National Center for Health Care Informatics

Training a Rural HIT Workforce

ADDRESSING THE FUTURE NEEDS OF A TRAINED HEALTH INFORMATION TECHNOLOGY WORKFORCE

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Connecting Rural Health Communities through Information Technology Conference
October 4, 2005

Overview

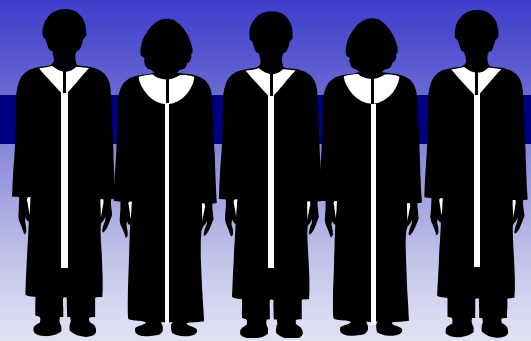
- Healthcare IT Demands
- Ask some “Fundamental” Questions about Health IT Workforce Needs?
- Current Outlook for CS, Health IT, and Informatics Students/Graduates
- Shortages
- Existing and Future Health IT Educational Programs
- Montana Tech’s Degree in Health Care Informatics
- What’s on the Horizon for Health IT Training?

Opportunities Presented by Health IT

Health IT (to name a few):

- Creates efficiencies in health care administration
- Improves the quality of health care
- Lowers costs and affordability
- Improves patient safety
- Empowers consumers of health care
- Breaks down barriers of distance in rural areas
- Can bring the medical expertise concentrated in urban areas and at academic teaching hospitals into small rural health hospitals or health clinics

Preaching to the Choir!



We are here because we recognize that the broad implementation of health information technology will improve the quality, safety, affordability, efficiency and effectiveness of our health care system.

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A Mandate …

Dr. David Brailer, under an Executive Order signed by President Bush, is setting the stage for the swift adoption of EHR's so that all Americans have interoperable health records by 2014.

We are all moving toward a full transition to electronic health records and adoption of nationwide standards for managing patient information.

A Response … the race is on!

Everyone is lining up to play …

… want a piece of the technology

… want to deploy the technology

… want to create infrastructure and build complex systems to manage HIE

… want to deploy systems to take full advantage of what HIT has to offer

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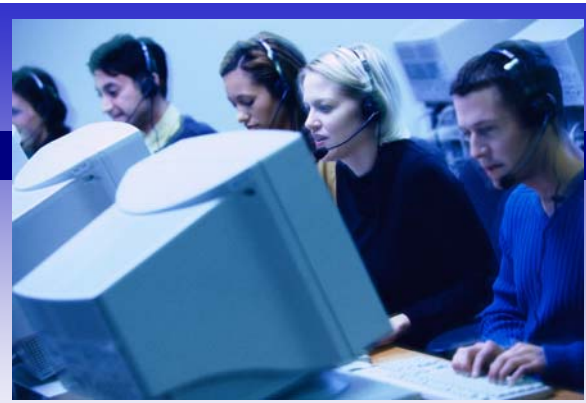
But WAIT!



Who is talking about Health IT MANPOWER and Health IT EDUCATION?

This is not explicitly identified and supported in the current discussions and debates.

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Fundamental Questions???

- How will we provide the skilled workforce needed to meet the needs of this HIT explosion? And, do we have a complete and accurate picture on the current employment situation?
- Have we fully identified the future roles, competencies, and specific skill set requirements for these future HIT professionals?
- Have we engaged our institutions of higher education across America to provide trained professionals at the certificate, Associate, Bachelor, Masters, and PhD levels?

Fundamental Questions???

- What about professional education curriculum, educational standards, and accreditation policies?
- How should we or could we engage our local community colleges and universities to play a larger role in HIT adoption?
- How will we recruit students into these educational programs?

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Some Statistics …

- In 2001, when the Department of Labor published its list of fastest-growing occupations for 2000-10, one-third of the 30 jobs projected to grow the fastest this decade were in technology. **Half were in health care**. The rest were in education, fitness and animal health care.
- The Bureau of Labor Statistics (BLS) forecasts that employment in all **health care occupations will grow by 29 percent between 2000 and 2010**, twice as fast as the rest of the economy

Some Statistics …

- The US Department of Labor, Bureau of Labor Statistics projects a **49 percent growth in the number of health information management (HIM) workers by 2010**, making this occupation one of the fastest-growing health occupations.
- Approximately **6,000 new HIM workers are needed each year** to fill new positions and replace those who retire or leave the field. Today, **2,000 new graduates enter the HIM field each year**.
- USA produces 200 new Informaticians / year - Need 10,000 by 2010 (*Safran*)

HIT and CS Manpower Shortages …

- While nursing and other caregivers have received incredible media attention, HIT also faces acute shortages now and in the future!
- Experts are now predicting an IT staffing crunch is just around the corner, and the implications for U.S. technology innovation are sobering.

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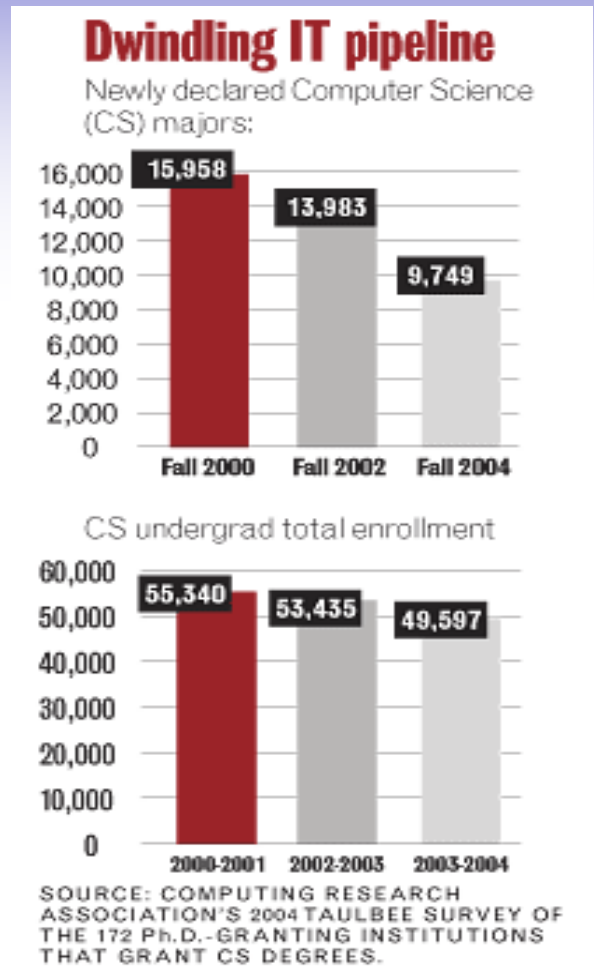
HIT and CS Manpower Shortages …

- The Society for Information Management (SIM) is examining the combined effects of radically dropping enrollment in IT programs at the undergraduate level and the first wave of baby boomer retirements. According to SIM's report:

"Between the retirements that are coming and the reduction in computer science students, we're in a very difficult position."

HIT and CS Manpower Shortages …

- Undergraduate enrollment in computer science programs has dropped 7% for each of the last two years, according to the Taulbee Survey of the Computing Research Association.
- Further up the pipeline, the number of students who declared their major in computer science has declined for the past four years and is now 39% lower than in the fall of 2000.
- The demand for a qualified HIT professionals continues to outnumber the available students entering these programs



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How do we address the shortages?

AMIA, HIMSS, and AHIMA have begun to step forward.

AHIMA has called upon industry, government, and academic leaders to acknowledge the essential contribution of HIM and workforce shortages by:

- Spotlighting this important occupation
- Supporting the continuing education of current HIM practitioners as they prepare to manage in the electronic environment
- Hiring trained and certified HIM professionals
- Ensuring a sufficient number of accessible academic training programs
- Providing loans and scholarships to students entering the field and current HIM practitioners wanting to further their education
- Supporting the continuing education of HIM faculty at academic programs

How do we address the shortages?

- AMIA's 10x10 programs is geared toward three major domains in the field of informatics:
  - Clinical or health care (including personal health management)
  - Public health
  - Translational bioinformatics
- The AMIA 10x10 program aims to realize the goal of training 10,000 health care professionals in applied health and medical informatics by the year 2010.

How do we address the shortages?

Higher Education Response …

The capacity of academic programs at the master's, baccalaureate, and associate's degree levels must meet the forecasted demand for a HIT workforce, but we suffer from a lag in the response time for colleges and universities to ramp up.

The average time to develop or adopt a new curriculum at a college or university is three (3) years. Ramp up to a fully functional academic department is typically a ten (10) year process.

Training in Informatics/HIT

- Research/Academic
  - Bioinformatics (MS, PhD)
  - Medical Informatics (MS, PhD)
  - Nursing Informatics (MS, PhD)
  - Osteopathic Informatics
- Applied Clinical Informatics
  - Medical (MS)
  - Nursing (MS)
- Public Health Informatics (MS)
- Health Care Informatics (**AS, BS**, MS, PhD)
- Health Information Management
  - CHIME, AHIMA, HIMSS
- Health Information Technicians (Certificate and Associate)

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Driving Force…

- COMMUNICATION GAP
  - Information management in healthcare is in a crisis situation (well documented in literature)
  - New technological advances require increases in information management
  - Over 2 million new medical research papers are published every year in America
  - Healthcare providers and IT professionals DO NOT communicate effectively
  - Individuals trained to understand both healthcare and information technology are rare - emerging new area called “Health Care Informatics”

Health Care Informatics – Montana Tech

- Began discussions in September 2000 with Pat Dudley of St. James Healthcare
- Drew together key university and industry stakeholders to move this initiative forward
- Approval from Montana University System Board of Regents in November 2001 – unprecedented timeline
- Program started in Fall 2002
- Currently have 55 students enrolled in the HCI program

Health Care Informatics – Montana Tech

Challenges:

- Designing a curriculum from scratch
- Modifying the curriculum to meet the needs of the healthcare industry
- Establishing a market for our student interns and graduates
- Hiring and retaining faculty … salaries
- Convincing initial students what we were doing

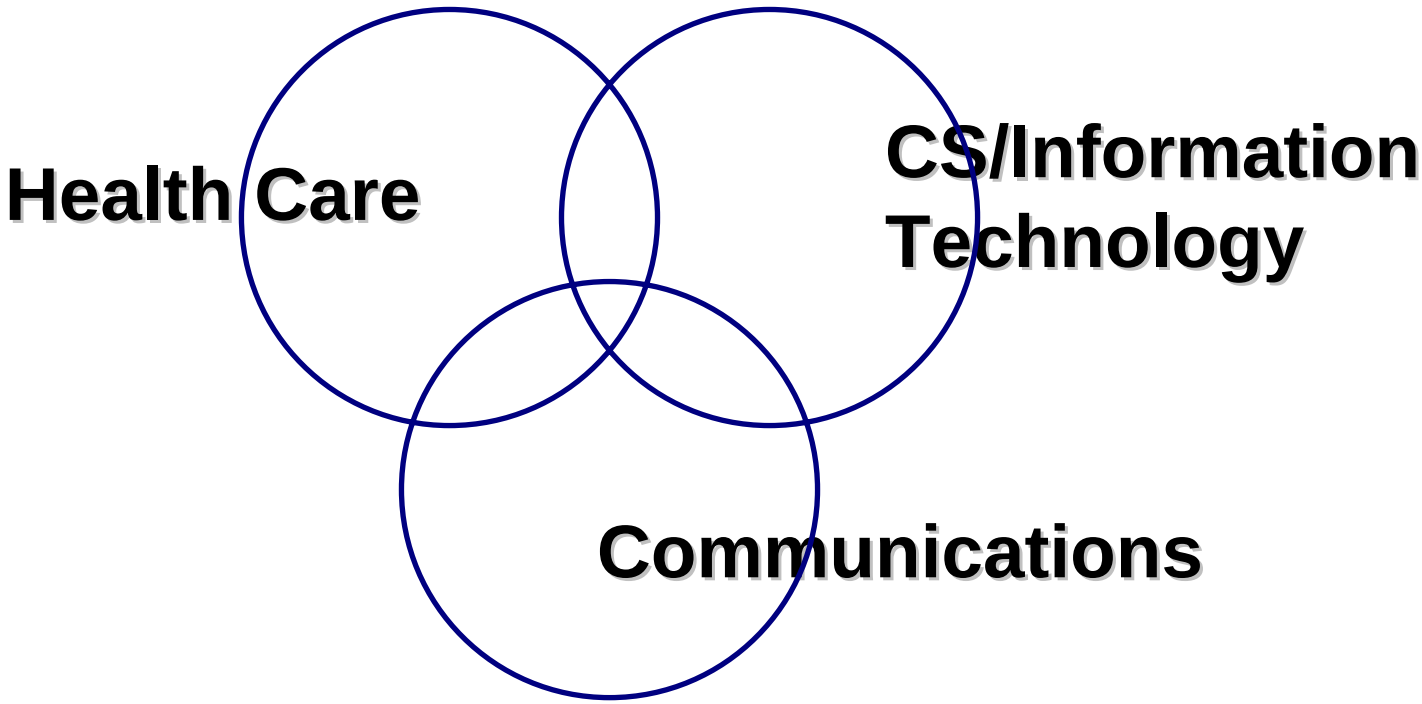
Health Care Informatics – Montana Tech

Successes …

- Students in the program - 55
- Passion for the field of HCI
- Students are starting to “get it”
- Network is beginning to be established
- Curriculum is maturing
- Innovative laboratory for student learning

Health Care Informatics – Montana Tech

- Health Care Informatics
  - Education and Training in:



Health Care Informatics – Montana Tech

HCI Coursework …

- Medical Data and Terminology
- Health Care Facility Procedures
- Data, Information and Knowledge
- Overview of HCI Systems
- Health Care Delivery in the US
- Health Care Database Design/System Lifecycle
- HCI Project Management
- Issues in HCI
- HCI Practicum
- HCI Internship

Health Care Informatics – Montana Tech

CS/IT/Math Coursework …

- Spreadsheet Applications
- Database Applications
- Systems Design
- Decision Support Systems
- Applications Programming
- Advanced Application Programming
- Data Communication Systems & Networks
- Biostatistics
- Statistical Computing and Exploratory Data Analysis

Other Workforce Training Solutions …

- Programs need support to advance distance education as a way to virtually expand the educational network.
- Seek collaborative efforts among universities to share faculty as we address the severe faculty shortages.
- Innovative approaches to training at all levels
  - Professional “on-demand” training
  - Expand opportunities for How, When, and Where we deliver educational opportunities
  - Public/private partnerships
  - “Outcomes-based” educational models

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Workforce Needs - MHIMA

- Debbie Mackaman
  - President, MHIMA
  - Compliance Officer & Director, HIM
  - Marcus Daly Hospital, Hamilton, Montana

- Education Programs in Montana
  - Loss of BS Degree in HIM – Carroll College
  - Expansion of AS and Certificate degree at MSU-GF COT
  - Coding certificate at UM Missoula COT
- AHIMA
  - 50,000 members nationally
  - Projected by 2010 … could be at 25,000

Workforce Needs - MHIMA

- National trends…
  - Promotion of MS programs in HIM
  - More virtual HIM Learning Environments
  - More crossover into informatics (collaborative)
  - Membership change from exclusive to inclusive

- Needs regionally
  - Certified Coders – shortage
  - Transcriptionists are being replaced by EHRs in physicians clinics (how can they be retrained?)
  - Medical Records Clerks needed little training to manage paper records, but now need more advanced training to manage electronic records

Workforce Needs - MHIMA

- To respond to these needs, we must:
  - Seek support from Higher Education institutions
  - Utilize professional trade organizations like AHIMA to support training needs
  - Rely upon employers to realize that educational programs need to be funded (reinvestment in current workforce)
  - Look to public/private partnership to provide training for our future workforce
- Demand is exceeding supply … we need to recruit, retrain, and retain … and even "improvise" at times to meet our future workforce needs

Thank You!

Questions ??????????

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