

Training the HIT Workforce

Health Information Technology: A Rural Provider's Roadmap to Quality *Training a Health Information Technology Workforce: Addressing Pending HIT Worker Shortages*

Raymond F. Rogers
Chief Executive Officer
National Center for Health Care Informatics
Butte, Montana
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Health Care Informatics

Health Information Technology Drivers ...

- Information management in healthcare is in a crisis situation (well documented in literature) ... the Healthcare industry lags all other major industries in IT adoption
- New technological advances require increases in information management
- New initiatives like Pay-For-Performance will drive HIT adoption
- Over 2 million new medical research papers are published every year in America
- Healthcare clinicians and IT professionals DO NOT communicate effectively ... **COMMUNICATION GAP**
- Individuals trained to understand both healthcare and information technology are rare - emerging new area called "Health Care Informatics"



Opportunities Presented by Health IT

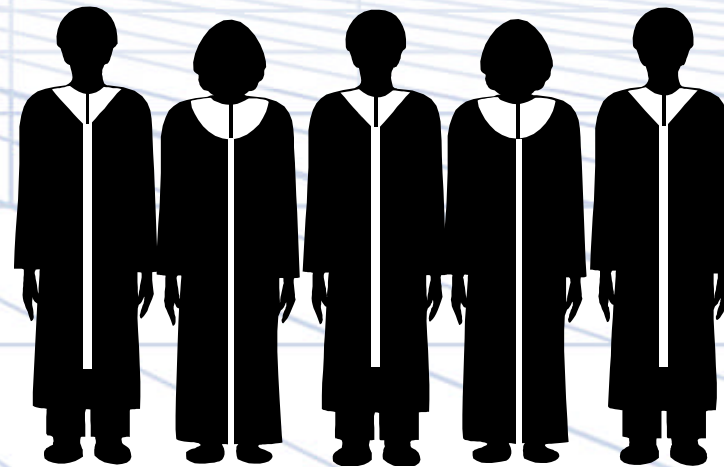
Health IT (to name a few):

- Creates efficiencies in health care administration
- Improves the quality of health care
- Lowers costs and improves 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.



A Mandate ...

ONCHIT, under an Executive Order (April 2004) signed by President Bush, is setting the stage for the swift adoption of Health Information Technology so that all Americans will have interoperable health records by 2014.

President Bush signs new Executive Order on August 22, 2006 ...
Promoting Quality and Efficient Health Care in Federal Government Administered and Sponsored Health Care Programs.

We are all moving away from antiquated paper record systems toward a full transition to electronic health records (EHRs), personal health records (PHRs) 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 and RHIOs to manage HIE
- ... want to deploy systems to take full advantage of what HIT has to offer



But WAIT!

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

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

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?



Strong future demand for HIT ...

- Bureau of Labor Statistics - Occupational Outlook Handbook 2006 - **18 of the top 20 fastest growing occupations were in health care and computer science related professions**
- **More new wage and salary jobs** — about 19 percent, or 3.6 million—created between 2004 and 2014 **will be in health care than in any other industry.**
- Employment of **medical records and health information technicians** is expected to grow much faster than average **(27%+)** for all occupations through 2014
- Employment of **computer support specialists** is expected to increase faster than average **(18-26%)** for all occupations through 2014

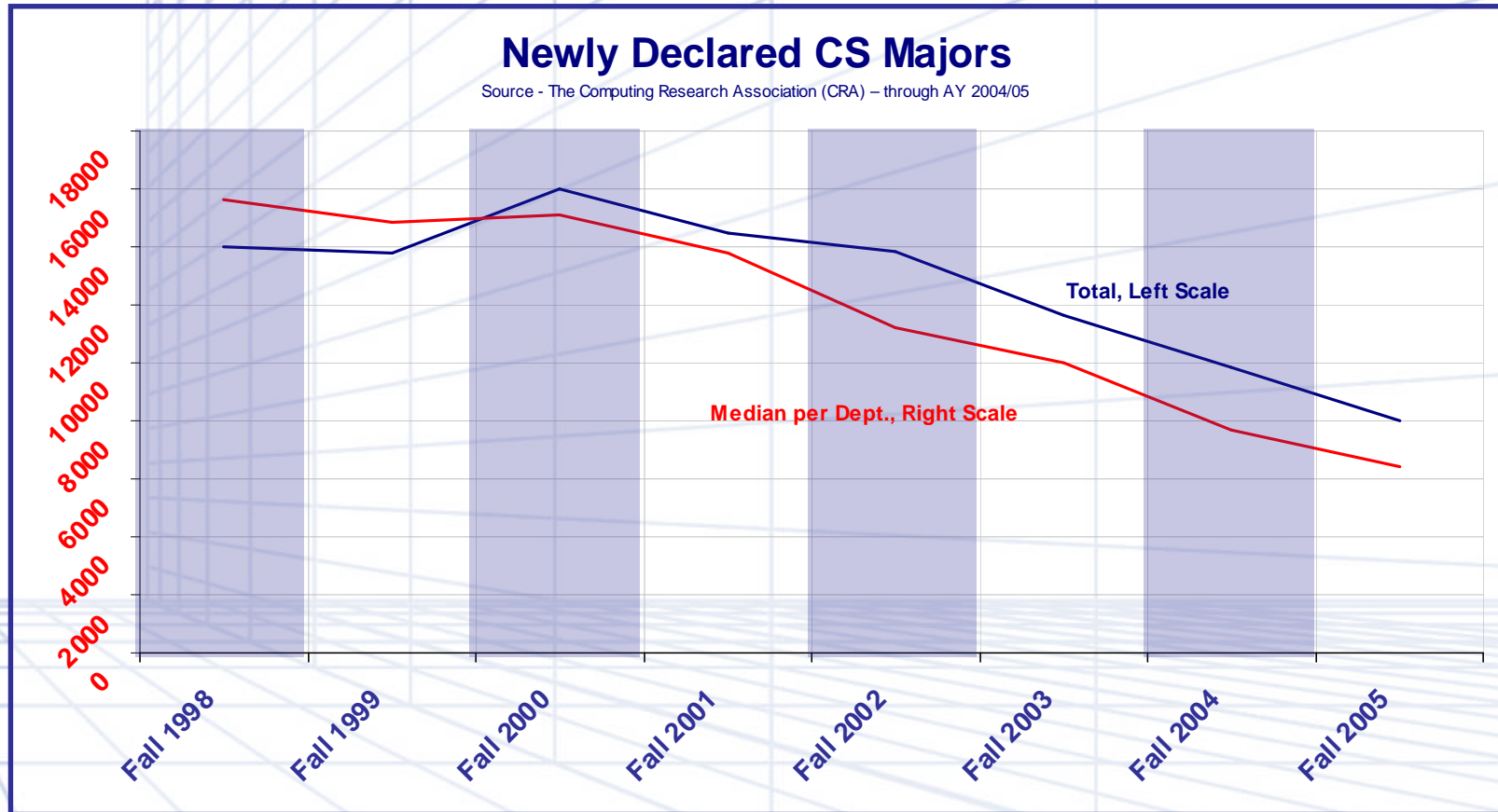


Strong demand ... weak supply

- 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 only 200 new Informaticians / year

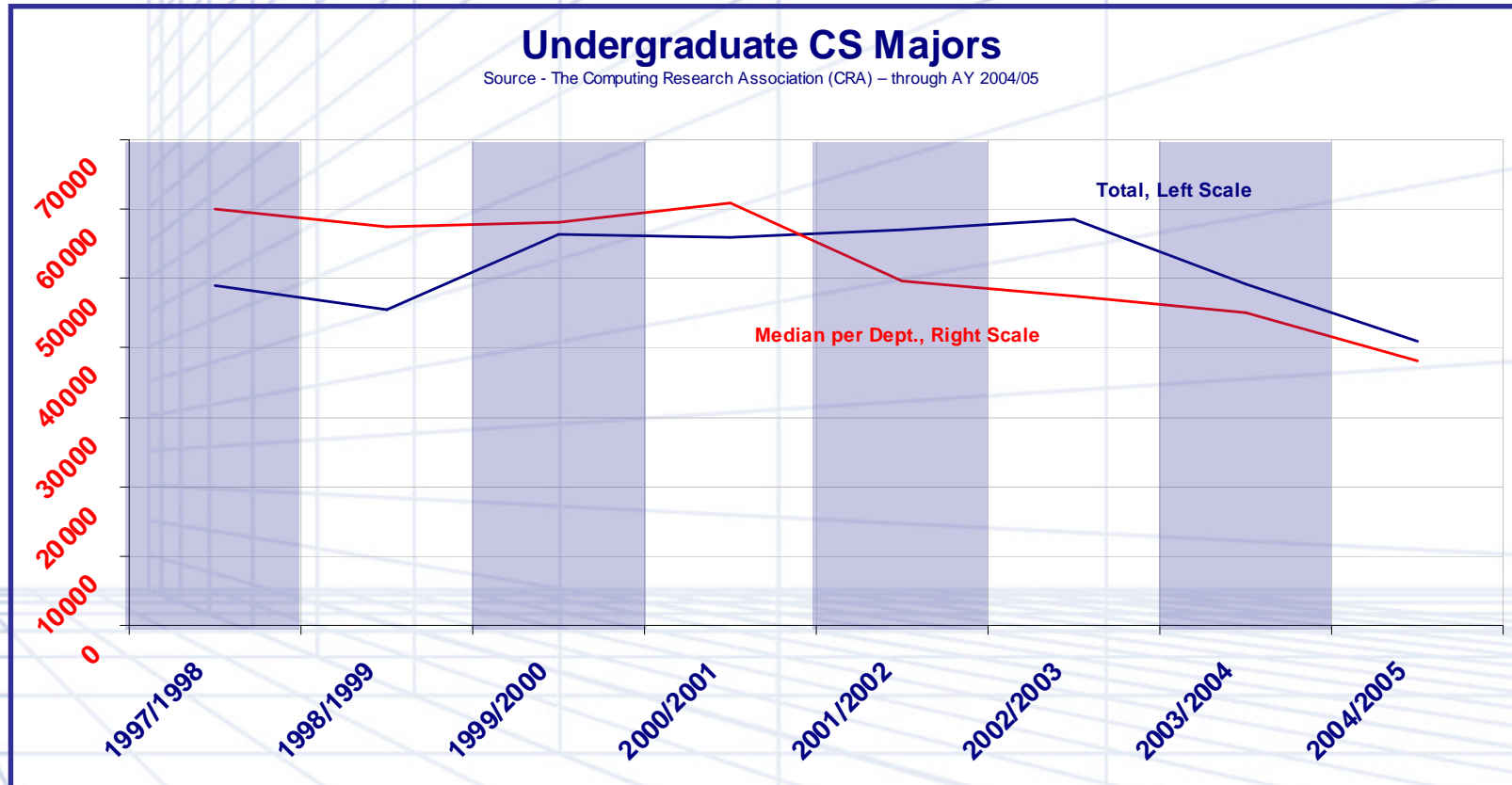


HIT and CS Manpower Shortages ...



After five years of declines, **the number of new CS majors in fall 2005 was half of what it was in fall 2000** (7,952 compared to 15,958)

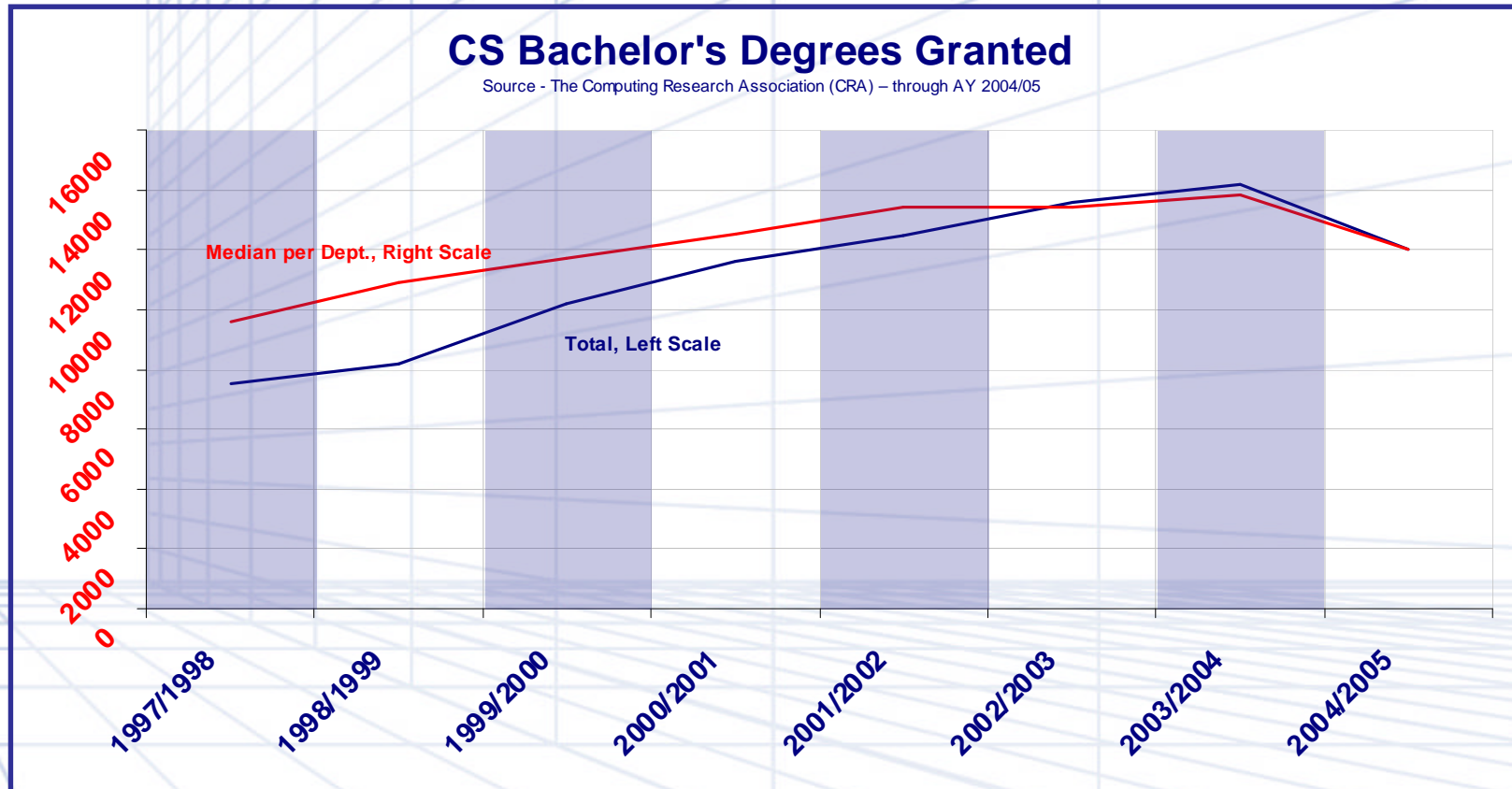
HIT and CS Manpower Shortages ...



Undergraduate **enrollment in computer science programs** has **dropped 27%** over the last three years.



HIT and CS Manpower Shortages ...



The total **number of bachelor's degrees granted in CS fell 17 percent** between AY 2003/2004 and 2004/2005 to 11,808



HIT and CS Manpower Shortages ...

- Media attention has been directed toward shortages in nursing and other clinical areas
- HIT also faces acute shortages now and in the future!
- Experts now predict that an IT staffing crunch (for all sectors of the US Economy) is just around the corner ... the implications for U.S. technology innovation are sobering.



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."



How do we address the shortages?

Health Care Industry Response...

Higher Education Response...

The capacity of academic programs at the doctoral, 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.



Higher Education Response ...

- Healthcare industry must
 - Quantify the demand for HIT Professionals
 - Identify professional skills and abilities needed in 21st Century HIT graduates
 - Identify level of necessary training (certificate, AS, BS, MS, PhD)
- Higher Education then must
 - Rapidly developing and deploying new programs or modify existing programs to meet the demand
 - Join forces with Healthcare to recruit students into these programs



Formal Training in Informatics/HIT


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



Formal Training in Informatics/HIT

American Medical Informatics Association (AMIA):

The following is a list of formal academic and training programs in North America in medical, nursing, and health care informatics.

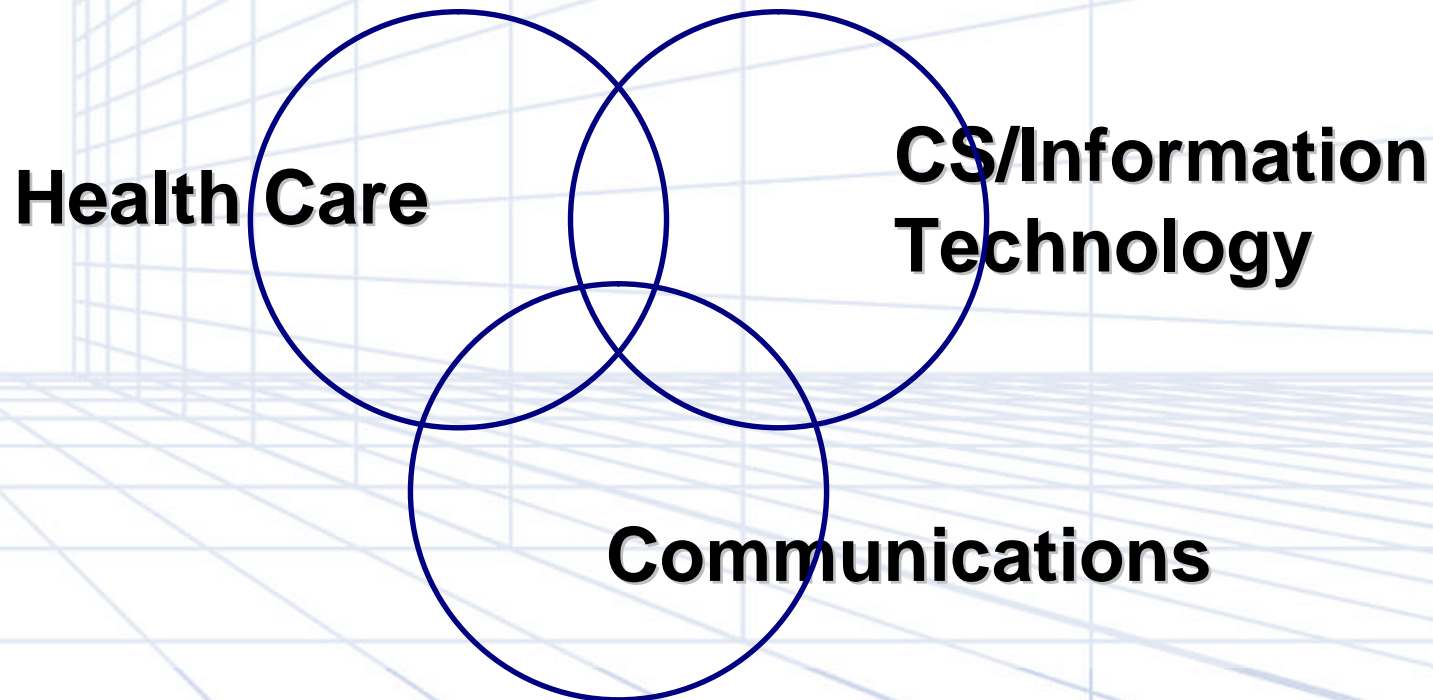
	<u>Degree Type</u>	<u>Number in US</u>	<u>Number in Canada</u>
<i>A</i>	Associate degree in informatics	1	1
	Undergraduate degree in informatics	1	2
<i>M</i>	Masters degree in informatics	50	2
<i>PhD</i>	PhD degree in informatics	25	1

Montana Tech of The University of Montana



Our Response ...

- Health Care Informatics
 - Education and Training in:



Health Care Informatics – Montana Tech

- Began discussions in September 2000 with Healthcare Industry
- 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 40 students enrolled in the HCI program
- 7 Graduates in 2005
- 8 Graduates in 2006



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 - 40
- 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
- Other Health Care Informatics programs are beginning to appear (Fairmont State University, WV) – Fall 06



Other Workforce Training Solutions ...

- Utilize distance education as a way to virtually expand the educational network to bring informatics training to the students
- Share faculty through collaborative efforts among universities as we address the severe faculty shortages.
- Seek innovative approaches to training at all levels
 - Professional “on-demand” training
 - Public/private partnerships
 - “Outcomes-based” educational models as we develop training at all levels



In conclusion ...

- The drivers are in place to advance HIT to unprecedented levels
- The demand for HIT professionals is strong
- The supply of HIT and CS graduates is diminishing
- Need to respond now with innovative solutions

“We will look back at this decade as one of the most significant in the history of health care, because it will be during this time that we transform the efficiency, affordability, quality, and safety of healthcare through information technology.”



Thank You!

Questions

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Raymond F. Rogers

Chief Executive Officer

National Center for Health Care Informatics

1300 W. Park Street

Butte, MT 59701

(406) 496-4821

rrogers@mtech.edu

