

Boosting confidence on the clinic floor

Enhancing medical training in the metaverse



Call for change

The dialysis machine training challenge

What if new dialysis technicians can become acquainted with the ins, outs and movements associated with using the machine before they're putting a lead in a patient's arm? DaVita Inc., with the help of a team from Accenture, wanted to use the metaverse to offer its frontline caregivers virtual training that recreates real life scenarios with a digital dialysis machine—before interacting with real patients.

Pioneering efforts such as this could be a game-changer for healthcare, namely enhancing medical training for everyone from home health aides to surgeons in the metaverse, or virtual world. Currently, this kind of clinical training is mostly constrained by what's physically possible: medical students still dissect cadavers to understand the body, and everyone ends up training on the job with live patients. Virtual training initiatives redefine what's possible without the restraints of the physical world.



Call for change

The virtual training innovation is part of an extensive clinical onboarding program at DaVita, which takes 350 hours over 10 weeks to complete. Originally, the intensive, blended learning program, which was itself recently upgraded, combined self-paced study with shadowing of experienced coaches called “preceptors” in the clinical environment to train under real conditions. The challenge with this type of training is that it means more time spent away from patient care for both new teammates and the seasoned preceptors, who are a valuable resource on the clinic floor.

So, the company decided to reimagine part of its extensive training program for new dialysis technicians. The solution? An immersive, virtual learning experience.

The goal was to create a revolutionary way to train dialysis workers that would help caregivers get more time to practice in a virtual setting without the disruptions of training in the physical clinical setting. Interviews indicated that trainees would prefer more training time on the clinic floor, so a leap forward in virtual training would help augment the overall training experience while decreasing operational inefficiencies.



When tech meets human ingenuity

Enhancing training while conserving limited resources

The first step was to brainstorm which parts of clinicians' jobs might be an optimal use case for the new initiative. The team also needed to create a minimalistic virtual environment to keep the user focused on the training task at hand, while also making a hyper-realistic virtual dialysis machine — something that could be used repeatedly by trainees to boost their confidence without consuming limited resources.

The best fit for the needs and real-world constraints was dialysis machine set-up, also called stringing, a procedure involving 47 unique steps. It's not simple or immediately intuitive, and learning each step is required to safely deliver treatment to each patient.

An Accenture team composed of designers, UX experts and metaverse specialists collaborated with clinical experts from DaVita to meticulously itemize each step, using existing training videos, detailed policies and procedures.

After just 12 weeks, what resulted was a virtual to-scale model of the machine as it appears in the clinic, with all the appropriate wires, saline bags, pH testing kits and other attachments. The model — which users experience via a VR headset — was designed to be as true to life as possible. It allows trainees to build muscle memory of the movements required to string the machine, because they're reaching and crouching down, or leaning over at other times, in the exact same way they would on the clinic floor.



Value in New Dimensions

The metaverse meets kidney care

DaVita began piloting the virtual training program with about 50 trainees and is measuring its success in three primary categories: experience, proficiency and efficiency. Early indications from the pilot are that the program boosts all three.

First, the learning experience has improved, making it more fun and accessible, and signaling to new hires that DaVita invests in innovative training programs. The pilot is showing that trainees are improving their proficiency in stringing the machine, due to that muscle memory that is now taught using the virtual dialysis machine. Finally, there's an efficiency gain from freeing up time and resources.

Value in New Dimensions

The sense that caregivers need more time to train is enhanced by the virtual learning solution, preparing them as much as possible for the actual experience of setting up a dialysis machine. Employee sentiment and morale in these areas is hugely important, as the healthcare industry (and many others) struggles with retention.

The project also demonstrates the value of an emerging trend of using virtual training solutions to teach hard skills. So far, this technology has been primarily used for soft skills training, so learnings from this endeavor will help inform

both future use cases for DaVita as well as applications for companies in other industries. Any industry that places a premium on safety, for example, would be a candidate for introducing this type of training program.

Another potential development for DaVita is that the virtual experience allows DaVita clinicians to analyze its procedures and identify opportunities for process improvements and other efficiency gains. So, it has potential long-term value beyond this new training tool.



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