Apr 14th, 2:30 PM - 3:50 PM

# Building an Education Program to Support the Demand for Qualified Health I.T. Professionals

Thomas Gallagher
*University of Montana - Missoula*

Anne V. Delaney
*University of Montana - Missoula*

Kari Lynn McLean
*University of Montana - Missoula*

Gallagher, Thomas; Delaney, Anne V.; and McLean, Kari Lynn, "Building an Education Program to Support the Demand for Qualified Health I.T. Professionals" (2012). *UM Graduate Student Research Conference (GradCon)*. 11.
https://scholarworks.umt.edu/gsrc/2012/posters/11

# Building an Education Program for Qualified Health I.T. Professionals

Anne Delaney, Associate Professor - UM, Health Professions  | Thomas Gallagher, Associate Professor - UM, Applied Computing & Electronics | Kari McLean, BSN, RN-BC - Community Medical Center

## Introduction

The rapid adoption of standardized electronic medical records in clinical settings has created a demand for individuals with expertise in clinical health practices and Information Technology. High demand, high wage job opportunities are available for individuals entering the field with these interdisciplinary skills. Faculty members from the Applied Computing & Electronics and Health Professions Departments at UM have partnered with clinicians from regional health facilities and faculty members from the Department of Healthcare Informatics at Montana Tech in designing a cross-curricular program for educating individuals to support IT in clinical settings. This poster session will describe our progress in creating a new program of study and describe our successes and challenges at UM in educating individuals for careers in Health Information Technology.

## What is Health IT?
- Devices – ergonomics and information
- Electronic Medical Record (EMR) and Electronic Health Record (EHR)
- Database - Security/Access/Maintenance
- Patient Care - Safety, Quality, Access
- Healthcare Workers: Physicians, Nurses, Pharmacists, Radiologists, etc.
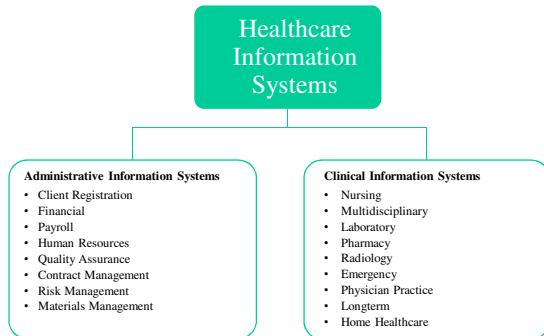- Research – improve patient care, patient outcomes, use qualitative data



**Healthcare Information Systems**

**Administrative Information Systems**
- Client Registration
- Financial
- Payroll
- Human Resources
- Quality Assurance
- Contract Management
- Risk Management
- Materials Management

**Clinical Information Systems**
- Nursing
- Multidisciplinary
- Laboratory
- Pharmacy
- Radiology
- Emergency
- Physician Practice
- Longterm
- Home Healthcare

Figure 1. Categorization of Heathcare Information Systems[1]

## EMR
### Electronic Medical Record
Computerized clinical records created and managed by an individual care delivery organization (CDO). The EMR is an intra-organizational record for one patient. Electronic Medical Records are replacing traditional paper files

## Benefits of Health IT
- Improve health care quality
- Continuity of care across the healthcare continuum
- Prevent medical errors
- Reduce health care costs
- Increase administrative efficiencies
- Decrease paperwork
- Expand access to affordable care.

## EHR
### Electronic Health Record
Computerized clinical records across multiple CDOs and episodes. The EHR is not owned or managed by any one organization but exists as a consortium of information related to one patient.

### HITECH Act
- **GOAL:** Improved healthcare delivery and patient care through the use of health information technologies (HIT)[2]
- Incentive programs for meaningful use and EMR/EHR adoption

### HIPAA
- Privacy, Access, & Security
- Administrative, Physical, & Technical Safeguards[4]

## Issue: Healthcare Worker – Limited Computer Skills



Montana University System
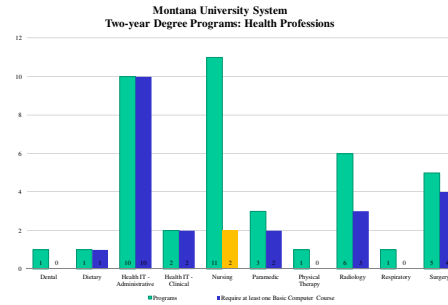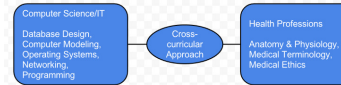Two-year Degree Programs: Health Professions

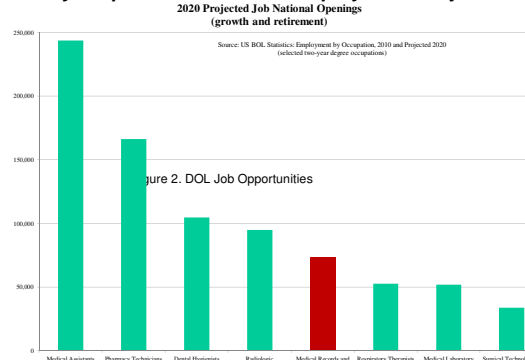Figure 4. MUS Comparison: Two-year Health Professions degrees requiring at least one computing course

## Issue: IT/CS Technician – Understanding Healthcare
## Opportunity: Cross-curricular Education



Computer Science/IT — Database Design, Computer Modeling, Operating Systems, Networking, Programming

Cross-curricular Approach

Health Professions — Anatomy & Physiology, Medical Terminology, Medical Ethics

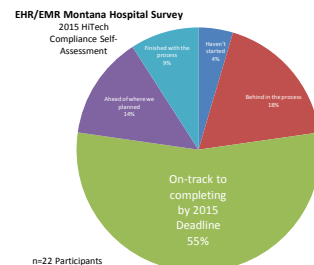## Opportunity: Montana Jobs
91% of Montana Hospitals report having hired or will be hiring 1-4 new employees in Health IT over the next two years (n=22 participants)

## Opportunity: Department of Labor Employment Projections



2020 Projected Job National Openings
(growth and retirement)

Source: US BOL Statistics: Employment by Occupation, 2010 and Projected 2020
(selected two-year degree occupations)

Figure 2. DOL Job Opportunities

## Progress Report: Hospital Self-Assessment
77% of Montana Hospitals report being on-track or ahead in meeting 2015 HITech deadline (n=22 participants)



EHR/EMR Montana Hospital Survey
2015 HiTech Compliance Self-Assessment

Haven't started 4%
Finished with the process 9%
Behind in the process 18%
Ahead of where we planned 14%
On-track to completing by 2015 Deadline 55%

n=22 Participants

## The Office of the National Coordinator (ONC) for Health IT
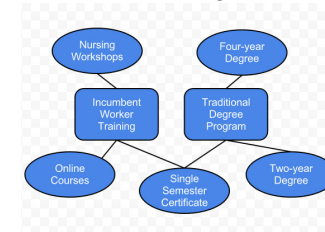
is the principal Federal entity charged with coordination of nationwide efforts to implement and use the most advanced health information technology and the electronic exchange of health information.

## ONC Workforce Roles
**(for community college training and education programs)**

1. Practice workflow and information management redesign specialist
   Workers in this role assist in reorganizing the work of a provider to take full advantage of the features of health IT in pursuit of meaningful use of health IT to improve health and care. Individuals in this role may have backgrounds in health care (for example, as a practice administrator) or in information technology, but are not licensed clinical professionals

2. Clinician/practitioner consultant
   This role is similar to the "redesign specialist" role listed above but brings to bear the background and experience of a licensed clinical and professional or public health professional.

3. Implementation support specialist
   Workers in this role provide on-site user support for the period of time before and during implementation of health IT systems in clinical and public health settings. The previous background of workers in this role includes information technology or information management.

4. Implementation manager
   Workers in this role maintain systems in clinical and public health settings, including patching and upgrading of software. The previous background of workers in this role includes information technology or information management.

5. Technical/software support staff
   Workers in this role maintain systems in clinical and public health settings, including patching and upgrading of software. The previous background of workers in this role includes information technology or information management.

6. Trainer
   Workers in this role design and deliver training programs, using adult learning principles, to employees in clinical and public health settings. The previous background of workers in this role includes experience as a health professional or health information management specialist. Experience as a trainer in from the classroom is also desired.

### Flexible Education and Training



Nursing Workshops
Four-year Degree
Incumbent Worker Training
Traditional Degree Program
Online Courses
Single Semester Certificate
Two-year Degree

## Partnerships
- Community Medical Center
- Local Advisory Board
- Office for the National Coordinator for Health IT (ONC)
- UM – Department of Applied Computing & Electronics
- UM – Department of Health Professions
- UM - Montana Tech Department of Health Care Informatics

## Literature Cited

1. Hebda, Toni Lee and Czar, Patricia. Handbook of Informatics for Nurses and Healthcare Professionals, Pearson Education, Fourth Edition,

2. Office of the National Coordinator for Health Information Technologies. Retrieved April 8, 2012, from http://healthit.hhs.gov/portal/server.pt?open=512&objID=1487&mode=2

3. Gartee, R. (2011). Health Information Technology and Management. Upper Saddle River, N.J.: Pearson Education Inc.

4. HIPAA Security Standards Matrix in Resources. Retrieved February 20, 2012, from http://www.himss.org/content/files/Code%20165%20HIMSS%20Final%20HIPAA%20Security%20Standard%20Matrix.pdf