



# Annual Epidemiological Report (provisional)

April 2019

## Hepatitis C in Ireland, 2018

### Key Facts

Number of cases, 2018: 589

Crude notification rate, 2018: 12.4/100,000 population

The number of notifications of hepatitis C decreased by 3% in 2018 compared to 2017 (n=607). While notifications have declined each year since 2012, the rate of decline is slowing. The highest notification rates were in the greater Dublin area; 72% of cases in 2018 were notified by HSE East. Seventy one percent of 2018 cases were male and the median age at notification was 41 years for males and 39 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.

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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 was estimated to be between 0.4 and 0.8%<sup>5</sup> in 2016. This 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 26<sup>th</sup> March 2019. 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. This report will be updated once data validation has been completed. Notification rates are expressed per 100,000 population and are calculated using the 2016 census ([www.cso.ie](http://www.cso.ie)).

## Epidemiology

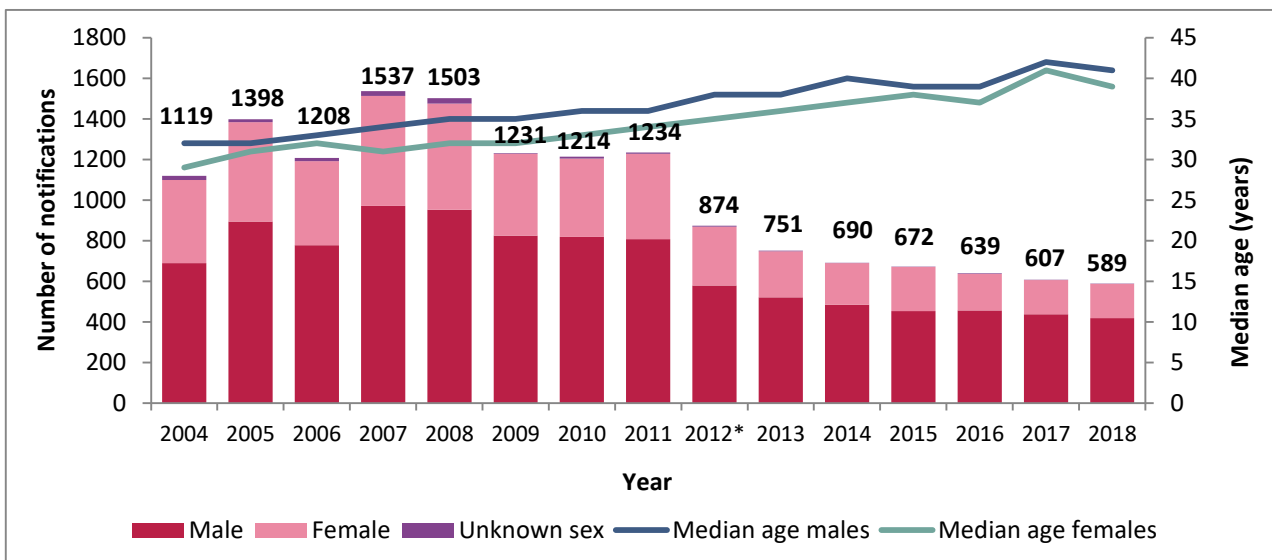
### Number of notifications and notification rates

There were 589 notifications of hepatitis C in 2018 (12.4/100,000 population). This is a small decrease compared to 2017 (n=607, 12.7/100,000 population). Although the number hepatitis C notifications has declined by 62% since peak levels in 2007 (n=1537), the rate of decline has slowed in recent years (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 compared to the rest of Ireland; 72% of cases (n=424, 25/100,000 population) in 2018 were reported by HSE E.

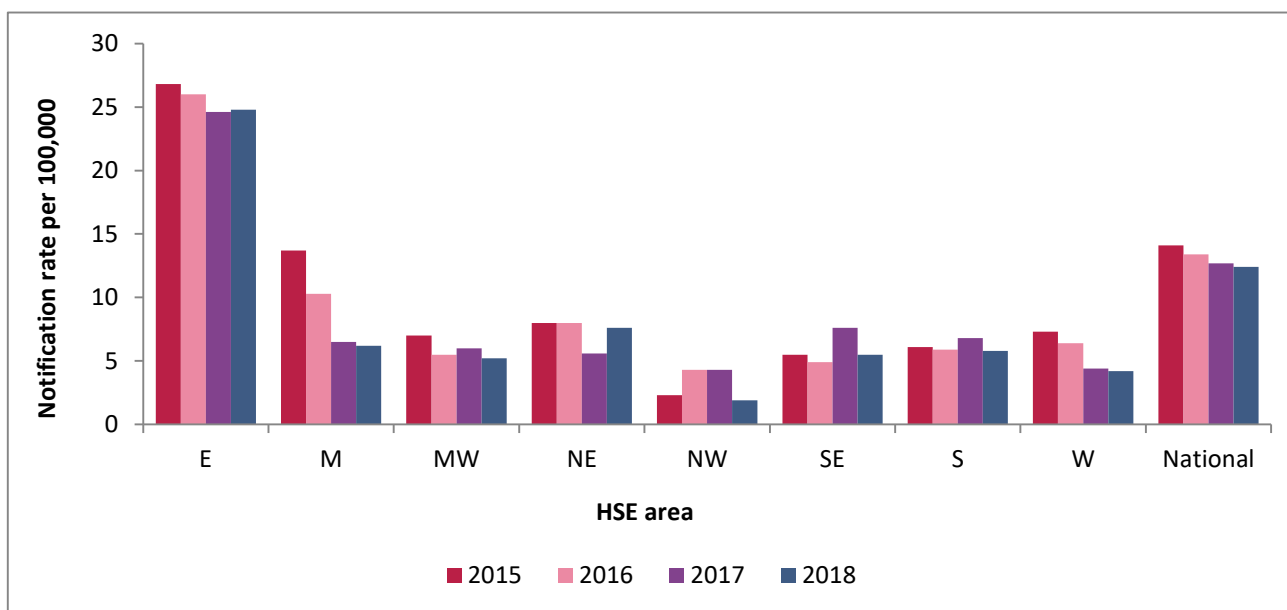
Seventy one percent (n=419) of hepatitis C notifications in 2018 were male, 29% (n=168) were female and sex was not reported for two cases. The highest notification rates were in adults aged between 25 and 54 years (figure 3). The notification rate in this age group was 23/100,000 population (n=469, 80% of cases). The median age at notification has gradually increased from 31 years in 2004 to 41 years in 2018.

**Figure 1. Number of notifications of hepatitis C in Ireland, by sex and median age at notification, 2007-2018**

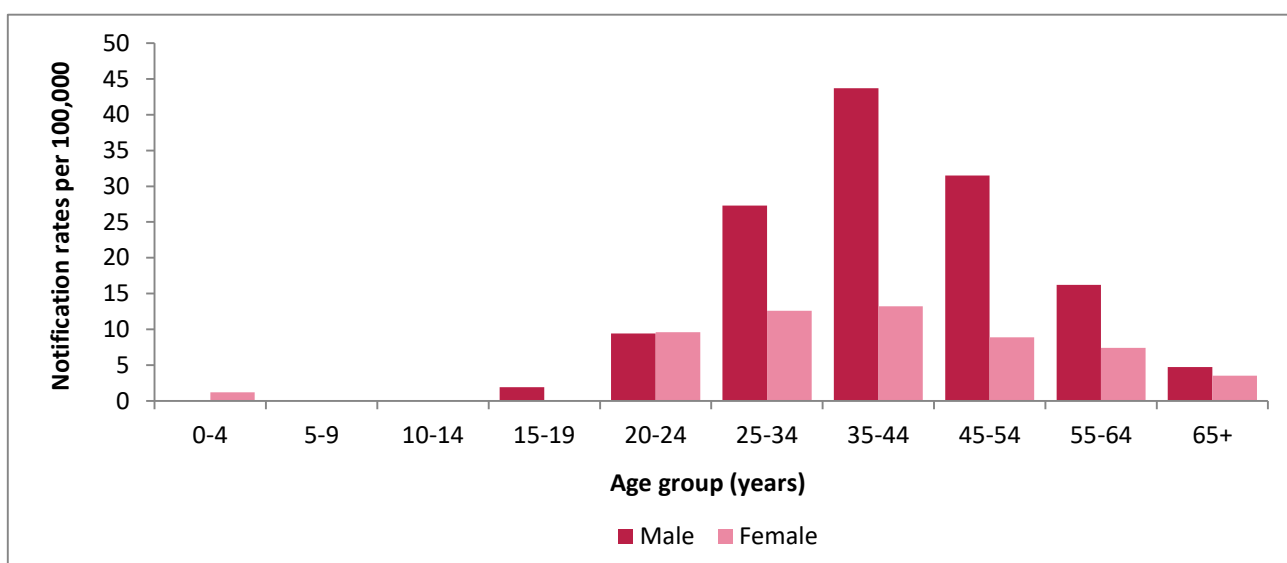


\*Case definition changed in 2012 - cases known to be resolved excluded from notification

**Figure 2. Hepatitis C notification rates/100,000 population in Ireland, by HSE area, 2015-2018**



**Figure 3. Age and sex-specific notification rates/100,000 population for hepatitis C in Ireland, 2018**



### Risk factors

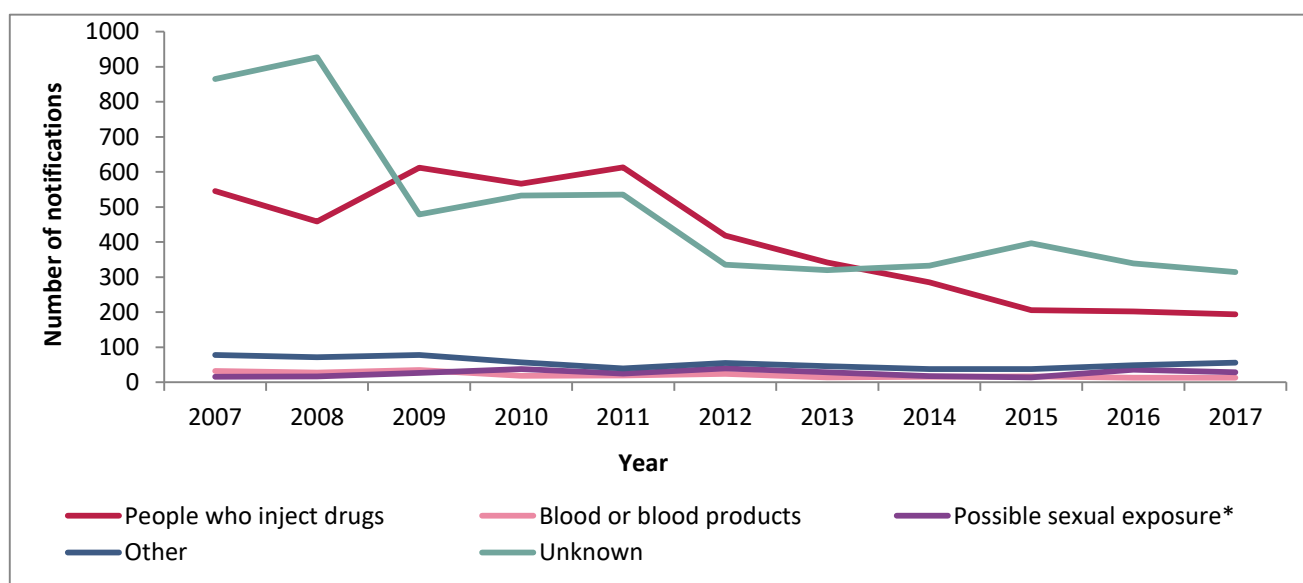
Information on most likely risk factor was reported for 43% (n=251) of the cases of hepatitis C notified in 2018. Just under two thirds (64%, n=160) of these were people who inject drugs (PWID). Snorting cocaine was reported as the most likely risk factor for infection for a further two cases. The proportion of cases of hepatitis C attributed to injecting drug use has decreased in recent years (82% between 2007 and 2014, 75% in 2015, 66% from 2016 to

2018). However, this trend should be interpreted with caution as risk factor data were available for less than half of cases notified over the past four years (figure 4).

Ten percent (n=24) of cases were likely to have been acquired sexually. Fourteen were heterosexual, six were men who have sex with men (MSM) and sexual orientation was not reported for four. There were eight additional cases identified as MSM. The most likely risk factor for hepatitis C infection was reported as injecting drug use for one of these cases and not reported for the other seven. 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). The risk of sexual transmission of hepatitis C was particularly high in MSM who were co-infected with HIV or had other sexually transmitted infections (STI). Sixty three percent of MSM who were diagnosed with hepatitis C in 2016 were HIV positive at the time of diagnosis and over half had recently been diagnosed with an STI. The number of cases of hepatitis C identified as MSM decreased in 2017 (n=15) and remained stable in 2018 (n=14). The percentage of MSM cases who were HIV positive (43%) or had recently been diagnosed with an STI (21%) declined in 2018 (figure 5).

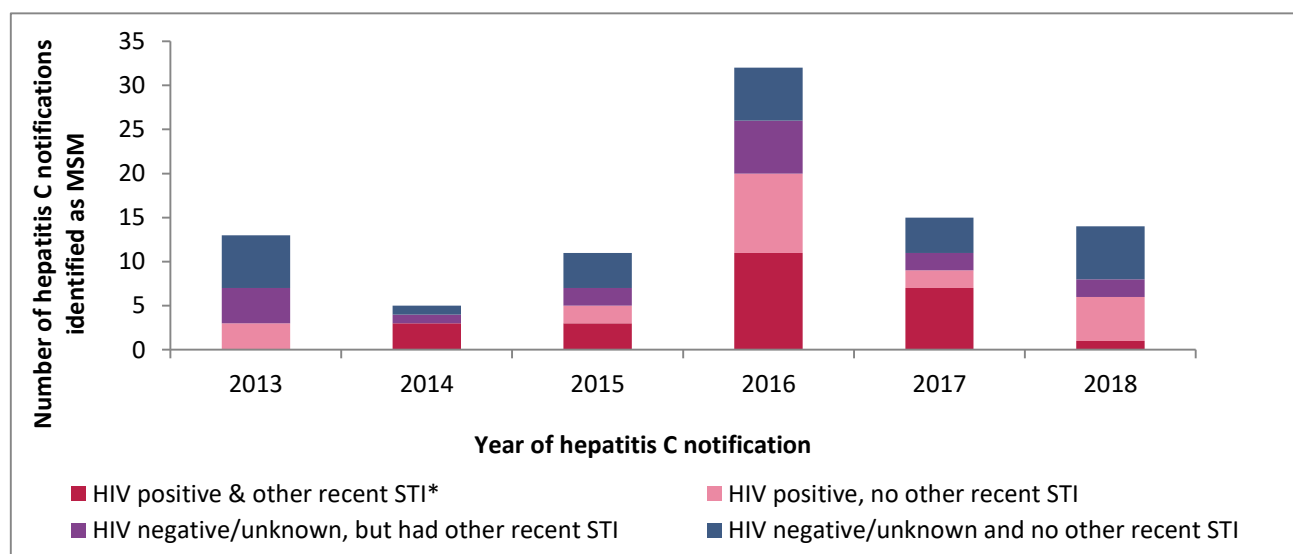
Three percent (n=8) of hepatitis C cases in 2018 were reported as infected through contaminated blood or blood products. Four were infected in Ireland many years ago and notified for the first time in 2018, three were infected outside Ireland and no country of infection was reported for the remaining case. Other reported risk factors included tattooing or body piercing (4%, n=9) and surgical or dental procedures outside Ireland (n=6, 2%). No risk factor was identified for 29 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 51% cases, n=5,823), 2007-2018**



\*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, 2013-2018**



\*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

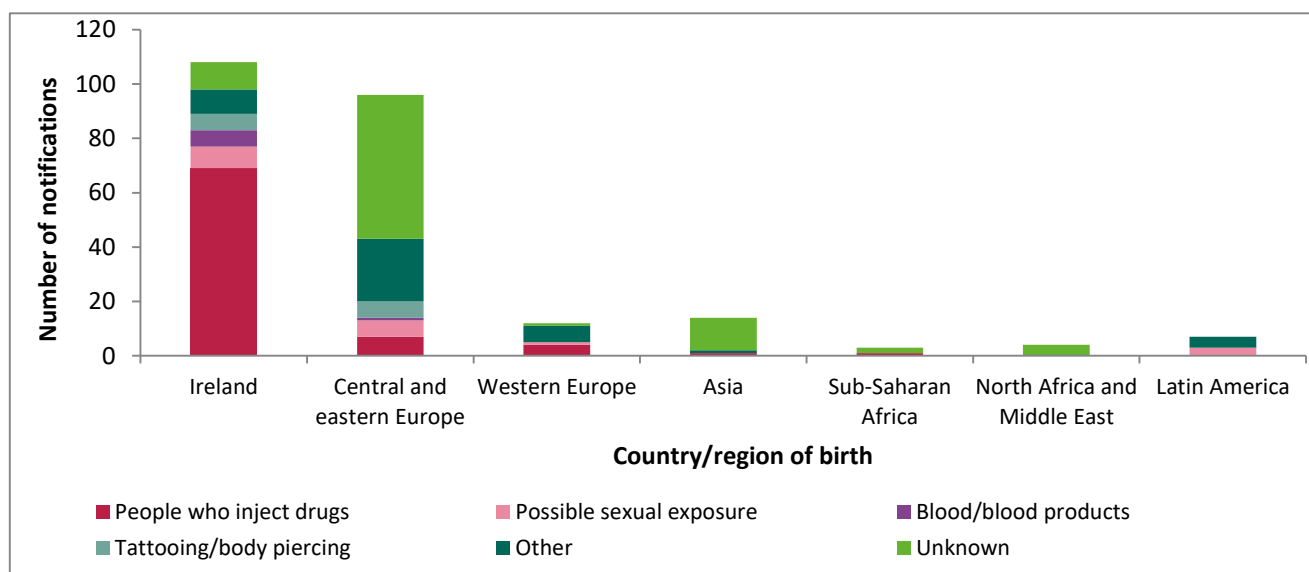
## Country of birth

Data on country of birth were available for 42% of hepatitis C cases (n=245) in 2018. Where information was available, 44% (n=108) of cases were born in Ireland, 39% (n=96) were born in central or eastern Europe, 6% (n=14) were born in Asia, 5% (n=12) were born in western European countries other than Ireland, 3% (n=7) were born in Africa, 3% (n=7) were born in Latin America and one case was born in another region. One 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. Figure 6 shows the most likely risk factor for infection by country/region of birth for the 245 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 32% (n=1524) of notifications between 2012 and 2018. Of these, 61% (n=922) were genotype 1, 33% (n=500) were genotype 3, 3% (n=52) were genotype 2, 3% (n=47) were genotype 4 and 3 cases were genotype 6. Subtype was available for 93% (n=856) 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, 42%, n=245), 2018**



### 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. Three percent (n=16) of hepatitis C cases notified in 2018 were co-infected with HIV. This is a decrease compared to 2016 (6%) and 2017 (4%). Six cases of hepatitis C (1%) were co-infected with hepatitis B.

### Discussion

Hepatitis C notifications have decreased in recent years. The decline was fairly dramatic in 2012 but this may be 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. 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 the incidence of hepatitis C infection in Ireland.

Risk factor data were available for less than half of the cases of hepatitis C notified in 2018. 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 under 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 indicate 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 (13% compared to 46%).<sup>9</sup>

Increases in hepatitis C, HIV and other sexually transmitted infections were identified in MSM in Ireland in late 2015. A national multidisciplinary outbreak response group was established in early 2016 and an action plan for public health intervention was developed (<http://www.hpsc.ie/a-z/specificpopulations/menwhohavesexwithmenmsm/>). The number of hepatitis C cases identified as MSM declined by more 50% in 2017 and remained at similar levels in 2018.

The data described in this report are provisional. Data completeness will improve as validation is carried out in the coming months. This report will be updated once validation is completed.

## 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

Sincere thanks are extended to all those who participated in the collection of data used in this report. This includes the notifying physicians, public health doctors, surveillance scientists, microbiologists, nurses, laboratory staff and administrative staff.

## Report prepared by:

**Niamh Murphy and Dr Kevin Kelleher**

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