

Arrhythmia Recognition and Intervention

Prospectus for the Capstone Project
to be submitted to National University
in partial fulfillment of the requirements for the degree of
MASTER OF SCIENCE IN EDUCATIONAL AND INSTRUCTIONAL TECHNOLOGY

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Introduction

This instructional project involves training nurses in the recognition of abnormal heart rhythms (arrhythmias) as represented by electrocardiogram (ECG), and using that information, along with patient condition, to choose appropriate interventions for that patient. “Arrhythmia Recognition and Intervention” will ultimately become part of a group of courses dealing with adult heart disease entitled “The Diseased Heart”. The course will be delivered as web based training via the content management system, Moodle, and will be directed toward nurses entering practice in hospital cardiac units.

Educational/Instructional Need

Educational Requirement

One of the primary responsibilities of nurses working in a cardiac unit is to recognize abnormal heart rhythms and make appropriate decisions regarding any needed interventions. Although traditional college nursing education does include a cardiac component, this education, due its generalized nature, has proved to be insufficient preparation for practice in this specialty area. Lack of knowledge, even after orientation, is a stated concern and source of anxiety for experienced, as well as new graduate nurses, entering practice in the cardiac units. Root cause analysis of patient incidents in these units has also determined that failure to recognize abnormal heart rhythms, as well as delay in seeking or providing appropriate interventional care is often the source of the problem. While the unit orientation provides adequate training of essential skills and procedures, it is not designed to address this knowledge deficit, and the current trend is to decrease, rather than increase, orientation length.

- **Preliminary Extant Data Analysis**

Currently, there are three products in the organization which address cardiac care. One is a classroom based basic cardiac arrhythmia course and two web based courses. This project differs from each.

- Neither of the two web based arrhythmia courses currently available offers the desired level of training. One is designed as a short refresher program for nurses already familiar with arrhythmia recognition. The other, which could not be accurately described as an educational offering, is an article reprint with a brief paragraph describing each arrhythmia. The planned course will consist of an in depth treatment of abnormal cardiac rhythm recognition based on sound instructional design principles, including multimedia and interaction.
- The classroom based arrhythmia course is excellent; however, it can only be offered two times per year due to limited resources, and requires significant time and scheduling commitment from the employee. Consequently, this results in employees functioning in the cardiac units with inadequate training for lengthy periods. This web based course will be available as needed and can be used as part of the initial orientation.
- Finally, although there is a wealth of information on this subject on the internet, in textbooks, and from outside vendors; the organization has chosen to produce this course internally in order to meet the needs of this hospital group.

Goal

The goal of this course is to help decrease time to competency for the new cardiac care nurse, increase expertise and comfort level, and reduce the number of errors due to lack of knowledge, ultimately leading to improved patient care.

Audience

The target audience is nurses entering into the specialty practice of adult cardiac care. This will include new graduate nurses as well as those who have experience in other areas of nursing. By definition, the participants are college educated professionals, have at least some previous knowledge of the subject matter, and will be varied in age, gender (though mostly female), and cultural background.

Schedule

Milestone	Target Completion Date	Status/Comments
Planning document report	7/6/2008	
Completed Review of Literature	7/13/2008	
Working prototype of project	7/27/2008	
Aesthetic, usability, and content testing	8/10/2008	
Final draft and review of written report	8/17/2008	
Completed project and report	8/30/2008	