A MULTI-INSTITUTIONAL PILOT STUDY TO EVALUATE THE USE OF VIRTUAL PATIENTS TO TEACH HEALTH PROFESSIONS STUDENTS HISTORY-TAKING AND COMMUNICATION SKILLS.

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Background: At many institutions, health professions students learn communication skills through the use of standardized patients (SP). Virtual patients (VP) may offer a means to address the quality control, resource and training issues of SPs, but little data exist regarding the use of VPs in teaching history–taking and communication skills. Through an interdisciplinary collaboration, medical educators and computer scientists have created an interactive virtual clinical scenario of a patient with acute abdominal pain. Preliminary studies from the University of Florida (UF) demonstrate that the virtual scenario may be useful in teaching health professions students history-taking and communication skills.
Objective: To assess the feasibility of implementing and evaluating this innovative virtual educational tool at a second institution, the Medical College of Georgia (MCG).
Methods: Medical and Physicians Assistant Students at UF (N=23) and MCG (N=31) volunteered to evaluate the virtual system. In the scenario, a life-sized VP is projected on the wall of an exam room in SP teaching and testing centers at MCG and UF (Figure 1, video of the virtual scenario available on the web at vr2005.avi). A virtual instructor (VI) provided the student with some background information and the goal of the virtual scenario and, after 10-minutes, he asked the student for their differential diagnosis. Students conversed with the VP via a commercially available speech recognition engine (Dragon Naturally Speaking Professional 8). Students were evaluated on their ability to: 1) ask the VP 12-core questions taken from an abdominal pain OSCE station checklist and, 2) to generate a differential diagnosis. In addition, immediately following the virtual scenario, students completed a validated SP questionnaire (Maastricht Simulated Patient Assessment) (Table 1).
Data=Mean±SD. Data analyzed by Students t-test.
Results:

Figure 1

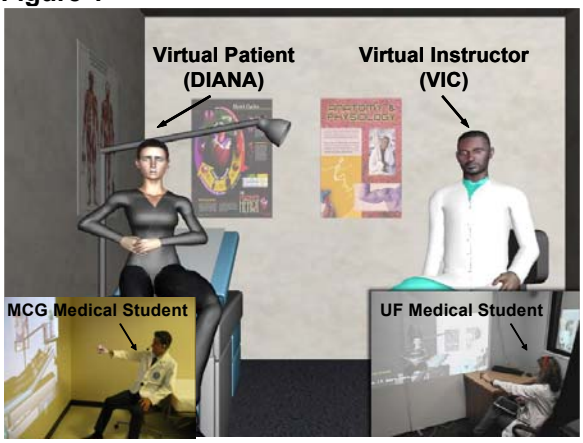

Table 1

Survey Statement	Response		
	UF-VP	MCG-VP	SP
Months in School	**31.43±8.03***	18.76±8.76	
Previous SP Interactions	**17.08±5.23***	6.00±4.74	
The VP/SP appears authentic.	4.48±0.35	3.74±0.71	5.00±0.00
VP/SP stimulates the student to ask questions.	4.13±0.99	3.00±1.10	3.12±1.64
I would use this tool to practice my clinical skills.	4.78±1.06	3.81±0.88	4.87±0.35
Overall Evaluation	6.56±1.16	6.23±0.95	**9.50±0.53****
Core Questions Checklist	7.04±1.10	6.42±2.33	6.75±1.03

Five-point Likert-type scale (1=strongly disagree, 5=strongly agree)
Ten-point scale (1=lowest, 10=highest)
Twelve-item core questions.
* p<0.05 versus MCG-VP, ** p<0.05 versus UF-VP and MCG-VP

Conclusions A virtual clinical scenario to teach health professions students history-taking and communication skills was successfully installed and evaluated at two institutions (MCG and UF). The cohort of MCG students were more junior in their training and therefore had fewer SP interactions than the UF students. Despite students lower overall evaluation of VPs compared to SPs, there was no difference in students asking 12-core questions and generating a differential diagnosis between the groups. As the technology matures, virtual clinical scenarios will provide students a controllable, secure, and safe learning environment with the opportunity for extensive repetitive practice with feedback without consequence to a real or SP.