Abre los Ojos para Escucharnos:
Using Virtual Reality to Teach Social Determinants of Health

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SIM X

BACKGROUND

Social determinants of health (SDOH) account for almost 50% of variation in health outcomes in the nation and have been shown to have greater impact on health outcomes than genetics or access to healthcare.

Structural inequities and **healthcare providers' implicit biases** contribute to disparities in SDOH and result in poorer health outcomes, particularly in patients from historically minoritized populations.

Education access and quality; Health care access and quality; Neighborhood and built environment; Social and community context; Economic stability

Individuals with **limited English literacy** face difficulties following and understanding medication instructions, communicating with English-speaking healthcare providers, and obtaining health information.

To prepare for practice readiness, Pitt Schools of Pharmacy and Social Work are designing and implementing **interprofessional training** that addresses both SDOH and health-related social needs (HRSN). To date, there are no known interprofessional courses targeted to enhance education and awareness of SDOH and HRSN.

Demographics of Pitt Students vs. PA & US

Race %	Pitt Pharmacy	Pitt Social Work	Allegheny County	All of PA	All of U.S.
White	69.1%	69.3%	79.1%	80.8%	75.5%
Hispanic/Latino	**3.3%**	**8%**	**2.5%**	**8.6%**	**19.2%**
Asian	29.4%	6.1%	4.5%	4.1%	6.3%
Black/African American	4.4%	10.2%	13.5%	12.2%	13.6%
American Indian/ Alaska Native	0.4%	0.3%	0.2%	0.4%	1.3%
Native Hawaiian/ Pacific Islander	0.2%	0%	<0.1%	<0.1%	0.3%
Multi-Racial	n/a	5.1%	2.6%	2.4%	3%

Given the differences in racial demographics listed above, we created an interprofessional virtual reality (VR) case requiring Pitt Pharmacy and Social Work students to work as a team to identify and begin to resolve SDOH inequities for a Spanish-speaking patient using interpreter services.

OBJECTIVES

1. **Develop an interprofessional, VR, immersive simulation experience for pharmacy and social work students focused on interprofessional practice and SDOH**

2. **Assess changes in students' interprofessional practice and progress on curricular outcomes before versus after completing the immersive VR experience**

METHODS

Development of Simulation Experience:
- Utilizes SimX VR technology for creating realistic patient interaction scenarios.
- Includes a briefing session for participants on simulation dynamics and patient information, complemented by a pre-simulation survey.
- Features a Spanish-speaking simulated patient, emphasizing the critical role of identifying and effectively utilizing interpreter services.
- Exposes participants to patient challenges such as the absence of prescription insurance, unreliable transportation, and difficulties in conducting home glucose tests.

Environment and Physical Assessment:
- Setting: Medical office environment
- Equipment and Supplies: Equipped with essential medical supplies
- Educational Materials: Includes bilingual pamphlets on:
  - Diabetes management
  - Local transportation options
  - Insulin use guidelines
- Physical Assessments Conducted:
  - Blood glucose levels
  - Blood pressure measurements
  - Heart sounds evaluation
  - Breathing assessment

Reference Materials and Procedures:
- Guidelines for requesting interpreter services and managing diabetes care.
- Procedures involve:
  - Requesting interpreter services,
  - Practicing insulin injection with demo tools and
  - Engaging in interprofessional collaboration to address the patient's needs.

PRELIMINARY RESULTS

Simulation Learning Objectives:
- **Identify need for and obtain interpreter services**
  - Moderator will hear the participant request interpretation services
- **Use culturally sensitive communication skills**
  - Look at patient during counseling session (not interpreter)
  - Use simple language over complex medical terminology
  - Use open-ended questions
  - Work at a timely and efficient pace (moderator will access adherence to the 15-minute time allowance)
- **Identify the patient's need for additional resources regarding**
  - Insurance
  - Transport
  - Support glucose testing at home
- **Use various disciplinary skillsets of members of the interprofessional team to provide whole person care**

Assessment Strategies:
- Students will be assessed before and after the simulation using the validated Interprofessional Collaborative Competencies Attainment Survey (ICCAS) and an internally-developed mastery scale based on PharmD and Social Work curricular outcomes, which will be developed using modified Delphi methodology.

IMPACT ON HEALTH DISPARITIES

- Through this virtual patient encounter, learners will experience a scenario that highlights the complex social, environmental, and psychological factors affecting patient health.
- Spanish-speaking patients are more likely to experience a poor/fair health status compared to their English-speaking counterparts.
- Following pilot testing, this VR simulation will be built into the core curricula for Master of Social Work (MSW) and Doctor of Pharmacy (PharmD), reaching approximately 215 students annually.
- This project aligns with Pitt Health Science's growing emphasis on interprofessional practice, and the VR environment helps to eliminate current spatial barriers to implementing interprofessional education.
- Potential to expand to other Pitt Health Science schools simply by purchasing VR headsets and an appropriate number of annual SimX licenses based on student class size (nominal cost).

Link to Poster and References