

CASE STUDY: Developing Virtual Patient Vignettes for Stroke Prevention and Ethics Education

Introduction: Community health workers (CHWs) can act as a valuable bridge between the healthcare/research communities and their own communities. To be most effective, though, they need training. PROTECT DC is evaluating the use of virtual patients in the training of CHWs in the context of a stroke disparities research trial.

Virtual Patients Provide Engaging Ethics Education for Community Health Workers

The MedStar National Rehabilitation Hospital (NRH) in Washington, D.C., specializes in assisting patients who have suffered disabling illnesses or injuries. Rehabilitation research—as well as education and training for professionals and the community—is an important part of its mission. The PROTECT DC Project is one such study based at NRH.

“Stroke survivors have a 20 percent higher chance of having another stroke within the first year,” says Deeonna Farr, Project Coordinator for PROTECT DC, which focuses on secondary stroke prevention. In this study, half of the participants receive standard stroke education materials before leaving the hospital, as well as monthly phone calls to track their health status. The other participants receive services from a CHW.

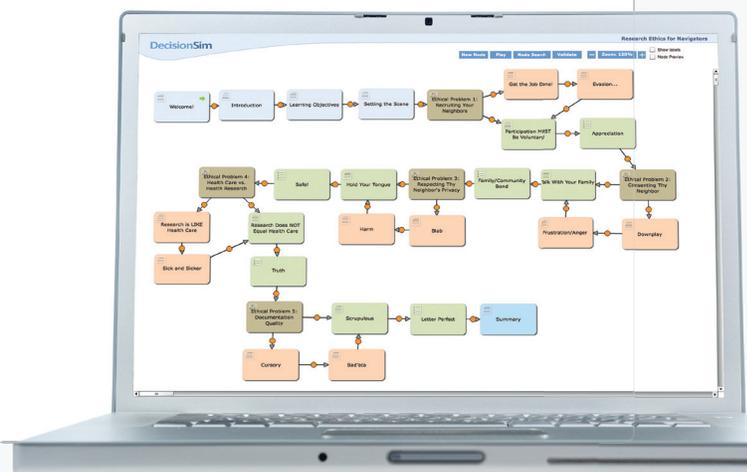
“What we’re testing is whether pairing recent stroke survivors with a community health worker will help them adhere to secondary stroke prevention guidelines,” Farr explains. Those guidelines include taking all prescribed medications, as well as following behavioral recommendations such as quitting smoking, exercising, eating a low-fat/low-salt diet, and knowing the warning signs of a stroke.

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While the CHWs, also known as stroke navigators, help patients stick to prevention guidelines, they typically aren't researchers or clinicians. Formal education levels vary; a high school diploma is common. Their expertise lies in an in-depth understanding of the communities in which they work, as well as their desire to improve community health. Evidence-based training with virtual patients, however, enables CHWs to learn skills by practicing situations they may encounter, via a safe learning environment.

"We want CHWs to serve as a bridge between the healthcare/research communities and their own communities. But to do this effectively and appropriately, they need to understand and translate healthcare and research values to their work," says Farr. Training is a critical aspect of this process.

Commitment and compassion raise ethical challenges

One of the most common attributes CHWs bring to the job—a deep commitment to their communities' health—can also become a problem while conducting a research study, notes Manon Schladen, Senior Research Associate at MedStar Health Research Institute and a Knowledge Translation & Disparities Fellow at NRH.

"They're motivated to make things better for the people in their community, but sometimes that is contrary with the needs of the study," she explains. For example, consider the situation in which a CHW knows a patient is having difficulties. The CHW may identify an opportunity to help the patient, possibly through someone in the community. In doing so, the CHW may be tempted to breach patient confidentiality rules. While compassionate, that's clearly not an appropriate response, Schladen observes.

Historically, the methods used to train CHWs have been time and labor intensive. In addition, research ethics isn't the most engaging topic, Schladen and Farr concede. The huge binders

of printed source material handed to most CHWs typically gather dust.

To overcome these obstacles, the two researchers sought an interactive, engaging and evidence-based training approach for CHWs involved in the PROTECT DC Project. They chose the DecisionSim™ virtual patient platform to teach CHWs five crucial aspects of ethical research conduct: recruitment; informed consent; privacy; therapeutic misconception; and documentation integrity.

Virtual patients offer effective learning "adventures"

Virtual patients (VPs) are interactive computer simulations used to teach clinical and ethical decision-making safely and effectively. Learning from experience—especially from mistakes—is extremely valuable. Yet bad choices in real life can compromise research efficacy and patient safety. Simulation is a proven educational technique that overcomes these limitations.

Farr and Schladen chose the DecisionSim branched narrative VP platform due to its ease of use and flexibility to create interesting and applicable training scenarios. Using the storyboard authoring tools within DecisionSim, they designed vignettes depicting common ethical dilemmas that arise while working within the community. While DecisionSim cases can have multiple branches, the authors decided that each scenario should offer just two solution paths: one that advances what a lay person might reasonably think is an ethical response, and one that advances the truly correct ethical response from a research perspective.

"The software is really intuitive. On the development side, the branching scenarios were easy to author and design," says Schladen. "We could see at a glance where the paths were going."

Simple text helps CHWs navigate each scenario. To make the learning more appealing, Xtranormal™ animated characters act out each

scenario—as well as the consequences of each chosen action. Explanatory feedback is provided for both the “correct” and “incorrect” choices. Furthermore, learners who select the incorrect path are redirected to experience the correct response to the scenario. These self studies can be done whenever it’s convenient for the CHW, and back-end reporting tools allow researchers to see where CHWs need the most help. The researcher can then more efficiently fine tune one-on-one training time with the CHW’s.

“DecisionSim allows training to flow like a ‘choose your own adventure’ book, enabling the author to enhance the story with a range of multimedia,” says Farr. For this project, the characters used in each scenario are non-human and speak with machine-generated voices, making them appealing and useful across multiple communities.

“I think we’re going to see that virtual patient ethical scenarios avoid potential problems involving literacy, but also that

they’re much more ‘real’ and engaging than when they’re just read about on paper,” Schladen adds. At the conclusion of the research project, Schladen and Farr are excited to see not only whether CHWs help patients reduce the risk of secondary stroke, but also whether the virtual patient learning approach through DecisionSim, which is effective with clinicians, can also meet the very different educational needs of CHWs.

➔ About Decision Simulation

DecisionSim™ enables healthcare providers, academic institutions and professional societies to cost-effectively develop, improve and assess the clinical decision-making skills of staff and students. With web-based, easy-to-use tools, authors create adaptive, interactive educational experiences based on branched narrative scenarios that leverage the power of story-telling. To learn more, visit www.DecisionSimulation.com.