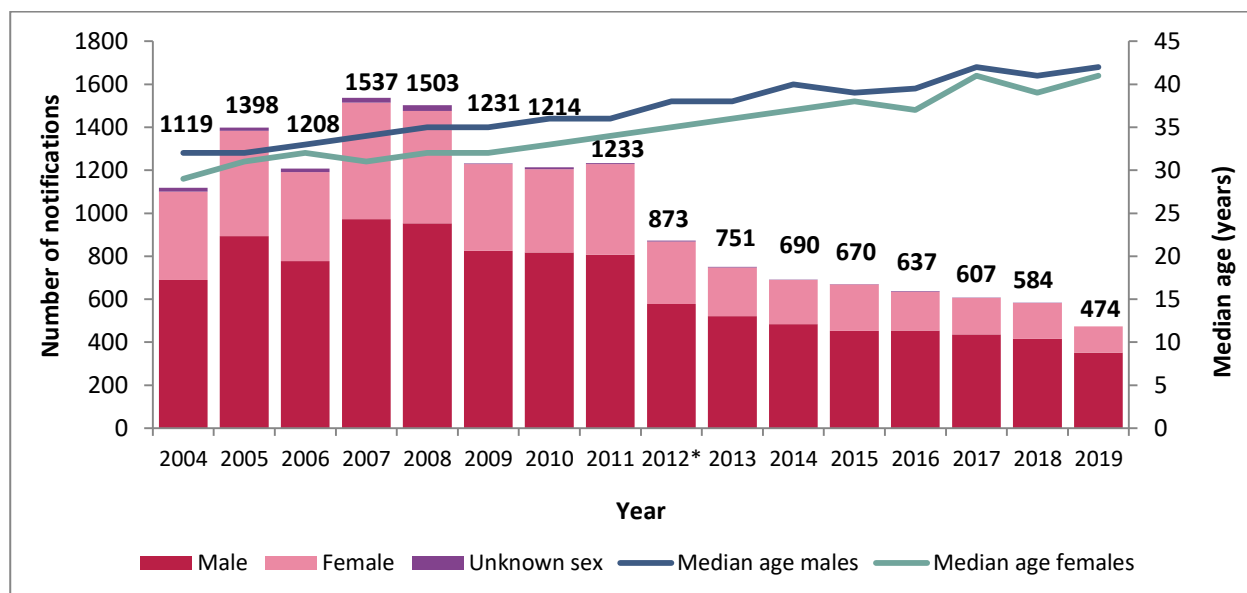
Number of notifications and notification rates

There were 474 notifications of hepatitis C in 2019 (10/100,000 population). This is a significant decrease (19%) compared to 2018 (n=584, 12.3/100,000 population). The number of hepatitis C cases notified annually has been declining since 2007, but this was the largest decline since 2012 (figure 1).

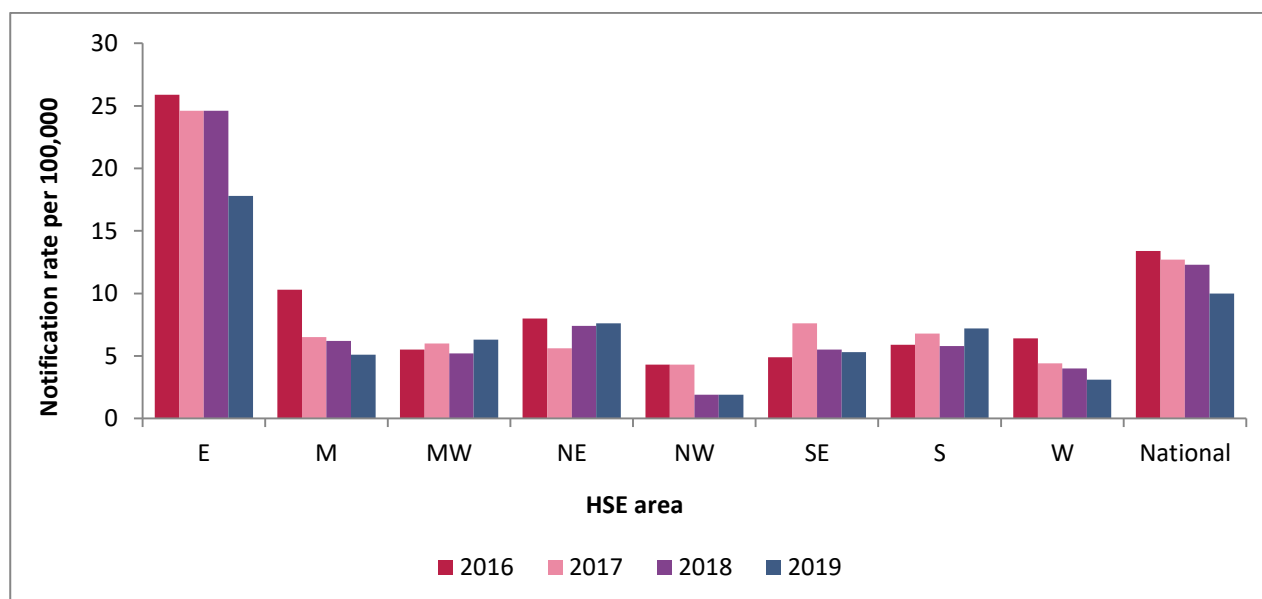
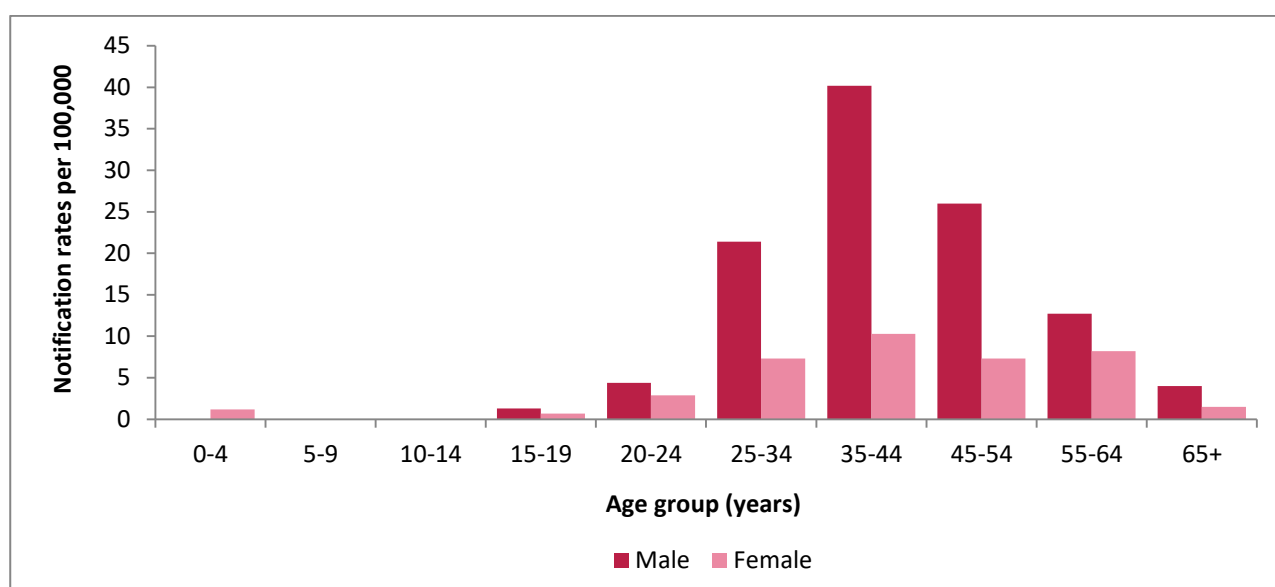
Notification rates for each HSE area for the past four years are shown in figure 2. The notification rate was significantly higher in HSE E (greater Dublin area) compared to the rest of Ireland; 64% of cases (n=304, 18/100,000 population) in 2019 were reported by HSE E.

Seventy four percent (n=352) of hepatitis C notifications in 2019 were male and 26% (n=122) were female. The highest notification rates were in adults aged between 25 and 54 years (19/100,000 population, n=384, 81% of cases) (figure 3). The median age at notification for hepatitis C has gradually increased from 31 years in 2004 to 42 years in 2019.

Figure 1. Number of notifications of hepatitis C in Ireland, by sex and median age at notification, 2007-2019



*Case definition changed in 2012 - cases known to be resolved excluded from notification

Figure 2. Hepatitis C notification rates/100,000 population in Ireland, by HSE area, 2016-2019**Figure 3. Age and sex-specific notification rates/100,000 population for hepatitis C in Ireland, 2019**

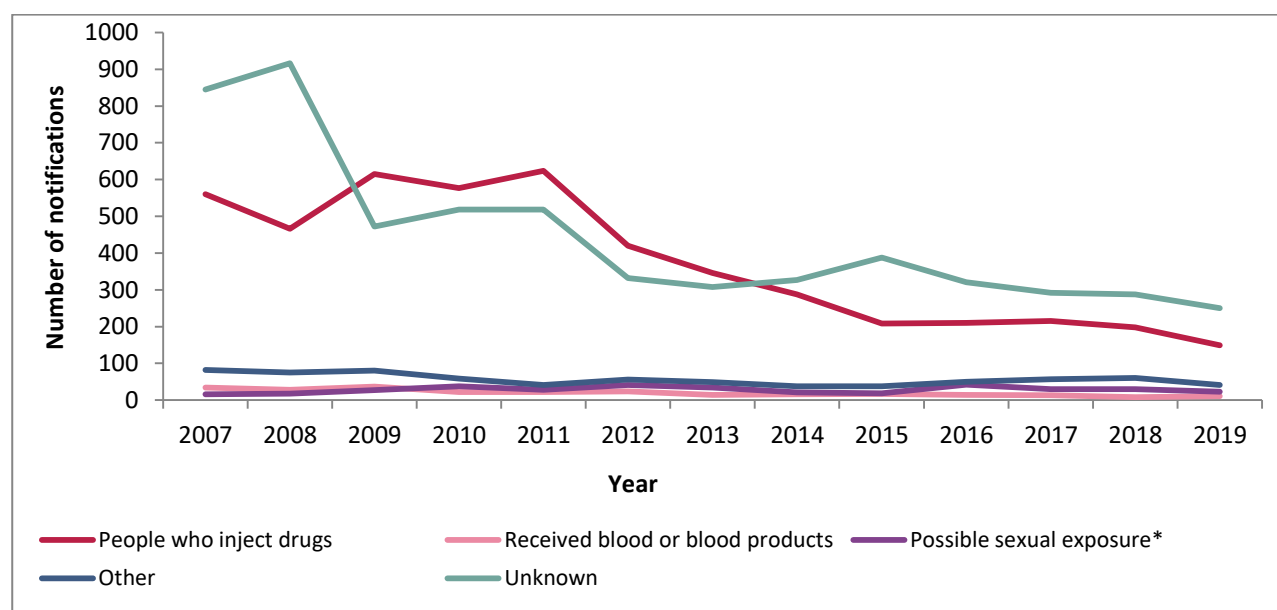
Risk factors

Information on most likely risk factor was reported for 47% (n=224) of the cases of hepatitis C notified in 2019. Of these, two thirds (67%, n=149) were people who inject drugs (PWID). The proportion of cases of hepatitis C attributed to injecting drug use has decreased in recent years (81% between 2007 and 2014, 74% in 2015, 67% from 2016 to 2019). However, this trend should be interpreted with caution as risk factor data were only available for half of cases notified in the past four years (figure 4).

Ten percent (n=23) of cases in 2019 were likely to have been acquired sexually (figure 4). Thirteen were men who have sex with men (MSM) and ten were heterosexual. There was a significant increase in the number of hepatitis C cases identified as MSM in 2016 (n=32 compared to n=11 in 2015), but hepatitis C notifications in MSM have decreased since then. A high proportion of MSM with hepatitis C were co-infected with HIV or had other sexually transmitted infections (STI). Sixty two percent of MSM who were diagnosed with hepatitis C in 2019 were HIV positive at the time of diagnosis and 62% had recently been diagnosed with one or more STIs (figure 5).

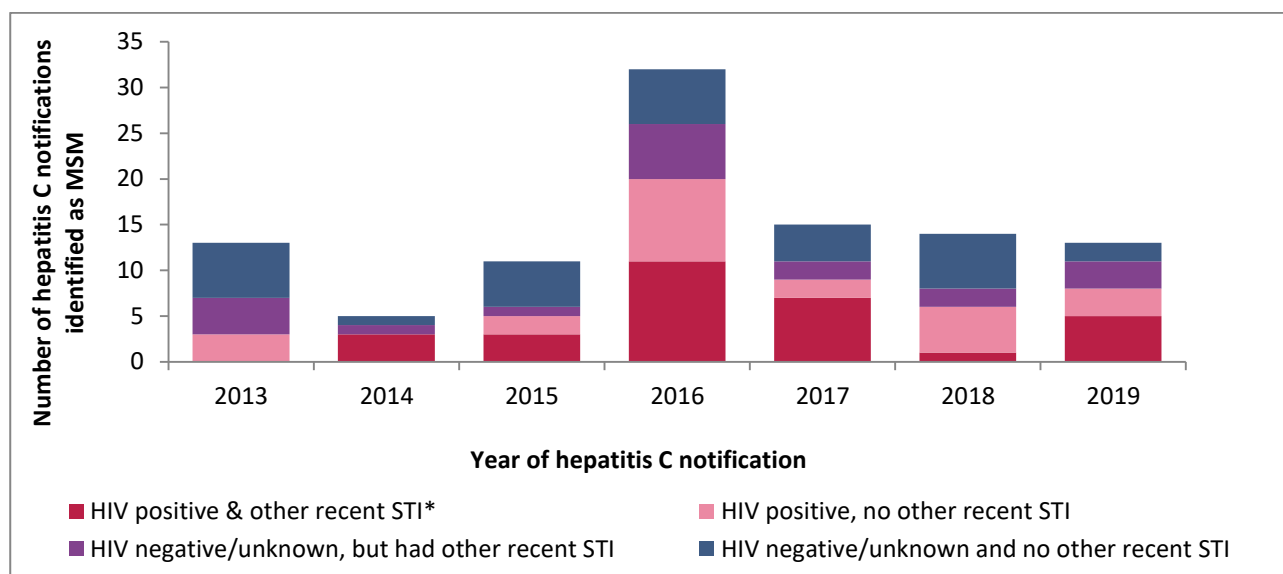
Five percent (n=11) of hepatitis C cases in 2019 were reported as infected through contaminated blood or blood products. Four were infected in Ireland many years ago and notified for the first time in 2019, six were infected outside Ireland and no country of infection was reported for the remaining case. Other reported risk factors included tattooing (4%, n=9), mother to baby transmission (n=3, 1%) and non occupational needle/blood exposure (n=3, 1%). No risk factor was identified for 18 cases despite follow up by regional public health staff. Figure 4 shows recent risk factor trends for hepatitis C in Ireland.

Figure 4. Number of hepatitis C notifications in Ireland, by most likely risk factor (risk factor data available for 52% cases, n=6,229), 2007-2019



*Possible sexual exposure includes MSM

Figure 5. Number of hepatitis C cases identified as MSM in Ireland, by HIV status at the time of hepatitis C notification and other recent STI* status, 2013-2019



*Gonorrhoea, syphilis, chlamydia, lymphogranuloma venereum or genital herpes simplex in the same year as hepatitis C notification or in the year prior to hepatitis C notification, HIV status is as of year of hepatitis C diagnosis

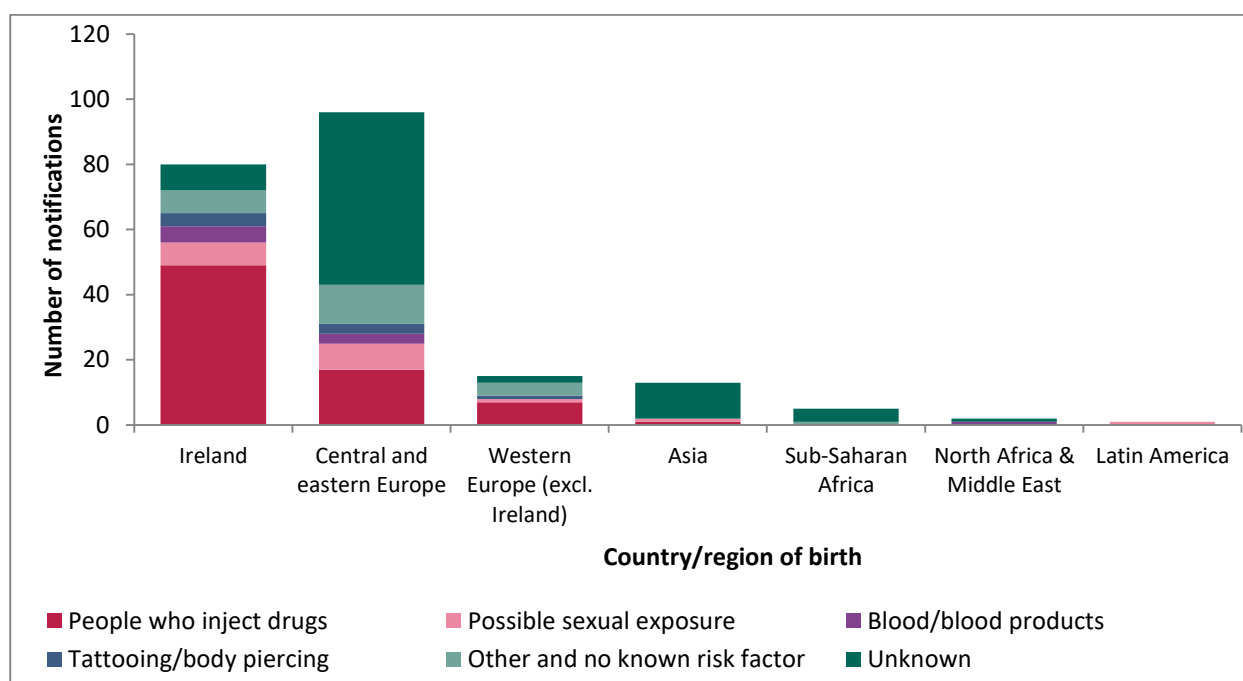
Country of birth

Data on country of birth were available for 45% of hepatitis C cases (n=212) in 2019. Where information was available, 45% (n=96) of cases were born in central or eastern Europe, 38% (n=80) were born in Ireland, 7% (n=15) were born in western European countries other than Ireland, 6% (n=13) were born in Asia, 3% (n=7) were born in Africa and one case was born in another region. Forty four percent of cases with information on country of birth or asylum seeker status were born in a hepatitis C endemic country ($\geq 2\%$ anti-HCV prevalence) or were asylum seekers. As data on country of birth were not very complete, this may not be representative of all cases. Figure 6 shows the most likely risk factor for infection by country/region of birth for the 212 cases where country of birth was known.

Genotype

Hepatitis C genotype data were collected retrospectively from the National Virus Reference Laboratory and were available for 29% (n=1550) of notifications between 2012 and 2019. Of these, 61% (n=944) were genotype 1, 33% (n=504) were genotype 3, 3% (n=51) were genotype 2, 3% (n=48) were genotype 4 and 3 cases were genotype 6. Subtype was available for 93% (n=875) of genotype 1 cases. Seventy five percent were genotype 1a and 25% were genotype 1b.

Figure 6. Number of hepatitis C notifications in Ireland, by most likely risk factor and country/region of birth (where country of birth was known, 45%, n=212), 2019



Co-infections

Co-infection with HIV can increase the risk of acquiring hepatitis C sexually, and both HIV and hepatitis B co-infections can lead to more severe liver disease and an increased risk of liver cancer in those with hepatitis C infection. Five percent (n=24) of hepatitis C cases notified in 2019 were co-infected with HIV. Six cases of hepatitis C (1%) were co-infected with hepatitis B.

Discussion

Hepatitis C became a notifiable disease in Ireland in 2004. Cases diagnosed before 2004 are notifiable if identified. This means that the notifications include some (but not all) cases diagnosed before 2004 in addition to newly diagnosed cases. The interpretation of trends in hepatitis C notifications is further complicated by the fact that cases are frequently asymptomatic or mildly symptomatic for some time. A significant proportion are diagnosed and notified as a result of screening in key risk groups, such as PWID, and not because they present with symptoms. These factors mean that there may be a considerable time lag between infection and notification, and that the number of cases notified each year is unlikely to reflect the number of new infections occurring in that year. However, available data from multiple sources indicate that hepatitis C is declining in Ireland.

New case definitions, specifically excluding the notification of hepatitis C cases known to have resolved infection (hepatitis C antibody positive and antigen/RNA negative) were

introduced in 2012 and the number of notifications declined by 29% in 2012 compared to 2011. Notifications continued to decline since then, but the rate of decline had slowed in recent years (3-5% annual decrease in notifications between 2015 and 2018). The 19% decrease in notifications in 2019 is the largest since 2012.

There has been a gradual increase in the median age at notification for all cases of hepatitis C and for cases in people who inject drugs (PWID), most likely indicating a decline in the incidence of hepatitis C in younger people in Ireland. This is supported by data from National Drug Treatment Reporting System (NDTRS), which is maintained by the Health Research Board and is used to monitor treated problem drug use in Ireland. NDTRS data indicate a decrease in injecting in newly treated drug users in Ireland between 2013 and 2019. Patients who were new to drug treatment in 2019 were also significantly less likely to have ever injected drugs compared to those who had been previously treated and were re-entering drug treatment in 2019 (6% compared to 37%).⁹ A study based on the incidence of injecting in PWID found that the decrease in the incidence of hepatitis C in PWID is actually likely to have begun in the late 1990s.¹⁰

Highly effective direct acting antiviral (DAA) drugs for the treatment of the hepatitis C have been available in Ireland since late 2014. These treatments eradicate the virus in over 95% of cases.⁸ Over 3,800 people were successfully between 2015 and 2019 (personal communication: National Hepatitis C Treatment Programme) and this reduction in the pool of infected people in the population is likely to have contributed to the decrease in notifications in recent years.

The data described in this report are provisional. Data completeness will improve on further validation.

Further information available on HPSC website

<https://www.hpsc.ie/a-z/hepatitis/hepatitisc/>

<https://www.hpsc.ie/a-z/hepatitis/hepatitisc/hepatitiscreports/>

<https://www.hpsc.ie/a-z/hepatitis/hepatitisc/factsheetleaflets/>

<https://www.hpsc.ie/a-z/hepatitis/hepatitisc/slidesets/>

Acknowledgements

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