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# Defining the data requirement to achieve hepatitis C elimination in the United Kingdom: The Somerset Liver Improvement Project

Emma Saunsbury<sup>1</sup>, Almuthana Mohamed<sup>1</sup>, Timothy Jobson<sup>1</sup>

1. Musgrove Park Hospital, Somerset NHS Foundation Trust, Somerset, UK



## Introduction

Despite treatment initiatives to meet the World Health Organisation target of eliminating hepatitis C virus (HCV) by 2030, many patients with HCV in the United Kingdom (UK) are not yet linked to specialist services or successfully treated.<sup>1,2</sup>

## Aim

Using a novel case finding database in Somerset (609,474 individuals), we aimed to identify unknown and untreated HCV patients and determine the impact of deprivation on this patient population by refining the methodology to identify HCV patients for treatment.

## Method

The database was configured to identify two groups of patients: those with persistently abnormal liver function tests (LFTs) and no HCV test, and those with positive HCV antibody (Ab) between 2004-2023 (age 18-70).

Clinical records and 'high-cost drug' records were reviewed to determine treatment status, spontaneous HCV clearance, and/or sustained virological response (SVR) post-treatment.

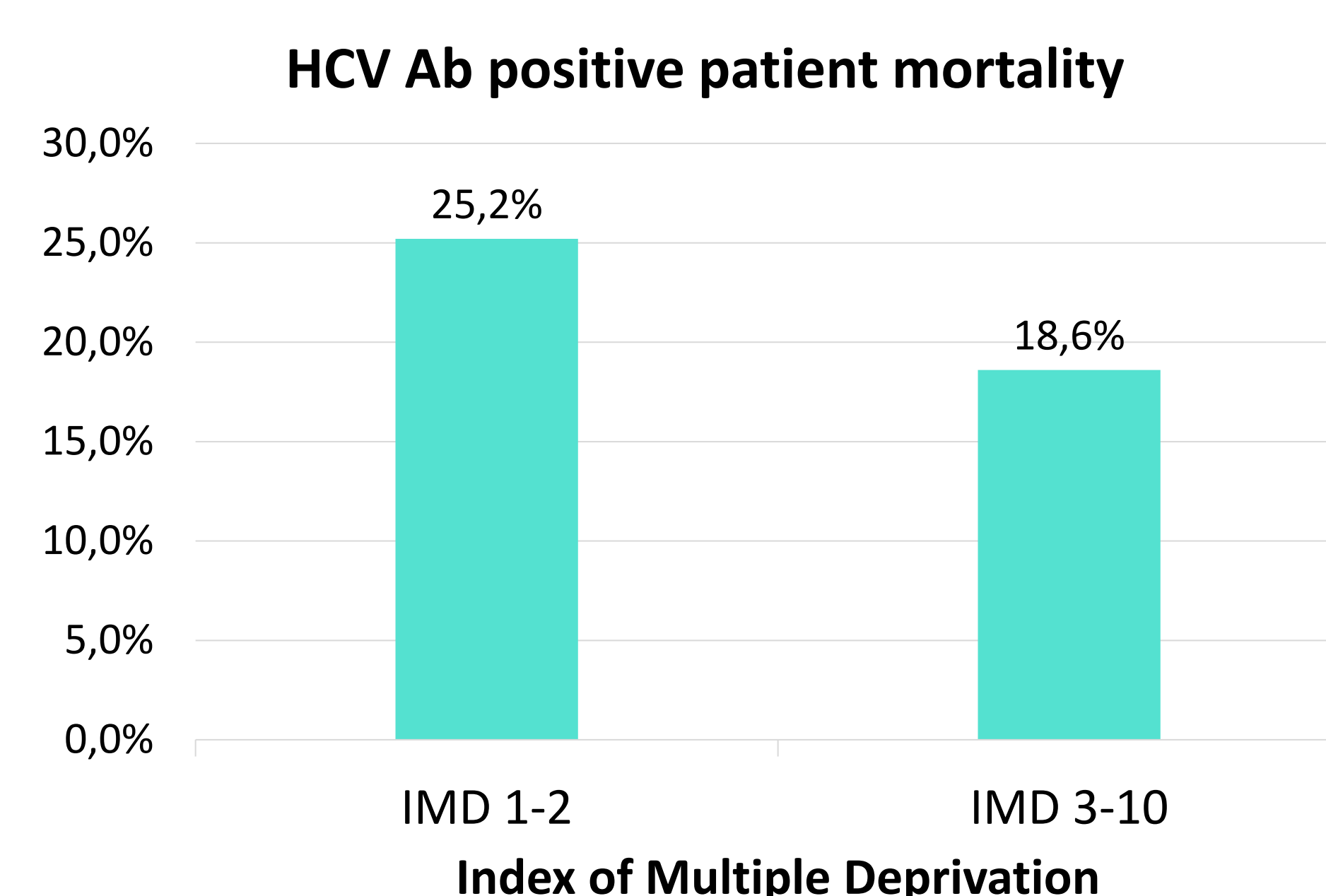
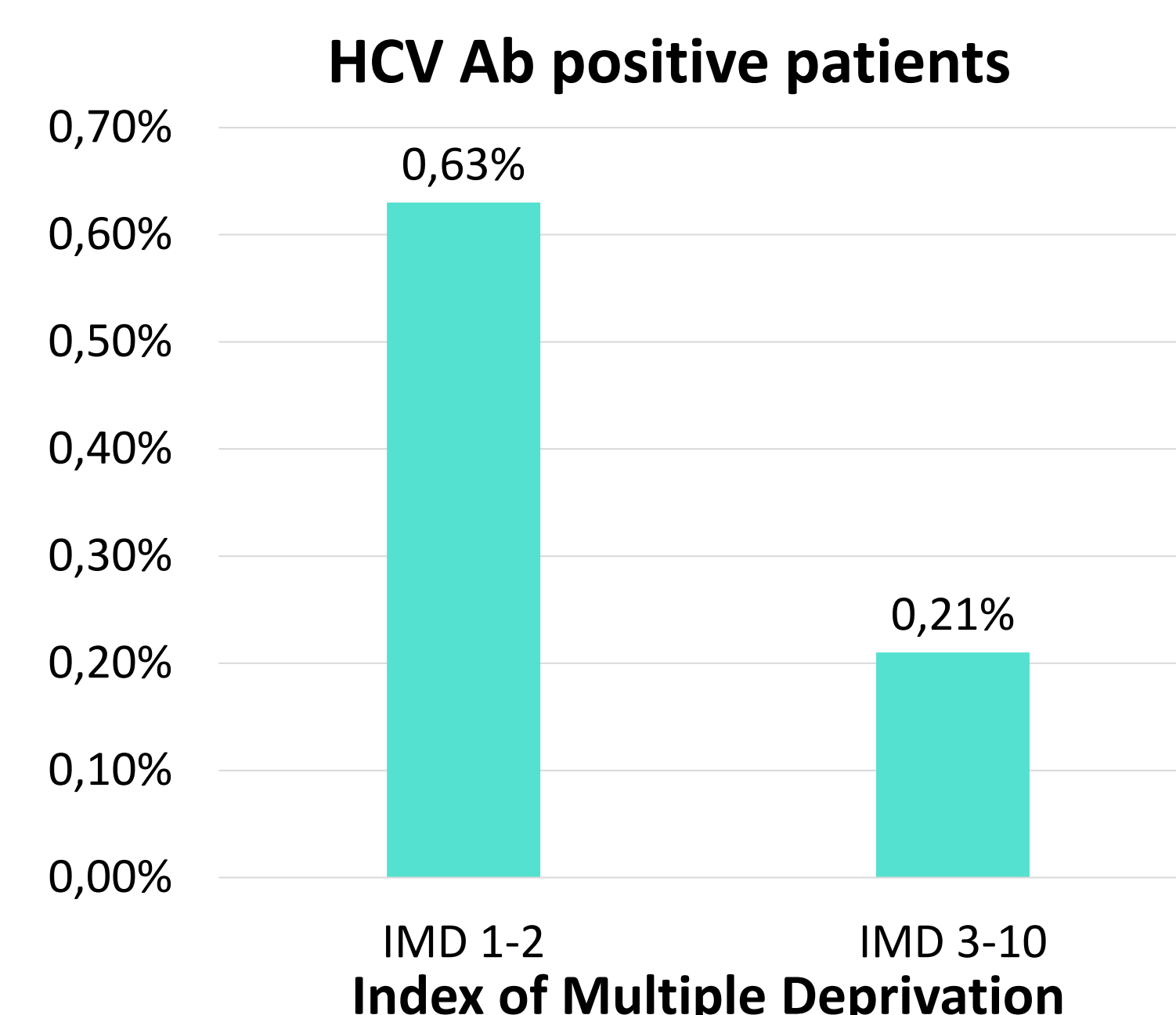
Postcodes were used to determine patients' Index of Multiple Deprivation (IMD) comparing most deprived deciles (IMD 1-2) with the rest (IMD 3-10) in line with the NHS Core20Plus5 programme.<sup>3</sup>

The cohort requiring treatment was queried for overlap with the NHS England 'Lost Positives' programme from 2018.

## Results

### Deprivation and mortality

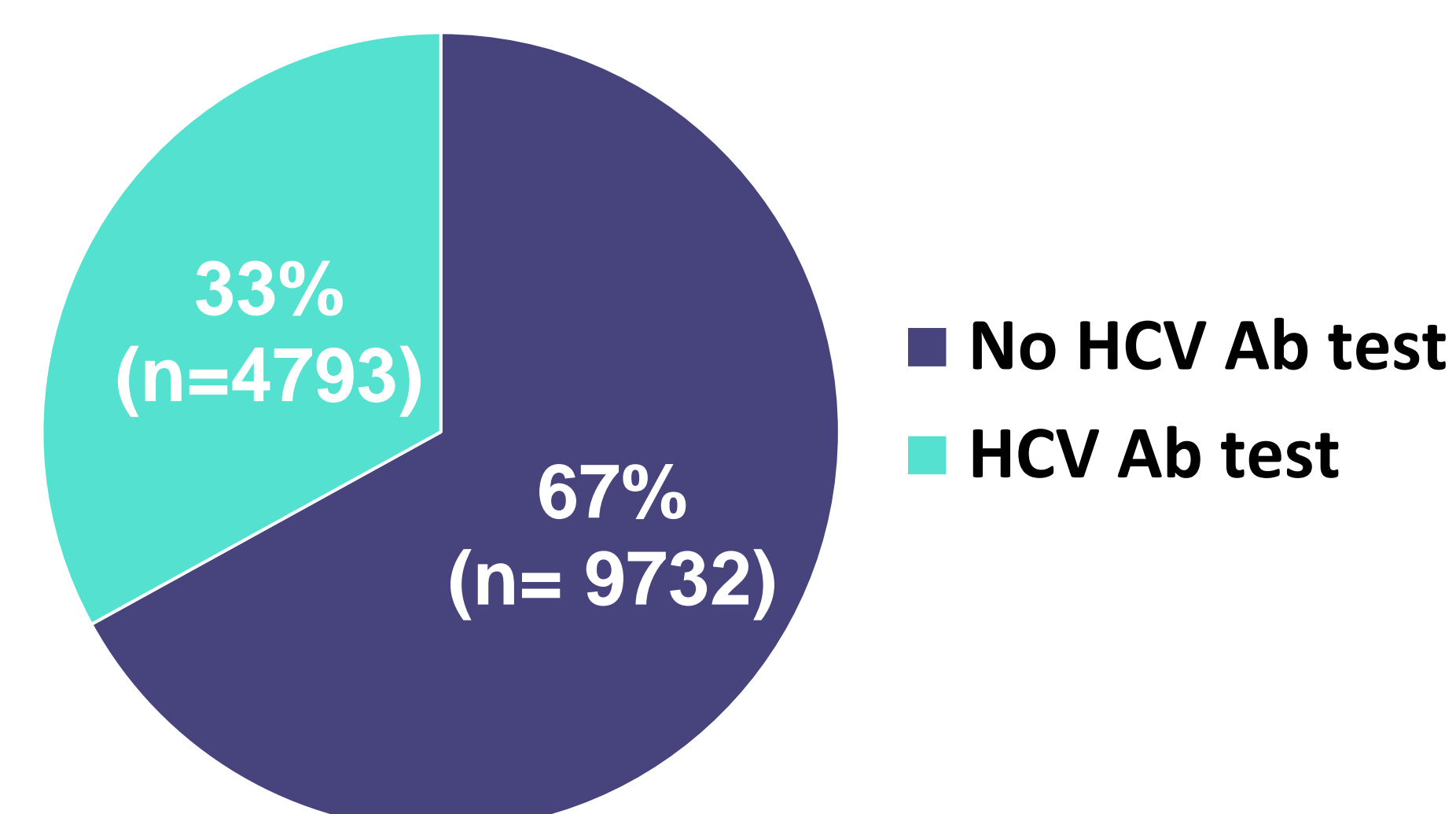
- 1001 HCV Ab positive patients were identified
- This cohort was significantly weighted towards deprived areas ( $p < 0.0001$ ).
- Median age at death was 49 years. HCV exposure was strongly associated with early mortality.
- The mortality of HCV Ab positive patients was significantly higher in deprived areas ( $p = 0.045$ ).



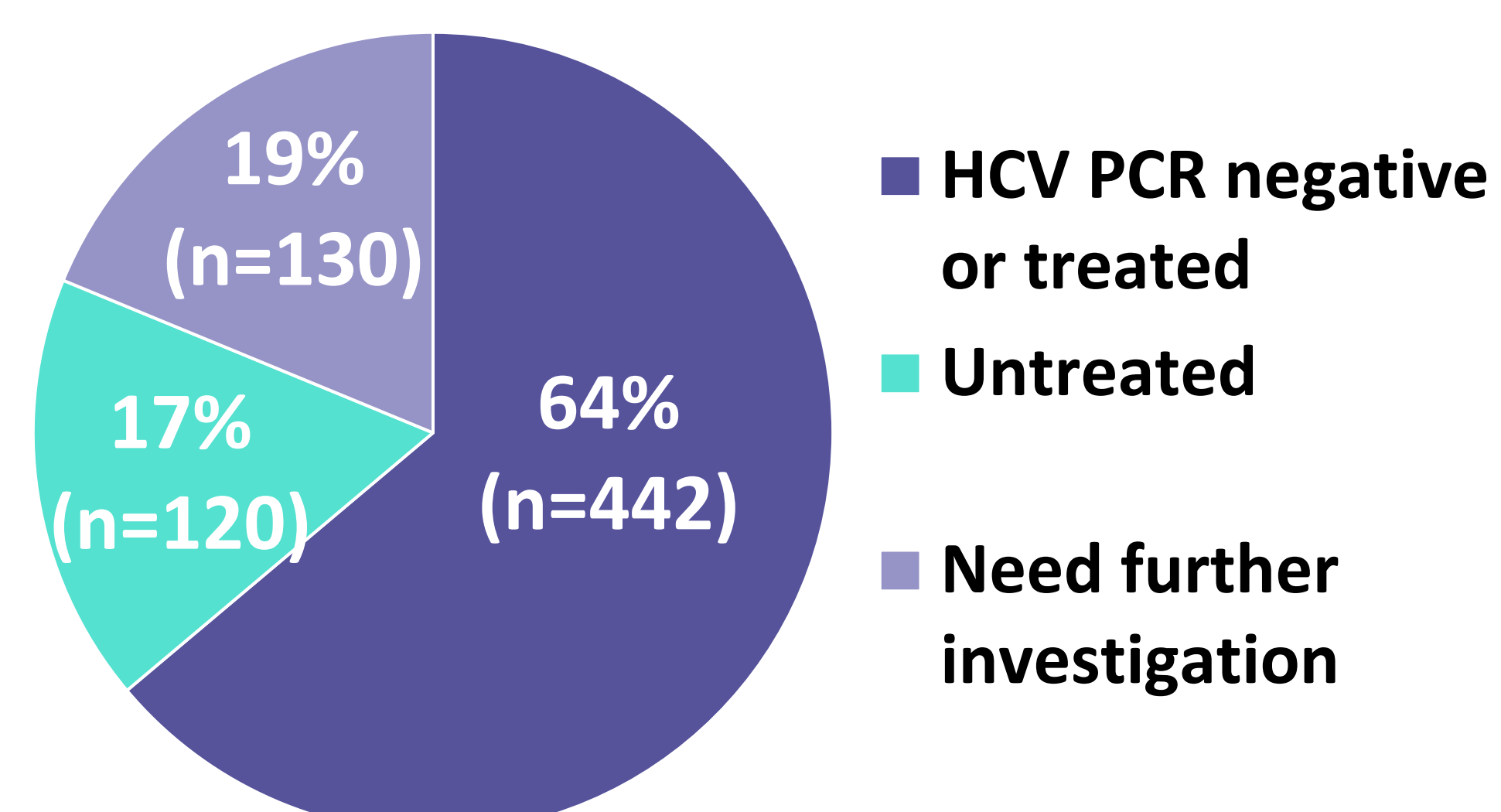
### Degree of testing

- 14,525 individuals had persistently abnormal LFTs (ALT > 40 U/L; 90 days), yet 67% had never had HCV Ab testing.
- 694 living HCV Ab positive patients were identified. Over 1/3 still required either further investigation or treatment.

Individuals with persistently abnormal LFTs



Living HCV Ab positive patients



- Concerningly, 75 patients (11%) had never had HCV PCR test and further 74 had failed to engage with our service
- Only 13% Of the patients requiring treatment, were also seen in the local 'Lost Positives' cohort

## Conclusion

Our data suggests that finding and treating the majority of HCV Ab positive patients requires a systematic approach to:

- ensure all patients with abnormal LFTs have HCV Ab status checked.
- ensure all HCV Ab positive patients have PCR status checked, and confirmed where negative.
- compile data across multiple geographies (i.e. patients with missing results may have had them elsewhere)
- gather regular data.

An iterative approach is especially important because, whilst there have been successful prior initiatives, new untreated populations arise (as evidenced by the diminishing overlap with the 'Lost Positives' cohort). Further work is underway to offer investigation and/or treatment to the relevant patients in Somerset.

## References

- World Health Organization (2016). Global health sector strategies on viral hepatitis 2016-2021.
- UK Health Security Agency (2023). Hepatitis C in the UK 2023 Working to eliminate hepatitis C as a public health threat.
- NHS England (2022). Core20PLUS5 (adults) – an approach to reducing healthcare inequalities.

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## Contact Information

Dr Timothy Jobson, Musgrove Park Hospital  
Somerset NHS Foundation Trust, Somerset, UK, TA1 5DA  
Email: [timothy.jobson@somersetft.nhs.uk](mailto:timothy.jobson@somersetft.nhs.uk)  
Phone: +44 (0) 7793206151

