Developing Clinical Case Scenarios for the LVHN Virtual Simulation Center

Arianne Aguirre
Moravian College

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**BACKGROUND**

The Department of Education is currently developing an online-accessible virtual reality (VR) training program, called the LVHN Virtual Simulation Center (VSC), to educate students, nurses, physicians, and other hospital personnel. Within the virtual environment of the LVHN VSC, learners interact with virtual patients as their avatars, enabling them to practice interpersonal and clinical skills, as they are trained to assess vital signs, recognize the symptoms of patient deterioration, and develop diagnoses and treatment care plans according to the specific disease processes.

**Purpose:** Create a variety of clinical case scenarios to operate using the LVHN VSC

**ADVANTAGES OF VR SIM TRAINING**

- Enables learners to refine their problem-solving, critical thinking, and clinical skills
- Builds confidence and stimulates motivation
- Diminishes the demand for on-site training at limited hospital locations while also providing an alternative to over-booked live simulation training facilities
- Allows for repetitive practice thus reducing the occurrence of medical errors in the future

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**METHODS**

- **Template completion**
  - Used as a blueprint to plan a case scenario
  - A simplified outline with boxed categories that fulfill the details of scenario components

- **Case authoring application**
  - Data from the template serves as a guide to transfer information to the authoring app
  - Patient health problems, demographics, appearances, vital signs, levels of consciousness, lab tests, medications, and physical exam findings are manipulated to fit the central health issue of the case

- **Event authoring**
  - The process of sequencing a series of interventions with their corresponding patient outcomes
  - Controls the immediate physiological responses to medical interventions or actions taken by the learner

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**RESULTS**

- **Six clinical case scenarios have been created, each virtual patient has a specific health problem:** Deep vein thrombosis, chest pain, ischemic stroke, urinary tract infection, respiratory distress, and Hepatitis A.
- **Virtual patient demographics represent LVHN’s diverse patient population**

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**CONCLUSION**

These case scenarios will be used for VSC demonstrations and as foundations for designing more complex cases. The overall goal is to motivate learners to take what they have learned from the VSC and apply it to real-life hospital situations thus promoting the delivery of better care, therefore reducing the frequency of medical errors and lowering the costs that result from malpractice.

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