Tumor-Agnostic Therapies and HTA:

Not Out of the Woods Yet

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Disclosures

- Employee of the Institute for Clinical and Economic Review, a private, US-based HTA organization

Tumor-Agnostic Therapies and HTA

What is HTA Already Dealing With?

- Cancer therapies increasingly approved by regulators on an expedited basis
  - Based on tumor or other response criteria
  - Small sample sizes
  - Uncontrolled studies
  - Short-term follow-up with immature data on material outcomes (e.g., PFS, OS)

The Promise of Tumor-Agnostic Therapies

- Responsiveness of therapy in presence of (usually genetic) biomarker across *many* cancers
- Potential for use of companion testing to identify patients most likely to respond
- A realization of personalized medicine

What Complexities do Tumor-Agnostic Therapies Add?

- Challenges in both study-design and real-world application:
  - Basket trials can have just a few patients for each type of cancer
  - Predictive value of testing may be unknown at time of approval
  - Prevalence across cancer types may differ between trial and real world
  - Problematic to identify external control data due to unknown biomarker status
  - Heterogeneity of treatment effects and current standard of care across tumor types
  - Integrating testing costs may involve “apportionment” issue

The HTA Response to Date

How has HTA Responded?

- NICE: via Cancer Drugs Fund
- HAS: restricted to cancers with more compelling evidence
- CADTH: initial rejection, approval with restrictions upon resubmission

Some Promising Ideas

A Framework for HTA Solutions

Home › Applied Health Economics and Health Policy › Article

Developing a Framework for the Health Technology Assessment of Histology-independent Precision Oncology Therapies

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Working Toward Solutions

- *Joint regulatory/HTA scientific advice*
- Move toward genetic/molecular testing in population health data to better inform creation of external controls
- Multi-cancer meta-analyses and machine learning on correlation between response surrogates and patient-centric outcomes
- Scheduled reassessment
- Bayesian, VOI, and other advanced modeling techniques to better characterize uncertainty
- *Outcomes-based contracts with data collection for (a) confirmation of benefit; (b) mitigation of financial risk; (c) identification of predictive test result cutoffs, etc.*

Summary

Conclusions

- Challenges that pre-exist for HTA with cancer treatment are exacerbated by the advent of tumor-agnostic therapies
- Adjustments are required to shift the HTA paradigm to match the promise of treatment
- Changes are likely required in:
  - Stakeholder engagement
  - Baseline data collection
  - Analytic methods
  - Use of post-decision monitoring

Thank you!

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Questions?