



# Health Care Transformation Through Health Information Technology

National Health Policy Forum

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# **RAND Study: Quality of Health Care Often Not Optimal**

**Patients' care often deficient, study says.**

**Proper treatment given half the time.**

**On average, doctors provide appropriate health care only half the time, a landmark study of adults in 12 U.S. metropolitan areas suggests.**

## **Medical Care Often Not Optimal**

**Failure to Treat Patients Fully Spans Range of What Is Expected of Physicians and Nurses**

**Study: U.S. Doctors are not following the guidelines for ordinary illnesses**

**Medical errors corrode quality of healthcare system**

**The American healthcare system, often touted as a cutting-edge leader in the world, suddenly finds itself mired in serious questions about the ability of its hospitals and doctors to deliver quality care to millions.**



# NHQR: Missed Opportunities

- Only **30%** of patients with diabetes receive all recommended tests
- 90% of adults are screened for high blood pressure – but only **25%** are controlled
- Nearly 1/3 of adults and children with asthma do **NOT** receive effective Rx
- Almost **20%** of persons with a usual source of care report that they are not asked about medications to prevent interactions



**The New York Times**

**Errors That Kill Medical Patients**

*New York Times, December 18, 2002*





# Patient Safety: Achieving A New Standard For Care

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“Americans should be able to count on receiving health care that is safe.....This requires, first, a commitment by all stakeholders to a culture of safety, and, second, **improved information systems.**”

Institute of Medicine, 2003





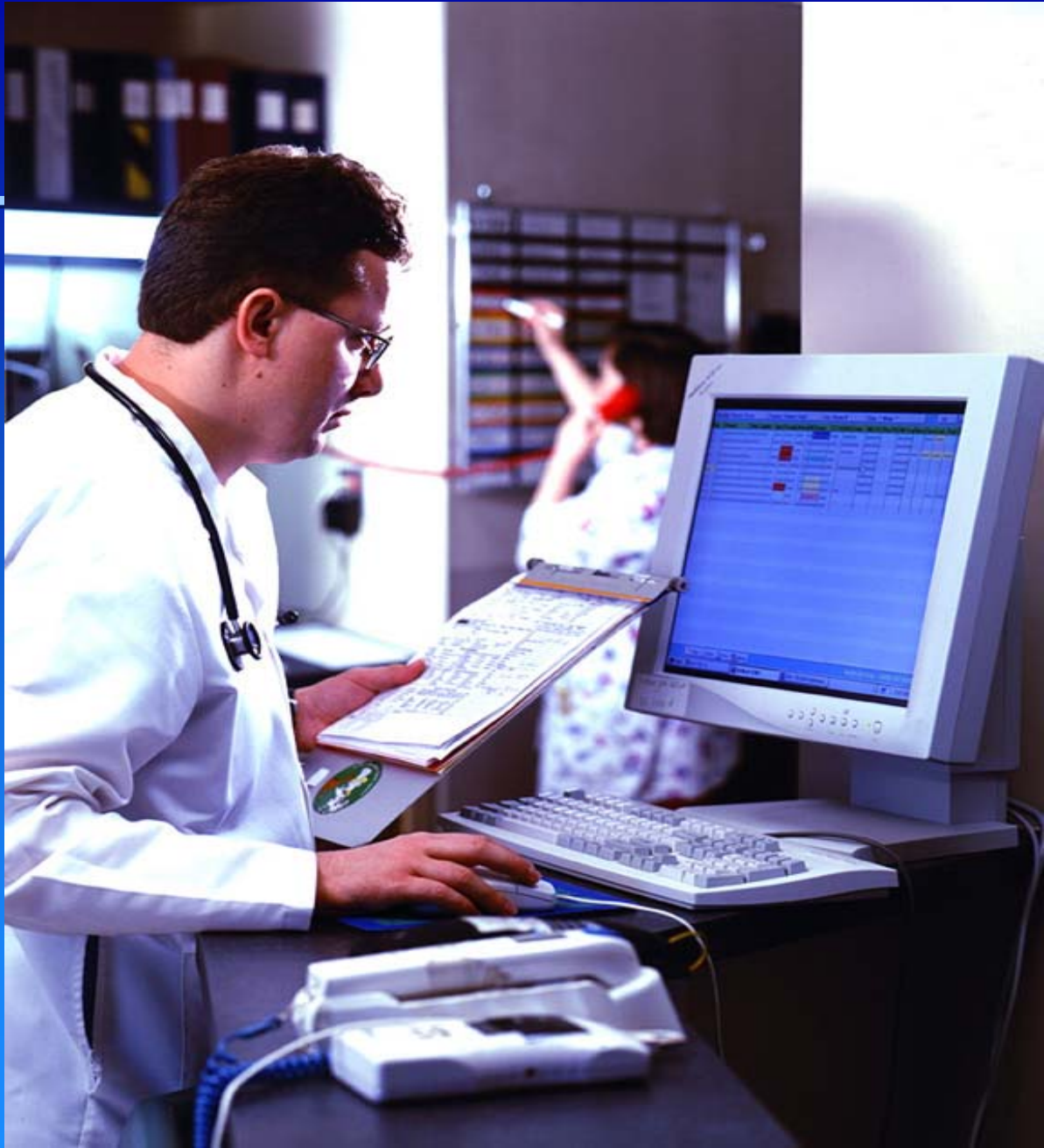
# Improving Quality and Safety

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“We need to make the right thing  
the easy thing...”

Mark Chassin, MD  
October 12, 2000





1/21/01

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# EMERGENCY PHYSICIAN RECORD

## Low Back Pain / Injury (5)

TIME SEEN: 8:00 ROOM: 10 EMS Arrival

HISTORIAN: patient spouse paramedics  
Family  
HX / EXAM LIMITED BY: exam limited by family

HPI chief complaint: back pain ~~injury~~ chronic back pain

started (occurred): chronic  continues in E.D.  
NOISE exam x 1-2ahr  better  
seen for pain  gone now  
 intermittent  
 worse

recent injury?  no  yes  possibly

how (context)?  lifting  turning / bending  fall / near-fall  trauma

1st MVC x 3 - last one

3 yr prior to date of

seen in Potomac Hosp ED

when? as above x 10 at work

where?  home  work  school

other injuries?  neck  head  other

Similar symptoms previously

09/01 x 5 yr

Recently seen / treated by doctor

2 days prior to ED

ROS NEURO

GU head

trouble w/ urination depr

frequent urination over ENT, PI

blood in urine Drucker sore

Other Now urinating cough

fever Drucker throat

subjective / to °F chest

chills GI

Women LNMP abdo

vaginal bleeding nause

normal blood / ch vomit

black/





# Potential of IT for Enhancing Quality

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- IT can enhance the precision and decrease the cost of measurement – i.e., getting to the “right” measures
- IT can also enhance translation of strategies to improve quality (e.g., decision support)
- IT can greatly enhance the timeliness of data collection





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**“Potential is what you have when  
you haven’t done it yet”**

Darrel Royall  
University of Texas  
Football coach





# Federal Initiatives -- 1

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- Adoption of CHI standards (HHS, VA, DoD)
- Licensing SNOMED
- Conference July 20-23, 2004\*\*
- VA and DoD
- Telemedicine demonstrations
- National Coordinator for Health Information Technology Infrastructure\*\*





# Federal Initiatives -- 2

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- Longstanding work of National Library of Medicine
- HRSA community demonstrations (with e-health initiative)
- 2004: demonstrations of HIT and health care data exchange → improved safety and quality





# IT Patient Safety Practices by Strength of Evidence

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- High evidence:
  - Use of computer monitoring for potential ADEs
  - Information transfer between inpatient and outpatient pharmacy
- Medium evidence:
  - use of CPOE with decision support
- Lower evidence:
  - use of automated medication dispensing



# Knowledge Gaps

- Research limited to a small number of sites
- Inpatient setting
- Limited data on important outcomes
- Adoption and implementation
  - Incentives
  - Barriers
  - Workflow
  - Efficiency and effectiveness
  - Resources
- New technology and applications





# AHRQ's HIT Portfolio

- Research portfolio related to the development, evaluation, and diffusion of HIT in clinical settings
- Emphasis on the role of HIT in patient safety
  - Clinical Informatics to Promote Patient Safety (CLIPS)
- HIT grants/contracts
  - FY01: \$18.4M
  - FY02: \$21.8M
  - FY03: \$11.6M
  - FY04: \$60M





# Building the Evidence Base for HIT

- Electronic Health Records
  - *Shared Online Health Records for Patient Safety and Care*
- Clinical Decision Support
  - *Automated Lab Test Follow-up to Reduce Medical Errors*
- Electronic Prescribing
  - *Error rates and prescribing practices in pediatric clinics*
- Use of hand-held devices
  - *Acceptance, benefits, and barriers in the use of hand-held decision support systems in ambulatory settings*
- Consumer use of the Internet
  - *Parent-Initiated Prevention Program*





# AHRQ Case Study: Computerized ICU System and Nursing Care

- Computerized medical information management system in hospital intensive care units (ICU) significantly reduced time ICU nurses spent on documentation
- Nurses were able to complete more tasks without interruption



**52 minutes saved in an 8-hour shift**



# The Costs/Value of IT

- Significant capital investment for the purchase and installation
- Limited data on return of investment for IT -- is there a “business case for quality?”
- The "opportunity cost" of physician time and use of IT have not been determined.
- Economic impact uncertain -- hard to track all costs and savings following IT adoption (diffuse and indirect)



# Challenges to HIT Diffusion

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- Absence of clear ROI.
- High costs and significant capital investment for the purchase and installation
  - The opportunity costs of physician time has not been assessed
- Limited data on return of investment for HIT -- is there a “business case for quality?”
  - Preliminary estimates promising
  - Does it get us to the “map” of incentives that we need?
- New AHRQ evidence report under development





# FY '04 HIT Investment

- \$60M initiative:
  - \$26M: to implement proven technologies in small and rural communities where HIT penetration has been low
  - \$24M: targeted for developing, implementing, and evaluating the use of new and innovative technologies to improve patient safety and quality of care in diverse health care settings.
  - \$10M: targeted for clinical data standards and interoperability





# FY04: Transforming Healthcare Quality through HIT

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- Current and Planned AHRQ initiatives:
  - 3 Grant Solicitations
  - Health IT Resource Center
  - Indian Health Service EHR Collaboration
  - CMS – AHRQ Collaboration
  - 5 state or regional demonstrations of local health care data exchange





# Transforming Healthcare through HIT (THQIT)

## ■ Grant Solicitations:

- Determining the Value of HIT \$10M
  - assess the value derived from the adoption, diffusion, and utilization of HIT
- THQIT Planning \$7M
  - assist healthcare systems and their partners in planning for activities that will lead to successful HIT implementation
- THQIT Implementation \$24M
  - support organizational and community-wide implementation and diffusion of HIT
- <http://www.ahrq.gov/fund/grantix.htm>





# Public-Private Partnerships: New HIT Leap

## ■ Ambulatory Safety/Quality Task Force:

- Agency for Healthcare Research and Quality (AHRQ)
- Centers for Medicare and Medicaid Services (CMS)
- Leapfrog Group

## ■ Goal:

- To promote the adoption of a set of information technology-based systems for physician offices which have the potential to immediately improve safety and quality of care and which catalyze progress toward more robust electronic systems of clinical decision support and data exchange





# Medicare Prescription Drug, Improvement, and Modernization Act (2003)

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## ■ Health IT Provisions

- Electronic Prescription Program
- Grants to Physicians – ePrescribing systems
- Telemedicine Demonstrations Projects
- Medicare Care Management Performance Demonstration





# How has practice changed?





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For additional questions, please contact:

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