BACKGROUND
CHRONIC INFECTION WITH HEPATITIS C V Folks (HCV) IS A MAJOR CAUSE OF LIVER DISEASE, WHICH MAY LEAD TO CIRRHOSIS AND SECONDARY DEATHs FOR PATIENTS WITH THE DEVELOPMENT OF CANCER.

Six main HCV genotypes, numbered 1 through 6, and many subtypes have been described. Genotype 1 (subtypes 1a, 1b, and 1c) is the most prevalent genotype worldwide.

The approved and well-accepted standard of care for chronic HCV is the combination of pegylated interferon (PEG-IFN) alfa-2a or alfa-2b and ribavirin.

The models did not account for the possibility of benefits caused by the reduction in transmission of HCV or the potential costs of HCV re-infection. Doing so would require much longer data that may be difficult to accurately incorporate in a model. The models did not incorporate patient factors, such as alcohol consumption or duration of infection, which may have an effect on disease progression.

The modelling of subgroups may have been insufficient to accurately capture the incremental costs and benefits within treatment groups.

As understanding of HCV grows, so does the knowledge of patient and genetic factors that may influence disease progression or may be important in predicting a patient’s response to treatment. These factors were not taken into account in previous models or studies and therefore may be difficult to incorporate into the economic models.

Incorporating more detailed patient factors and patient subgroups in the economic models should give a more accurate estimate of cost-effectiveness.

The recent NICE submissions provided additional detail and related criticism on the submitted models. The telaprevir submission made generalisations for the compensated cirrhosis population that were not comparable with the UK population.

Many of the people classified as having cirrhosis may not have been sufficient to reflect the higher proportion of patients in the UK with cirrhosis. It is uncertain what effect the larger cirrhosis population in the UK would have on the incremental cost-effectiveness ratio (ICER) estimates.

This could decrease the ICER, because patients are at greater risk for poor outcomes, or increase the ICER, because patients with cirrhosis tend to respond less well to treatment.

The telaprevir submission is based on the evidence. These factors were not taken into account when assessing the evidence.

The methods for deriving efficacy estimates in the boccallir submission were not clearly described.

CONCLUSIONS
The systematic literature review identified 44 economic evaluations and 17 HTA documents.

The majority of economic evaluations were of interferon-containing regimens; were performed using lifetime horizon Markov models; and were performed in the same targets and patient subgroups.

There are numerous recent economic models; however, these have generally adhered to previous iterations of HCV models or models used in previous economic submissions and have not evolved with our knowledge of the disease.

In light of upcoming treatment alternatives, model refinement may be necessary to capture the increasing complex treatment decisions that may be required. Enhanced utility and cost studies and more advanced modeling approaches may be needed.

REFERENCES
Please see handout for complete reference list.

CONTACT INFORMATION
Matthew Woods, MSc
RTI Health Solutions
Phone: +44(0)161 447 5813
E-mail: mw2@rti.org

Presented at: ISPOR 16th Annual European Congress
Dublin, Ireland, 2013