Clinical decision support

Many early publications pertaining to Watson for Oncology (WfO) decision support were feasibility studies, looking at the concordance of WfO recommendations relative to those of individual tumor boards in countries around the globe. In some cases, clients have demonstrated rates of concordance between Watson for Oncology and local tumor boards at rates in excess of 90%. Even more important than concordance, however, is the opportunity for a decision support tool to inform treatment decisions. In two of the studies that follow, physicians reviewed and ultimately chose treatments that they had not previously considered based on recommendations from WfO.[15,16]

Other studies reflect potential use cases for WfO to address variability of care, demonstrate shared decision making, support evidence curation, boost patient confidence in their care plans, and improve physician and patient satisfaction.

Artificial intelligence-driven oncology decision support that brings sub-specialized expertise to practitioners with global reach is a novel endeavor. The ongoing enhancement of WfO is a journey that we carry out in close partnership with physician users across the globe.

15 Jiang Z et al. Concordance, decision impact and guidelines adherence using artificial intelligence in high-risk breast cancer. J Clin Oncol. 2018;36 (suppl; abstr e18566).

16 Lee KA et al. Concordance, Decision Impact, and Satisfaction for a Computerized Clinical Decision Support System in Treatment of Lung Cancer Patients. European Lung Cancer Congress; April 11, 2019; Geneva, Switzerland

Artificial intelligence-based clinical decision-support system improves cancer treatment and patient satisfaction*

Zonghe ZW et al. ASCO Annual Meeting 2019
*no contributing IBM author

Link to study →

> “
> [...] patients build stronger confidence with their health care team and are willing to believe they will benefit from the treatment plans.

Excerpt from abstract

Enhanced patient knowledge around disease and treatment options can increase confidence in achieving positive outcomes. A new model of cancer care consultation assisted by Watson for Oncology was evaluated.

The new 7-step model assisted by Watson for Oncology was compared to non-CDS system method (n = 70; new = 50; traditional = 20)

The 7-step model:

Introduce WfO to patients

⌄

Patients express desires

⌄

Oncologist presents medical condition

⌄

Discussion with team

⌄

Input patients info WfO and review options

⌄

Discuss and finalize options with patients

⌄

Patient feedback

Patients in 7-step process indicated higher satisfaction in treatment options, confidence in health care workers, and willingness to follow treatment regimen.

“A tool, not a crutch”: patient perspectives about IBM Watson for Oncology trained by Memorial Sloan Kettering*

Hamilton et al. J Oncol Pract. 2019; 15(4):e277-e288
*no contributing IBM author

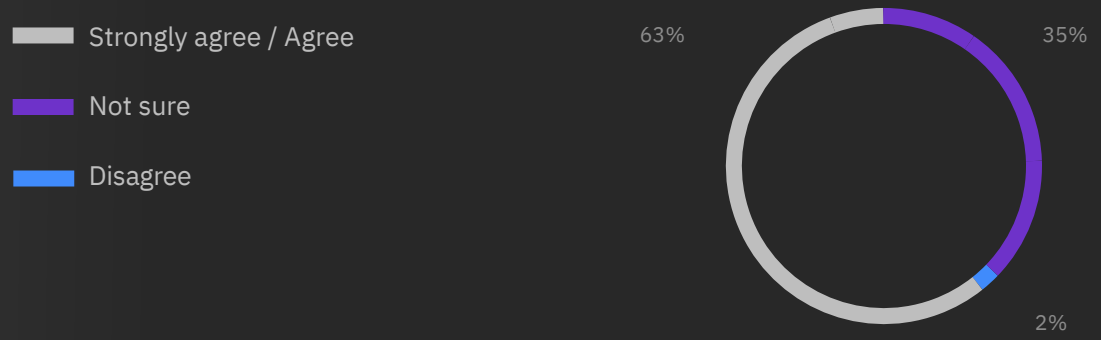
Link to study →

“Importantly, in this study, we observed high levels of patient interest, perceived value, and acceptance of WfO, although with caveats that will be critical to address as WfO expands in its scope and dissemination.

Excerpt from manuscript

46
patients

Patient’s response to the phrase
“I believe IBM Watson for Oncology helped my doctor decide the best chemotherapy for me”



Patient satisfaction with oncology clinical decision support in South Korea

Lee K et al. ASCO Annual Meeting 2019

Link to study →

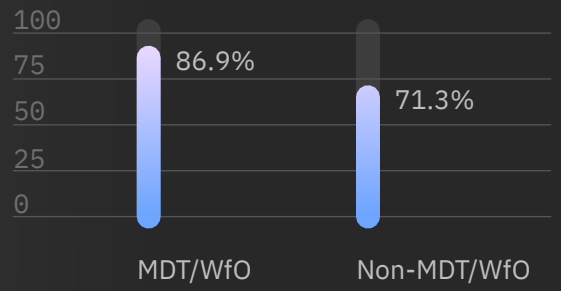
> “Patients reported greater satisfaction in the explanations they received in the MDT-WfO group, consistent with their more positive impression of GM[C] after treatment decisions were made.

Excerpt from abstract

Cancer patients at Gachon University Gil Medical Center (GMC) were surveyed on satisfaction levels after reviewing and choosing treatment options presented by a multidisciplinary tumor board (MDT) augmented with Watson for Oncology (MDT/WfO) or recommendations from one or more oncologists augmented by WfO (non-MDT/WfO).

Out of 290 cancer patients (9 cancer types), 44.8% selected the options provided by MDT/WfO and 55.2% selected the non-MDT/WFO option.

Positive view of GMC after treatment decisions made



Patient satisfaction with the explanation from medical staff

Scale of 1–10; p = 0.029