CAPACITY OF NON-INVASIVE HEPATIC FIBROSIS ALGORITHMS TO REPLACE TRANSIENT ELASTOGRAPHY TO EXCLUDE CIRRHOSIS IN PEOPLE WITH HEPATITIS C VIRUS INFECTION: A MULTI-CENTRE OBSERVATIONAL STUDY.

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Background:
Achievement of the 2030 World Health Organisation (WHO) global hepatitis C virus (HCV) elimination targets will be underpinned by scale-up of testing and use of direct-acting antiviral treatments. In Australia, despite publically-funded testing and treatment, less than 15% of patients were treated in the first year of treatment access, highlighting need for greater efficiency of health service delivery. Thus, non-invasive fibrosis algorithms were examined to reduce reliance on transient elastography (TE) which is currently utilised for the assessment of cirrhosis in most Australian settings.

Methods:
This retrospective and prospective study, with derivation and validation cohorts, examined consecutive patients in a tertiary referral centre, a sexual health clinic, and a prison-based hepatitis program. The negative predictive value (NPV) of seven non-invasive algorithms were measured using published and newly derived cut-offs. The number of TEs avoided for each algorithm, or combination of algorithms, was determined.

Results:
The 850 patients included 780 (92%) with HCV mono-infection, and 70 (8%) co-infected with HIV or hepatitis B. The mono-infected cohort included 612 men (79%), with an overall prevalence of cirrhosis of 16% (125/780). An 'APRI' algorithm cut-off of 1.0 had a 94% NPV (95%CI: 91-96%). Newly derived cut-offs of 'APRI' (0.49), 'FIB-4' (0.93) and 'GUCI' (0.5) algorithms each had NPVs of 99% (95%CI: 97-100%), allowing avoidance of TE in 40% (315/780), 40% (310/780) and 40% (298/749) respectively. When used in combination, NPV was retained and TE avoidance reached 54% (405/749), regardless of gender or co-infection.

Conclusion:
Non-invasive algorithms can reliably exclude cirrhosis in many patients, allowing improved efficiency of HCV assessment services in Australia and worldwide.

Disclosure of Interest Statement:
The Australasian Society for HIV, Viral Hepatitis and Sexual Health Medicine and the 2018 Conference Collaborators recognise the considerable contribution that industry partners make to professional and research activities. We also recognise the need

for transparency of disclosure of potential conflicts of interest by acknowledging these relationships in publications and presentations.

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