



# Annual Epidemiological Report

November 2018

## Hepatitis C in Ireland, 2017

### Key Facts

Number of cases, 2017: 620

Crude notification rate, 2017: 13/100,000 population

The number of notifications of hepatitis C decreased by 4% in 2017 compared to 2016 (n=644). While notifications have declined each year since 2012, the rate of decline is slowing and notification rates are stabilising. The highest notification rates are in the greater Dublin area; 70% of cases in 2017 were notified by HSE East. Seventy two percent of 2017 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 in 2017, but remained elevated compared with the years prior to 2016.

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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).<sup>1,2,3</sup> 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.<sup>4</sup> The overall prevalence of chronic hepatitis C in adults in Ireland is estimated to be between 0.4 and 0.8%<sup>5</sup> and is similar to other northern European countries.<sup>6</sup>

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 10 and 20% of those who are chronically infected develop cirrhosis after 20-30 years of infection.<sup>7</sup> Of those with cirrhosis, 1.5 to 2.5% will go on to develop hepatocellular carcinoma (liver cancer) each year.<sup>1</sup> Liver disease progression is faster in those with high alcohol consumption and in those who are co-infected with HIV and/or hepatitis B.<sup>7</sup>

There have been significant improvements in the treatment of hepatitis C in recent years. The latest generation of direct-acting antiviral drugs (DAAs) can cure more than 95% of patients using all oral drug regimens, which have fewer side effects than previous treatments.<sup>8</sup>

## Methods

The figures presented in this summary are based on data extracted from the Computerised Infectious Disease Reporting (CIDR) System on 23<sup>rd</sup> October 2018. These figures may differ from those published previously due to ongoing updating of notification data on CIDR. Notification rates are expressed per 100,000 population and are calculated using the 2016 census.

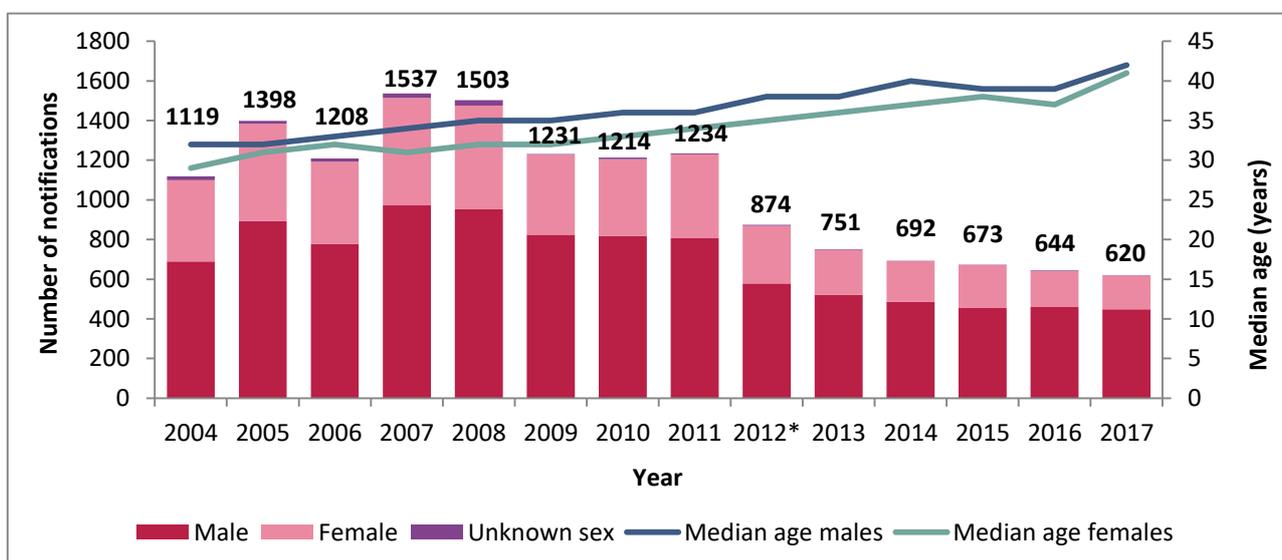
## Epidemiology

### Number of notifications and notification rates

There were 620 notifications of hepatitis C in 2017 (13/100,000 population). This is a small decrease compared to 2016 (n=644, 13.5/100,000 population) (figure 1). Although hepatitis C notifications have declined by 60% since peak levels in 2007 (n=1537), recent trends indicate that the notification rate is stabilising. 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 compared to the rest of Ireland; 70% of cases (n=433, 25/100,000 population) in 2017 were reported by HSE E.

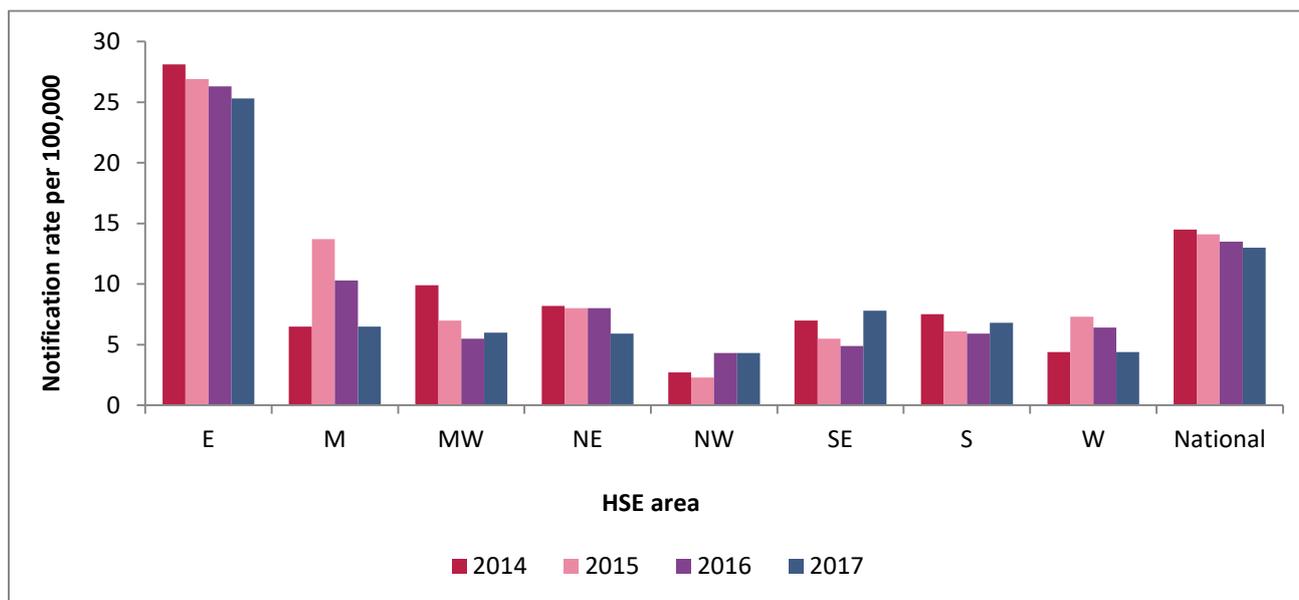
Almost three quarters (72%, n=448) of hepatitis C notifications in 2017 were male, 28% (n=171) were female and sex was not reported for one case. The highest notification rates were in adults aged between 35 and 54 years (figure 3). In this age group the notification rate was 27.5/100,000 population (n=377, 61% of cases). The median age at notification has gradually increased from 31 years in 2004 to a high of 41 years in 2017.

**Figure 1. Number of notifications of hepatitis C in Ireland, by sex and median age at notification, 2004-2017**

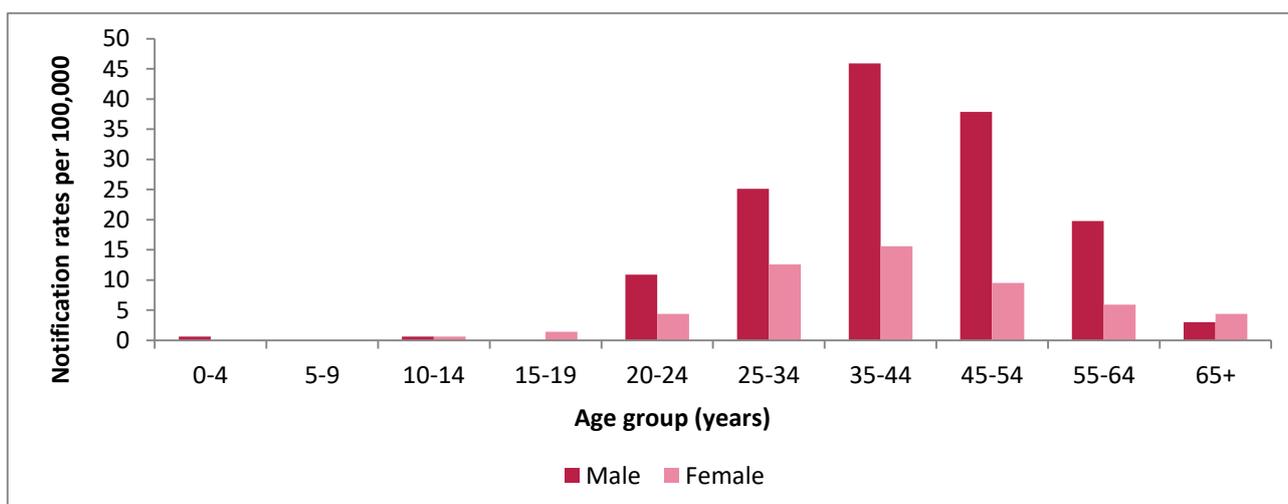


\*Case definition changed in 2012 - cases known to be resolved excluded from notification

**Figure 2. Hepatitis C notification rates/100,000 population in Ireland, by HSE area, 2014-2017**



**Figure 3. Age and sex-specific notification rates/100,000 population for hepatitis C in Ireland, 2017**



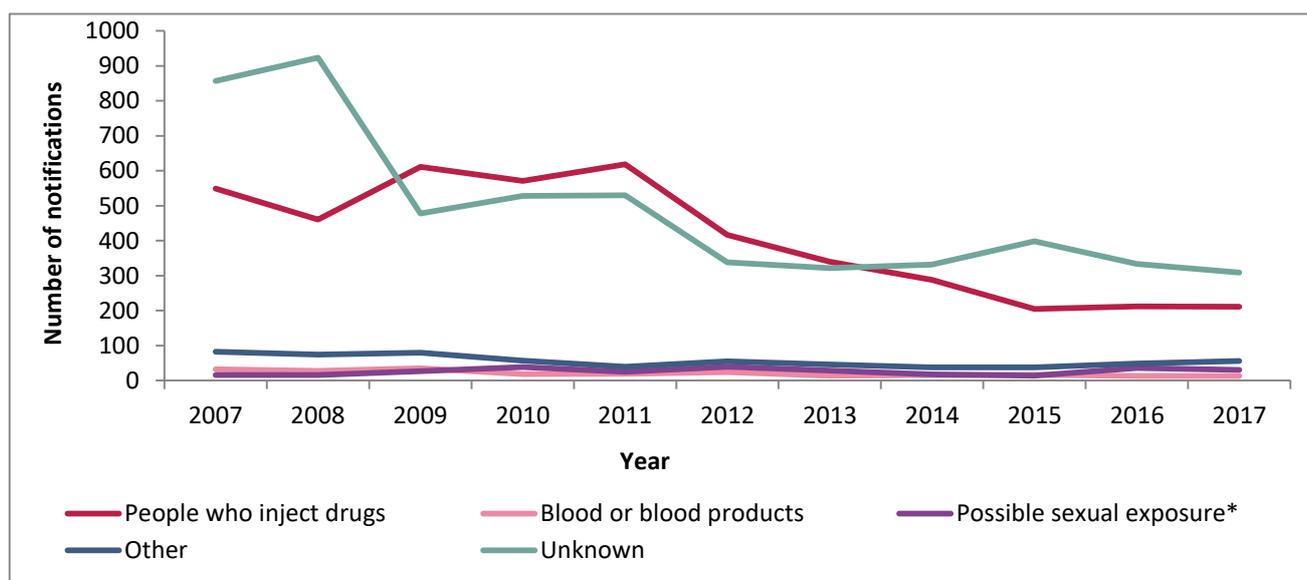
### Risk factors

Information on most likely risk factor was reported for half (n=311) of the cases of hepatitis C notified in 2017. Over two thirds (68%, n=211) of these were people who inject drugs (PWID). The proportion of cases attributed to injecting drug use has decreased in recent years (80% in 2014, 75% in 2015, 68% in 2016), but risk factor data were only available for around half of cases notified over the past four years, so this trend should be interpreted with caution (figure 4).

Ten percent (n=31) of cases were likely to have been infected sexually. Fifteen were MSM, twelve were heterosexual and sexual orientation was not reported for four. There were two additional cases identified as MSM; one also injected drugs and this was selected as his most likely risk factor and the risk factor for the remaining case was reported as unknown. There was a significant increase in the number of hepatitis C cases identified as MSM in 2016 (n=31) compared to 2015 (n=8). The number of known MSM cases decreased in 2017 (n=17), but remained higher than seen prior to 2016. The risk of sexual transmission of hepatitis C appears to be particularly high in those who are co-infected with HIV or have other sexually transmitted infections. Almost two thirds (65%, n=11) of the seventeen cases identified as MSM in 2017 were HIV positive at the time of HCV diagnosis. Eighty two percent of the HIV positive MSM cases (n=9) and 33% of the HIV negative MSM cases (n=2) had been recently (in the same year or the previous year) diagnosed with other sexually transmitted infections, particularly gonorrhoea, syphilis and chlamydia (figure 5).

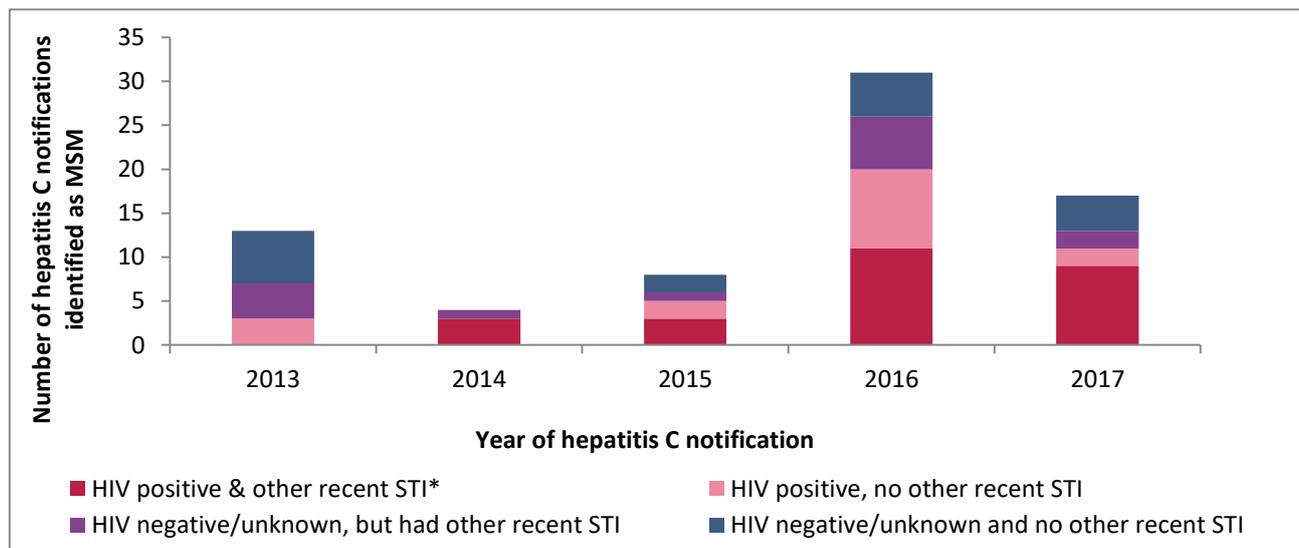
Four percent (n=13) of hepatitis C cases in 2017 were reported as infected through contaminated blood or blood products. Nine were infected outside Ireland and four were infected in Ireland many years ago and notified for the first time in 2017. Other reported risk factors included tattooing or body piercing (3%, n=9), accidental needlestick or blood exposure (3%, n=8) and vertical transmission (mother to infant) (1%, n=4). No risk factor was identified for 27 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 (where risk factor known, 51%, n=5,622), 2007-2017**



\*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, 2013-2017**



\*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

## Country of birth

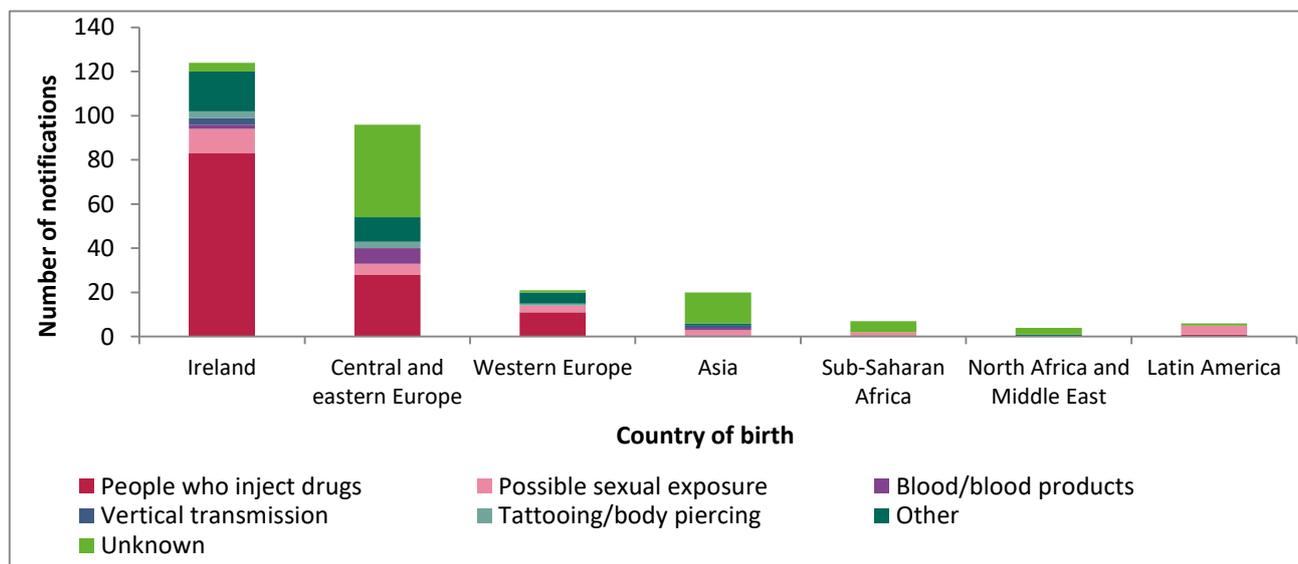
Data on country of birth were available for 45% of hepatitis C cases (n=280) in 2017. Where information was available, 44% (n=124) of cases were born in Ireland, 34% (n=96) were born in central or eastern Europe, 8% (n=21) were born in western European countries other than Ireland, 7% (n=20) were born in Asia, 4% (n=11) were born in Africa, 2% (n=6) were born in Latin America and 1% (n=2) were born in North America. Just over a third 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. Country of birth is more likely to be reported for those not born in Ireland and the actual proportion of hepatitis C cases born in Ireland is likely to be higher than reported here. Figure 6 shows the most likely risk factor for infection by region of birth for the 280 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 36% (n=1510) of notifications between 2012 and 2017. Of these, 60% (n=912) were genotype 1, 33% (n=497) were genotype 3, 3% (n=51) were genotype 2, 3% (n=47) were genotype 4 and 3 cases were genotype 6. Subtype was

available for 93% (n=846) of genotype 1 cases. Seventy five percent were genotype 1a and the remaining 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=280), 2017**



## 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. Four percent (n=23) of hepatitis C cases notified in 2017 were co-infected with HIV. This is a decrease compared to 2016 when 6% (n=39) were HIV positive. Seven cases of hepatitis C (1%) were co-infected with hepatitis B, two of whom were also HIV positive.

## Discussion

Hepatitis C notifications have decreased in recent years. The decline was fairly dramatic in 2012 but this may have been partially attributable to the introduction of new case definitions specifically excluding cases known to have resolved infection. While notifications have continued to decline each year since 2012, the rate of decline is slowing and notification rates are stabilising. Trends in hepatitis C notifications are difficult to interpret as cases are frequently asymptomatic or mildly symptomatic for some time, and most cases are diagnosed and notified as a result of screening in key risk groups such as PWID. Therefore, some cases may be diagnosed years after infection and notifications more accurately reflect trends in diagnoses rather than incidence of hepatitis C infection.

Risk factor data were available for half of the cases of hepatitis C notified in 2017. The distribution of risk factors for these cases may differ from cases where data were not available. Where information on risk factor was available, just over two thirds of cases were PWID who were likely to have been infected through unsafe injecting practices. There has been a gradual increase in the median age at notification for all cases of hepatitis C and for cases in PWID. This indicates that the incidence of hepatitis C is likely to be declining 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 indicated a decline in injecting in newly treated drug users in Ireland between 2010 and 2016. Patients who were new to drug treatment in 2016 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 2016 (13% compared to 46%).<sup>9</sup>

The number of sexually acquired cases of hepatitis C has increased in the last two years, particularly among MSM. Increases in HIV and other sexually transmitted infections have also been identified in MSM and a national multidisciplinary outbreak response group was established in early 2016 to develop an action plan for public health intervention (<http://www.hpsc.ie/a-z/specificpopulations/menwhohavesexwithmenmsm/>).

## Further information available on HPSC website

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

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

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

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

## Acknowledgements

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## Report prepared by:

**Niamh Murphy and Dr Lois O'Connor**

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