Current Trends of Hepatitis C in the UK, a study using The Health Improvement Network (THIN) database.

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Aims

This study aims to estimate trends in incidence and period prevalence of HCV in the THIN database between 2000 and 2019.

Introduction

- Hepatitis C (HCV) is an often asymptomatic viral infection which can cause liver inflammation. (1)
- It Is linked to complications such as liver cirrhosis and hepatocellular carcinoma. (1)
- It is a key public health concern with the WHO setting a target of global eradication by 2030. (2)
- Direct-acting antiviral drugs (DAA), introduced in 2015, now enable treatment of the disease. (3)

Methods

Study Design	A population-based analysis of hepatitis C in primary care
Database Used	The Health Improvement Network (THIN)
Study Period	January 1st, 2000, to December 31st, 2019
Cases	Read codes relating to HCV being recorded in the patients EHR
Outcome	• Crude incidence per 100,000 person years • Crude Period Prevalence per 100,000 • Subgroup analysis for age, sex, ethnicity and Townsend.

Data extracted from the THIN database using the DExtER tool

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Out of 832 possible practices, 830 practices were eligible for selection. This results in a possible 16,608,366 patients in these practices

→ 5,242,987 Patients are excluded based on study period, population age and data quality requirements

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Based on the study requirements, 11,365,379 patients are eligible for inclusion.

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Number of patients with HCV recorded in their EHR (n = 14,450)

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Data processed using a python-based, validated, automated analytics tool for incidence and prevalence.

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Calculation of crude incidence per 100’000 person years

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Calculation of crude prevalence per 100’000

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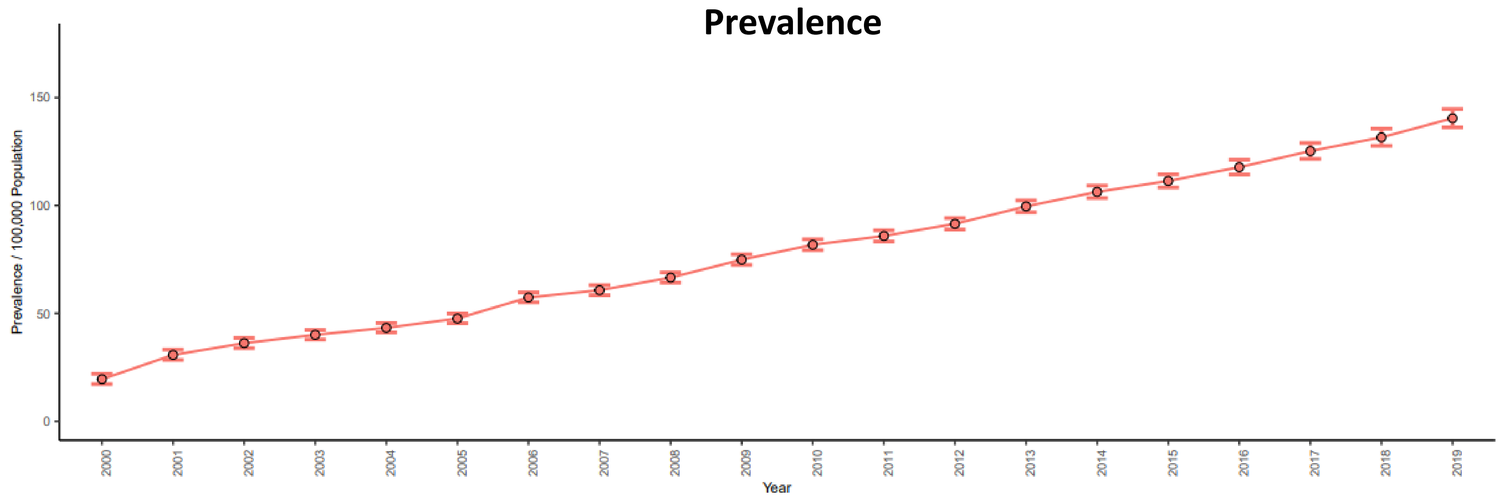
Analysis by subgroup for age sex, ethnicity and Townsend score.

Results

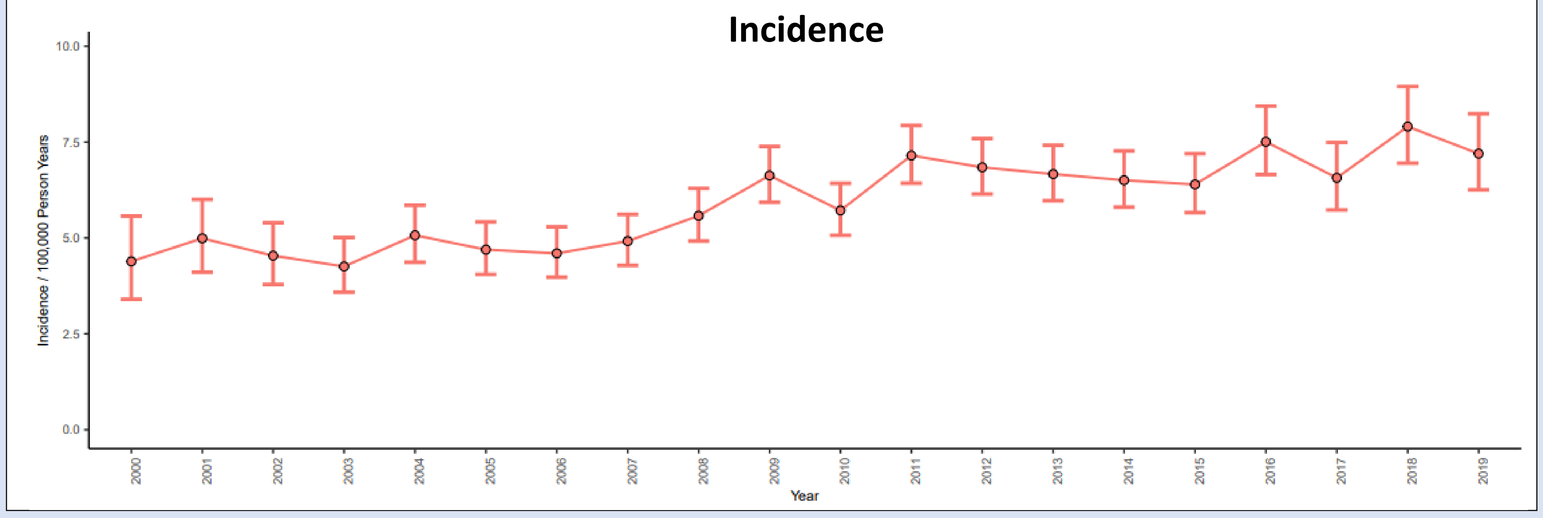
Findings

- 11,365,379 patients were eligible for inclusion
- 14,450 patients had HCV recorded in their EHR.
- Crude yearly incidence increased from **4.3 (3.4-5.6)** cases per 100,000 person-years in 2000 to **7.2 (6.3-8.2)** in 2019.
- Similarly, crude prevalence rose from **19.5 (17.2-22.0)** per 100,000 in 2000 to **140 (136.2-144.7)** in 2019.

Prevalence

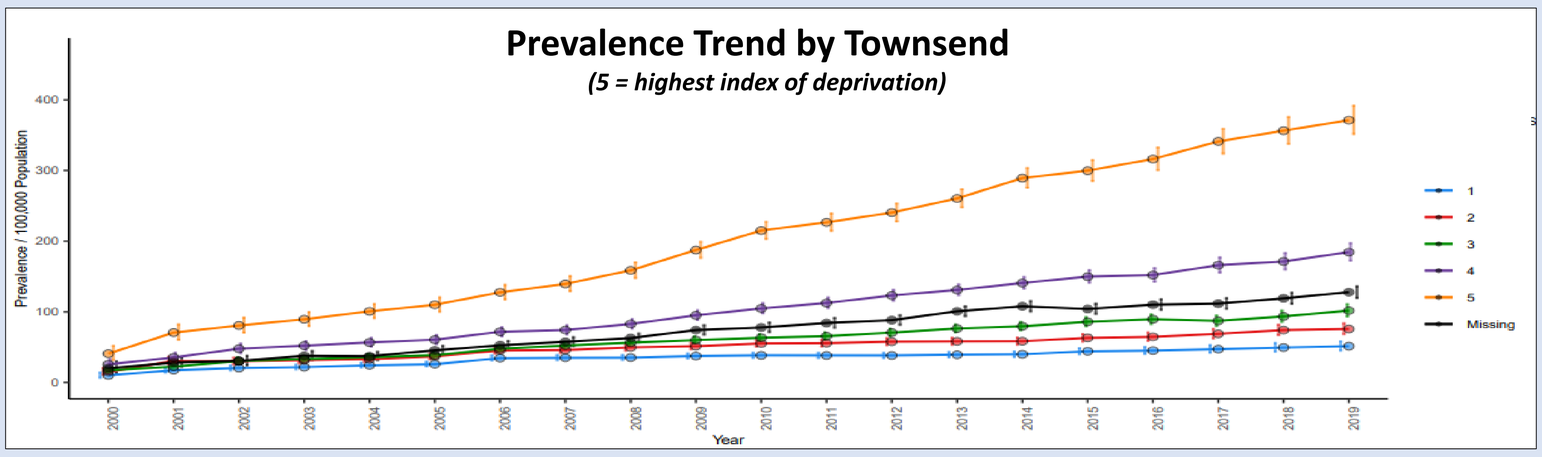


Incidence

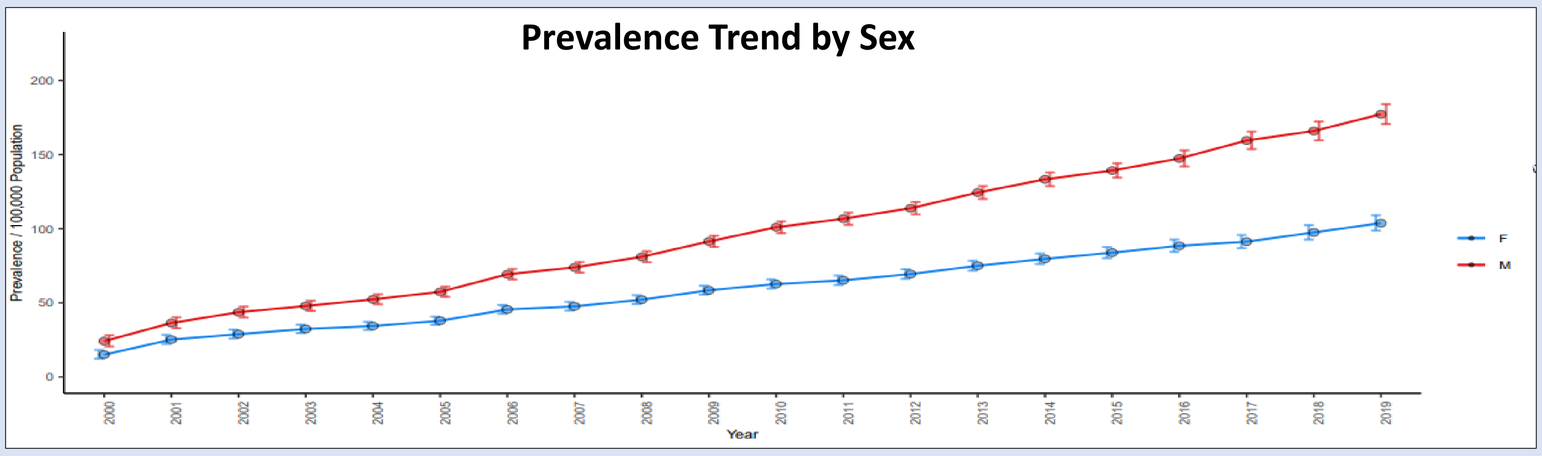


Prevalence Trend by Townsend

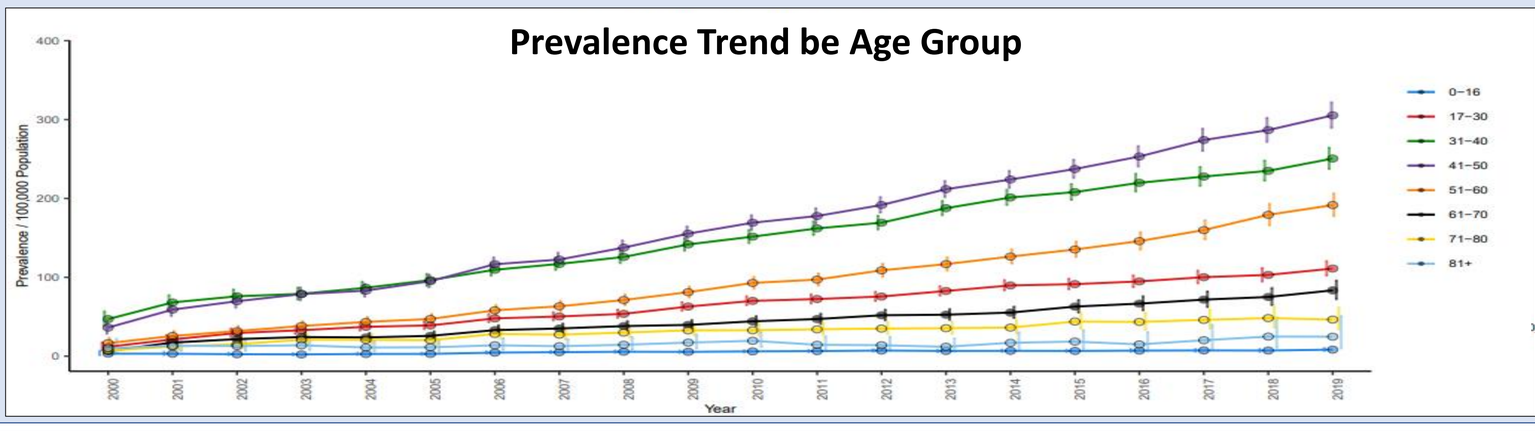
(5 = highest index of deprivation)



Prevalence Trend by Sex



Prevalence Trend be Age Group



Discussion

Main Findings

- We found incidence and prevalence of HCV in Primary Care records increased between 2000 and 2019.
- Highest incidence was reported in 2018, 2016 and 2019, all after the introduction of DAA in 2015. (3)
- **An increase in efforts to find HCV or more accurate coding of old HCV cases returning for treatment may explain the growth in cases.** (4)
- We estimated a prevalence in England in 2019 of **79,037**
- The UKHSA estimated prevalence in 2019 to be **89,000**. (5)
- **Primary care EHR data could be used to monitor Public Health Interventions**

Subgroup Analysis

- **Deprivation was associated with increased incidence and prevalence of hepatitis C.**
- This is consistent with literature (5) and highlights a need for focussed public health interventions.
- **Male participants saw both higher incidence and prevalence of hepatitis C**
- Smaller studies suggest this is due to riskier drug taking behaviour in men (6)

Strengths

- Very large dataset
- Additional data-source to those used by UKHSA (5)

Limitations

- Re-infection cannot be identified
- Vulnerable groups can be underrepresented

Acknowledgements

This research project was supported by the Sir Arthur Thomson Trust Vacation Studentship

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