(STIs) including HIV, the British Columbia Centre for Disease Control implemented an internet-based screening service, GetCheckedOnline.com (GCO), in September 2014 in Vancouver, Canada. We assessed the cost-effectiveness of GCO at different uptake scenarios compared to CBSS in Vancouver GBMSM.

Methods. Cost-utility analyses were conducted from a healthcare payer's perspective using an established dynamic GBMSM HIV compartmental model. The model estimated the probability of becoming infected with HIV, progressing through diagnosis, disease stages, and treatment over a 30-year time horizon. The base case assumed 4.7 percent uptake of GCO, and 74 percent of high-risk and 44 percent of low-risk infrequent testers becoming regular testers in five years. Scenario analyses tested GCO 10 and 15 percent uptakes.

Results. Compared with the conventional CBSS alone, a 4.7 percent GCO uptake increased the costs by CAD90,059 (USD75,680; 95% confidence interval (CI): -CAD420,836, CAD273,987) and gained 3 (95% CI: 0, 6) quality-adjusted life years (QALYs) in a 30-year time horizon. There was a 71 percent probability that GCO was cost-effective at a cost-effectiveness threshold of CAD50,000 (USD42,000) per QALY. The results were consistent in other two uptake scenarios.

Conclusions. Expanding HIV screening for GBMSM through increasing uptake of GCO is a cost-effective alternative to expanding the conventional CBSS. We noted that difference in total costs might be smaller if a battery of STI tests is considered, which in turn may affect our cost-effectiveness estimate. For the next phase of cost-utility analysis, we will expand our model to include testing for other STIs.

OP544 Appraising Variation In Health Technology Assessment Of Novel Immuno-Oncology Medicines In Australia, Canada, France, And The United Kingdom

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Introduction. Demonstrating the value of medicines through health technology assessment (HTA) systems is becoming increasingly complex. Innovative therapies – such as immuno-oncology (IO) agents – are testing limits of methodological approaches in markets with established HTA systems. The objective of this study is to understand how requirements, approaches, and decision-making differ between select HTA agencies with a focus on specific PD-1/PD-L1 (programmed death receptor-1/programmed death-ligand 1) agents and cancer indications, and to describe how this variation impacts patient access. To achieve this objective, we conducted a detailed HTA dossier review for several recently launched IO products across Australia (AU), Canada (CA), France (FR), and the United Kingdom (UK).

Methods. Content experts reviewed HTA dossiers for pembrolizumab, nivolumab, and atezolizumab for non-small cell lung cancer (NSCLC) first-line monotherapy, NSCLC combination therapy, and adjuvant melanoma. A systematic analytic framework was developed to understand best-practice methodology across systems. Information on submitted data, patient/expert input, and access decisions were extracted; key themes were identified and refined through workshop discussion, and probed further through blinded primary research with eight individuals with current or recent experience of HTA systems.

Results. We identified six major elements of variation impacting decision-making: evidentiary expectations for biomarkers, use/impact of patient-centered data; use/impact of real-world data, acceptance of surrogate endpoints, approaches for clinical data extrapolation, and accepted time horizons. Considerable variation in time to access was observed; for pembrolizumab (NSCLC first-line monotherapy), time from product registration to HTA decision ranged from 42 (CA) to 487 (AU) days; time from registration to listing ranged from 189 (CA) to 605 (AU) days.

Conclusions. Evaluated HTA systems demonstrate a large degree of variability in approaches to decision-making for novel IO medicines; resultant access decisions and time to access are also highly variable. Inconsistency between systems and duplication of effort when assessing similar clinical/economic data could be contributing to limited or delayed patient access; the relationship merits further exploration. Assessed HTA systems are currently undergoing process revisions but expert input suggests that this is not expected to reduce variation, and could further increase complexity. The influence of parallel scientific advice programs between HTA agencies and regulatory bodies in reducing variation must also be determined.

OP605 Artificial Intelligence Assisted Diagnosis Technology For Benign-Malignant Lung Nodule Classification On Computerized Tomography Images: A Meta-Analysis

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Introduction. Artificial Intelligence (AI) is an important product of the rapid development of computer technology today. It has a far-reaching impact on the development of medical diagnostic technology especially in combination with medical imaging. The aim of this study was to analyze the diagnostic accuracy of AI-assisted diagnosis technology for classification of benign and malignant lung nodules on Computerized Tomography (CT) images.

Methods. A meta-analysis was conducted of published research articles on diagnostic accuracy of AI-assisted diagnosis technology for lung nodules classification between 2010 and 2019 in the databases of PubMed, EMBASE, Cochrane Library, China National Knowledge Infrastructure, Wanfang Data Knowledge Service Platform and China Bio-medicine Database. Statistical analysis was performed with the software SAS 9.4 and Stata 12.0, and the summary receiver operating characteristic (SROC) curve was drawn to evaluate accuracy of the method.

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