Introduction

Homelessness remains an issue experienced by a vast number of individuals across the globe. To add, the rates of those affected have been growing in several high-income countries. In the United States alone, over half a million individuals were reported to be homeless as of 2018. Persons who are homeless face unique challenges, particularly within the context of the healthcare setting. Homeless populations in high-income countries experience higher rates of pre-mature mortality, substance use, mental illness, infectious illness and non-communicable diseases. When such individuals enter the healthcare system, many report negative experiences in their interaction with healthcare professionals. Despite the need to improve healthcare experience, health professional students do not regularly receive training on how to work with patients experiencing homelessness.

The Enhancing Services for Homeless Populations (ESHP) program was born out of the growing role for simulation-based technology in the medical classroom. Virtual-reality tools have been shown to facilitate learning about complex topics, such as vulnerable populations and teamwork, while minimizing constraints such as time and travel.

With the ultimate goal of improving healthcare students’ self-efficacy in working with homeless populations, the ESHP program developed three unique cases in the virtual world platform Second Life. Through the cases, interprofessional students in three-person groups rotated playing the roles of patient, provider and observer and therefore have the opportunity to learn about working with this population from multiple perspectives.

Methods & Qualitative Analysis Development

Recruitment of Participants

Health professional students in all programs at Thomas Jefferson University were recruited for this program by distributing a flyer to student listservs. Ultimately, 15 students completed the program, in the following disciplines:

- Couples and family counseling
- Medicine
- Nursing
- Occupational therapy
- Public health

Virtual Reality Experience

Simulations were developed using the well-known virtual world platform Second Life, which was designed to resemble sections of Philadelphia with each case setting scattered around the virtual city. The case situations themselves were developed based off of input from community partners that directly serve homeless individuals (see right for details).

Prior to beginning the simulation, student participants completed a tutorial on homelessness, wrote a reflection and completed an orientation to the Second Life platform.

Data Collection

Data collection primarily took the form of surveys and semi-structured interviews both before and after participation in ESHP.

Surveys assessed participants’ knowledge, attitude, confidence and self-efficacy. Questions were developed based on information from the Move for Hunger organization, Health Professionals’ Attitudes Towards the Homeless Inquiry (HPATHI), self-efficacy assessment tools for training programs with contribution from Dr. Toth-Cohen’s team.

Semi-structured interviews asked participants about their interest in the ESHP program, confidence working with homeless populations, confidence in an interprofessional team setting, role of their discipline in working with homeless and perceived challenges. Recordings of the interviews were transcribed for the purpose of analysis.

Qualitative Analysis

The rich and nuanced information from the semi-structured interviews lends itself to a qualitative analytical approach. The particular approach was based mainly on the applied thematic analytic method described by Guest et al (2017) in addition to other contributions from other literature on qualitative analysis methods.

Coding followed a structural coding format, with codes determined directly off of the questions and sub-codes determined through an interactive review of the primary data. The NVivo 12 software was used for formal coding of text and comparison between the two coders.

Preliminary Results

Comparison of Major Themes in Study Interviews Before and After Participation in ESHP Program

<table>
<thead>
<tr>
<th>Case 1</th>
<th>Case 2</th>
<th>Case 3</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Confidence in working with homeless populations</strong></td>
<td><strong>Confidence in working with an interprofessional (IP) team</strong></td>
<td><strong>Challenges in working with homeless populations</strong></td>
</tr>
<tr>
<td>Lack of confidence</td>
<td>Need to know more</td>
<td>Emotional aspect</td>
</tr>
<tr>
<td>Some confidence</td>
<td>Some confidence</td>
<td>Unfamiliar</td>
</tr>
<tr>
<td>Lacks experience</td>
<td>from past experience</td>
<td>Limited resources</td>
</tr>
<tr>
<td>Recognizes complexity</td>
<td>Feels confident</td>
<td>homeless persons</td>
</tr>
<tr>
<td><strong>Post-participation responses</strong></td>
<td><strong>Confidence gained</strong></td>
<td><strong>Building and maintaining trust</strong></td>
</tr>
<tr>
<td>Confidence gained</td>
<td>Empathy increased</td>
<td>Challenge of fully understanding what those who are homeless face</td>
</tr>
<tr>
<td>Needs more hands-on experience</td>
<td>Gain in knowledge</td>
<td></td>
</tr>
<tr>
<td>Gain in knowledge</td>
<td>Utility of IP team</td>
<td></td>
</tr>
<tr>
<td>Utility of feedback</td>
<td>IP component</td>
<td></td>
</tr>
<tr>
<td>More to learn</td>
<td>as strong part of program</td>
<td></td>
</tr>
<tr>
<td>May never be confidence</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Key Quotations After Participation in Program

- **Increased Empathy**
  - “I was super apprehensive of the whole we had to play the part of the individual at the shelter. It ended up being a whole lot better than I had ever anticipated. It was really cool. In playing the part we got to understand it more. It builds that empathy, makes you try to live it and as you played it more, you really fell into the role.”

- **Confidence as Provider**
  - “I thought everybody’s role would be separate. From everyone else’s and that say the physician does this, the OT does this, the nurse does this but I think now that everybody really works toward the same goal of providing the best care possible and in having that same goal everybody has to adapt to be a very similar mindset”

- **Utility of Interprofessional Team**
  - “I think trying to establish trust and connection is really difficult because the situations in this program were so different from my lifestyle. It’s like, how do I relate to someone and get them to trust me and feel comfortable with me when we maybe have nothing or very little in common?”

- **Challenge of Establishing Trust**
  - “I don’t think I ever anticipated. It was really cool, in playing that empathy, makes you try to live it and as you played it more, you really fell into the role.”

Conclusions

Preliminary results from the ESHP training program suggest an increase in student self-efficacy in working with homeless populations, with particular gains in knowledge, understanding the importance of establishing trust and working in an interprofessional team when caring for these patients. Ongoing qualitative analysis will continue to refine the codebook with the ultimate goal of developing both a broad, thematic and specific overview of the data collected from participants of the program.

Funding further results, the current data suggest the success of a virtual reality training program in introducing health professional students to the challenges of working with persons who are homeless and therefore offers a unique opportunity for students to practice skills of working with vulnerable populations such as the homeless.

Citations