Expensive new cancer therapy may be cost effective

December 20 2017

Researchers from the University of Colorado Skaggs School of Pharmacy and Pharmaceutical Sciences, selected to estimate the cost-effectiveness of the newly approved CAR-T therapies, have found the clinical benefit may justify the expensive price.

The treatments involve removing immune cells known as T-cells from the patient, genetically engineering them to kill cancer cells and then putting them back in the body. The therapy is known as CAR-T or chimeric antigen receptor T-cell therapy and is FDA approved for some B-cell cancers, including acute lymphoblastic leukemia in pediatric and young adult patients and those with adult lymphoma.

The evidence suggests there may be potentially great benefits from these therapies, but the treatments are costly. The leukemia therapy, known as Kymriah, costs $475,000 while the lymphoma treatment, Yescarta, costs $373,000.

So the non-profit Institute for Clinical and Economic Review (ICER) enlisted the help of pharmaceutical outcomes research faculty Melanie Whittington, R. Brett McQueen, and Jon Campbell from the CU Skaggs School of Pharmacy to generate evidence on whether the treatments, already approved by the FDA, are cost-effective.

The draft report of their findings was published Wednesday on the ICER website. After a public comment period, the researchers in collaboration with ICER, will finalize the report and present the findings at a public

forum on March 2, 2018.

In the draft report, they compared CAR-T therapies to chemotherapy, taking into account patient survival, quality of life and health care costs from the health care system perspective over the lifetime of a patient receiving the therapies.

"We take into account the clinical evidence, quality of life data, and health system costs to generate cost-effectiveness evidence," said Whittington, PhD, research instructor at the CU School of Pharmacy.

According to Jon Campbell, PhD, associate professor of pharmacy, the cost-effectiveness findings for both CAR-T therapies were `promising' and suggested that they may be a good use of our health care resources toward improving health. They significantly extended the lives of some patients, much more on average, than traditional chemotherapy.

"The CAR-T science is beyond whether the therapies work for certain patients and is now questioning its value," he said. "CAR-T is promising on the clinical side but there is some feeling of sticker shock related to the price. Is it worth it? Yes, it seems to be."

Does the cost-effectiveness of therapies matter in the U.S.?

"The straightforward answer to that question is yes," said McQueen, PhD, assistant professor of pharmacy. "Insurance companies have a higher likelihood of providing access and payment for therapies that are considered good value for money."

Campbell, who is director of pharmaceutical outcomes research graduate track at the Center for Pharmaceutical Outcomes Research at CU Anschutz, noted that cost-effectiveness doesn't mean cheapest and it doesn't mean denying access.

"It's about ensuring patients have access to high value care while sustaining our health system for future generations," he said.

Provided by CU Anschutz Medical Campus