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/S026646231800106X Published online by Cambridge University Press

departments and in the primary care sector are cost effective, compared with traditional physician-led models. The overarching intent is to use these data to enable evidence-informed policy and practice changes, so that more appropriate and cost-effective care is provided to patients with back pain.

OP64 Review Of Economic Evaluations Of Next-Generation Precision Oncology

AUTHORS:

Deirdre Weymann (dweymann@bccrc.ca), Reka Pataky, Dean A. Regier

INTRODUCTION:

Proponents of precision oncology report that genomic testing has the potential to reduce health system costs and improve patient health. Yet, testing also involves significant expenditures that challenge the sustainability of adopting technologies into routine practice. Our study explores the availability and scope of economic evaluations of precision oncology informed by next-generation sequencing (NGS).

METHODS:

We searched Medline (PubMed), Embase (Ovid), and Web of Science databases for English-language full-text peer reviewed articles published between 2000 and 2016. We focused our search on articles that estimated the benefit of precision oncology in relation to its costs. We excluded studies that did not undertake full economic evaluations or did not focus on NGS. We reviewed all included studies and summarized key methodological and empirical study characteristics.

RESULTS:

Fifty-five economic evaluations met our inclusion criteria. The first study was published in 2005 and the number of published studies increased steadily, from three studies between 2005 and 2007 to twenty-six between 2014 and 2016. Most studies evaluated multiplex panels (86 percent). Testing was frequently used to diagnose patients (24 percent) or predict prognosis (67 percent), rather than identify targeted therapies (7 percent). Methods varied considerably and cost-effectiveness differed according to test type, test strategy, and cancer type. Deterministic and probabilistic analyses were typically used to characterize uncertainty (91% percent and 75% percent).

CONCLUSIONS:

While the availability of economic evidence examining precision oncology increased over time, methods used often did not align with current guidelines. Future evaluations should undertake extensive sensitivity analysis to address all sources of uncertainty associated with rapidly changing NGS technologies. Further, additional research is needed evaluating the cost-effectiveness of more comprehensive next-generation technologies prior to implementing these on a wider scale.

OP65 Genomics: From Horizon Scanning To National Health Policy

AUTHORS:

Paul Fennessy (paul.fennessy@dhhs.vic.gov.au), Brendon Kearney, Linda Mundy, Margaret Howard

INTRODUCTION:

Technology advances have resulted in cheaper and quicker genomic sequencing (panels, exomes, whole genomes). Uptake into clinical practice has been rapid despite limited consideration of workforce, patient safety, consent, practice standards, guidelines and cost benefit. AUD 150M (USD 113M) has been independently allocated to genomic initiatives by Australian state and federal governments that don't reflect a national approach to genomics.

METHODS:

Modified horizon scanning (HS) methodology identified issues around genomic sequencing to be considered by governments regarding their support, or otherwise, before appropriate implementation and diffusion into local healthcare systems. A national jurisdictional advisory group was subsequently established that undertook extensive stakeholder consultation across Australia, including written submissions, over a four-month period.

RESULTS:

HS identified that genomic sequencing is diffusing rapidly through the health system and flagged issues of

https://doi.org/10.1017/S026646231800106X Published online by Cambridge University Press