
Transforming Healthcare:

4.01 Challenges in Implementing a Statewide Connected Community: Connecting Clinical Care, Policies and Technology

*Improving Healthcare in North Carolina by Accelerating the
Adoption of Information Technology*

Outline

- **Change Drivers**
- **HHS and ONCHIT**
- **Different approaches fit a
Community's needs**
- **NCHICA Background and Activities**
- **Participation in ONC Initiatives**

Health Care Challenges

- **Greater awareness of medical errors**
- **Frequent inability to provide complete information where and when it is needed**
- **Cost of healthcare**
 - New procedures and drugs
 - Defensive nature of practice of medicine = increasing tests
- **Lack of Standards**
- **Paper-based and inefficient**



SPECIAL ARTICLE

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The Quality of Health Care Delivered to Adults in the United States

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ABSTRACT

Background We have little systematic information about the extent to which standard processes involved in health care — a key element of quality — are delivered in the United States.

Methods We telephoned a random sample of adults living in 12 metropolitan areas in the United States and asked them about selected health care experiences. We also received written consent to copy their medical records for the most recent two-year period and used this information to evaluate performance on 439 indicators of quality of care for 30 acute and chronic conditions as well as preventive care. We then constructed aggregate scores.

Results Participants received 54.9 percent (95 percent confidence interval, 54.3 to 55.5) of recommended care. We found little difference among the proportion of recommended preventive care provided (54.9 percent), the proportion of recommended acute care provided (53.5 percent), and the proportion of recommended care provided for chronic conditions (56.1 percent). Among different medical functions, adherence to the processes involved in care ranged from 52.2 percent for screening to 58.5 percent for follow-up care. Quality varied substantially according to the particular medical condition, ranging from 78.7 percent of recommended care (95 percent confidence interval, 73.3 to 84.2) for senile cataract to 10.5 percent of recommended care (95 percent confidence interval, 6.8 to 14.6) for alcohol dependence.

Conclusions The deficits we have identified in adherence to recommended processes for basic care pose serious threats to the health of the American public. Strategies to reduce these deficits in care are warranted.

Source Information

From RAND, Santa Monica, Calif. (E.A.M., S.M.A., J.A., J.K., J.H., A.D.); the Veterans Affairs (VA) Greater Los Angeles Health Care System, Los Angeles (S.M.A.); the Department of Medicine, University of California Los Angeles, Los Angeles (S.M.A.); the VA Center for Practice Management and Outcomes Research, VA Ann Arbor Health Care System, Ann Arbor, Mich. (E.A.K.); and the Department of Medicine, University of Michigan, Ann Arbor (E.A.K.).

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Updated: November 2, 2004

First National Report Card On Healthcare In America: Recommended Care Received Only Half The Time, Study Finds

American patients get the recommended care less than half the time, according to a new national study conducted by the RAND Corporation.

In general, researchers found underuse of recommended services 46 percent of the time, with non-recommended and possibly harmful care taking place 11 percent of the time.

Condition	Findings
Diabetes	Less than 45% received indicated care
Hypertension	Less than 65% received indicated care
Heart Attacks	39-55% did not receive needed medications
Pneumonia	36% of elderly received no vaccine
Colorectal cancer	62% not screened

Source: RAND Corporation, 2004.



National Business Group on Health

Creative Health Benefits Solutions for Today,
Strong Policy for Tomorrow

iHealth
B E A T

Reporting the Internet's Impact
on Health Care

CALIFORNIA HEALTHCARE FOUNDATION

Business & Finance

Group Issues Guidelines On Charitable Health IT Investment

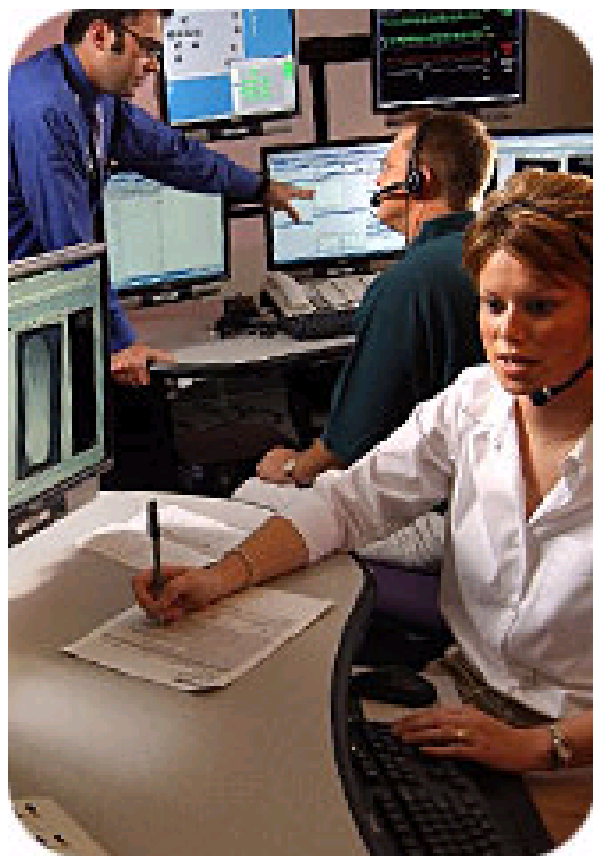
November 04, 2004

Corporate foundations should **support investments in health care information technology**, according to new [National Business Group on Health](#) guidelines, *Modern Physician* reports. The group, a coalition of more than 200 large private-sector companies and large public-sector employers, also recommended that foundations concentrate on supporting training programs and demanding evidence of need from providers who plan to expand their facilities (Conn, *Modern Physician*, 10/27).

"Supporting this infrastructure is an investment with high returns and high impact," said Helen Darling, president of the National Business Group on Health. **"Investments in quality improvements can make a remarkable difference in human suffering and save money for both health care providers and payers."**

Among its IT-related suggestions, the group specifically recommends that foundations consider funding for electronic health records and investments in computerized physician order entry systems (National Business Group on Health [press release](#), 10/27).

Darling also recommended that hospitals and physicians groups who wish to implement IT projects seek funding from corporate foundations, *Modern Physician* reports. In 2003, corporations and their foundations contributed \$13.5 billion in cash and in-kind donations to a number of causes, Darling said (*Modern Physician*, 10/27). The guidelines are only available to the group's members (National Business Group on Health press release, 10/27).



Welcome to The Leapfrog Group Web site. The Leapfrog Group is made up of more than 160 companies and organizations that buy health care. Leapfrog and its members work together to:

- Reduce preventable medical mistakes and improve the quality and affordability of health care.
- Reward doctors and hospitals for improving the quality, safety and affordability of health care.
- Encourage public reporting of health care quality and outcomes so that consumers and purchasing organizations can make more informed health care choices.
- Help consumers reap the benefits of making smart health care decisions.

- **Computer Physician Order Entry (CPOE):** With CPOE systems, hospital staff enter medication orders via computer linked to prescribing error prevention software. CPOE has been shown to reduce serious prescribing errors in hospitals by **more than 50%**.
- **Evidence-Based Hospital Referral (EHR):** Consumers and health care purchasers should choose hospitals with extensive experience and the best results with certain high-risk surgeries and conditions. By referring patients needing certain complex medical procedures to hospitals offering the best survival odds based on scientifically valid criteria — such as the number of times a hospital performs these procedures each year or other process or outcomes data — research indicates that a patient’s risk of dying could be reduced by **40%**.

- **ICU Physician Staffing (IPS):** Staffing ICUs with doctors who have special training in critical care medicine, called 'intensivists', has been shown to reduce the risk of patients dying in the ICU by **40%**.
- **Leapfrog Quality Index - The National Quality Forum's 27 Safe Practices:** The National Quality Forum-endorsed 30 Safe Practices cover a range of practices that, if utilized, would reduce the risk of harm in certain processes, systems or environments of care. Included in the 30 practices are the original 3 Leapfrog leaps. For this new leap, added in April 2004, hospitals' progress on the remaining 27 safe practices will be assessed.

Better quality costs less. The savings are there for the taking. Purchasers everywhere must work together to create the mechanisms to reap them.

In an age of rapidly rising health care costs, combined with little or no system accountability, there is a greater risk than ever for purchasers, patients and providers to find their interests at odds. This can lead to intractable gridlock and the creation of few, if any, solutions to systemic problems.

Taking the steps now to encourage better performance and reduce inefficiencies will erase this gridlock and pave the way for a better system of care -- one that meets the goals of purchasers, providers and patients alike. Implementing systems to support physicians is a great place to start. We hope you will join us in this effort.

To meet the STEEEP challenge, some key changes must begin with purchasers and insurers.

In one major recommendation, the IOM said payments for care should be redesigned to encourage providers to make positive changes to their care processes. Ideally, this shift will begin with purchasers and insurers, and filter down through the delivery system to help encourage improvements at all levels.

In response to this challenge, a group of employers, physicians, health plans and patients have come together to create Bridges to Excellence. Guided by three principles, its purpose is to create programs that will realign **everyone's** incentives around higher quality:

- Reengineering care processes to reduce mistakes will require investments, for which purchasers should create incentives;
- Significant reductions in defects (misuse, underuse, overuse) will reduce the waste and inefficiencies in the health care system today;
- Increased accountability and quality improvements will be encouraged by the release of comparative provider performance data, delivered to consumers in a compelling way.

Physician Office Link enables physician office sites to qualify for bonuses based on their implementation of specific processes to reduce errors and increase quality. They can earn up to \$50 per year for each patient covered by a participating employer or plan. In addition, a report card for each physician office describes its performance on the program measures and is made available to the public.

Diabetes Care Link enables physicians to achieve one-year or three-year recognition for high performance in diabetes care. Qualifying physicians receive up to \$80 for each diabetic patient covered by a participating employer and plan. In addition, the program offers a suite of products and tools to help diabetic patients get engaged in their care, achieve better outcomes, and identify local physicians that meet the high performance measures. The cost to employers is no more than \$175 per diabetic patient per year with savings of \$350 per patient per year.

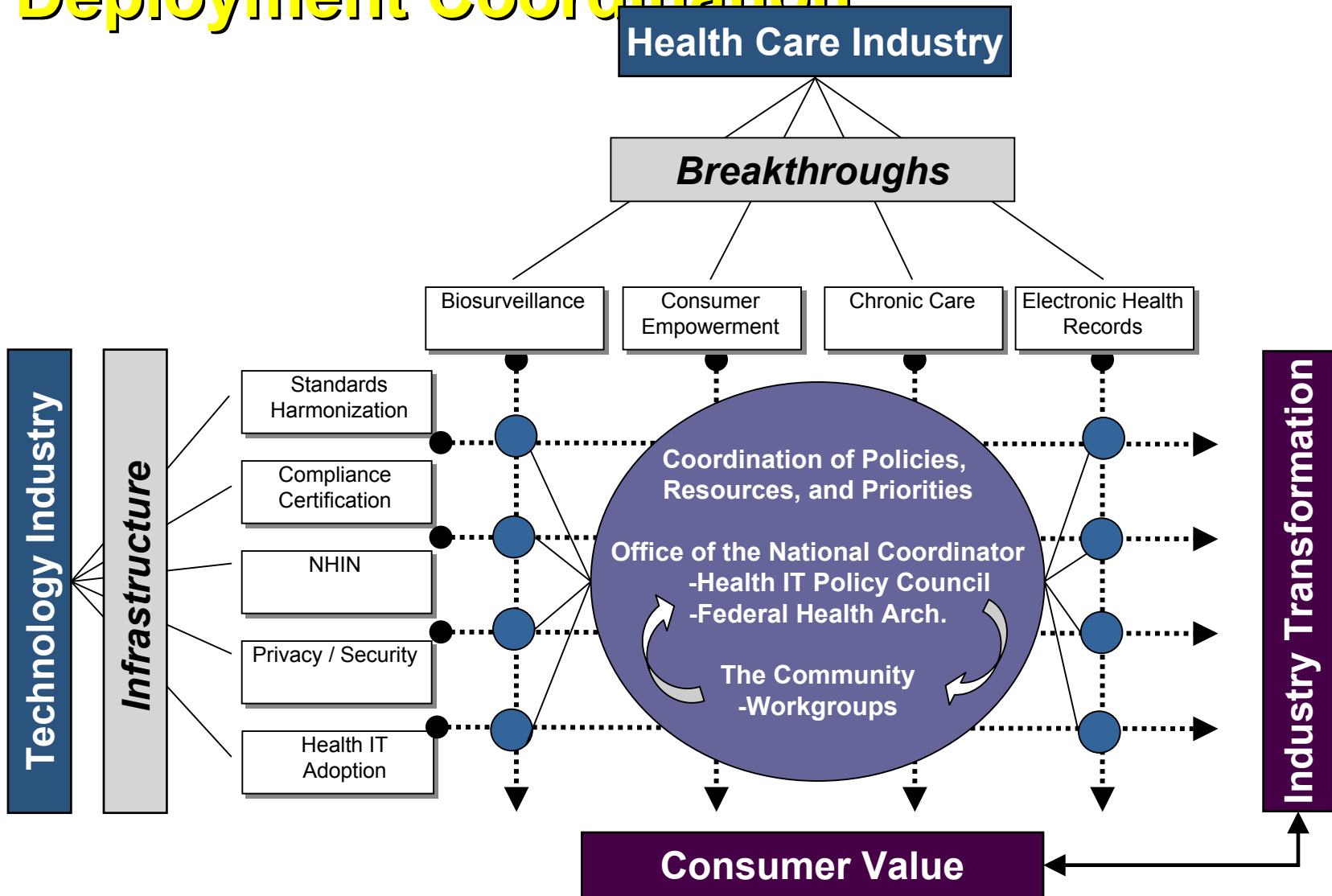
Cardiac Care Link Enables physicians to achieve three-year recognition for high performance in cardiac care. Qualifying physicians are eligible to receive up to \$160 for each cardiac patient covered by a participating employer and plan. In addition, the program offers a suite of products and tools to help cardiac patients get engaged in their care, achieve better outcomes, and identify local physicians who meet the high performance measures. The cost to employers is no more than \$200 per cardiac patient per year with savings up to \$390 per patient per year.

Quality, Safety and Cost

- Medicare Population *
 - 20% have **5 or more chronic conditions**
 - Chronic Care accounts for **70%-80% of expenditures**
 - Average **40 office** visits per year
 - 20% see on average **14 different physicians** per year
 - **Potential for prescribing errors, duplication of orders, tests, etc.**

* 2003 Urban Institute Study for CMS

Health Information Technology Deployment Coordination



Privacy and Security Solutions

- HHS awarded a contract valued at \$11.5 million to RTI International, a private, non-profit corporation, to lead the Health Information Security and Privacy Collaboration (HISPC), a collaboration that includes the National Governors Association (NGA), up to 40 state and territorial governments, and a multi-disciplinary team of experts.
- RTI will oversee the HISPC to assess

Nationwide Health Information Network (NHIN)

- **Contracts have been awarded by HHS totaling \$18.6 million to four consortia of health care and health information technology organizations to develop prototypes for the Nationwide Health Information Network (NHIN) architecture.**
- The contracts were awarded to: **Accenture, Computer Sciences Corporation, IBM, and Northrop Grumman, along with their affiliated**

Emerging Models for Connected Communities

Models for Connected Communities

- Federation – multiple independent / strong enterprises in same region
- Co-op – multiple enterprises agree to share resources and create central utility
- Hybrid – region containing both Federation and Co-op organizations
- Other ???

Types of Connected Communities

- **Federations**

- Includes large, “self-sufficient” enterprises
- Agreement to network, share, allow access to information they maintain on peer-to-peer basis
- May develop system of indexing and/or locating data (e.g., state or region-wide MPI)
- In NC (Triangle, Triad, Charlotte Metro, Western NC)

Types of Connected Communities (cont.)

- Co-ops

- Includes mostly smaller enterprises
- Agreement to pool resources and create a combined, common data repository
- May share technology and administrative overhead
- In NC (Rural NC, Eastern NC, other)

Types of Connected Communities (cont.)

- Hybrids

- Combination of Federations and Co-ops
- Agreement to network, share, allow access to information they maintain on peer-to-peer basis
- Allows aggregation across large areas (statewide or regional)
- In NC
(Hybrid may be required for Statewide initiatives)

Models for Organizational Structure

- **“Utility” Provides Functions Such As:**
 - Centralized database
 - Patient information exchange
 - Clearinghouse
 - Patient information locator service
- **Neutral, Convener, Facilitator**
 - Builds Consensus Policies
 - Brings together competitive enterprises
 - Bridges multiple RHIOs in geographic location
 - Seeks Open-standards approach – non vendor specific

Models for Organizational Structure (cont.)

- **“Utility” Operator**
 - Quicker to implement
 - Fewer initial participants
 - Build involvement over time
 - Forces early technology selection
- **Neutral, Convener, Facilitator**
 - Slower to implement
 - Building consensus difficult and may frustrate participants who want to get started
 - Open standards approach leaves opportunities for more organizations and vendors to participate
 - Perhaps only way to bridge multiple RHIO efforts

Challenges to Broader Exchange of Information

- **Business / Policy Issues**
 - Competition
 - Internal policies
 - Consumer privacy concerns / transparency
 - Uncertainties regarding liability
 - Difficulty in reaching multi-enterprise agreements for exchanging information
 - Economic factors and incentives

Challenges to Broader Exchange of Information Continued

- **Technical / Security Issues**
 - Interoperability among multiple parties
 - Authentication
 - Auditability

Community Approaches in North Carolina

Opportunities of Statewide Interoperability: WNC Data Link

Western North Carolina Health Network - Hospital Members



Angel Medical Center
Cherokee Indian Hospital
Community CarePartners/Thoms
Harris Regional Hospital (WestCare)
Haywood Regional Medical Center
Highlands-Cashiers Hospital
Mission St. Joseph's
Murphy Medical Center

Pardee Hospital
Park Ridge Hospital
Rutherford Hospital
St. Luke's Hospital
Spruce Pine Community Hospital
Swain County Hospital (WestCare)
The McDowell Hospital
Transylvania Community Hospital

WNC Data Link

- **Long range goal**
 - Longitudinal electronic medical record that can be accessed and updated real time by authorized health care providers in WNC.
- **Short term goal**
 - Transmit and access electronic patient information between WNC hospitals
- **Parameters**
 - No central data repository
 - Technology neutral

Project Benefits

- **Improve patient safety and quality**
- **Reduce duplicative tests**
- **Reduce paper chart pulls**
- **Improve physician satisfaction and efficiency**

Obstacles

- **Sustainability**
- **Consensus of common policies and procedures**
- **Maintain interest and buy-in**
- **IT project priorities**

Overcome the Obstacles

- **Buy-in from the highest level of each participating entity**
- **Financial incentives**
- **Educate the public**

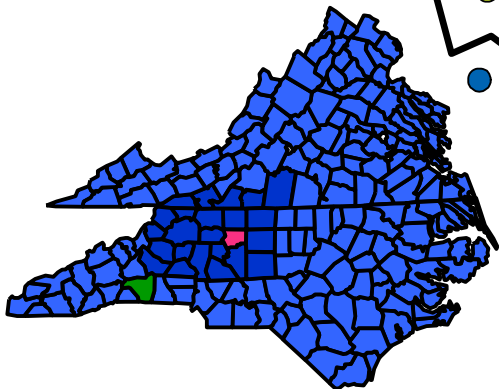
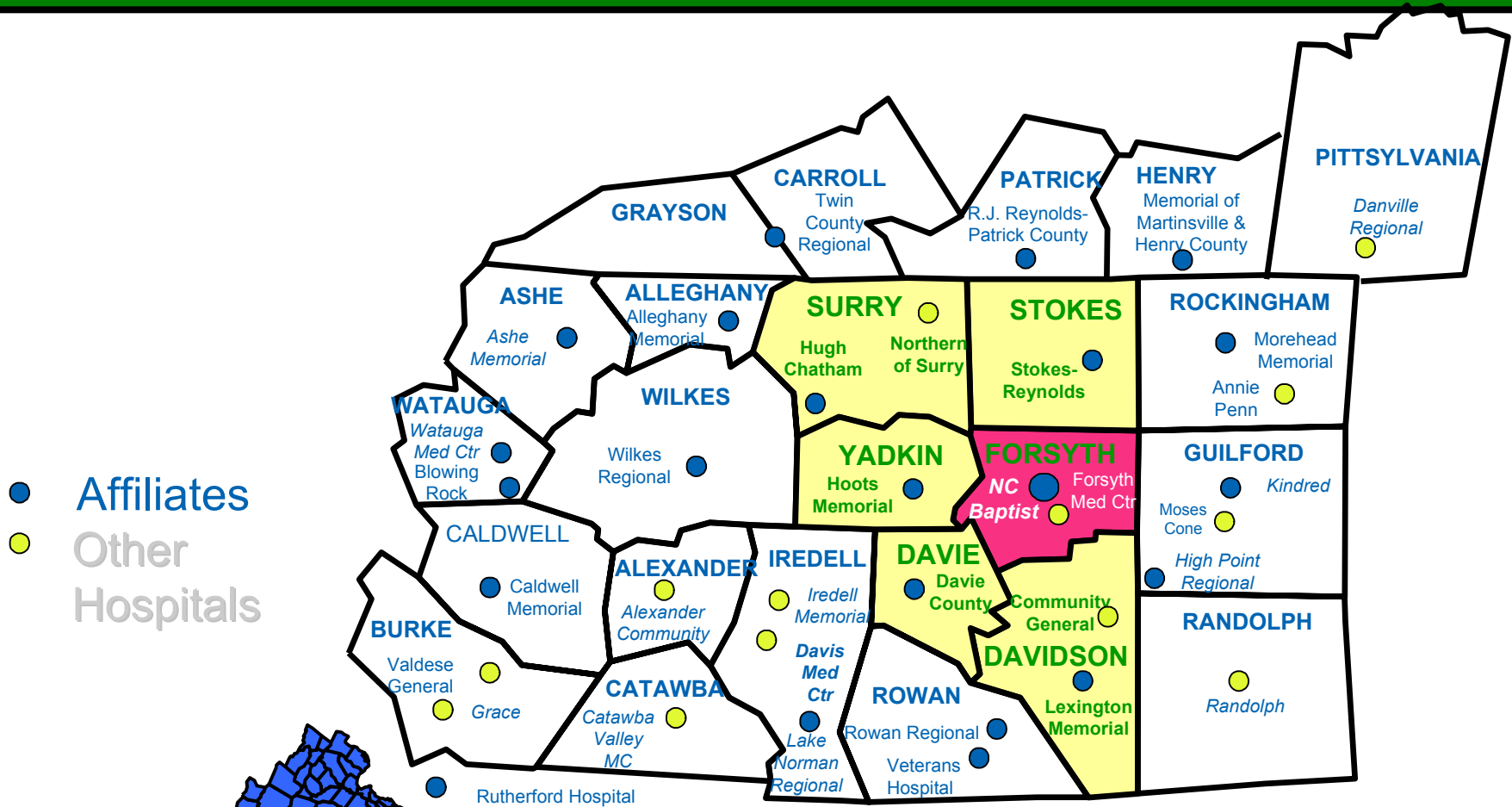
Recommendations for Success

- **Statewide interoperability is important, but:**
 - Interoperability with bordering states may be more important for a RHIO like WNC:

Western North Carolina Health Network - Hospital Members



WFUBMC Referral Area Hospitals



Counties of Origin For Approximately 90% of Medical Center's Inpatients and Outpatients

Alliance for Health Mission Statement

- **The Alliance for Health (AFH) is Wake Forest University Baptist Medical Center's network of affiliated physicians, hospitals, and health service providers dedicated to improving the health status and access to quality, cost-effective community based services in collaboration with citizens, employers, and payors in North Carolina and southern Virginia.**

Opportunities of Statewide Interoperability

- **Address Institute of Medicine observations/recommendations**
- **Utilize multi-hospital systems/networks**
- **Pay for performance – state plans**
- **Assign responsibility for implementation / infrastructure**

Obstacles

- **Costs –Financial and personnel –
Small/Rural Hospitals**
- **Physician and payer incentives**
- **Return on investment**
- **Decreasing debt capacity**
- **Interoperable standards**
- **Governance**
- **Security and legal issues**

Overcome the Obstacles

- **Provider investments in internal systems**
- **Identify funding sources for IT and RHIOs**
- **Identify benefits for all participants**
- **Establish standards**

Recommendations for Success

- **Identify funding sources and incentives**
- **Demonstrate quality, safety, and cost benefits**
- **Establish regional stakeholders**
- **Governance structure**



SERVING .
29 counties
in
EASTERN CAROLINA



Opportunities of Statewide Interoperability

- **Technology is the “enabler”**
 - Patient Safety
 - All necessary/relevant information available to clinicians at the point and time of need
 - Clinical decision support to help clinicians process vast amounts of data
 - Resolves legibility issues
 - Quality
 - Standardization of care/benchmarking
 - Efficiency
 - Saves time
 - Eliminates redundant procedures (costs)

Obstacles

- **Why is healthcare behind other industries (Banking and Airlines)?**
 - Data volume and complexity
 - Debit/Credit
 - Reservation/Cancellation
 - Unique identifiers
 - Bank routing numbers/Airline flight numbers
 - Relationship of the data
 - No relationship between different bank accounts or airline reservations

Overcome the Obstacles

- The Co-Op Model
 - Leverage investments of the larger institutions in the state
 - Other providers pay incremental costs to use the system
 - Use of a single system ensures the interoperability
 - Common patient database
 - Common terminology
 - Standardization of workflows and processes
 - Single integration point to connect to the rest of the state and/or a national EMR

Recommendations for Success

- **State leadership and leaders of healthcare organizations must continue to support dialogue/education on the issue**
- **Funding assistance for rural providers**
- **Leverage the efforts of the larger health systems – collaboration not competition when it comes to Information Technology**
- **Eliminate some of the barriers posed by various state and federal regulations (HIPAA)**
- **Adopt a common terminology (SNOMED?)**

Risks/Concerns/Challenges

- **Internal to the Institution / Network**
 - Dilution of Effort: Project competing against other pressing needs
 - Preservation of investment
 - Increased costs of IT (perceived or real)
 - Lack of Accountability of Resources – IT & Other
- **External to the Institution / Network**
 - Security – Data & Physical Resources
 - Rights in Data – who “owns” the data and who can make changes (tracking changes)
 - Reliability of Data – potential mismatching of patients & data corruption
 - Linking Outside: Standards, reliability, controls
 - Business Continuity: Destruction/Recoverability of critical resources
 - Lack of Accountability & Control (perceived or real)

Risks/Concerns/Challenges

• General Concerns

- Competition for resources
 - ROI Model for RHIOs
- Governance
- Loss of Differentiation & Branding
- Perceived long term loss of a franchise in critical business lines
- Helping the “competition”
- Liability – General & Medical

• Common Challenges

- Need interoperability standards
- Money, money, money
 - Start-up funds
 - Sustainable funding model
 - Payers will not pick up the full tab
- Blueprint for a technology architecture
 - Distributed versus centralized data structure
 - Low technology user interface
- Politics
 - Finding, or creating, a neutral entity to sponsor RHIO – i.e., a “Switzerland”
- Competitive differences
 - Lack of trust among parties
 - Fear of lost advantage
 - Pride of ownership

Risks/Concerns/Challenges

- **Business Opportunities & Challenges**

- + Potential increase in referral base
- + Improved ease of inter-institution partnering
- + Enhanced Pay for Performance opportunities (non full risk)
- + Ease of practice for physicians
- ± Reimbursement – Payers: *Rewards or Punishment*
 - ✓ Non participation in Pharmacy / Med Records
 - ✓ Loss of revenue due to denial of charges for duplicate tests, etc.
 - ✓ Long term reimbursement shift for non participation (quality view):
 - Medicare, Medicaid, Other Payers
 - Leap Frog, et al
- Potential Stark Issues
- NCGS.8-53 Physician Patient Privilege–Patient authorization needed
- Referrals – loss of out of network referrals from RHIO members
- Medical errors – understanding of patient’s current Meds or History

NCHICA Background

- Established in 1994 by Executive Order of Governor
- Mission: ***Improve healthcare in NC by accelerating the adoption of information technology***
- 501(c)(3) nonprofit - research & education
- 220 member organizations including:
 - Providers
 - Health Plans
 - Clearinghouses
 - State & Federal Government Agencies
 - Professional Associations and Societies
 - Research Organizations
 - Vendors and Consultants

Past Initiatives Have Included:

- **Statewide Patient Information Locator (MPI) – 1994-1995**
- **Model Privacy Legislation – 1995-1999**
- **HIPAA – 1996-Present**
- **Secure access to statewide, aggregated immunization database – 1998-2005**
- **Collection of emergency dept. clinical data for public health surveillance – 1999-Present (NC DETECT)**

Current Initiatives Include:

- **NC Quality Healthcare Initiative (2003)**
 - Phase I - Medications Management
 - Phase II – Electronic Lab and Radiology Orders and Reports
 - Phase III - Electronic Health Records (EHRs, EMRs, and PHRs)
- **ONC NHIN Architecture Prototype – IBM Contract – NCHICA and 2 NC Marketplace Communities (2006)**
- **ONC / AHRQ Privacy and Security – NCHICA selected by Governor to lead NC Proposal Effort to RTI International**
- **Proposal to HWTFC to address Disparate Populations with chronic illness (obesity and chronic heart failure)**
- **Disease Registries for Primary Care Conf. – May 2006**

NC Healthcare Quality Initiative

- Phase I – Medications Management
 - Medication history compiled from multiple sources
 - Automate refills
 - Access to formularies
 - e-Rx
- Phase II
 - Laboratory orders and results
 - Radiology orders and results
- Phase III
 - Electronic Health Records

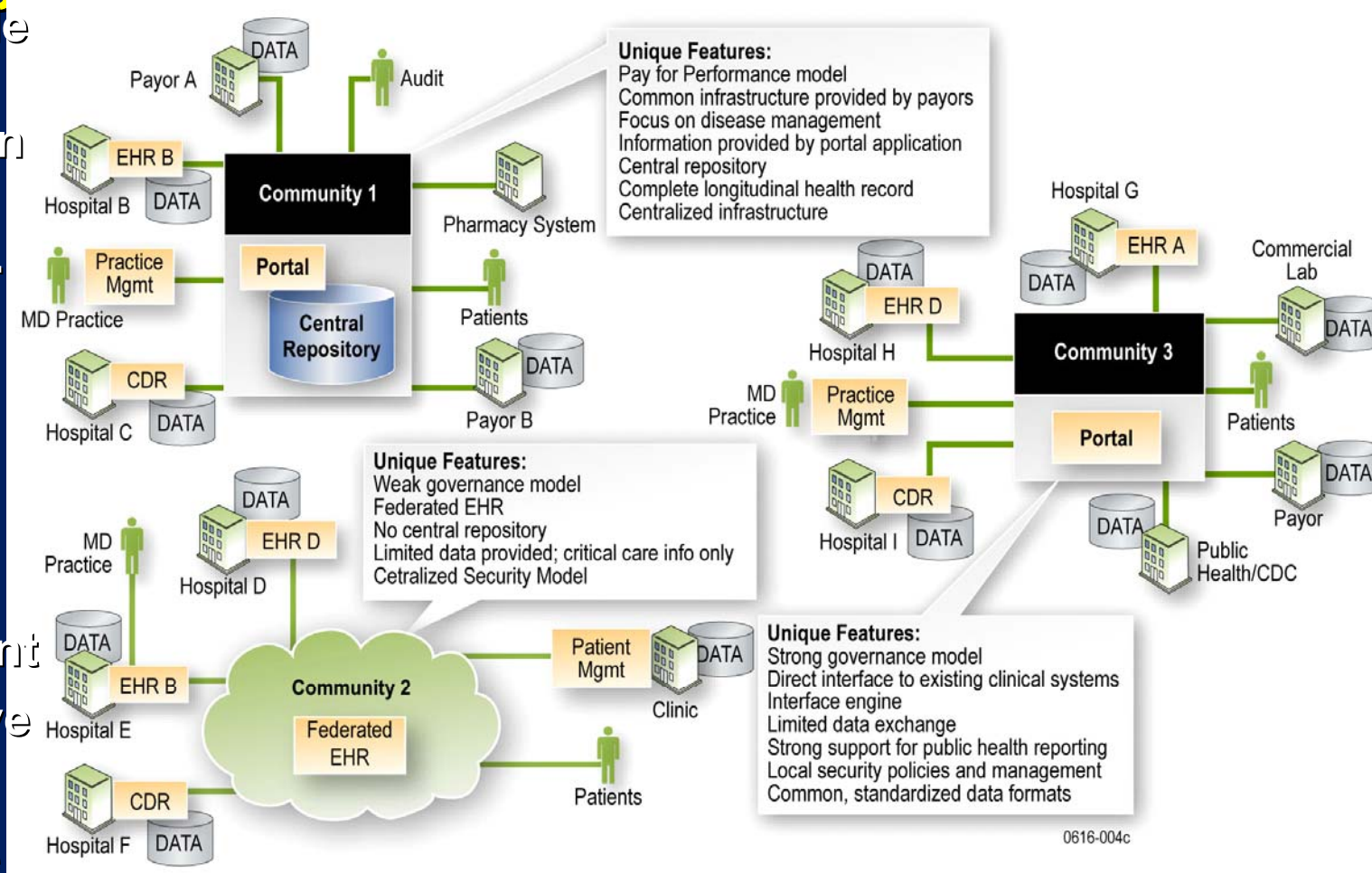
NHIN Prototype Architecture

- **Participation in IBM Contract:**
 - Two NC Marketplaces:
 - Research Triangle
 - Rockingham County, NC / Danville, VA
 - Hudson Valley, NY (Taconic Region)
 - NC Healthcare Quality Initiative supports Empowering Consumers and Electronic Health Records Use Cases
 - NC DETECT supports Biosurveillance Use Case
 - Disease Registries supports Chronic Care optional Use Case
 - Contract provides additional resources and leverage

A NHIN Architecture must be flexible enough to address the clinical information needs of diverse markets and secure enough to engender trust

A Nationwide Health Information Network must be ...

- Private
- Secure
- Seamless
- Flexible, Open, Transparent
- Responsive
- Reliable
- Affordable
- Simple
- Scalable













HISPC

- **Health Information Security & Privacy Collaboration**
 - RTI International
 - National Governors Association
- **NC Governor selected NCHICA to develop and submit proposal for NC**
- **If awarded contract, statewide involvement in developing understanding of legal, business, and other policy barriers to efficient exchange of electronic health information within NC and with other states.**
- **Contract period – April 2006 – March 2007**

NC HISPC Steering Committee

- State of NC, Office of the Governor
- BCBSNC
- Duke Clinical Research Institute
- EDS
- LabCorp
- NCHICA
- NC Chapter Health Information Management Association
- NC DHHS DMA
- NCHA
- NC Institute of Medicine
- NC Nurses Association
- UNC School of Public Health
- Wake Forest University School of Medicine

NC HISPC Work Plan

	Phase I Project Initiation and Training 5-1 / 6-22	Phase II Assess Variations 6-23 / 10-5	Phase III Interim Solutions 8-26 / 11-30	Phase IV Final Solutions and Impl. Plan 1-10 / 3-30
Variations Work Group				
Legal Work Group				
Solutions Work Group				
Implementation Work Group				
Project Management Office				

*Improving Healthcare in North Carolina by Accelerating the
Adoption of Information Technology*

Thank You

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