



Infusing Telehealth Technology into Health Assessment Courses in Nursing Curricula

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Background

Nurse educators are constantly challenged to incorporate innovative, creative, new pedagogies and technologies into nursing curricula to teach the *nurses of tomorrow* to be better prepared for a constantly changing global healthcare environment.

Telehealth Technology

- Due to its efficiency and effectiveness, there is a growing popularity for use of telehealth technology for telehealth visits in both rural and urban areas where healthcare may not be readily accessible.
- Telehealth technology presents nurses and nurse practitioners with convenient and cost-effective methods to deliver virtual health care to patients from a distance.

Implication for Nursing Education and Practice

- To prepare nurses to meet the increasing need for telehealth competency, nursing faculty need to infuse teaching and learning principles and skills regarding telehealth into nursing curricula.
- Need to become familiar with the telehealth delivery methods and equipment, the modified examination techniques necessary to use with this equipment, and the telepresence needed to conduct a successful synchronous telehealth visit. All are important concepts for nursing faculty as they trend toward adding telehealth teaching into their curricula.

Description



Sending Station



Receiving Station

Telehealth Program Development

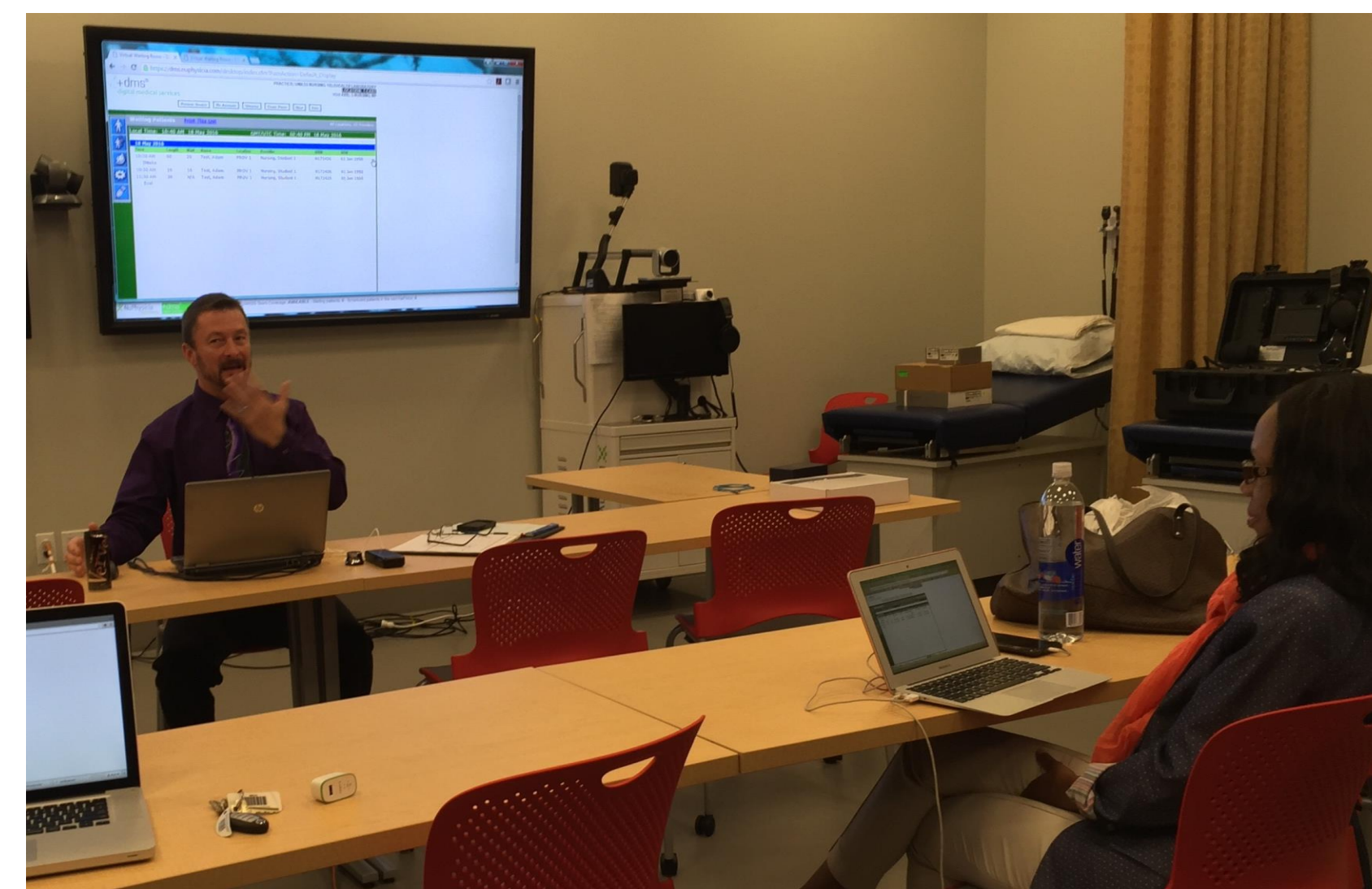
Faculty at UMass, College of Nursing (CON) strategized about the potential for infusion of Telehealth technology and skills into our undergraduate and graduate degree programs:

- Focus was to expose all faculty who were interested to telehealth methods and means, then to develop a faculty *SuperUser* group to learn the details of the technology and design trainings sessions for students.
- Partnership arrangement with the company NuPhysicia* offered equipment and services needed to teach and conduct synchronous simulated patient visits.
- The CON is first Nursing School in US to partner with NuPhysicia* to explore opportunities to teach and deliver *state-of-the-art* nursing education and services through telehealth methods to multiple and remote locations.
- UMass's new Center for Teaching in Springfield, MA. has a telehealth laboratory.
- Fall 2015 – renovation of the UMass Center completed. CON faculty launched our innovative academic demonstration project including: faculty workshops, pilot students demonstrations, and creation faculty *SuperUser* group.

Faculty Workshops for Telehealth SuperUsers



Portable Assessment Equipment--B3 Box



Faculty Workshop: EMR Training and Teaching Telepresence (with Large Teaching Cart back right)

- Faculty training on equipment included special use and set up of equipment, teaching basic information about telepresence, and the use of the companion Electronic Medical Record (EMR) built within the system.
- Faculty explored the possibilities for using telehealth methods for teaching and faculty practice.
- Discussion included use of the portable B-3 units in community health visits with undergraduate nursing students calling into NP students for assessment of home bound individuals.
- Focused group discussion occurred with faculty during and after each workshop.
- Telehealth *SuperUsers'* group was formed and sessions included *detailed* discussion about the equipment, telepresence, EMR, and set up for a Simulated or Actual telehealth visit.

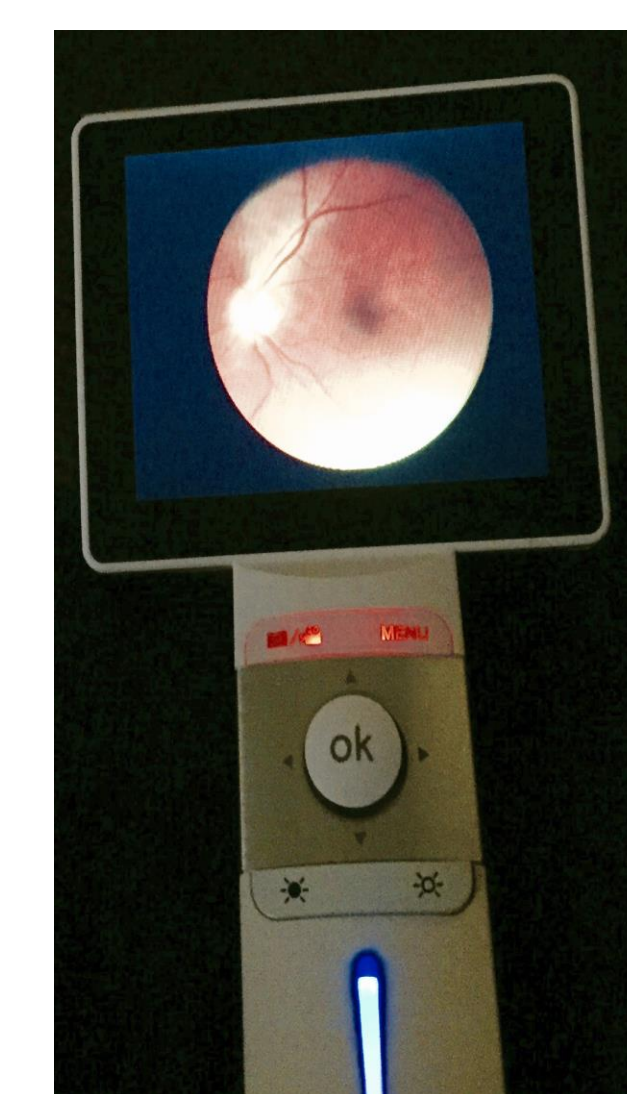
Student Class and Lab Demonstrations



Teaching Ear Exam with Student--Scope Image Shown on Big Screen in Real Time to Class



Ophthalmic Exam of Eye is Possible!



- Faculty piloted demonstrations to undergraduate students in health assessment classes
- Faculty piloted demonstrations and role-playing in Graduate Advanced Health Assessment Classes, surveyed students, conducted focus groups with faculty and students.
- Piloted telehealth strategies using televised live transmissions and our new specialized diagnostic equipment with students placed at both the *sending and receiving stations*.
- The students were presented with an environment that was "as close to bricks and mortar as possible via distance settings".

Outcomes

Results show evidence that we achieved our initial goals and objectives relative to faculty workshops, culminating in the creation of the Faculty *SuperUser* group.

- *SuperUsers* were challenged to decide where theoretical content and the basics of communication using telepresence should be taught, before their health assessment course, and after. See Next steps below for the results of our think-tank meeting.

We achieved our early goal of piloting synchronous means to deliver telehealth principles and skills to undergraduate and graduate students in the health assessment classes

Undergraduate

- Survey results of 26 undergraduate students who had brief demonstration with large class group in health assessment, fall 2015, and who came to Telehealth lab after community clinical in small groups in spring 2016, were overall very positive.
- 70% of the students *agreed to strongly agreed* that learning more about telehealth methods even before they graduated would be of benefit.
- Anecdotal comments: "This technology will be incorporated into everyday healthcare, I would love to be on the forefront of this transition", "We are tomorrow's nurses, what we learn should be relevant so we can apply it to practice as we graduate", "I'm going into the military, I think knowing how to use this technology could help me get placed where I want to go".

Graduate

- Fall 2015, graduate students received demonstration during several classes after which they role-played as *senders and receivers* in the Telehealth Lab.
- Focus group comments were positive: "I loved ability to "see" actual physical findings on screen", "The televised techniques teaching telepresence were helpful, seemed like we were in same room".

Next Steps

Projected Course Inclusions for 2016-2017 Academic Year

Undergraduate

- Freshman exposure experiences in Residential Academic Programs (RAP). New N100 Introduction to Communications course to teach basics of telepresence. Fundamentals courses to teach further theoretical underpinnings of telehealth and introduce EMR documentation. Health Assessment course to include video of a patient interview using telehealth principles and telepresence. Community nursing course will introduce interactive SIM experiences with students.

Graduate

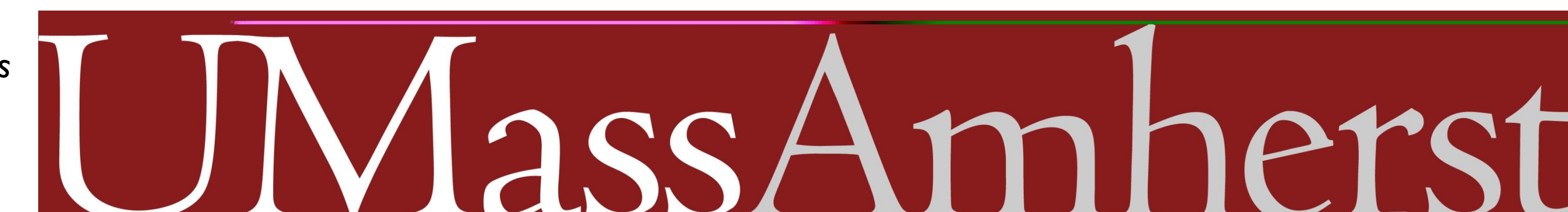
- Theory and SIM experiences in Advanced Health Assessment course. Use role-playing for assessment and diagnosis using pre-prepared SIM case with students acting in roles as both *senders and receivers*. Informatics course—EMR training using SIM scenarios. Theory course--theoretical underpinnings of telehealth movement

Undergraduate Honors Student Telehealth Capstone Project

- Plan is to create simulation designed for use in the undergraduate nursing program that mimics a distance synchronized televised relationship between nurse and patient.

Discussion

- Telehealth's impact on patient health visit is expanding. Evidence shows that synchronous televised accessibility is reported by patients/clinicians as effective as standard office visit.
- With infusion of telehealth teaching and learning strategies into nursing curricula, students will develop a cutting-edge virtual assessment skillset required to be on the forefront of healthcare professionals who offer distance visits to patients in their own communities.



*Since 2007, NuPhysicia has evolved into a world-wide leader in advanced telehealth services, establishing a global footprint providing healthcare services via unique patented methods---Digital Medical Services® (DMS®), two-way video, secure SSL Internet, and ASP web systems for electronic medical records and business analytics.