



UK National Screening Committee

## Annual Call for New Screening Topics

Please return the completed form to [UKNSC.AnnualCall@phe.gov.uk](mailto:UKNSC.AnnualCall@phe.gov.uk) by 4<sup>th</sup> December 2019. See the [UK NSC evidence review process](#) for detailed help in completing this template.

Please remember to:

- make the proposal understandable to someone who is not an expert on the topic
- avoid or explain abbreviations, acronyms and technical jargon

<b>1) Name / Organisation:</b>	Professor Guruprasad P. Aithal President of British Association for the Study of Liver
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<b>2) Please confirm that the condition is not already on the <a href="#">UK NSC recommendations list</a></b>	The condition is not already on the UK NSC recommendations list
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If the condition is already on the list then it falls outside this process for new screening topics. You should instead refer to the early update guidance in appendix D of the [evidence review process](#).

<b>3) Please confirm that the proposal is for a population-wide screening programme, and not for high-risk groups.</b>	The proposal is for a high-risk group screening programme
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Reference to the UK NSC’s statement on the [purpose of screening](#) will help ensure the submission is relevant to the Committee’s remit.

<b>4) What is your proposal for a new screening programme? (limit 200 words)</b>
<p>Vast majority of cirrhosis (80%) occurs in those with identifiable risk factors (combination of alcohol excess, type 2 diabetes and obesity). A high-risk group screening programme for liver cirrhosis based on transient elastography, a non-invasive imaging test for liver fibrosis where results can be immediately accessible. The purpose of screening would be to diagnose cirrhosis at an earlier, asymptomatic stage prior to patients developing life limiting complications such as:</p> <ul style="list-style-type: none"> <li>• Fluid in their abdomen (ascites)</li> <li>• Bleeding from the gullet (oesophageal varices)</li> <li>• Liver cancer (Hepatocellular carcinoma)</li> <li>• Chronic confusion (Hepatic encephalopathy)</li> </ul> <p>In the short term, diagnosis at an earlier stage would reduce hospitalisation of patients with complications and reduce serious outcomes by timely implementation of interventions aimed at preventing decompensation of cirrhosis and/ or timely referral for a liver transplant if appropriate. Consequently, in the long term this would improve the significant morbidity, mortality and burden on health services currently associated with liver cirrhosis.</p>

**5) Using published evidence, summarise: (limit 500 words)**

<b>The condition:</b>	<p>Currently, liver disease is the 3rd largest cause of premature death with mortality rates increasing. This is the exception compared to all other common causes of mortality. More than one in ten deaths from liver disease occur in people in their 40s and overall 90% of deaths will occur in people under the age of 70. Thus, the majority of patients are of working age and subsequently 62,000 years of working life is lost each year. The majority of liver cirrhosis results in those with identifiable risk factors including alcohol misuse, obesity and type 2 diabetes. Yet cirrhosis develops asymptotically with 47%-75% of patients only receiving their diagnosis following an emergency admission to hospital.</p>
<b>The test:</b>	<p>Transient elastography is an imaging based non-invasive diagnostic test, that is performed using a probe similar to an ultrasound scan machine. Specialist nurses can perform the test with a mobile device in the community. The probe, placed on the right side of the abdomen whilst the participant is lying down, transmits and measures the speed of a wave as it travels through the liver. The faster the wave travels through the liver the more scarred or fibrotic the liver tissue and the higher the liver stiffness measurement. Multiple studies have correlated and validated these readings with the severe scarring observed in cirrhosis within multiple aetiologies. As results are available, immediately all at risk can receive brief interventions and education. Those with high readings can be referred for specific specialist interventions.</p>
<b>The treatment:</b>	<p>The management for cirrhosis consists of brief lifestyle intervention, which includes weight loss management +/- improved diabetic control +/- alcohol abstinence. Medical treatment for viral hepatitis and non-alcoholic fatty liver disease (Pioglitazone, Vitamin E) have now been NICE approved. Within established cirrhosis regular follow up and surveillance strategies can be implemented to identify and manage the complications that occur. A 6 monthly ultrasound is completed to identify patients with Hepatocellular carcinoma at a point substantial proportion are curable. Screening endoscopies identify patients with oesophageal varices and subsequently primary prevention with medication (beta blocker) +/- variceal banding can be initiated. Twenty percent of patients will die from the effects of their first bleed but primary prevention can significantly reduce rates of bleeding. For patients whose liver disease continues to progress a timely referral to a liver transplant unit can occur in which the 1-year survival rates are 93%.</p>

Explain the effects of the condition, the number of people affected by it in the UK, what the test is and how accurate it is in detecting people affected by the condition, what the treatment is and how

effective earlier treatment is compared to later treatment. Base the information on the evidence from the references provided in box 6. Present a balanced view and highlight benefits and harms of screening where possible. Highlight any gaps and limitations in knowledge.

**5) Statement on whether there has been a randomised controlled trial showing benefit of screening:**

At present there are no randomised controlled trials using transient elastography to screen for liver cirrhosis. Utilising non-invasive tests to screen participants for cirrhosis, the prevalence has been estimated to be between 0.1-1.7%. In the Nottingham Liver Diseases Stratification Pathway, it has been demonstrated that directly targeting participants with risk factors significantly increases the detection of liver cirrhosis. Of patients who underwent transient elastography, 19.1% had evidence of significant liver disease and of these 12.7% were diagnosed with cirrhosis. This pathway was demonstrated to be cost effective for patients diagnosed with non-alcoholic fatty liver disease and alcoholic related liver disease.

**6) Provide up to 10 references to support your application:**

D'Amico, G., G. Garcia-Tsao, and L. Pagliaro, *Natural history and prognostic indicators of survival in cirrhosis: A systematic review of 118 studies*. Journal of Hepatology, 2006. **44**(1): p. 217-231.

Williams, R., et al., *Addressing liver disease in the UK: a blueprint for attaining excellence in health care and reducing premature mortality from lifestyle issues of excess consumption of alcohol, obesity, and viral hepatitis*. The Lancet, 2014. **384**(9958): p. 1953-1997.

Friedrich-Rust, M., et al., *Performance of transient elastography for the staging of liver fibrosis: a meta-analysis*. Gastroenterology, 2008. **134**(4): p. 960-74.

Tripathi, D., et al., *Randomized controlled trial of carvedilol versus variceal band ligation for the prevention of the first variceal bleed*. Hepatology, 2009. **50**(3): p. 825-33

Ratib, S., et al., *Diagnosis of liver cirrhosis in England, a cohort study, 1998-2009: a comparison with cancer*. Am J Gastroenterol, 2014. **109**(2): p. 190-8.

Harman DJ, Ryder SD, James MW, et al. Direct targeting of risk factors significantly increases the detection of liver cirrhosis in primary care: a cross-sectional diagnostic study utilising transient elastography. BMJ Open 2015. doi: 10.1136/bmjopen-2014-007516

Tanajewski L, Harris R, Harman DJ, et al. Economic evaluation of a community-based diagnostic pathway to stratify adults for non-alcoholic fatty liver disease: a Markov model informed by a feasibility study. BMJ Open 2017;7:e015659. doi: 10.1136/bmjopen-2016-015659

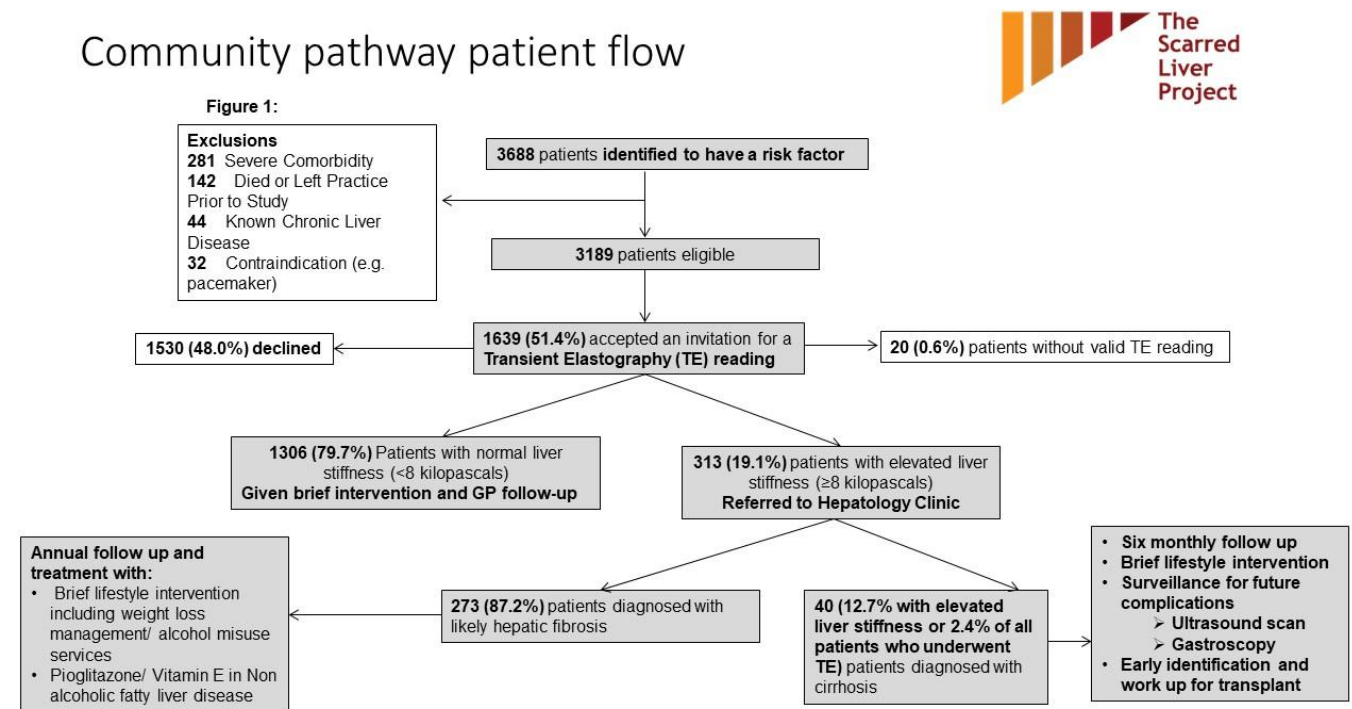
**Office for National Statistics.** Cancer survival in England : Adult patients diagnosed between 2011 and 2015 and followed up to 2016

Annual report on liver transplantation. Report for 2017/2018. Published September 2018. NHS Blood and Transplant. Produced in collaboration with NHS England.

Health related quality of life in individuals at high risk of chronic liver disease: Pre- and post-diagnosis. Tildesley Z, Chalmers J, Harris R, West J, Guha IN, Morling JR.(Submitted for publication)

The references must be papers published in peer-reviewed journals. Specify authors, title, journal, issue number and year of publication.

6) Insert flowchart here:



The flowchart is an important part of the submission. As a minimum, it should include the number:

- accepting / declining screening
- testing positive / negative / uncertain
- receiving treatment
- helped / unaffected / harmed by the programme