

order to identify all the relevant assessment aspects of the technology involved, identified from scientific literature, experts' judgments and specific context analysis of Bambino Gesù Children's Hospital. A weight was associated to each assessment element and the alternatives' ranking was defined.

RESULTS:

This innovative system provides orthopedic images in standing or sitting position, being able to examine the spine and lower limbs under normal weight-bearing conditions. This system is recommended for particular clinical indications as scoliosis and other congenital deformities of the spine. It is able to acquire simultaneous posteroanterior and lateral images in a single scan without vertical distortion and with lower radiation exposure than CT scanning. 2D images acquired can be combined to obtain a 3D reconstruction scanning based on a semi-automated statistical model.

CONCLUSIONS:

The major advantages of BLDS are the relatively low dose of radiation and the possibility of obtaining a 3D reconstruction of the bones. Our preliminary results show that data on the clinical effectiveness are limited but the technical advancements of BLDS appear promising in terms of patient management and patient health outcomes associated with its use.

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OP46 Redefining Mental Health Services For Youth: Evidence To Action

AUTHORS:

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INTRODUCTION:

Current organization of mental health services in Canada imposes a rupture during youth transition to adulthood, when severe mental health disorders start appearing. This can have a major impact on youth recovery and social integration. A health technology assessment (HTA) was initiated to evaluate the efficacy of programs that simultaneously target adolescents and young adults to support decision making.

METHODS:

A systematic review of systematic reviews was conducted. Four databases were searched (MEDLINE, Embase, Applied Social Sciences Index and Abstracts, and CINAHL) for articles published between 2000 and 2017. Article selection and quality assessment (ROBIS tool) were performed and inter-rater agreement was measured. To be included, the systematic review had to study specialized models or programs serving both adolescents and young adults. An analytical framework was constructed based on the categorization of performance measures for early intervention and the five dimensions of recovery. Group and individual interviews were conducted to collect contextual and experiential data.

RESULTS:

A total of 1,054 references were identified. After applying the selection criteria, five systematic reviews were selected. The majority of programs identified were developed for early psychosis. This HTA did not identify specialized programs for other types of mental illness or at-risk youth. Evidence on early interventions for psychosis is emerging in regards to their efficacy in improving functional and clinical recovery. However, evidence has yet to be established for their impact on access. Contextual and experiential data from our organization validated and completed the scientific findings. Facilitating and constraining factors in the implementation of a person-centered care model and inter-agency collaboration were identified.

CONCLUSIONS:

Services targeting at-risk youth should be developed as part of a continuum of care that is adapted to clinical stages so that all youths living with psychological distress can be treated, regardless of diagnosis or age. These services may draw inspiration from models of early intervention for psychosis. Recommendations from this HTA are currently being put into action in the West Island of Montreal.

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OP48 A Contextual Model For Evaluating The Value Of Multi-Indication Drugs

AUTHORS:

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INTRODUCTION:

An increasing number of anti-cancer medications are indicated for multiple tumors. Existing pharmacoeconomic evaluations routinely examine the cost-effectiveness (CE) and budget impact (BI) of such drugs by indication, as and when each indication is reviewed. The impact of indication-specific conclusions on the holistic value of such medications across all indicated patients is not currently evaluated, yet is important to stakeholders including health technology assessment (HTA) agencies, payers and patients. We introduce a holistic framework that considers the value of multiple indications together at a product level. Application of this approach is illustrated via an example across multiple indications for a novel, targeted anti-cancer therapy (pembrolizumab) in Canada.

METHODS:

Previously-HTA-evaluated indication-specific CE and BI models serve as the foundation for this multi-indication model. Comparing to standard of care (SoC) per indication, the model evaluates the potential BI, clinical outcomes and CE of pembrolizumab among the individual indications along with the overall multi-indication patient population from the perspective of a third-party payer. For the contextual model, incremental costs and quality-adjusted life years (QALYs) were weighted using indication populations derived from national incidence rates.

RESULTS:

The indication-specific incremental cost-effectiveness ratios (ICER) from CE analyses of ipilimumab-treated advanced melanoma, ipilimumab-naïve advanced melanoma, second-line non-small cell lung cancer (NSCLC), first-line NSCLC and fourth-line classical Hodgkin lymphoma range from USD 52 K to USD 163 K per QALY. Accounting for the relative contributions of the various sizes of indication-specific patient populations results in an overall ICER for pembrolizumab vs. SoC of USD 100 K.

CONCLUSIONS:

A holistic model can provide stakeholders with a tool to evaluate the overall value of multi-indication drugs. Results enable an understanding of the outcomes and economic consequences of treatment with pembrolizumab versus SoC by both individual indications and across all indications. Insights from this contextual approach will enable data from less-developed clinical trials to be considered when

previously they might have gone unevaluated by decision-makers.

OP49 An Alternative Cost-Effectiveness Model For Health Technology Delivery

AUTHORS:

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INTRODUCTION:

The cost-effectiveness of endovascular therapy (EVT) compared to tissue plasminogen activator (tPA) alone for acute ischemic stroke (AIS) has been established in the literature. However, decision-makers still face challenges of how to best deliver EVT in a timely manner to maximize patient outcomes while minimizing the burden to the healthcare system, given that AIS has time-dependent treatment outcomes. The objective of this presentation is to report an optimization approach for improving health system value and outcomes for patients with AIS who are eligible for EVT in Alberta.

METHODS:

An economic model was developed to compare combinations of “mothership” (transport directly to a comprehensive stroke center [CSC] to receive tPA and EVT) and “drip-and-ship” (transport to a primary stroke centre to receive tPA, followed by transport to a CSC to receive EVT) methods across Alberta. The model considered geographical variation and searched for the best delivery methods through a pairwise comparison of all possible strategies. The controlled variables including in the model were population densities, disease epidemiology, time/distance to hospitals, available medical services, treatment eligibility and efficacy, and costs. Patient outcomes were measured by functional independence. The model defined optimal strategies by identifying the transport methods that produced the highest probability of improved health outcomes at the lowest cost.

RESULTS:

The analysis produced an optimization map showing optimal strategies for EVT delivery. The lifetime cost