analyses examined the impact of varying different parameters, and the impact of available cases, on base case findings whilst non-parametric bootstrapping examined joint uncertainty.

RESULTS:

At 12 months, the intervention was GBP 26.89 (USD 35.76) (SE 249.15) cheaper than usual care; but this difference was statistically non-significant (p=0.914). At 12 months, a QALY loss of −0.007 was observed in the intervention group confidence interval (95% CI: −0.025–0.012) and a QALY gain seen in the usual care group 0.004 (95% CI: -0.017–0.025). This difference was not statistically significant (p=0.442). The base case analysis gave an ICER of GBP 2,445 (USD 3,252) reflecting that the intervention was less effective and less costly compared to usual care. Sensitivity analyses illustrated considerable uncertainty. When joint uncertainty was examined, the probability of the intervention being cost-effective at a willingness-to-pay threshold of GBP 20,000 per QALY gain was 29 percent and 24 percent at GBP 30,000.

CONCLUSIONS:

Our cost-utility analysis indicates that memory rehabilitation was cheaper but less effective than usual care but these findings must be interpreted in the light of small statistically non–significant differences and considerable uncertainty was evident. The ReMemBrIn intervention is unlikely to be considered cost-effective for people with TBI.

OP60 Optimising Risk-Based Screening: The Case Of Diabetic Eye Disease

AUTHORS:

Christopher Sampson (csampson@ohe.org), Marilyn James, David Whynes, Antonio Eleuteri, Simon Harding

INTRODUCTION:

There is growing evidence that many people attending annual screening for diabetic retinopathy in the United Kingdom (UK) are at low risk of developing the disease. This has led to new policy statements. However, the basis on which to establish a risk-based individualized variable-recall screening program has not yet been determined. We present a methodology for using information on an individual's risk factors to improve the allocation of resources within a screening program.

METHODS:

We developed a patient-level state-transition model to evaluate the cost-effectiveness of risk-based screening for diabetic retinopathy in the UK. The model incorporated a recently developed risk calculation engine that predicts an individual's risk of disease onset, and allocated individuals to alternative screening recall periods according to this level of risk. Using the findings, we demonstrate a means of estimating: (i) a threshold level of risk, above which individuals should be invited to screening, and (ii) the optimum screening recall period for an individual, based on the expected cost-effectiveness of screening and treatment.

RESULTS:

The cost-effectiveness analysis demonstrated that standardized screening (current practice) is the least cost-effective program. Individualized screening can improve outcomes at a reduced cost. We found it feasible – though computationally expensive – to incorporate a risk calculation engine into a decision model in Microsoft Excel. In an optimized screening program, the majority or patients would be invited to attend screening at least two years after a negative screening result.

CONCLUSIONS:

Individualized risk-based screening is likely to be cost-effective in the context of diabetic eye disease in the UK. It is expected that risk calculation engines will be developed in other disease areas in the future, and used to allocate screening and treatment at the individual level. It is important that researchers develop robust methods for combining risk calculation engines into decision analytic models and health technology assessment more broadly.

OP61 Net Value Of Treating Hepatitis C With Newly Available Direct-Acting Antivirals

AUTHORS:

David E. Bloom, Alexander Khoury (akhoury@hsph.harvard.edu), V. Srinivasan

https://doi.org/10.1017/S0266462318001058 Published online by Cambridge University Press

INTRODUCTION:

Recently developed direct-acting antiviral (DAA) treatments for hepatitis C virus (HCV) are groundbreaking in their high efficacy across disease genotypes and lack of severe side effects. This study used a cost-of-illness (COI) approach to estimate the net value conferred by one of these novel drug combinations, sofosbuvir and velpatasir (SOF/VEL), recently licensed for generic manufacture in India.

METHODS:

This study considered COI from lifetime earnings lost due to disability and premature death from HCV infection. Risk of death and disability in future years was calculated using a Markov state-transition model with parameters determined from the literature. The future earnings of sampled patients were predicted using an empirical earnings model, with coefficients determined from India Human Development Survey data. Costs to both the patient and secondarily infected individuals were considered.

RESULTS:

Preliminary results suggested that curing individuals diagnosed with chronic HCV in India would preserve INR 3.7 million (USD 55,750) in earnings per person. For non-cirrhotic (NC) and compensated cirrhotic (CC) individuals, the expected benefits associated with preventing secondary infections were worth between one and forty-one percent of the value of benefits conferred to the diagnosed individuals (depending on sex and extent of liver damage). Treating decompensated cirrhotic (DC) individuals with DAAs alone offered minimal earnings benefits because these individuals will likely remain disabled and unable to work without a liver transplant. Expected net benefits of treatment were substantial for NC and CC patients, ranging from INR 640,349 (USD 9,531) for NC women to INR 10.7 million (USD 158,968) for CC men. The cost of treatment for DC individuals exceeded the expected earnings benefits.

CONCLUSIONS:

For average NC and CC individuals, the cost of treatment with SOF/VEL is offset by the benefits of increased future productivity. Increased earnings are not sufficient to offset the cost of treatment for DC individuals, but treatment may still be justified on the basis of the intrinsic value of health improvements and other treatment benefits.

OP62 Economic Evaluation Of A Provincial Back Care Pathway

AUTHORS:

Linda Woodhouse (linda.woodhouse@ualberta.ca), Hameed Khan, Ulrich Wolfaardt, Mel Slomp, Vivian (Yu) Lei

INTRODUCTION:

The high prevalence, disability, and work absenteeism associated with back pain make it the single most costly musculoskeletal health condition in developed countries. However, the majority of back pain has no identifiable pathological cause and resolves without surgery or imaging. This paradox suggests that we need to change how back pain is managed to reduce unnecessary burden to individuals and the healthcare system. This study evaluated the cost of a new model of early triage-based, interprofessional care for patients with back pain.

METHODS:

We evaluated the outcomes and cost of implementing a provincial care pathway for early assessment of patients with back pain at three sites: (i) adjacent to an emergency department in a community hospital; (ii) co-located with an orthopedic surgeon's clinic in a hospital; and (iii) in a primary care network (PCN) with private practice physiotherapists and chiropractors. Time-driven activity-based costing (TDABC), in combination with discrete event simulation, was used to estimate costs.

RESULTS:

Costs were significantly lower in the models that used hospital-based physiotherapists and in the PCN model that used private practice physiotherapists and chiropractors to triage patients. These costs ranged from CAD 20 (USD 16) to manage patients identified with low severity back pain to CAD 175 to 200 (USD 137 to 156) for those with moderate to severe back pain. Models that implemented the care pathway using family physicians and surgeons to review non-surgical patients were more expensive at CAD 339 (USD 265) and CAD 514 (USD 402), respectively.

CONCLUSIONS:

New models of care that use the skills of physiotherapists and chiropractors to assess and triage patients with back pain adjacent to emergency

https://doi.org/10.1017/S0266462318001058 Published online by Cambridge University Press