Analysis Finds More Agreement Than Previous Comparisons, Reveals Areas Where Both Frameworks Can Be Refined

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Alexandria, Va. – The American Society of Clinical Oncology (ASCO) and the European Society for Medical Oncology (ESMO) today published a joint analysis comparing the results of both organizations’ value frameworks in ASCO’s Journal of Clinical Oncology (JCO). The analysis found that the frameworks produce comparable measures of the clinical benefits of new therapies in approximately two-thirds of the more than 100 treatment comparisons that were examined. It also identified a number of factors that may contribute to discordant scores, revealing potential ways for both organizations to refine their frameworks in the future.

The level of agreement between the two frameworks was higher in this analysis than in prior comparisons conducted by other researchers, likely reflecting the ASCO and ESMO researchers’ deeper familiarity with the frameworks’ operating characteristics, as well as the many nuances that exist in the analysis and interpretation of clinical trial results as reported in the medical literature.

“It's encouraging that our frameworks – envisioned with distinct goals and currently at different stages of development – demonstrated good agreement in the scores they produced in this analysis,” said ASCO President Monica M. Bertagnolli, MD, FACS, FASCO. “This suggests we're both on the right track toward our shared goal of providing clear, unbiased, and reliable assessments of the clinical benefits of new treatments.”
First major comparison by the frameworks' developers

The ASCO Value Framework's Net Health Benefit (NHB) score and the ESMO-Magnitude of Clinical Benefit Scale (MCBS) are both intended to be objective measures of the magnitude of clinically meaningful benefit of anti-cancer treatments. Both frameworks account for the clinical benefits as well as the side effects of the treatments they compare.

For this analysis, ASCO and ESMO researchers calculated the NHB and MCBS for 97 trials involving patients with advanced (incurable) cancers, encompassing a total of 102 treatment comparisons. The authors used statistical analysis to establish scoring ranges for substantial and low benefit, finding that scores for the two frameworks fell within comparable ranges for 65 (64%) of the 102 treatment comparisons. Previously, published analyses from other authors found lower levels of concurrence between the frameworks on varied sets of clinical trials.

“Both organizations are pursuing this work to inform and support value-based treatment decisions by patients and their providers,” said ESMO President Josep Tabernero, MD, PhD, MSc. “For value assessments to have a positive impact on patient care, however, it is essential that they be applied accurately. It is reassuring to see that both the ESMO-MCBS and the ASCO framework produce a measure of patient benefit that can be learnt and applied by a variety of stakeholders, toward the ultimate goal of providing high-quality care cancer to every patient.”

Discordant results reflect distinct purposes, methodologies
Among the 37 trials with discordant results, ASCO's framework provided higher measures of the clinical benefits of new therapies in 19 cases, and ESMO's framework provided higher measures of the clinical benefits of new therapies in 18 cases. The researchers identified several key factors that explained the divergent scoring. In some cases, these reflected the different goals for which the frameworks were developed: ESMO's framework is intended for a wide range of uses, from guiding public health policy to clinical decision-making, while ASCO's framework was developed primarily as a physician-guided tool to facilitate shared decision-making by patients and oncologists in selecting a high-value treatment for an individual patient.

One key difference, for example, is that ASCO's framework applies penalties for modest side effects, while the ESMO framework only penalizes serious toxicities. The difference partly reflects the input ASCO received from patients, who emphasized that even relatively minor side effects can lead to significant impairment in patient tolerance or acceptance of treatment. Other factors included different ways of weighing absolute versus relative gains in survival, as well as distinct approaches to rewarding long-term survival benefits.

To refine both frameworks and bring their scores closer to alignment, the joint assessment suggests four areas to address in subsequent versions of the frameworks. These include:

- Revisiting the weights given to absolute and relative gains in survival
- Better accounting for limitations of progression-free survival as a surrogate for improved overall survival in the ASCO framework
- Revisiting methodology and terminology used to reward long-term gains in survival
- Considering refinements to scoring of toxicity, given advantages of each framework's approach.

Read the joint assessment.

The ASCO Value Framework was published in 2015 and revised in 2016. The ESMO-Magnitude of Clinical Benefit Scale was published in 2015 and revised in 2017. Both societies remain committed to refining their frameworks to increase their utility to physicians and continue improving the quality and value of patient care.

About ASCO:
Founded in 1964, the American Society of Clinical Oncology, Inc. (ASCO®) is committed to making a world of difference in cancer care. As the world's leading organization of its kind, ASCO represents nearly 45,000 oncology professionals who care for people living with cancer. Through research, education, and promotion of the highest-quality patient care, ASCO works to conquer cancer and create a world where cancer is prevented or cured, and every survivor is healthy. ASCO is supported by its affiliate organization, the Conquer Cancer Foundation. Learn more at [www.ASCO.org](http://www.ASCO.org), explore patient education resources at [www.Cancer.Net](http://www.Cancer.Net), and follow us on Facebook, Twitter, LinkedIn, and YouTube.

**About the European Society for Medical Oncology (ESMO)**

ESMO is the leading professional organisation for medical oncology. With more than 20,000 members representing oncology professionals from over 150 countries worldwide, ESMO is the society of reference for oncology education and information. ESMO is committed to offer the best care to people with cancer, through fostering integrated cancer care, supporting oncologists in their professional development, and advocating for sustainable cancer care worldwide. Visit [www.esmo.org](http://www.esmo.org).