m.Care Client Recognized for At-Home Care Program

Co-Third-Place Winning Team:
Kaiser Permanente Southern California and the S.Cal. Permanente Medical Group

The leaders at Kaiser Permanente Southern California and the Southern California Permanente Medical Group have created a breakthrough hospital-at-home program with scalability, winning them co-third place in the Innovator Awards Program

As the COVID-19 pandemic tore through communities nationwide beginning last spring, bringing massive illness, hospitalization, and death in its wake, the leaders of many patient care organizations began to mobilize both to optimally care for patients, and to do what was possible to bring down inpatient admissions at a time when many hospitals were filled to capacity. How to care properly for COVID-19 patients who didn't necessarily need to be in an inpatient setting, yet required intensive monitoring?

In California, the leaders of the Kaiser Permanente Southern California integrated health system, which encompasses hospitals, medical groups, and a health plan, quickly developed a clinical home monitoring program to reduce the burden on the health system while keeping patient safety at the forefront. The program was commissioned by Kaiser Permanente Southern California regional executive leadership as well as executives from the Southern California Permanente Medical Group. A working group was formed that included clinical and operational leaders from pulmonology, infectious diseases, hospital medicine, emergency medicine, continuing care, and population health management. Through a partnership with the organization's health innovation department, a set of care pathways was developed, one in which patients who are provided with equipment including a pulse oximeter, thermometer, are given access to a smartphone-based or computer-based app into which they enter their daily vital signs and symptoms. The program is enhanced through patient education and real-time support, in English or Spanish. All of this is supported by a centralized clinical pool of nurses and physicians, 24/7.

To date, over 16,000 patients have been enrolled in the program, and approximately 95 percent have recovered and completed the program, while 10 percent were admitted to the hospital for timely treatment. Of the patients who died or were hospitalized, a larger percentage was found to have existing comorbidities. Of the patients enrolled in the program, 47 percent were enrolled from an inpatient setting, 25 percent from an emergency department, and 28 percent from an urgent care or outpatient setting. A high volume of demographically diverse patients were managed in a short timeframe and the program served as a safe alternative for managing sick patients outside of the organization's inpatient hospitals. For this pioneering work, the editors of Healthcare Innovation have recognized the team from Kaiser Permanente Southern California and the Southern Permanente Medical Group as the co-third-place winning team in the Healthcare Innovation 2021 Innovator Awards Program.

A running start
Given the situation in the early months of 2020, "We started without piloting in mind," says Alyssa T. Millan, senior manager in the Health Innovation Studio at the Southern California Permanente Medical Group. "This was a response to the pandemic, and we knew it was the right thing to do. So our strategy was a phased rollout. We launched with our first site on April

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13, 2020, and have been live ever since, with 11 of the 13 Kaiser medical centers in the area participating over time. The number of clinicians involved in the program is rather fluid, she notes, as every local medical center staffs it differently, with two to five physicians fully dedicated to it in one location, while others might cross-train their entire staff of more than 100 physicians in it, with none dedicating all of their hours to it.

In any case, the teams at all 11 of the 13 local Southern California medical centers have been engaged in the program, notes Dan N. Huynh, M.D., physician director for KP Care at Home in Southern California, and a hospitalist by background. "This is an example of how an integrated care system was able to pull something together rapidly," Huynh emphasizes. "It wasn't just one group; we had home care physicians, hospitalists, specialists, infectious diseases, pulmonology, together with nursing, pharmacy, and home care. On the outside where it's not integrated, that would be daunting" he observes. "For us, it was fairly easy to scale. We took it from one med center to 11 in a fairly short time."

"This was in our heads in early March, and we launched in April," reports Earl B. Quijada, M.D., a home care physician who has been a core leader in the initiative along with Millan and Huynh. "It took four weeks from an idea in the head, to boots on the ground, so it was super-fast. We wanted to save lives and provide high-quality care; we were anticipating an avalanche of patients in March; our predictive modeling predicted that we would be caring for 50,000-60,000 people with COVID. We purposely targeted patients who might require hospitalization, which we thought would be 20 percent of that 50-60,000. We figured we would run out of beds, and we wanted to create a safe home-based alternative. So we started off by just looking at the data out there and the patient demographics, and started forming our modeling." The team engaged in a fair amount of predictive modeling using available data, he notes.

Quijada goes on to say that "We had models, but they were geared towards end-of-life care. So we reformatted those and focused heavily on respiratory and cardiovascular. We had nurses creating drafts and working with physicians, refining our assessment approach," based on the stages that patients were observed to be at in their disease states. Critically, he notes, "The ideal patient to be cared for in this program had a low to moderate risk for hospitalization. We didn't want them so sick we knew they'd end up in the ICU, or so well that monitoring wouldn't be worthwhile. So we initially took patients from ED, urgent care, or who were ready for discharge." It was important, he adds, to carefully select COVID-positive patients while monitoring the program's capacity.

Applying COVID learnings to broader patient bases

"This COVID home monitoring program was established as a COVID program alone; however, we also have a hospital-at-home program that targets additional diagnoses," Millan says. "And we're at a juncture where we're in some ways merging the two. It's the same concept, in terms of our desire to provide quality care in the home, with eyes in the home, through this capability. But we've also expanded it to include patients with CHF [congestive heart failure], COPD [chronic obstructive pulmonary disease], pneumonia, all the big hitters in our hospital-at-home program."

In that regard, Huynh says, "What COVID did for us was to really help us see the possibilities, and assured us that we could provide high-quality care in the home safely and effectively. We've cared for 16,000 patients this way. It helped us to scale our program across Southern Cal. And the existing advanced medical care at home program manages diagnoses like pneumonia, heart failure, COPD, cellulitis, and other typical diseases. So this program helped us to scale that up, and to truly appreciate the value of reliable 24/7 coverage."

Mastering the practical challenges

Robert R. Grover, R.N., has two-and-a-half decades' experience in nursing, and is the regional clinical operations director for the integrated care center at Southern California Permanente; it is his team that handles the patient calls and communications for the home monitoring program. "We're essentially a centralized hub contract center that handles a lot of different types of care," he explains. Given that the call center had already gone nearly 90-percent virtual when the pandemic hit, "That made us very scalable. We were able to duplicate staff and systems, and to double in size since then."

What kinds of practical challenges have been involved? "Staying efficient, taking multiple channels of inbound communications in a crisis, and boiling those down to two or three or four," Grover says. "We had to cobble together off-the-shelf technologies to make sure we were creating work queues to track patients without losing track. So, standing up off-the-shelf technologies to create work queues."

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Also, Huynh points out, "There was no evidence in the clinical literature to guide us as we moved forward with this program; we were all learning in real time. But the physicians adapted very quickly." The team innovated quickly, while thoughtfully, in real time. "For example," he says, "Remdesivir is only supposed to be approved in the hospital, but we were able to quickly establish a protocol for administering Rem in the home. So everyone quickly adapted to the need. But having this program in place, and being able to reassure everyone that we could do this reliably and safely, gave a lot of comfort to people to say, 'OK, I'm going to discharge this member to the home.'"

Strategies around the information technology

The very nature of the pandemic as a crisis actually helped these leaders to move forward fast. "We were able to mobilize quickly; during the pandemic, the well-known red-tape barriers were loosened to allow for speed," Millan says, acknowledging that, "In non-pandemic times, things might have gone much more slowly. But we got approvals very quickly." Meanwhile, she says, "In terms of development, we created the tool very rapidly and continued to make modifications as necessary. So we had a good strategy in terms of the technology. From a data perspective, it was a bit more tricky. But we created a dashboard that's now a very large dashboard. And we were able to publish the dashboard within the first month, and continued to iterate it."

Broader learnings

What have been some of the big-picture learnings involved? "No matter how large your organization is, it has to have a nimble mindset," Grover says. "You have to think nimble and outside of the box. And those things really held true, and helped us save lives."

And, Huynh says, "I think what COVID taught us is that patients will embrace this if we do it reliably. Clinicians will embrace this if we put in the bells and whistles"—the key features that can ensure safe care in the home. "You'll see a number of organizations developing hospital-at-home programs," he predicts. "And technology, including remote monitoring, has played a huge role in terms of enhancing care and supporting the clinical team. It also helps providing that assurance to the physicians, who are discharging the patients not knowing what might happen to them. It does add value to the patient as well as the clinical team. Care can be delivered safely in the home."

In the end, this is very much a team effort, Millan says, work that "requires interdisciplinary partnerships. So many different components had to be brought in—all the different medical specialties, Bob's team, all the administrative components, the data partners, the IT component—so many components had to be brought in, across our highly matrixed organization."

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