RE: Cost-Effectiveness Analysis of Screening for KRAS and BRAF Mutations in Metastatic Colorectal Cancer

We read with interest the article by Behl and colleagues regarding the cost-effectiveness of screening for mutations in metastatic colorectal cancer (1). As researchers in the field, we greatly appreciate the Journal’s interest in publishing cost analyses because it is very important to promote outcomes research for evidence-based decision making. We may agree with the findings that KRAS and BRAF mutation screening are cost-effective strategies; however, it is challenging to either confirm or refute the findings because of several concerns.

Good practices require transparency in the methods and approaches used in cost analyses to promote trust within the scientific community (2). In the model presented by Behl et al. (1), there are insufficient details about the model parameters or inputs to evaluate the accuracy of the model structure. According to the International Society for Pharmacoeconomics and Outcomes Research and Society for Medical Decision Making (ISPOR-SMDM) Good Practices series (2–4), model transparency includes many aspects, such as providing the model structure and including the variables and the relationships among the variables. A conceptual model alone is not sufficient but is only the structure from which to frame the question. Ideally, additional technical documentation (2,4) would have been included as supplementary material. Although the protection of intellectual property is a consideration, it is possible to provide enough information so that the accuracy of the model structure can be evaluated.

Additionally, there is a lack of clarity regarding the model assumptions. Although costs and some therapeutic options were provided, it is unclear how they are incorporated into the model or if this is consistent with current clinical care (4). The primary outcome of interest is overall survival; however, the survival data used for the chemotherapeutic options are not clear. As a result, the reader is left to wonder where and which lines of therapy were used in the model in which the biomarker results were incorporated, if the specificity or sensitivity was accounted for (including assumptions for the potential variation based on use of the labeled companion diagnostic vs a lab-developed test), where and which aspects of patient care were included, and if treatment efficacy was a factor in survival.

Although we wholeheartedly support promoting this type of work, without sufficient information about a model, it has less value to other researchers who may want to learn from or build upon this type of work and detracts from the value the readership can gain from this field of research. One is forced to estimate the credibility of results without having sufficient information to be able to determine the validity of the conclusions or to understand why this study reports much higher incremental cost-effectiveness ratios than others (5).

We would recommend that future articles be required to have greater transparency and clarity so that published cost analyses can increasingly be used as resources for decision making. There is a need to require adherence to the fundamentals of good modeling practices as described by the ISPOR-SMDM task force (2–4) if this field is to maintain credibility and to be of value to the medical community.

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