

**University of Massachusetts
Academic Year 2003-04
Final Report On Professional Development Grant**

**Geriatric Interdisciplinary Team Teaching Approach to Care for the Elderly
Using a Web-based, Streaming Video Module**

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Project Summary:

Since June 2003, the Meyers Primary Care Institute has worked closely with its collaborators to develop an educational initiative entitled "Geriatric Interdisciplinary Team Teaching Approach to Care for the Elderly Using a Web-based Streaming Video Module". The module is based on the generally accepted belief that geriatric interdisciplinary team care can be an effective method to meet the multiple needs of frail elderly patients. It is also acknowledged that there is inadequate attention to and little emphasis on the team model of care in the training of most health professionals. The aim of the project was to develop an on-line curriculum that illustrates effective team dynamics and principles essential to providing optimal care to the frail elderly population. Understanding the geriatric interdisciplinary team care model is essential if providers are to effectively respond to the complex needs of the growing geriatric patient population who suffer from multiple chronic medical conditions and functional deficits.

During the first 6 months of the grant period, we collaborated with the University of Massachusetts Graduate School of Nursing geriatric nursing faculty, and the geriatric interdisciplinary staff of the Fallon Elder Service Plan to develop a working draft of the didactic slide portion of the curriculum, and to develop scripts for the video vignettes which depict case scenarios of effective and ineffective interdisciplinary team meetings. The text slides and videos provide provocative self-examination of how each individual viewing the module thinks about his/her professional role and responsibility as part of a team in providing care to complex populations, particularly the frail elderly. In addition, the curriculum highlights the team principles of leadership, respect for members' roles and responsibilities, listening, self-control and goal setting.

Following the content and script development phase, we recruited volunteers from the provider staff of the Elder Service Plan to participate as players in the videos. We filmed several pilot scenarios illustrating interdisciplinary team interactions and edited the videos in preparation for pilot testing within the teaching program of the Elder Service Plan. This pilot module was used in a series of classroom seminars with internal medicine and family practice residents and nurse practitioner trainees.

Based on the pilot module, we devoted the last 6 months to refining both the slide and script content to be more demonstrative. In addition, we filmed a second series of scenarios employing professional actors. We also enhanced the script and refined the voiceover of the slide presentation portion. We developed a pre and post self-

assessment tool for the user and an evaluation questionnaire to be submitted on-line after viewing the module. While completing the curriculum development, and filming and editing phases of the project, we consulted with our collaborators from the University of Massachusetts Dartmouth Computing and Information Technology Services (UMass Dartmouth CITS). This team currently serves as the host organization for the web site, providing the technical expertise for formatting the various pieces and integrating the curriculum into a web-based teaching module. In addition, UMass Dartmouth CITS completed the integration of the pre and post self-assessment and evaluation tools. All of the data from the self-assessment and evaluation questionnaire will be retrievable by the Meyers Primary Care Institute (of the University of Massachusetts Medical School), the content manager. The UMass Dartmouth team continues to refine the module to facilitate ease of access for use by both individuals, and in more formal didactic classroom and group teaching settings.

The final product is a web based streaming video of approximately 25 minutes in duration. It will be available to multiple health care trainees including, but not limited to, internal medicine and family practice residents, advanced practice nurses, and nursing and medical students, social workers, physical therapists, occupational therapists, nutritionists, pharmacists, and other allied health professionals. It is anticipated that several links to the website will be established within a widespread collaborative network. This distribution plan will be investigated further with the Professional Development Grant's administration.

Budget Expenditure Documentation-Meyers Primary Care Institute

Salary

\$4,700 - Salary for Mary Ellen Keough, MPH - Project Coordinator

\$3,700 - Salary for Jason Moldoff - Research Assistant

Other Expenses

\$600 - Payment to actors for GITT team meeting filming

\$500 - Audio Visual Services

Total \$9,500

**University of Massachusetts Dartmouth
Computing and Information Services Report
Submitted in collaboration with Meyers Primary Care Institute
By Don King
UMassDartmouth**

Program Report

The GITT website was commissioned by the Meyers Primary Care Institute as an online teaching and assessment tool. <http://www.umassd.edu/gitt/>

The site code followed W#C standards wherever possible and is built using XHTML Transitional for markup, and CSS 2.1 for presentation. The layout is constructed via a template that is loaded onto every page. ColdFusion (CF) server technology dynamically presents the layout and content. The tag based ColdFusion Markup Language is parsed via ColdFusion Server on an Apache web server running a Linux operating system. The main challenges of the project were the online form and the digital movies. The original movie started as PowerPoint Slideshow, with internal references to movies and sound files. The PowerPoint file was extremely large. Due to the extreme memory

requirements for the file, many of the internal references to the movies and sound files were broken or produced errors. They had to be reinserted by hand. Fortunately, most of the sound files read the text on a slide, so the matching wasn't too difficult; and the Meyers people provided input on the video selection and location. Getting the slideshow into a movie format so it could be delivered via the web proved very difficult- PowerPoint crashed with every attempt. The final solution ended up with the sound files stripped out of the slideshow, the slideshow being saved in small pieces, and using Apple iMovie to stitch them together. This entailed re-digitizing the files and synching the audio and video tracks. Since the slide reference points were lost in the translation, some minor editing to the movies was required.

The movies were compressed using Discreet Cleaner 6.0.1, a video compression program that can compress the file size and convert and save to many different formats. The original multi gigabyte raw video was saved using Cleaner's preformatted compression settings. Three compressed output files were created: a version specifically for those using a high speed DSL or Cable modem connection to the Internet (768k), a version for a slightly slower connection to the Internet (512k), and a low resolution version (256k). It was decided that a very low resolution version (56k) for those using a dial-up connection to the internet would not be necessary. A master file was also created. This file automatically selects and presents the best version movie version by determining the user's connection speed. If a dial-up connection is detected, the smallest version of the movie is loaded.

The form was a very technical matter and took some trial and error. There wasn't a simple form and movie, but rather a complex flow that had to be taken into account. First came a preliminary movie, then a set of questions, then a second, longer movie, and lastly the final set of questions. All steps from the first test onward had to record, save in memory (session), and track the form questions that had been answered. When the final set of questions are answered, they are recorded to a flat text file so the Institute could keep track of what was answered. This also helps assess the effectiveness of the site. Since several of the questions use checkboxes, which could result in one question having several answers, the recording format had to take into account which questions had more than one answer and format them correctly before recording them in the flat file. The format of the file was chosen so that the answers could be loaded into Excel for computation and analysis.

Budget Expenditure Documentation: UMass Dartmouth

Consulting expenses - \$2500

Donald King - UMass Dartmouth Webmaster, 45 hours.

Steven Splinter - UMass Dartmouth Web Developer, 75 hours.

Coding, site configuration, audio/video editing, video compression, testing and debugging, browser/operating system combination testing