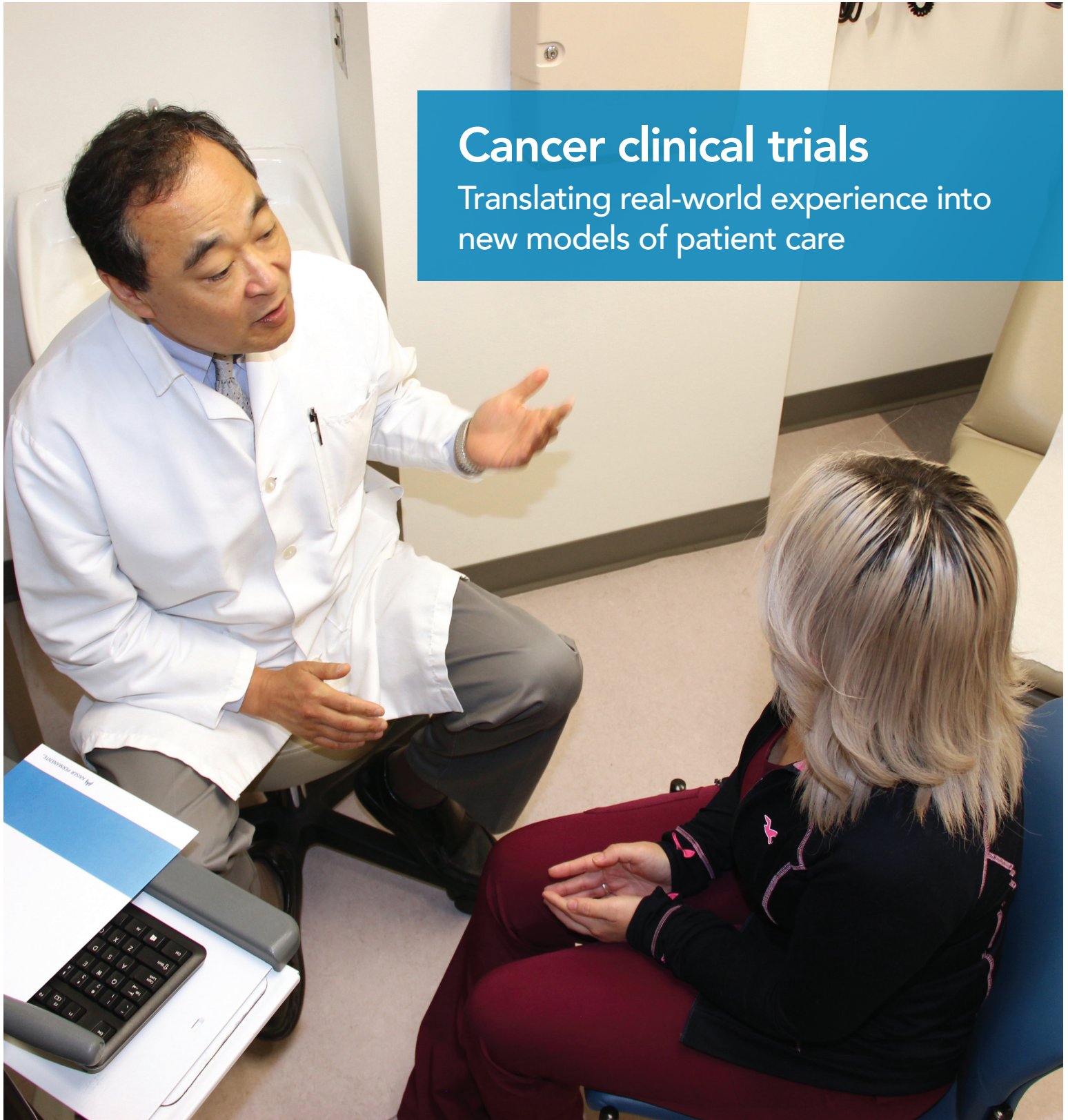


Cancer clinical trials

Translating real-world experience into
new models of patient care





Kaiser Permanente Southern California clinical trials investigators are involved in more than 400 clinical trials. They're focused on finding the most effective therapies with the fewest side effects. Patients who participate in clinical trials help us determine if new and novel treatments are better than current practice.

Han Koh, MD, is the director of the Cancer Clinical Trials Access Program and works with cancer clinical trial investigators across KPSC. The program currently has 41 active trials, 17 of which were added in 2017. We asked Dr. Koh to explain the importance of real-world evidence collected through clinical trials at KPSC and its benefits to patients.

Tell us about cancer clinical trial research at KPSC.

When we talk about research, we often talk about basic research, like looking at the cell cultures of animals. Clinical trials are different. We're working with an actual human being who is being treated with chemotherapy or other cancer treatment and documenting their outcomes.

Unlike research hospitals, Kaiser Permanente conducts clinical trials in a community setting. The population of clinical trials at research hospitals typically reflects people who are referred to those trials, which may not represent the broader population. Our setting is more representative of the community.

Why are clinical trials important?

The U.S. Food and Drug Administration won't approve any treatment unless we can show them that the new treatment works better and has fewer side effects than the previous treatment. So, a clinical trial is the last step before a new treatment becomes available to the public.

For someone with an advanced stage of cancer, having access to state-of-the-art treatment that may ultimately prove effective is a great benefit.

How do KPSC clinical trials help improve treatment?

We've got a large and diverse patient population to draw upon for our clinical trials. In 2017, KPSC was recognized as a top U.S. recruiter in a half-dozen clinical trials of treatments for illnesses including cancers of the lung, breast, and prostate.

Also, we work with cooperative groups such as the Southwest Oncology Group, which includes hundreds of medical center sites, to pool our study results and draw conclusions. This allows us to include many more patients and to see results of clinical trials sooner. As one of the largest health care organizations in the country, we make a significant contribution to those efforts.

The results from these clinical trials are translated directly into new models of patient treatment.



Dr. Farah Brasfield and Dr. Richard Green exchange ideas at a Cancer Clinical Trials Access Program meeting.



At Riverside Medical Center, Dr. Helen Moon demonstrates how to prepare an oncologic viral therapy.

Can you give us an example?

The standard treatment following colon cancer surgery used to be 6 months of chemotherapy. We worked to help determine whether 3 months of chemotherapy could avoid some of the side effects and improve quality of life better than 6 months of chemotherapy. The results were recently published, and it turns out that 3 months is equally effective. Because of that work, the standard treatment duration for chemotherapy after colon cancer surgery has been changed to 3 months. That benefit can be translated to colon cancer patients across the United States and around the world.

Can you tell us about precision medicine and clinical trials?

Precision medicine trials look at what therapies to use for a specific mutation that may be driving a patient's cancer. Through genomic sequencing—a method of determining the genetic makeup of cancer cells—we can often determine if a patient's tumor has one or more mutations that we can treat with targeted therapies.

It is a major shift in the way we treat cancer.

In the old days, regardless of the type of cancer, we gave the same combination of chemo or chemo/radiation to everybody. But we are smarter now.

We can sometimes use gene sequencing that can highlight gene changes that may be causing disease. Then we can classify cancer into different types and customize the best treatment for some subgroups of cancer. When we can use a specific treatment for a cancer, we can often increase the effectiveness and minimize the side effects.

Also, precision medicine can address a host of personal characteristics in addition to gene mutations, such as social situation and family history.



Dr. Devansu Tewari listens intently to Dr. Ricardo Spielberg.



Dr. Han Koh discusses the importance of clinical trials in a real-world environment.

What are some current precision medicine clinical trials at KPSC?

Two of the clinical trials we are currently working on are the ALCHEMIST and MATCH clinical trials, which are both precision medicine trials.

ALCHEMIST is a group of randomized clinical trials for patients with early-stage non-small cell lung cancer whose tumors have been surgically removed. The trials test to see if adding targeted therapy based on the patients' tumor genetics will help prevent the cancer from returning.

The MATCH trials are for patients with advanced solid tumors, lymphomas, or myeloma or other cancers where there is no standard treatment. They are aimed at determining whether treating cancer based on specific genetic changes is effective.

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— Han Koh, MD

What are you finding with these targeted treatments?

There is a tremendous amount of potential, and a few agents are already approved. Potentially 100 times more treatments will become available on the market within the next 5 to 6 years.

These clinical trials are very exciting. But they're also very humbling because we learn ways cancer cells can fool us. Sometimes the target therapy we think is going to work turns out not to be effective. Cancer cells can develop ways to circumvent our targeted therapy, developing other pathways where the cancer cells can continue to grow rapidly. Eventually we hope to use all this knowledge to develop truly effective treatments for each subtype of cancer.

What is the next frontier for fighting cancer?

We are currently doing research in immunotherapy, which can help the immune system attack the cancer directly or stimulate the immune system in a more general way to fight the cancer.

The way I explain it to patients is that we are teaching the cancer patient's own immune system to recognize the cancer cells and then destroy them.

Immunotherapy has the potential to have fewer side effects and work better than chemotherapy in some cancers. The challenge is that we haven't identified a way to find out whose cancer is going to respond to immunotherapy better than the others. So those are the areas in which we are doing active research.

What is the future of KPSC clinical trials?

Chemotherapy, radiation therapy, or a combination of both have been the traditional ways of attacking cancer. In the last 10 or 15 years, we became interested in precision therapy and harnessing our knowledge of genes to fight cancer. In the past 5 years or so, a new way—immunotherapy—has developed.

The future is probably a combination of all of those. And clinical trials will be an essential tool in determining the right combination for patients at Kaiser Permanente and others with cancer throughout the country and world.