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". The 2011 census data are used for all data expressed as rates per 100,000 population in this report.

Results

In Q1 and Q2 2017 there were 146 (3.2/100,000 population) and 150 (3.3/100,000 population) notifications of hepatitis C, respectively. This was a slight decrease compared to the previous 6 months. Hepatitis C notifications declined by 58% between peak levels in 2007 (n=1,538) and 2016 (n=645). However recent trends indicate that the rate of decline is slowing (figure 1).

Geographic distribution

Notification rates for each HSE area for the past four quarters are shown in figure 2. The notification rate was significantly higher in HSE-East compared to the rest of Ireland. Sixty seven percent of Q1 2017 cases (n=98, 6.0/100,000 population), and 71% of Q2 2017 cases (n=106, 6.5/100,000 population) were reported by HSE-East.

Age and sex

Seventy five percent (n=221) of hepatitis C cases in Q1 & 2 2017 were male and 25% (n=74) were female. The sex of one case was not reported. Eighty one percent (n=241) 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 42 years in the first six months of 2017 (figure 1).
Risk factor data

Some information on most likely risk factor was available for 37% (n=110) of cases reported in Q1 & Q2 2017. Sixty nine percent (n=76) of these were people who inject drugs (PWID), 10% (n=11) were likely to have been infected sexually (six were MSM and five were heterosexual), 6% (n=6) were infected through contaminated blood/blood products and 5% (n=5) reported tattooing/body piercing. Other exposures were reported for eight cases and it was not possible to identify a risk factor for four cases despite Public Health follow up.

The number of hepatitis C cases in MSM in Ireland has been increasing since late 2015. In addition to the six cases with MSM sexual exposure entered as their most likely risk factor for hepatitis C infection, four cases with no information on most likely risk factor had MSM entered as their mode of transmission for another infectious disease on CIDR. The risk of sexually transmitted hepatitis C appears to be particularly high in those who are co-infected with HIV. Sixty nine percent of the twenty nine hepatitis C cases identified as MSM in 2016 were HIV positive and 50% of those identified in Q1 & Q2 2017 were HIV positive. A significant proportion of this cohort had also had other recent sexually transmitted infections, particularly gonorrhoea, syphilis and chlamydia.
Four of the cases infected through contaminated blood or blood products were infected outside of Ireland, one was infected in Ireland many years ago and notified for the first time in 2017 and there was no information on country of infection for the remaining case. Figure 4 shows recent trends in most likely risk factor for hepatitis C in Ireland.

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**Country and region of birth**

Data on country of birth were available for 40% (n=118) of cases of hepatitis C in Q1 and Q2 2017. Where information was available, 38% (n=45) of cases were Irish, 36% (n=42) were from Central or Eastern Europe, 10% (n=12) were born in other western European countries, 8% (n=9) were Asian, 4% (n=5) were African, 3% (n=3) were from Latin America and the remaining two cases were from other regions. However, information on country of birth is significantly more likely to be reported for non-Irish nationals and the actual proportion of hepatitis C cases that were born in Ireland is likely to be higher this. Figure 5 shows most likely risk factor by region of birth for the 118 cases where country of birth was known.
Co-infections with HIV, hepatitis B and sexually transmitted infections
Three percent (n=8) of the hepatitis C cases notified in Q1 & 2 2017 were co-infected with HIV. This is a decrease compared to 2016 when 6% (n=39) of hepatitis C notifications were HIV positive. One of the HIV positive patients was also infected with hepatitis B and three had recently been diagnosed with syphilis.

Three HIV negative hepatitis C cases were infected with hepatitis B, two were infected with syphilis, one with syphilis and chlamydia and one with gonorrhoea. Risk factor data were reported for 8 of the 15 hepatitis C cases with HIV, hepatitis B or STI co-infections. Four were MSM, one was a PWID, one was infected through blood or blood products and the most likely risk factor reported for the remaining case was tattooing and body piercing.

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. 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 heavily influenced by testing practices which may vary over time and may not accurately reflect incidence.

Risk factor data were available for only 37% of cases of hepatitis C reported in the first half of 2017. Where information on risk factor was available, 69% of cases were people who inject drugs 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 appears to be decreasing in this population. This is supported by a reduction in the proportion of hepatitis C notifications attributed to injecting drug use in recent years (80% in 2014 to 67% in 2016). However risk factor data were only available for 52% of cases in 2014 and for 47% of cases in 2016 and the distribution of risk factors for these cases may differ from cases where data were not available. The proportion of sexually acquired cases of hepatitis C has increased in the last 18 months, particularly among MSM. 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.

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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

All data contained in this report are provisional (CIDR accessed 10th August 2017)
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