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# Hepatitis C Reinfection by Treatment Pathway Among People Who Inject Drugs in Tayside, Scotland

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# Disclosure of Interest

→ No authors declare any conflicts of interest.

# Background

→ The efficacy of direct acting antivirals (DAA) provide an excellent opportunity to scale up Hepatitis C (HCV) diagnosis and treatment, achieving the WHO target of HCV elimination by 2030.

→ However, HCV reinfection among people who inject drugs (PWID) remains a concern and may impede elimination efforts.

# Specialised treatment pathways in Tayside

→ The introduction of multidisciplinary managed care networks (MCN) in Tayside, Scotland has improved HCV testing and treatment, and increased access to care.

→ The scaling up of HCV treatment services in Tayside has involved the introduction of multiple specialised care pathways: community pharmacies, drug treatment centres, prisons, injection equipment provision sites (IEP), nurse led outreach clinics, and a hospital outreach clinic.

→ Combined with specialist diagnostic pathways, this scale up in services can prevent transmission and substantially reduce HCV prevalence among the PWID population.

# Study Aim

→ To assess incidence of reinfection among people who inject drugs across the aforementioned six specialised treatment pathways in Tayside, Scotland.

→ To assess incidence of reinfection following DAA based and interferon based therapies.

# Methodology

- → Retrospective study utilising Tayside Hepatitis C Clinical Database.
- → Data collected for every treatment episode that resulted in a sustained viral response (SVR).
- → SVR was defined as absence of detectable HCV RNA at 12 weeks or more, after completion of treatment (SVR-12).
- → Reinfection rates were calculated for each treatment pathway: hospital outpatient clinic; community pharmacy; drug treatment outreach; prison clinic; nurse led outreach clinic; and injection equipment provision (IEP) site.
- → Reinfection is defined as a positive RNA test result after SVR.
- → Incidences of reinfection are expressed in 100 person-years (PYs).

# Results

- 916 treatment episodes met selection criteria:
  - 816 non-reinfections
  - 100 reinfections

# Results- Overall incidence rate of reinfection

→ The total follow up time was 1896 person years (*M*= 2.1 years, range= 0.08- 18.2 years).

→ The overall estimated incidence rate of reinfection was 5.27 per 100 PYs (95%CI: 4.36- 6.38).

# Results- Incidence per treatment pathway

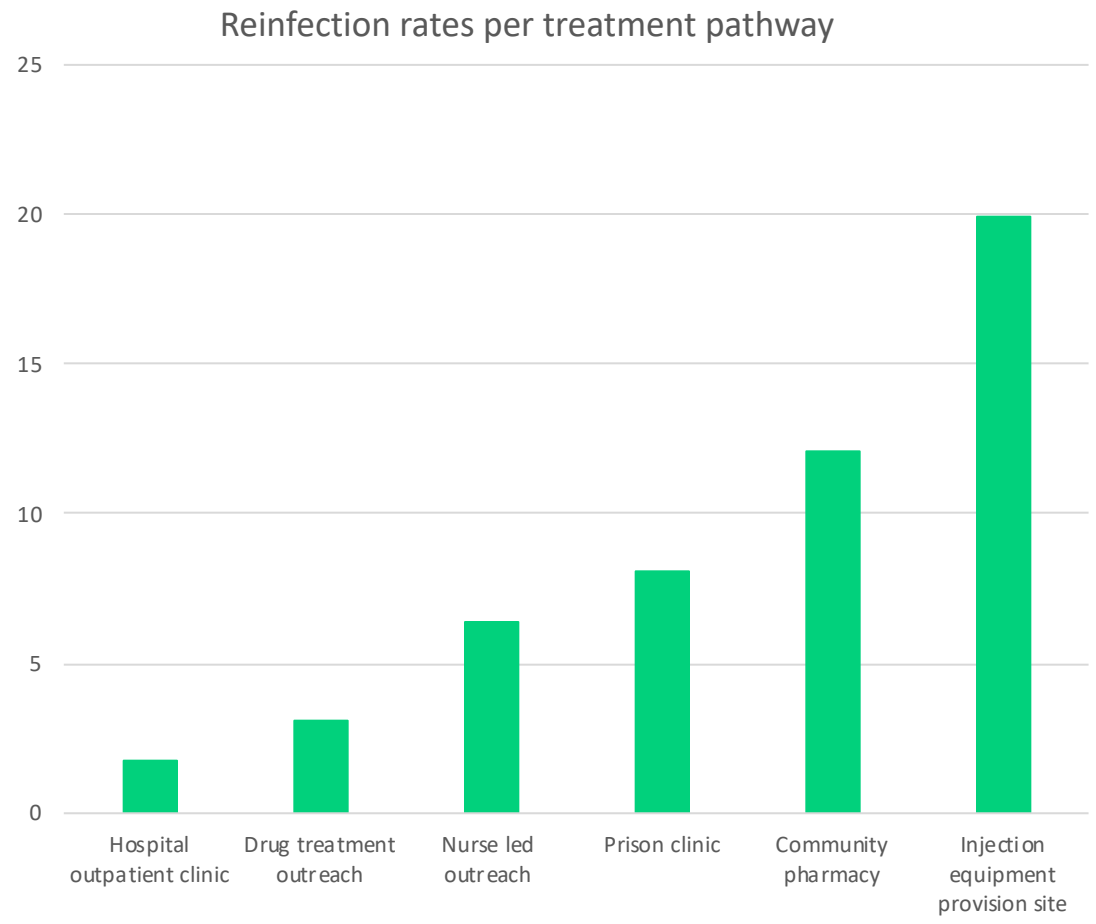


Figure 2. Incidence of reinfection per treatment pathway

# Results-Incidence of reinfection per treatment regimen

→ Of the 916 treatment episodes that met selection criteria, 550 involved interferon-based therapies, and 366 involved DAA based therapies, respectively.

→ The incidence of reinfection amongst those treated with interferon-based therapies was 4.93 per 100 PYs (95%CI: 3.97- 6.11).

→ The incidence of reinfection amongst those treated with DAA based therapies was 7.17 per 100 PYs (95%CI: 4.75- 10.82).

# Kaplan Meier Survival Analysis

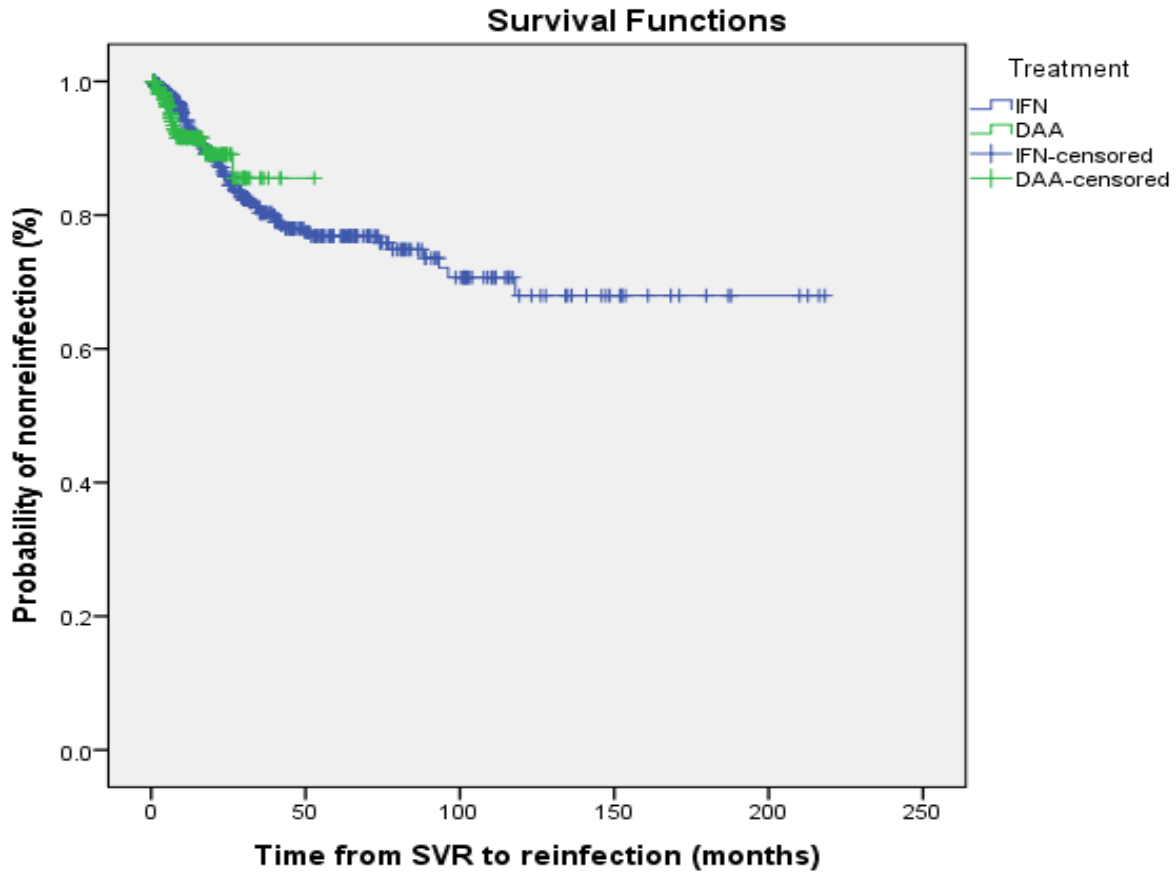


Figure 2. Kaplan Meier survival curve for time from SVR to reinfection per treatment regimen

# Conclusion

→ Specialised treatment pathways in Tayside yield varying reinfection incidence rates.

→ It emphasises the importance of defining the characteristics of patients in different care pathways to allow for reliable comparison of reinfection rates.

→ The injection equipment provision site treatment pathway yielded the highest incidence of reinfection, suggesting that resources should be targeted at this pathway to reduce the incidence of reinfection and achieve elimination targets.

→ The study also found comparable rates of reinfection following interferon-based and DAA-based therapies, providing support for widening access to treatment services.

Thank you for listening!

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