This project was developed to:

- Support the pre-deployment education and training needs of military Nurse Corps officers in preparation for management of catastrophically wounded trauma patients.
- Provide a mobile (laptop/tablet) training component for critical knowledge attainment & sustainment.
- Assess learner knowledge through timed performance scores.

The premise of the game is to be at mastery level (100% accuracy) and fast, with the lowest time or “score”. This suite of games is being “played” for process improvement as well as content acquisition aboard the USNS COMFORT at present.

Game Details

This suite of interactive computer-based trauma games was designed to support pre-deployment education and training needs for military Nurse Corps officers. The games are a part of a larger, uniquely innovative military nursing trauma curriculum program, developed to support the knowledge needed to safely and skillfully provide care to catastrophically wounded warriors.

By using evidence-based practices (EBP) that emerged from the Joint Theater Trauma Registry (JTTR) data analysis, Clinical Practice Guidelines (CPGs) were developed and promulgated by the Institute for Surgical Research (ISR). This program’s curriculum and games are based on both JTTR war injury data, the current ISR trauma CPGs, military lessons learned, nursing “pearls of wisdom,” and was designed by and for military clinicians. Currently, military nursing pays for the use of a civilian trauma program that is supplemented with military lessons learned.

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**VMASC’S MEDICAL & HEALTHCARE LAB**

Old Dominion University’s Virginia Modeling, Analysis and Simulation Center’s Medical and Healthcare modeling and simulation lab has identified four areas in which we have expertise, specifically, the use of M&S for the following: Training, Treatment, Disease Modeling, and Management of Health Care Systems. The lab consists of researchers from VMASC and ODU, area universities and health care systems. We have identified several unique diverse problems effecting medicine and health care, in which we innovatively implement modeling and simulation.


This suite of games makes a perfect mobile tablet-based stand-alone content mentor or a companion to the computer-based curriculum. In addition to sustainability, we must continually grow new Medical and Nurse Corps members. The use of digital based learning and games offers the benefits of malleability and agility, able to simulate diverse environments and modify scenarios rapidly, enabling educators to present content rich materials across different services, roles and disciplines. The games and curriculum are patient centric, and use Benner’s model for leveling performance criteria and are a trauma and team work/communication skills integration program. Further following the recommendations of McGaghie and Issenberg et al (2010) regarding medical education simulation, we abandoned traditional percentage based grading for the mastery-learning format (must correctly complete all elements before being able to proceed) and created a self-paced deliberative practice approach as a means to acquire content knowledge.

The games use high-fidelity photos of actual equipment from Role 2 and Role 3 type in-country surgical facilities so the learners also develop immediate product/equipment recognition. Game presentation allows for free choice selections unless order sequence is required, then it too is required in the game. Game score is the amount of time to game completion when completed straight through with all items done correctly. It is expected multiple iterations will be required, tracked, but not penalized. In trauma, “you must be right, right away” therefore, how fast do you know the content? The lower the score the better. Gaming perfectly reinforces these behaviors.

Seeking your input and support.

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THE PURPOSE OF THIS STUDY IS TO DEVELOP A CURRICULUM AND PROCESS FOR CLINICAL TRAINING THAT:

- Creates a Course for Operationally Relevant Patient Safety (CORPS), based on TeamSTEPPS®: Strategies and Tools to Enhance Performance and Patient Safety, version 2.0
- Provides the learner an avatar-led, interactive computer-based training program.

This program provides an avatar-guided, computer-based TeamSTEPPS instructional approach that includes content knowledge and testing to appeal to personnel who prefer interactive learning versus didactic instruction. Real-world scenarios, encountered by military nurses, are incorporated. Scenarios demonstrate common safety and leadership issues experienced by military medical professionals. Goal of this program is to improve health care quality, efficiency and patient safety.

This Course for Operationally Relevant Patient Safety provides an innovative, state-of-the-art approach to provide team communication strategies for military and civilian health care professionals. This avatar guided, computer-based instructional course is derived from the TeamSTEPPS version 2, five basic principles, which are: Team Structure, Communication, Leading Teams, Situation Monitoring, and Mutual Support. This program provides a patient centric approach to healthcare safety using an interactive platform that engages the student as well as provides immediate feedback and performance assessment. In order to determine the level of knowledge gained from the program, learners will be provided pre and post testing for comparison and analysis.

Within each module, the key principle is defined; and pictures and video examples are provided. In several modules, the learner is also presented with an interactive game to help reinforce the concepts. After each module, the learner is given the opportunity to again review the module before continuing to the next key principle. Finally, the learner can review the entire program after completion of the five modules to reinforce knowledge gained prior to post testing. Program completion follows mastery of content materials reflected by the learner achieving 100 percent accuracy on all graded and timed exercises.

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Course for Operationally Relevant Patient Safety (CORPS), based on TeamSTEPPS®: Strategies and Tools to Enhance Performance and Patient Safety, version 2.0

This TeamSTEPPS program was originally developed to be a part of an avatar guided, computer game-based program of trauma instruction for military nurses. The general project was funded through the Defense Medical Research and Development Program DMRDP with Programmatic management by the Joint Program Committee-1 and direct project oversight by the Telemedicine & Advanced Research Center (TATRC), an agency of the US Army Medical Research and Materiel Command, under contract award No. W81XWH-12-2-0026. The views, opinions and or findings contained in this presentation are those of the author(s) and should not be construed as an official Department of the Army position, policy or decision unless so designated by other documentation.

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