

# Determining the value contribution of trifluridine / tipiracil with bevacizumab for the treatment of metastatic colorectal cancer in Catalonia using a Multi-Criteria Decision Analysis



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## Background.

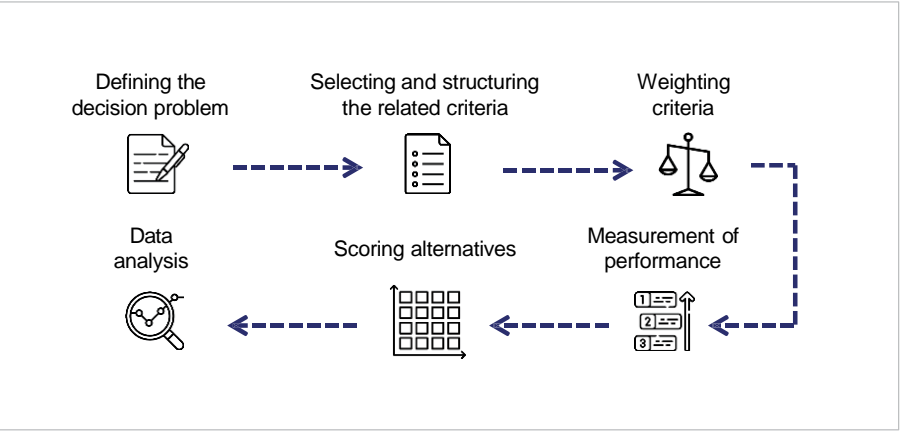
Despite the therapeutic options for treating metastatic colorectal cancer (mCRC), nearly 40% of patients will not respond adequately to first-lines treatment<sup>1,2</sup>. When two first therapeutic lines fail or are not well tolerated, it is recommended to initiate therapy with trifluridine/tipiracil (FTD/TPI) monotherapy, regorafenib or, as recently added to guidelines, FTD/TPI combined with bevacizumab (BEVA)<sup>1-3</sup>. Other options include anti-EGFR rechallenged and capecitabine. Multi- criteria decision analysis (MCDA) is a value-based assessment framework which has emerged as a complementary technique to traditional drug evaluation to support decision-makers when different medicines are available for a same indication<sup>4,5</sup>.

## Objective.

To apply a multi-criteria decision analysis (MCDA) to assess the value of FTD/TPI+BEVA in advanced lines of therapy for metastatic colorectal cancer (mCRC) compared to the available therapeutic alternatives.

## Methods.

An MCDA was conducted to evaluate of mCRC therapies in Catalonia (Spain) following the modified EVIDEM (Evidence and Value proposed criteria: Impact on Decision Making)<sup>6</sup> assessment framework and following the steps previously proposed by ISPOR<sup>7</sup>.



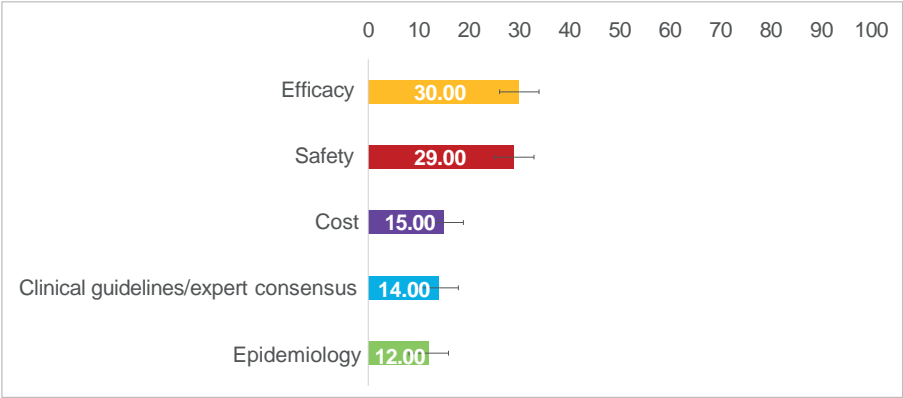
An expert committee (EC) of five regional experts with broad experience in oncology and decision-making in Catalonia was involved. After the literature review and the first meeting, five value criteria (Figures 1-3) and 18 sub-criteria (Figure 4) were selected to evaluate mCRC most used therapeutic alternatives in Catalonia. The EC carried out a hierarchical and non- hierarchical weighting of the criteria and sub-criteria. An evidence matrix was developed including information about available treatments and EC assigned scores comparing FTD/TPI+BEVA versus alternatives (capecitabine, regorafenib, FTD/TPI monotherapy, cetuximab, panitumumab, irinotecan monotherapy and irinotecan + cetuximab).

The mean scores for each criterion/sub-criterion were calculated and normalized to obtain the value contribution (ranging from -1 to 1) for FTD/TPI+BEVA versus alternatives.

## Results.

According to the hierarchical method, efficacy had the highest weight, closely followed by the safety criteria, and with lower weights the rest of criteria: the cost, the clinical guidelines/expert consensus and the epidemiology.

Figure 1. Hierarchical weighing of criteria.



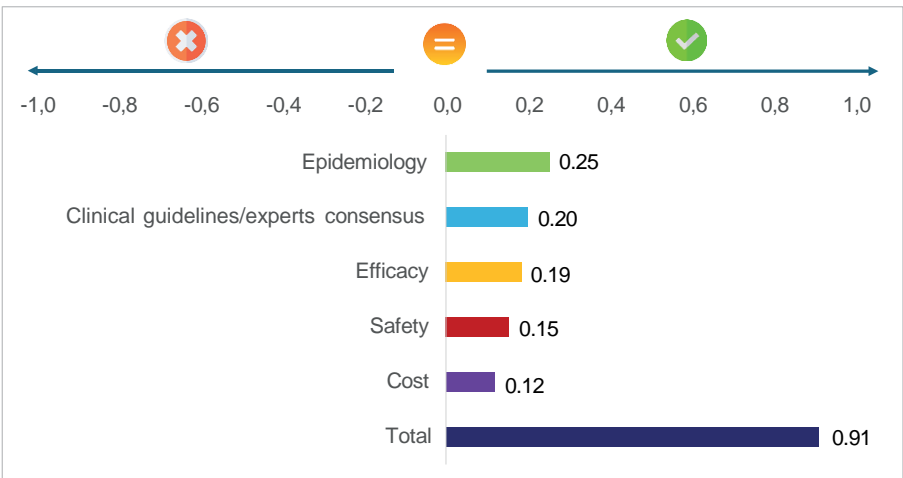
The results of non-hierarchical weighting also indicate the highest scores for efficacy and safety.

Figure 2. Non-hierarchical weighing of criteria.



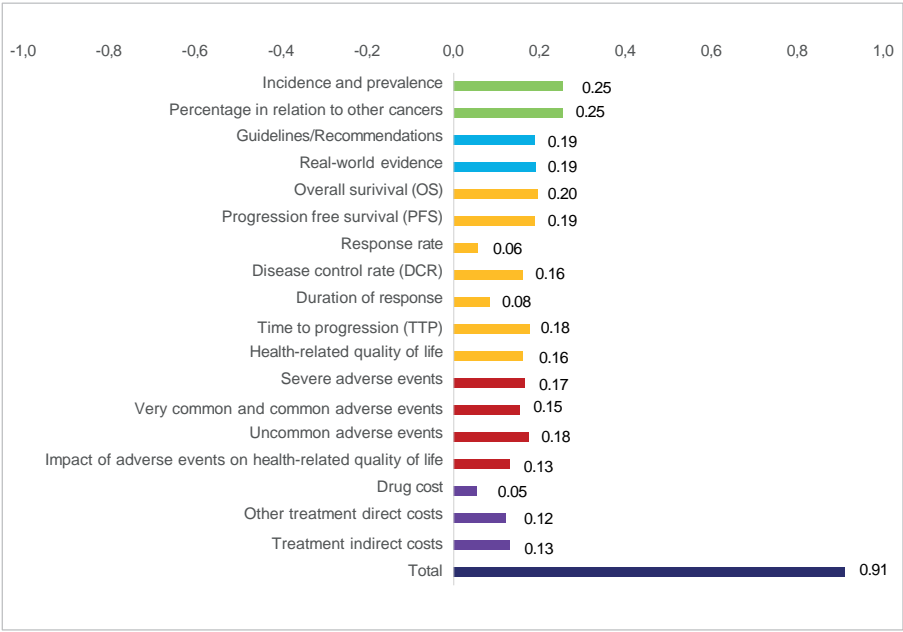
Treatment with FTD/TPI+BEVA obtained a positive overall value contribution of 0.91 points compared to alternatives.

Figure 3. Value contribution of each criteria: FTD/TPI + BEVA vs alternatives.



Analyzing efficacy, the most relevant sub-criteria were overall survival, progression free survival, time to progression, disease control rate and health-related quality of life, based on weighting attribution.

Figure 4. Value contribution of each sub-criteria: FTD/TPI + BEVA vs alternatives.



## Conclusion.

- Drug value assessment should consider multiple dimensions and criteria.
- The MCDA core model will serve as a basis for future evaluations of mCRC in advanced lines in Catalonia.
- Based on this MCDA, the high value contribution of FTD/TPI+BEVA suggests its substantial benefits over the available treatments in Catalonia. The scores it reaches are close to the maximum possible value, indicating the importance of the disease treated and the benefits of the treatment.

## REFERENCES

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