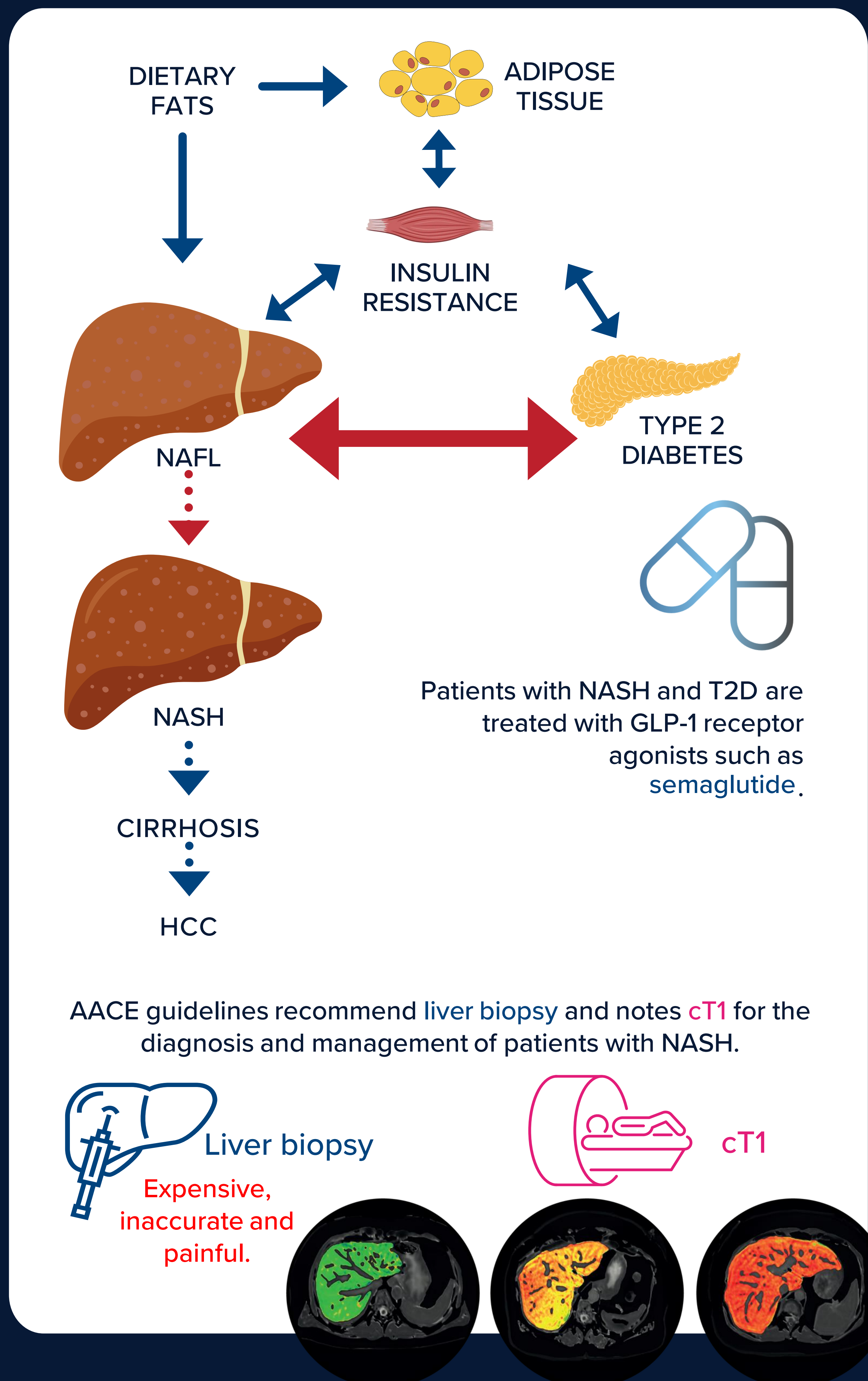


COST-EFFECTIVENESS OF MULTIPARAMETRIC MRI vs. LIVER BIOPSY FOR THE DIAGNOSIS OF NASH IN PATIENTS WITH T2DM TREATED WITH SEMAGLUTIDE

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BACKGROUND



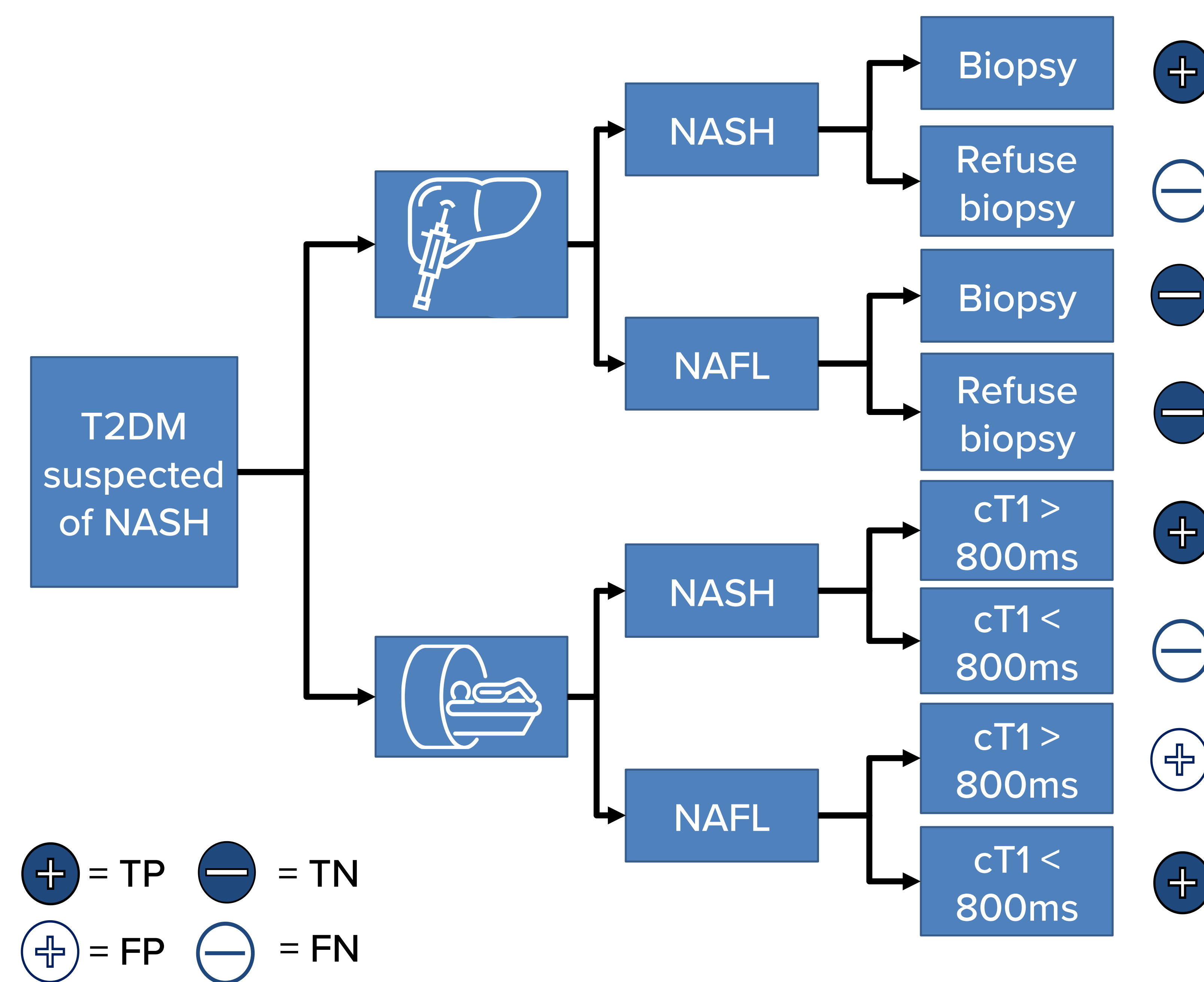
OBJECTIVE

To model and evaluate the cost-effectiveness of multiparametric MRI biomarker cT1 vs. biopsy in the diagnosis of NASH among patients with T2D, from the perspective of the U.S. health system.

Abbreviations: mpMRI = multiparametric MRI, NASH = Non-alcoholic steatohepatitis, T2DM = Type 2 diabetes mellitus, NAFL = Non-alcoholic fatty liver disease, HCC = Hepatocellular carcinoma, AACE = American Association of Clinical Endocrinology, cT1 = Corrected T1, QALYs = Quality adjusted life years, TP = true positive, TN = true negative, FP = false positive, FN = false negative, ms = millisecond

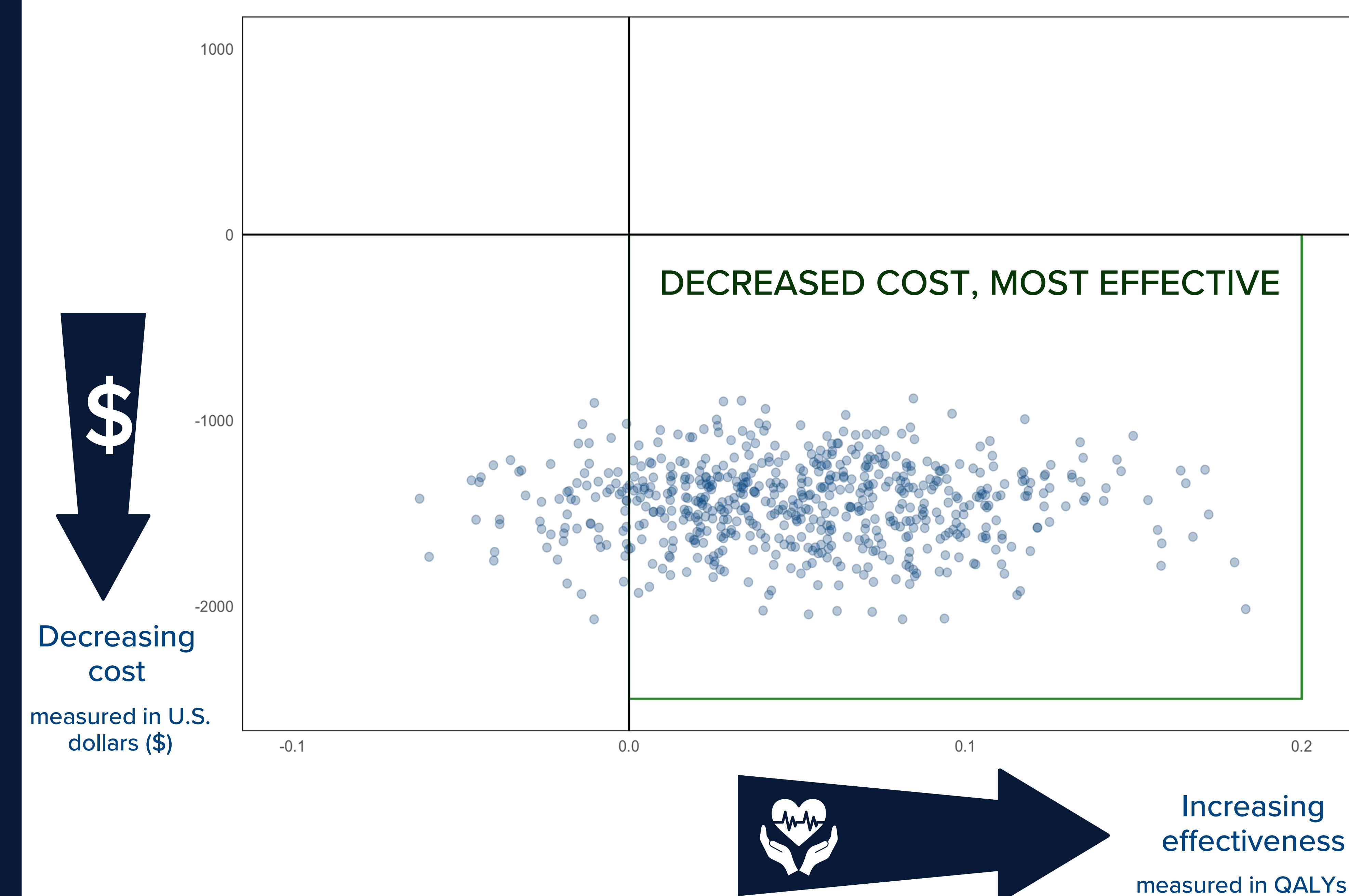
METHODS

- A multi-state Markov model for NAFLD progression in T2D comparing cT1 to liver biopsy for the diagnosis of NASH
- Three beneficial effects of Semaglutide were considered:
 - Slowing fibrosis progression
 - Regression of fibrosis
 - Reducing mortality from cardiovascular and liver related outcomes
- Model input parameters were obtained from literature
- Assumptions:
 - A hypothetical cohort of 1,000 people with T2D
 - US population aged 50 years old
 - Suspected NASH who are referred for Semaglutide treatment on diagnosis of NASH
- Outcomes were costs measured in 2021 U.S. dollars (\$) and QALYs, discounted at 3% annually over a lifetime horizon



RESULTS

- Identifying patients with NASH for treatment with semaglutide using cT1 led to a direct **cost savings of \$3,250 per patient** compared with biopsy, and a **gain of 0.162 QALYs** over patient lifetime
- These findings were robust across deterministic and probabilistic sensitivity analysis



CONCLUSION

Adopting mpMRI biomarker cT1 for detection of NASH among people with T2DM can lead to cost savings and improved quality of life.

References

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Conflicts of Interest: All authors are employees of Perspectum Ltd.