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Using Virtual Reality to Transform Clinical Training and The Safety of Patients



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CEOCFO: *Mr. Sandau, the first thing I see on the Health Scholars website is "We are on a mission to save lives." Would you tell us how you plan to do that?*

Mr. Sandau: When it comes to ensuring patient safety, it is critical that pre- and in-hospital teams are properly trained to perform requisite clinical skills so that they are able to identify risk factors and act with a high degree of confidence and capability in any kind of medical scenario. It's proven that experience-based training is the most effective way to learn and increases retention by as much as 70%. However, generally speaking, there is a challenge for organizations to disseminate high-quality experience-based training to large numbers of users on a routine basis, plus it can be very expensive.

But with virtual reality we can scale experience and performance assessment, improving the overall clinical readiness that can help reduce medical errors and save more lives. Thus, our mission is to advance healthcare training through virtualization, making experience-based training scalable, more accessible and more affordable for anyone responsible for improving patient or public safety.

CEOCFO: *How does the Health Scholars platform work?*

Mr. Sandau: Our platform is a cloud-based, VR-ready clinical training platform with VR Simulations, Simulation Management, and Clinical Readiness Reporting solutions for the management, delivery and analysis of blended learning programs. It was originally developed for hospital-based simulation centers and their day-to-day operations, but now offers the ability to seamlessly manage the



Provider using Health Scholars In-Hospital Advanced Cardiac Life Support (ACLS) VR simulation training

distribution and learning process around virtual reality simulation as well as traditional eLearning courses, which gives us a complete platform that allows educators to provide learners with all forms of education. And what makes our platform so unique is that it is the first blended learning platform that enables VR distribution and performance analysis, providing organizations an enterprise-scale application to extend physical simulation beyond the simulation center.

CEOCFO: *How does an organization interact when they are using your platform?*

Mr. Sandau: The platform becomes a routine tool for providers and administrators that integrates into their typical routines and utilizes LMS and simulation management workflows and UI already familiar to them. We've taken workflows and offline tools our customers were already using for ongoing education and simulation training and moved them online, automated them, and integrated the right tracking and reporting.

The platform just streamlines the business process of delivering blended learning so now instead of spending days, sometimes weeks manually organizing training programs educators have the ability to customize, manage and access in-depth analysis of VR, screen-based and physical simulations from a single platform. The platform automates burdensome tasks like scheduling and delivers training simulations at scale, saving organizations both time and money, plus provides the data to prove training efficacy to administrators and executives.

And for the provider, experience-based training can now come to them; Instead of an hour of commute time to get to training, VR is literally placed directly next to a provider and it really changes the learning dynamic. For everyone involved training becomes less of a burden, less something you dread and instead an efficient an effective experience.

In fact, there is a substantial cost benefit for this. We did a validation study with Mount Sinai for one of our applications, and found that it was 83% cheaper to execute training using our virtual tools than it was to have an instructor-led traditional training.

"If we can use VR technology to help even just one patient avoid injury or a possible medical error, then Health Scholars has succeeded. When we started this journey we set out to transform an archaic business process using virtualization, but it has become so much more. To be able to use technology to scale critical training that improves both the provider and patient experience is really meaningful and our team feels lucky to be part of it." - Cole Sandau

CEOCFO: *Is this done in a group or one-on-one?*

Mr. Sandau: You would target training with a group of learners based on the need. Organizations may have 100-500 learners that may need to go through a particular topic, but all of our VR-based simulation are individual stand-alone trainings where just one provider is doing the training and the computer plays the role of everybody else who is involved. That really reinforces the value of the business process change because in a traditional physical simulation, all those other roles have to be played by other humans, which magnifies the operational complexity of actually executing it. Having a computer play those roles creates the significant economic advantage.

CEOCFO: *Are learners comfortable with this approach?*

Mr. Sandau: We conduct learner exit surveys when they come out of the sessions, and we are finding that we are averaging upwards of 90% saying that they are extremely comfortable with this modality



Provider using Health Scholars Fire in The OR VR simulation training

and would love to do more this way, and they are completely satisfied, which compared to other forms of training, is exceptionally high. We have even seen those numbers at 96%. We attribute this to our user-centric application design.

We take a deliberate approach to making sure people can get in and get comfortable with VR before the session begins. Once they are in and comfortable with it, we take them through a teaching experience on how to behave in VR and then we make the step into the experience gradual so that they start using their VR skills a little bit at a time. Because of that, people really get acclimated to the VR world easily, and within a few minutes they are acting in it just as if it is the real world. We have been able to bridge that gap nicely.

CEO CFO: *What is the range of course or topics offered at Health Scholars?*

Mr. Sandau: We currently offer three VR simulations; Fire in the OR for surgical fire training and Pre- and In-Hospital Advanced Cardiac Life Support (ACLS) training for cardiac arrest training. We will be adding 6 additional simulation titles in 2020, Quest headset support, and new multi-player and analytics enhancements for the platform.

Our VR simulations will continue to center on repeatable practice of proper workflows as well as critical soft skills like communications, situational awareness and critical thinking in Resuscitation, Obstetrical Emergencies, Peri-Operative and Emergency Preparedness scenarios.

CEO CFO: *What is the business model?*

Mr. Sandau: We are focused on more of a continuous training model. Most necessary training needs to be delivered relatively continuously, and people need to be exposed to that training every three to six months. Traditional training tools do not have the ability to do that. Back in 2018, the American Heart Association published a scientific research paper on resuscitation education and it called specifically for spaced deliberate practice in a continuous way. We saw that it was very difficult to achieve that. Our tools solve for that and we are seeing impressive results.

CEO CFO: *How are you reaching out to hospitals?*

Mr. Sandau: Through digital advertising, traditional sales approach and interaction with the hospital and public safety community through events, professional organizations and shared initiatives. We are big believers in partnering with the community and have been fortunate to collaborate with different healthcare and EMS systems on the development of each of our applications. This has helped us organically develop new relationships and referral networks, as well as develop important relationships with the professional societies and SME's who can help champion new innovations.

In 2020 we will be launching some very targeted, highly interactive campaigns with hospital and public safety agencies that we hope grow our reach, but also our reputation as a valued subject matter expert in the VR training space.



Scene from Health Scholars First Responder Advanced Cardiac Life Support (ACLS) VR simulation training

CEO CFO: *Are you seeking funding, investment and possibly partnerships as you move forward?*

Mr. Sandau: We just complete our Series B Round for \$17 million. The new investment round will enable Health Scholars to continue to introduce and expand new virtual technologies in both the Hospital and Public Safety market allowing for greater accessibility, scalability and immersion at up 80% less cost than traditional simulation training methods.

CEO CFO: *What surprised you as Health Scholars has grown and evolved?*

Mr. Sandau: What has been surprising is the ability to look at a technology like VR that a lot of people have thought of as a toy or a game and really understand how it can affect patients' lives while also creating positive business process changes. I always tell people that my life will be complete if one person does not get burned in an operating room fire, which

just feels like one of the most hideous things that could happen. If we can use VR technology to help even just one patient avoid injury or a possible medical error, then Health Scholars has succeeded. When we started this journey we set out to transform an archaic business process using virtualization, but it has become so much more. To be able to use technology to scale critical training that improves both the provider and patient experience is really meaningful and our team feels lucky to be part of it.

