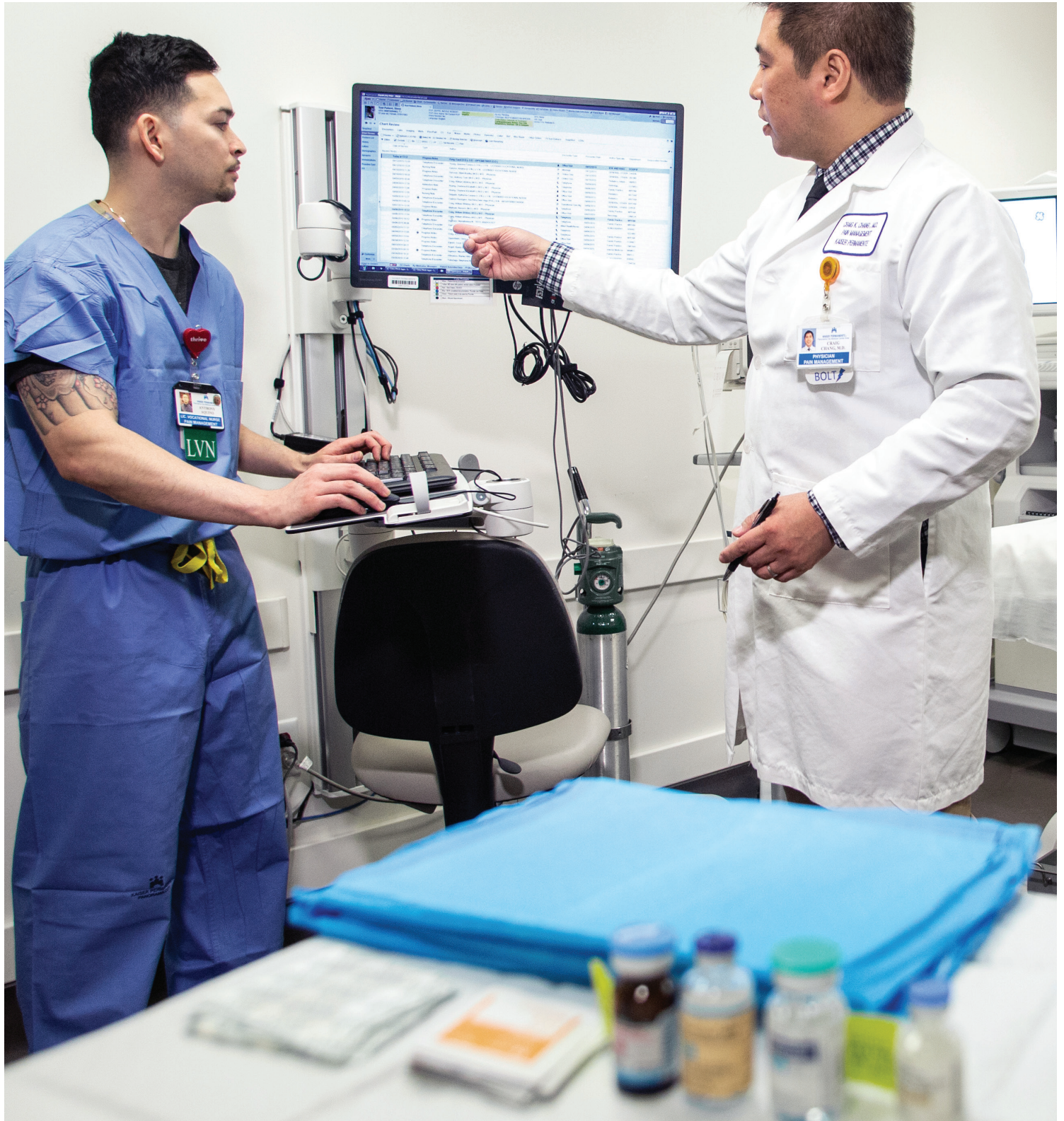


Opioid addiction:

How researchers and physicians have worked to stem the crisis



As lead physician for Kaiser Permanente Southern California's Controlled Substance Task Force, Steven Steinberg, MD, has long led the charge to find ways to safely treat pain without addiction, including reducing the use of brand-name opioids, which decreased the incentive for patients to illegally sell their prescriptions.

Dr. Steinberg, who is also the regional chief of Family Medicine, is currently working with Rulin Hechter, MD, PhD, of the Department of Research & Evaluation on several studies aimed at reducing opioid addiction and overdoses, something he personally understands well.

In 2018, Dr. Steinberg fell 9 feet from his attic onto the concrete floor of his garage. He suffered multiple injuries including a skull fracture. He was in the intensive care unit for 2½ days.

He was given one of the opioids prescribed to patients with severe pain. Two weeks later he was at home and stopped taking the powerful narcotic. Lying on his couch at home, his body was racked with chills and sweat. He was hit with waves of nausea. He was experiencing withdrawal.

"You have the person who's usually in charge of controlled substances having to go through drug withdrawal himself," he said, "And what it illustrated for me was, that these drugs are really, really addictive, even when appropriately prescribed."

KPSC's inquiry into opioid addiction began a decade ago

In 2009, physicians looked at the medications being prescribed for Kaiser Permanente members in Southern California. They were surprised to find that opioid painkillers and highly addictive narcotics were prescribed more often than medications for diabetes or hypertension.

Physicians responded by launching a comprehensive initiative to transform the way chronic pain was



At the Panorama City Medical Center, Dr. Rulin Hechter and Dr. Steven Steinberg discuss several of their ongoing studies aimed at reducing opioid overdose deaths.

viewed and treated at KPSC. They conducted a study that described in detail the program to reduce dangerous and inappropriate opioid usage and to measure its effectiveness, said Michael Kanter, MD, medical director of Quality and Clinical Analysis for the Southern California Permanente Medical Group. (In 2019, Dr. Kanter became chair and professor for the Department of Clinical Sciences, Kaiser Permanente School of Medicine.) The study showed that between 2010 and 2015, there was a 30% reduction in prescribing opioids in high doses and a 95% reduction in prescribing of brand-name opioid-acetaminophen products.

"We are prescribing much fewer opioids," said Dr. Kanter, who is also executive vice president and chief quality officer for The Permanente Federation. "The study showed us to be a leader in opioid reduction, but there is still much we need to know."

"We are working to provide evidence to support policy change and identify the best strategies to tackle this epidemic."

– Rulin Hechter, MD, PhD

Cover: One reason Kaiser Permanente researchers have an advantage in opioid research is their partnership with front-line clinicians. Before he got involved in research, Dr. Craig Chang (right) created a dashboard to closely track opioid prescription and dispensing doses. Here he reviews some important statistics with Anthony Aquino at the Panorama City Medical Center.



At the Panorama City Medical Center, Dr. Rulin Hechter and Dr. Steven Steinberg discuss how they expect the results of their ongoing studies will help inform safer clinical practice, policies, and guidelines.

Multiple investigations are aimed at reducing opioid addiction and death

Research is integral to KPSC's robust program focused on reducing opioid prescriptions and overdoses. Scientists in 2 of R&E's scientific divisions are separately pursuing active studies with multiple partners.

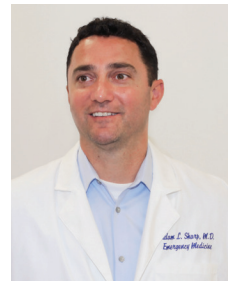
"We are working to provide evidence to support policy change and identify the best strategies to tackle this epidemic," said Dr. Hechter, a researcher in the Division of Epidemiologic Research. "That includes improving the quality of patient care and increasing patient safety when we prescribe opiates and looking for alternative ways to tackle chronic pain."

Adam Sharp, MD, MS, a researcher in the Division of Health Services Research & Implementation Science, has collaborated with Patrick Van Winkle, MD, and Ali Ghobadi, MD, of Kaiser Permanente Orange County to focus on opioid prescribing in the emergency department.

Research boosts clinician confidence to reduce opioids

Dr. Sharp, who is also an emergency physician at the Kaiser Permanente Los Angeles Medical Center, recently published studies in 2018 that:

- Showed that reducing opioids for chronic pain did not affect patients' satisfaction with care
- Showed that having a standard emergency department opioid policy decreased likely unwarranted opioid prescriptions
- Identified adolescents and young adults at higher risk of being prescribed opioids, which could help inform future interventions to prevent addiction



Dr. Adam Sharp

"Steve Steinberg has been leading the fight against opioid addiction for a long time and they've done a lot of things to work on these issues," Dr. Sharp said. "The research that we have been doing has helped to inform those efforts and to evaluate the impact."

Physicians partner with research to find answers

One reason Kaiser Permanente researchers have an advantage in opioid research is their partnership with front-line clinicians. Before he got involved in research with Dr. Steinberg and Dr. Hechter, Craig Chang, MD, physician in charge of pain management for Kaiser Permanente Panorama City, created a dashboard to closely track opioid prescription and dispensing doses.

Pain management is challenging, he explained. And finding better ways to track how much opioid medication patients were getting became increasingly important over the past decade.

"For a select number of patients, opioids have a very critical role in managing chronic pain," he said. "And some of these patients have opioid tolerance that requires higher than usual doses. The major challenge is balancing that need to be compassionate with considering the underlying safety issues that come with the therapy."

The study team harnessed Dr. Chang's algorithm to calculate a near real-time daily dosage—and his experience as a pain management specialist—to further their investigations, Dr. Hechter said.

Researchers study many different aspects of opioid use and addiction

Dr. Hechter is actively working on 3 projects with Dr. Steinberg, Dr. Chang, and other physicians to evaluate:

- The effects of prescription opioid use while also using tranquilizers or gabapentin, which is used to control seizures or nerve pain, on risk of overdose
- The effects of decreasing and discontinuing opioids on risk of overdose among chronic opioid users who are at high dose and whether certain dose-decreasing strategies, e.g., how fast the dosage is decreased, are safer
- The effect of chronic prescription opioid use on mortality in patients age 65 years and older



Dr. Craig Chang hands Anthony Aquino a vial of medicine at the Panorama City Medical Center.

Dr. Hechter is also principal investigator and site PI on several opioid studies being done across multiple Kaiser Permanente regions and other health care organizations.

Implementation of results could change opioid tapering strategies

"We anticipate the results from those studies will provide us a better picture of opioid misuse and its impact on patient health outcomes in our region. It will also inform safer clinical practice, policies, and guidelines regarding prescribing opioids and strategies for tapering," Dr. Hechter said.

Dr. Kanter said the work being done by Dr. Sharp has removed barriers for physicians trying to reduce opioid prescriptions. The other studies also have the potential to change practice.

"We're way ahead of the rest of the country with our holistic integrated approach to opioid prescribing," he said, "But our next steps will be determined by the results of the research that is being done now."