Report on Hepatitis C Notifications Quarters 3&4 2016 and annual summary

Health Protection Surveillance Centre

Introduction

Hepatitis C became a notifiable disease under an amendment to the Infectious Diseases Regulations 1981, implemented on 1st January 2004 (S.I 707 of 2003). Prior to this, cases of hepatitis C could be notified as "viral hepatitis type unspecified".

Results

There were 652 notifications of hepatitis C in 2016 (14.2/100,000 population). This is a small decrease compared to 2015 (n=675, 14.7/100,000 population). Although the number of cases of hepatitis C reported has declined by 58% since peak levels in 2007 (n=1538), recent trends indicate that levels are stabilising rather than continuing to decrease (figure 1).

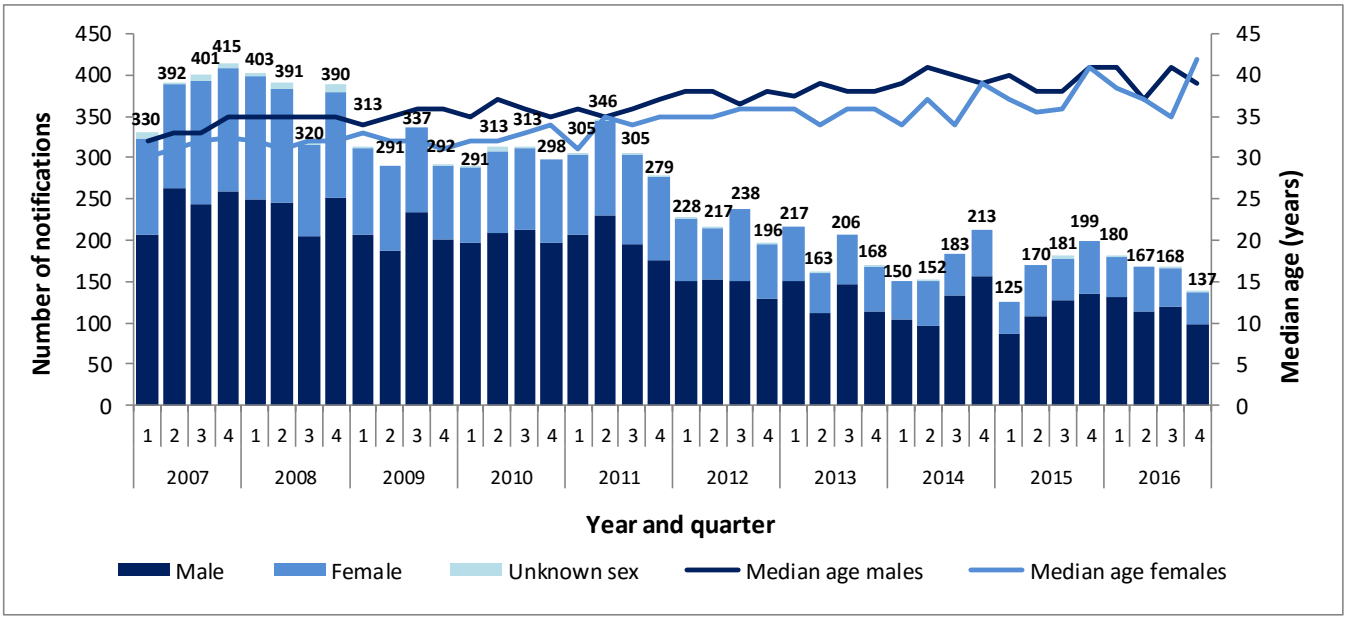

Figure 1: Number of notifications of hepatitis C and median age at notification, by sex, 2007-2016

Geographic distribution

Notification rates for each HSE area for the past four years are shown in figure 2. Seventy percent of notifications during this period were from the HSE-E and the mean annual notification rate for HSE E (29.8/100,000 population) for was almost three times that of the next highest area (HSE-M: 10.2/100,000 population). However, the percentage of hepatitis C notifications reported by HSE E has decreased from 83% in 2004 to 70% in 2016. This is likely to be due to improvements in screening practices outside of HSE E.

Age and sex

Seventy one percent (n=463) of hepatitis C cases in 2016 were male and 28% (n=185) were female. The sex of four cases was not known. Eighty one percent (n=526) of cases were aged between 25 and 54 years (figure 3). The median age of cases at notification has gradually increased from 31 years in 2004 to a high of 39 years in 2016 (figure 1). The age and sex profile of Q3 and Q4 2016 cases was similar to that for the year as a whole: 72% of cases were male and 81% of cases were aged between 25 and 54 years.

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Risk factor data

Information on most likely risk factor was available for 41% (n=270) of cases in 2016. Seventy one percent (n=193) of cases with risk factor data were people who inject drugs, 9% (n=24) were reported as likely to have been infected sexually, 4% (n=10) were infected through contaminated blood/blood products, 3% (n=8) reported tattooing/body piercing and 2% (n=5) acquired hepatitis C vertically from infected mothers. Other exposures were reported for five cases and no risk factor was identified for twenty five despite Public Health follow up. Forty six of the cases with no risk factor data and twenty eight cases with risk factor data were from hepatitis C endemic countries or were known to be asylum seekers.

There was in increase in hepatitis C notifications among patients identified as men who have sex with men (MSM) in 2016. Of the 24 cases in 2016 with sexual acquisition selected as the most likely risk factor, 46% (n=11) were men who have sex with men (MSM), 33% (n=8) were heterosexual and sexual orientation was not known for five. There were eleven additional cases of hepatitis C identified as MSM in 2016, although sexual acquisition was not indicated in their records. One also injected drugs and this was selected as his most likely risk factor for infection, and the remaining cases currently have most likely risk factor entered as unknown on CIDR. Four of the cases infected through contaminated blood or blood products were infected outside of Ireland and six were infected in Ireland many years ago, and notified for the first time in 2016.

The proportion of cases attributed to injecting drug use has decreased from 80% in 2007 to 71% in 2016, but risk factor data were not available for a significant number of cases so this finding is difficult to interpret. Data for 2016 will improve as further validation is carried out in the coming months. Figure 4 shows recent trends in hepatitis C risk factors. The distribution of risk factors in Q3 and Q4 was very similar to that for 2016 as a whole.

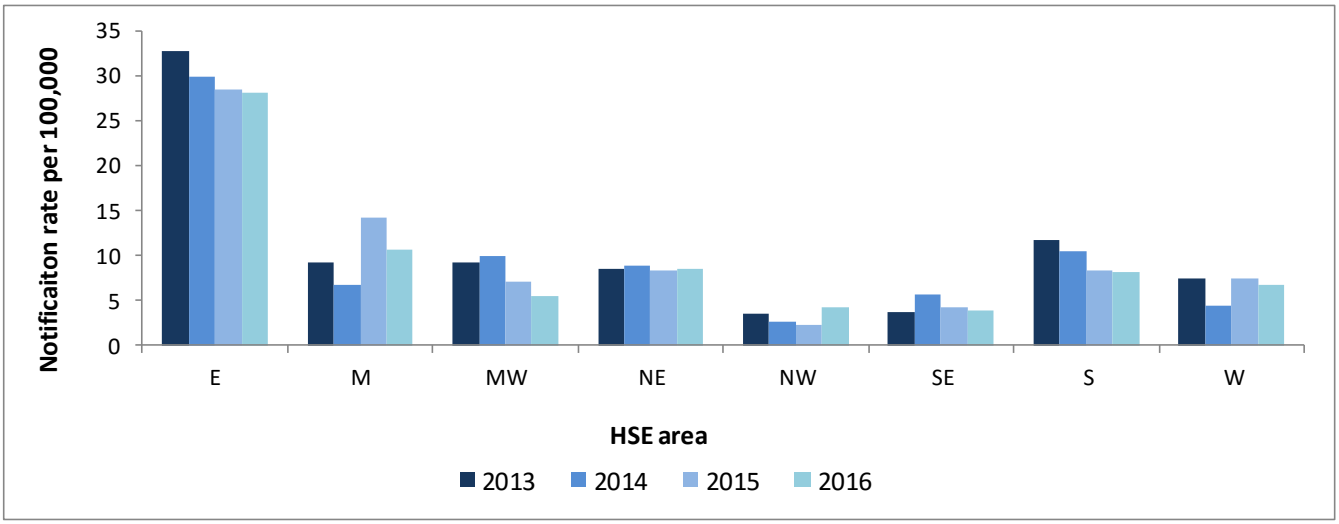

Figure 2: Hepatitis C notification rates per 100,000 population, by HSE area, from 2013 to 2016

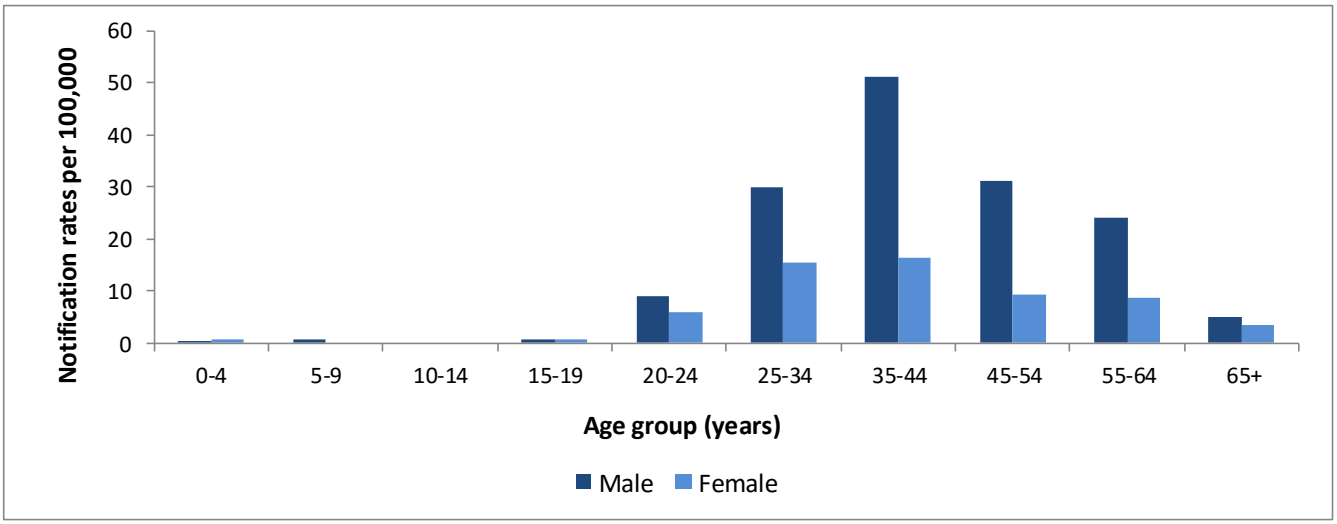

Figure 3: Age and sex specific rates per 100,000 population for hepatitis C notifications, 2016

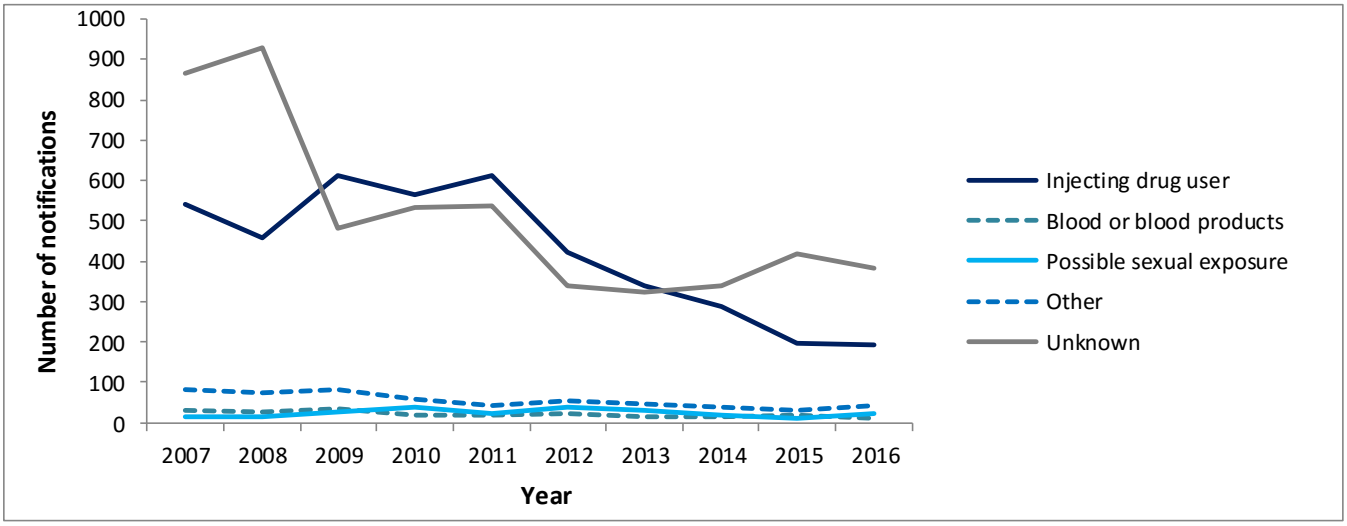

Figure 4: Number of hepatitis C notifications by risk factor, 2007 to 2016

Country and region of birth

Data on country of birth were available for 32% (n=210) of hepatitis C notifications in 2016. Where information was available, 40% (n=84) of cases were Irish, 34% (n=72) were Central or Eastern European, 11% (n=23) were born in other Western European countries and 8% (n=16) were Asian. Where country of birth was known, just under a third of cases were born in hepatitis C endemic countries. As data on country of birth were not very complete, this may not be representative of all cases. Figure 5 shows most likely risk factor by region of birth for the 210 cases where country of birth was known.

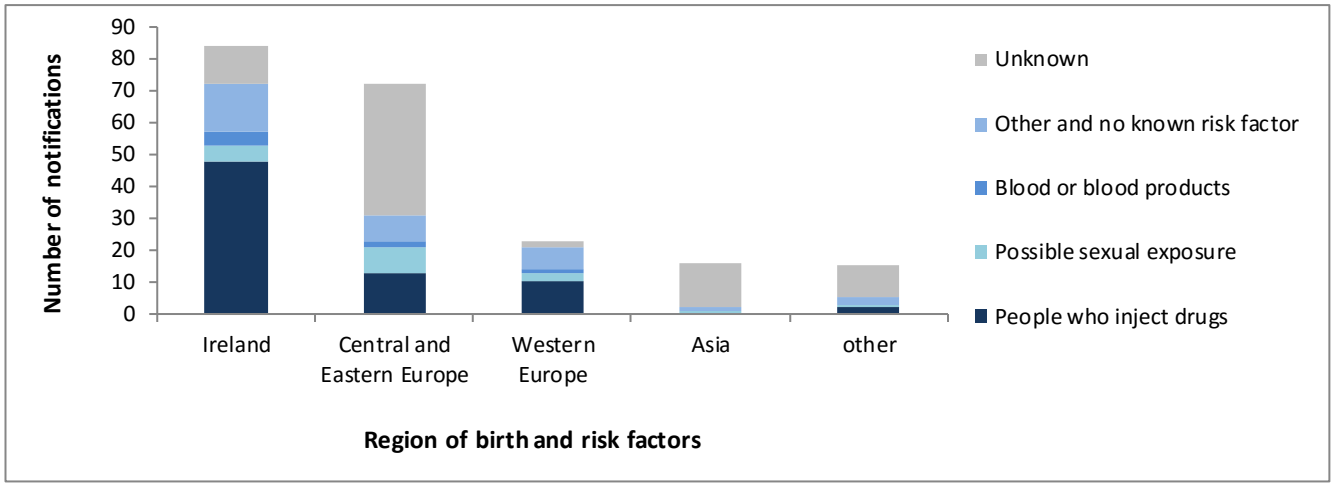

Figure 5: Number of hepatitis C notifications by risk factor and country/region of birth (where region of birth known, 32%, n=210), 2016

Genotype

Hepatitis C genotype data were collected retrospectively from the NVRL and were available for 21% (n=134) of the 2016 notifications. Of these, 63% (n=84) were genotype 1, 29% (n=39) were genotype 3, 6% (n=8) were genotype 2 and 2% (n=3) were genotype 4. Subtype was available for 90% (n=76) of genotype 1 cases, 80% of which were genotype 1a.

HIV and hepatitis B co-infections

Five percent (n=31) of the hepatitis C cases notified in 2016 were co-infected with HIV. This was an increase compared to 2015 when 3% of cases were HIV positive. Twelve were MSM, one of whom also injected drugs, 14 were people who inject drugs and no risk factor information was available for five. One percent (n=5) of hepatitis C notifications in 2016 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 have been partially attributable to the introduction of new case definitions specifically excluding cases known to have resolved infection. While notifications continued to decline slightly in 2016, hepatitis C levels now appear to be stabilising rather than further declining. Trends in notifications of hepatitis C are difficult to interpret as acute and chronic infections are frequently asymptomatic and most cases diagnosed and notified are identified as a result of screening in key risk groups. Therefore, notification patterns are highly influenced by testing practices which may vary over time and may not reflect incidence very well.

Risk factor data were available for only 41% of cases of hepatitis C in 2016. The distribution of risk factors for these cases may differ from cases where data were not available. Where information on risk factor was available, 71% of cases were drug users who were likely to have been infected through unsafe injecting practices. Anecdotally, the proportion of drug users who are injecting is decreasing and the incidence of hepatitis C seems to be decreasing in this population.

The number of cases of hepatitis C in MSM in Ireland appears to be increasing. The risk appears to be particularly high in those who are co-infected with HIV.

The incompleteness of our risk factor and country of birth data represents a significant gap in our knowledge of the current epidemiology of hepatitis C in Ireland.

Acknowledgements

HPSC would like to thank all those who provided data for this report - Departments of Public Health, laboratories and clinicians. Report by Niamh Murphy and Dr Lelia Thornton, 21st Feb 2017.

Case definition for hepatitis C

Clinical criteria: Not relevant for surveillance purposes. *Epidemiological criteria:* Not relevant for surveillance purposes.

Laboratory criteria for diagnosis

Hepatitis C (acute)

At least one of the following two:

- Recent HCV seroconversion (prior negative test for hepatitis C in last 12 months)
- Detection of hepatitis C virus nucleic acid (HCV RNA) or hepatitis C virus core antigen (HCV-core) in serum/plasma AND no detection of hepatitis C virus antibody (negative result)

Hepatitis C (chronic)

- Detection of hepatitis C virus nucleic acid (HCV RNA) or hepatitis C core antigen (HCV-core) in serum/plasma in two samples taken at least 12 months apart

Hepatitis C (unknown status)

Any case which cannot be classified according to the above description of acute or chronic infection and having at least one of the following three:

- Detection of hepatitis C virus nucleic acid (HCV RNA)
- Detection of hepatitis C virus core antigen (HCV-core)
- Hepatitis C virus specific antibody (anti-HCV) response confirmed by a confirmatory (e.g. immunoblot) antibody test in persons older than 18 months without evidence of resolved infection*

Case classification

Possible: N/A
Probable: N/A
Confirmed: Any person meeting the laboratory criteria

Note: Resolved infection should not be notified

*Resolved infection: Detection of hepatitis C virus antibody and no detection of hepatitis C virus nucleic acid (HCV RNA negative result) or hepatitis C virus core antigen (HCV-core negative result) in serum/plasma

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