INTRODUCTION

- In 2010, the permanent national oncology-specific drug review process, pan-Canadian Oncology Drug Review (pCODR), was established by the provincial and territorial Ministers of Health, excluding Quebec, to assess the clinical evidence and cost-effectiveness of new cancer drugs and to use this information to make recommendations to the provinces and territories to guide their drug funding decisions.

- The pCODR process was conceived to bring consistency and clarity to the cancer drug review process, ensuring individual provinces and territories can make drug funding decisions informed by evidence.

OBJECTIVE

- A comprehensive review of the decisions by the pCODR process to our knowledge has not yet been undertaken. The objective of this study was to examine pCODR recommendations since its inception and identify trends associated with positive and negative recommendations and determine the implications of these recommendations.

METHODS

- Final pCODR Expert Review Committee (pERC) recommendations, Clinical Guidance Panel reports, and Economic Guidance Panel reports were identified from 13 July 2011 to 28 April 2014. Using only publicly available information (accessible at www.pcodr.ca and www.reimbursementdecisions.com), recommendations were analyzed under the following categories: submission-specific, drug characteristics, clinical factors and economic factors. Descriptive analyses were conducted to identify trends for positive and negative recommendations.

RESULTS

- The 32 submissions covering 38 indications spanned 9 different tumour types (Figure 1).

- Of the 38 indications, 28 (74%) received positive funding recommendations while 10 (26%) received negative funding recommendations (Figure 2).

- The pCODR Economic Guidance Panel (EGP) often conducted re-analysis of the manufacturer’s submitted model. Common changes were (Table 1):
  - Reducing the time horizon to limit the survival benefit of a therapy post-progression and/or to better align with the duration of trial data.
  - Revising post-progression survival (mortality risk) to limit the survival benefit of a therapy after progression.
  - Modifying the dose intensity, price, and/or including drug wastage.

- Recommendations from the pCODR process offer novel insights into the future of oncology drug reimbursement in Canada.

- The pCODR process highlights the value of strong clinical data.

- The majority of recommendations were positive with the probability of a positive recommendation increasing with the availability of data from randomized controlled trials, and a net overall clinical benefit and use of comparators that were curative.

- All negative recommendations included concerns regarding insufficient or unclear clinical benefit.

- The pERC recommendations reflect provincial systems where listing is often subject to price negotiations.

- The majority of the pERC positive recommendations included the caveat “conditional on cost-effectiveness being improved to an acceptable level”.

CONCLUSIONS

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- The pERC recommendations reflect provincial systems where listing is often subject to price negotiations.

- The majority of the pERC positive recommendations included the caveat “conditional on cost-effectiveness being improved to an acceptable level”.

- The pCODR ESP often conducted re-analyses of the cost-effectiveness of submitted oncology models.

- The most common adjustment was reduction in the time horizon to reduce/remove post-progression survival benefit of the study drug.

- This reflects an implied preference by the ESP for survival to be separately modeled pre- and post-progression, as opposed to extrapolating overall survival (OS) from a trial until death.

- To accommodate this preference several methods could be used including the simple approach of shortening time horizon or setting the hazard ratio (HR) for OS to 1 after patient progression such that the OS curves for the study-drug and comparator are parallel after progression.

- Shortening time horizon may be overly conservative as it eliminates the life years gained by patients whose death is postponed beyond the trial period. However, unless the model is built to allow modification of HR before and after progression or such sensitivity analyses are conducted, it may be the only method for adjustment easily accessible to the pCODR reviewers.

- All submissions to pCODR should include a thorough discussion of the overall survival extrapolation methods, as well as sensitivity analyses to examine the impact of alternative methods that minimize post-progression survival benefits.

- The findings of this study are relevant to research methodologists, clinical trial designers and market access stakeholders as they provide insights into the factors that may influence reimbursement and should be considered in product development.

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