

## Enhancing Services to Homeless Populations through an Interprofessional Virtual World Simulation

Simulations are increasingly implemented as core teaching strategies in healthcare education. Along with the growth and proliferation of many forms of simulation, new venues for implementation also have emerged, including virtual world (VW) role play simulations (Jarmon, Traphagan, Mayrath, & Trevedi, 2009; Rogers, 2010; Walker & Rockinson-Szapkiw, 2009). These VW simulations enable interprofessional teams of students to learn and test their knowledge and skills in real time, within settings that can model a wide range of institutional and community practice environments.



VW simulations provide many of the same benefits that have been described in campus-based simulations, such as practice within realistic environments for care (Lateef, 2009); immersive environments that facilitate active learning (Cant and Cooper, 2009); the ability to practice skills and receive immediate feedback (Doolen, Giddings, Johnson, Guizado de Nathan, & Badia, 2014); and opportunities for experiential learning with complex patients that eliminates risk of harm to patients (Guise, Chamber, and Valimaki, 2011). An additional benefit of VW simulations is that the VW enables community building among participants in remote locations without the need to be physically present with each other in the same geographic location (De Freitas, Rebolledo-Mendez, Liarokapis, Magoulas, & Poulouvassilis, 2010;

Warburton, 2009). VW simulations may also provide opportunities for student learning in situations or environments that would be too costly to set up or impractical to implement because of their complexity (McDonald, Gregory, Farley, Harlim, Sim, & Newman, 2014). Examples include simulation of the multi-step staff handover approaches and procedures to teach nursing staff in an intensive care unit and 3-D immersion in a realistic home environment that teaches home environmental assessment focused on identifying the many hazards that can endanger an elderly person at home (Ghanbarzadeh, Ghapanchi, Blumenstein, & Talaei-Khoei, 2014).

VW simulations have been used to provide training in communication strategies designed to decrease medical errors (Foronda, Gattamorta, Snowden, & Bauman, 2015), to enable emergency preparedness for medical staff in large scale disasters (Kamel Boulos, Ramloll, Jones, & Toth-Cohen, 2008), and to teach strategies for counselor training involving unsafe situations such as working with clients who engage in self-harming or physically aggressive behaviors (Walker & Rockinson-Szapkiw, 2009). These examples highlight the advantages of VWs for simulating realistic situations in a safe environment, without the physical or ethical risks likely to occur in an onsite educational simulation.

Teaching students to work with vulnerable populations such as homeless and formerly homeless

individuals provides an example of learning to act in complex, potentially unsafe, and ethically challenging situations. Further, use of a virtual world for training also protects and mitigates undue burden for homeless populations who already are burdened by adverse socioeconomic conditions. This area of emerging practice is crucial for future health and human service providers, as students who are better educated on the needs, lifestyles, and behaviors of homeless individuals will be better equipped to not only provide medical care but also to advocate more effectively and passionately for these clients to address political, economic, and social factors impacting their health (Arndell, Proffitt, Disco, & Clithero, 2014; Boylston & O'Rourke, 2013).

The potential advantages of using virtual worlds to train health and human services students in working with the complex and highly varied needs of homeless populations led to development of the Enhancing Services for Homeless Populations (ESHP) program. The purpose of the program is to design, create, and disseminate a

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### Sim Landmarks

1. Jeff's tent
2. Abandoned factory
3. Police station
4. Community Center
5. School
6. Apartments
7. Transitional housing for abused women and children
8. Church
9. Pawn shop & arcade
10. Pizza shop
11. Park
12. Coffee shop
13. Train station
14. Xpress care
15. Grocery

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replicable model to provide team-based, interactive, culturally responsive training in the education, support and care of homeless and formerly homeless populations using an innovative virtual training platform.

This pilot program consists of 18 students recruited from the disciplines of medicine, nursing, occupational therapy, physician assistant, physical therapy, and public health using the virtual world of Second Life. Prior to participating in the program, students complete a pre-test of knowledge, self-efficacy, and attitudes for working with homeless populations and an orientation to homelessness provided through selected modules from the National Health Care of the Homeless Council (NHCHC, 2017). Students then submit a reflection paper based on the modules and their own thoughts about their working with homeless individuals as a future health or human service practitioner. After completing these activities, students engage in an orientation to Second Life to learn basic skills such as voice and text chatting, moving from place to place, and interacting with objects.

Students then begin the ESHP program, following a case based learning method adapted from Choi and Lee (2009). This method is designed to facilitate critical thinking and problem solving in addressing ill-structured, complex problems that are characteristic of real-world work and work with homeless individuals in particular. Students move through phases of problem identification and refinement, viewing the issues from the multiple team perspectives of their disciplines and using evidence from published literature. They are provided with a description of the case of the homeless person and relevant resources including videos that illustrate challenges encountered by the person.

The structure of the ESHP program consists of role play simulations using three case scenarios. Using the triad approach first developed by Ivey (1971), each student

rotates through the roles of consumer (homeless person); helper (using the perspective and training of their discipline); and the observer, who assesses the overall performance. Students then debrief about the role play, and complete a self- and peer assessment based on the work of Smith (1997; 2011) and an observer assessment based on the work of Okun (2012). Next, students post a summary of results from the assessments on their team blog on the learning management system, Blackboard Learn. Within a week following the debriefing summary post, students meet with a faculty facilitator to discuss the learning experience, the primary issues that arose, and how they might approach subsequent role plays the same or differently. The process is repeated with each of the role play cases. Thus, reflective processes occur both individually and in groups, using written and oral discussion formats to explore the role play from as many different perspectives as possible and over a period of time. The debriefing process is particularly important as students need to separate themselves from the roles they have played, analyze their experiences, and then draw from these constructive concepts, attitudes and strategies to enhance their effectiveness in working with their future clients.

After completing the program, students complete several assignments: 1) Jefferson Teamwork Observation Guide (JTOG®), in which they assess the behavior of each member of their interprofessional team; 2) a post-test of knowledge, self-efficacy, and attitudes toward homelessness that includes a narrative about their reflections upon their experiences in the ESHP; and 3) a final debriefing.

Our initial assessment of the ESHP based on work to date indicates that use of the triad approach to role play simulations in a virtual world setting may complement existing methods for interprofessional training. Additional affordances of virtual worlds include the ability to work as an



interprofessional team while in different geographic locations and practice skills that are essential to work with underserved populations in a no-risk environment. Preliminary student feedback indicates that the VW simulations using triads of helper, client, and observer helped them achieve a greater focus on patient-centered care and realize the importance of basing intervention on patient needs, instead of relying on a pre-conceived agenda.

Students also reported that the team process was valuable, because they gained insight from other disciplines whose perspectives on the client were different from their own. Sharing their perspectives expanded the range of options they considered to begin addressing the complex problems of homeless individuals.

A full analysis of pre- and post tests and qualitative findings from student work reflecting upon the experience in the ESHP will be conducted after completion of the project in June, 2017. Results are then expected to inform future development and refinement of the ESHP and provide insights about ways that virtual world simulations can be applied to a broader range of service contexts and client needs. This, in turn, may contribute to ongoing efforts to develop simulations for interprofessional education that foster increased depth and breadth of student learning.

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**Susan Toth-Cohen, PhD, OTR/L**  
(corresponding author)

Thomas Jefferson University  
Philadelphia, PA

**Anne C. Smith, M.Ed.**

TAFE Queensland SouthWest  
Toowoomba, Australia

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