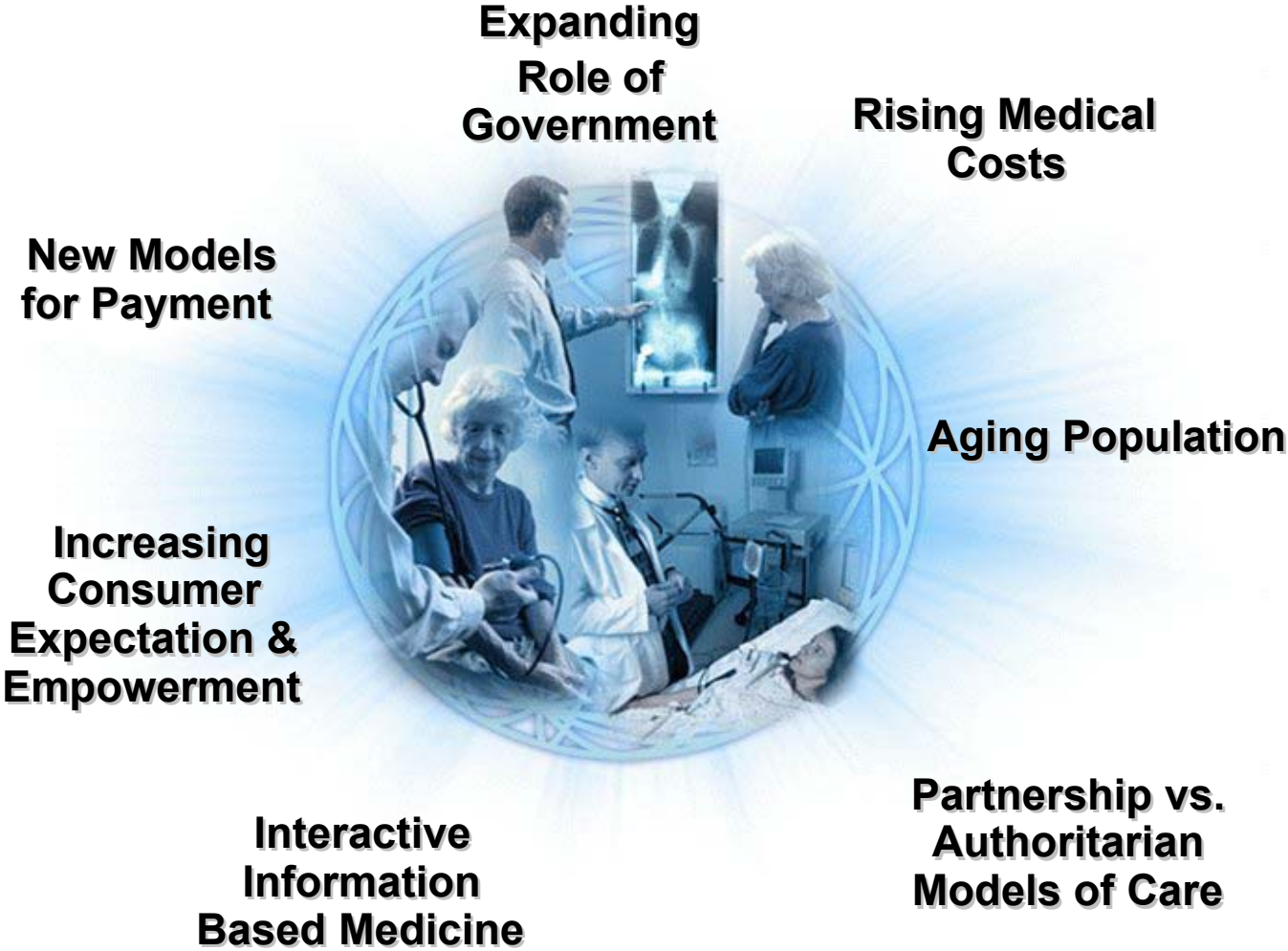# eHealth Initiative: Transforming Healthcare through Public-Private Partnerships

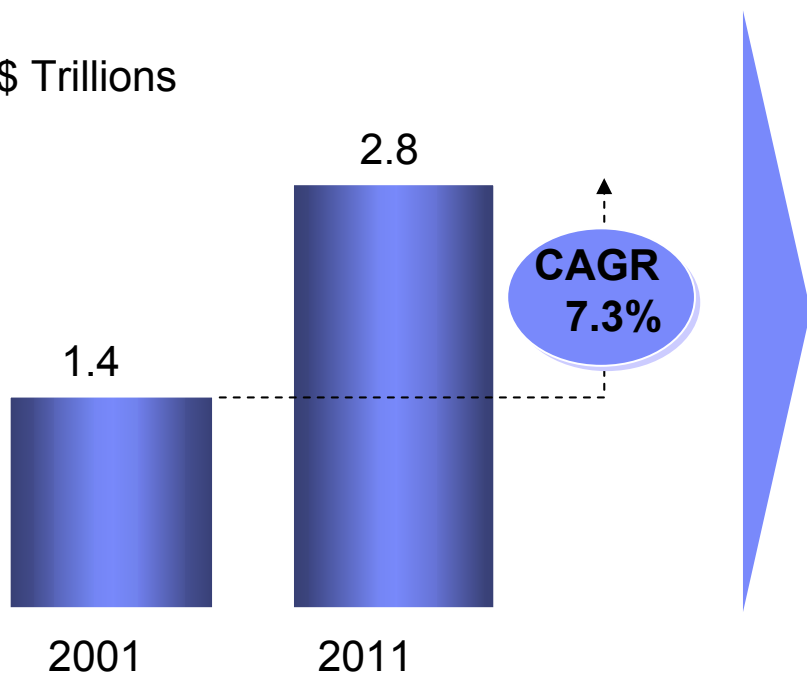# Several trends will drive a transformation in Healthcare over the next decade

Expanding Role of Government

Rising Medical Costs

New Models for Payment

Aging Population

Increasing Consumer Expectation & Empowerment

Interactive Information Based Medicine

Partnership vs. Authoritarian Models of Care

Rapidly rising Healthcare costs are a key indicator of a looming Healthcare crisis in the US

US Healthcare costs are growing faster than GDP

$ Trillions

2.8

1.4

CAGR 7.3%

2001　　2011

* GDP CAGR 4.8%

- One in five Americans will be age 65+ by 2030

- Healthcare premiums increased 12.7% at the beginning of 2002

- 44 million uninsured

- Patients and consumers are demanding more

- Practicing medicine is increasingly complex and expensive due to evolving science and new drugs
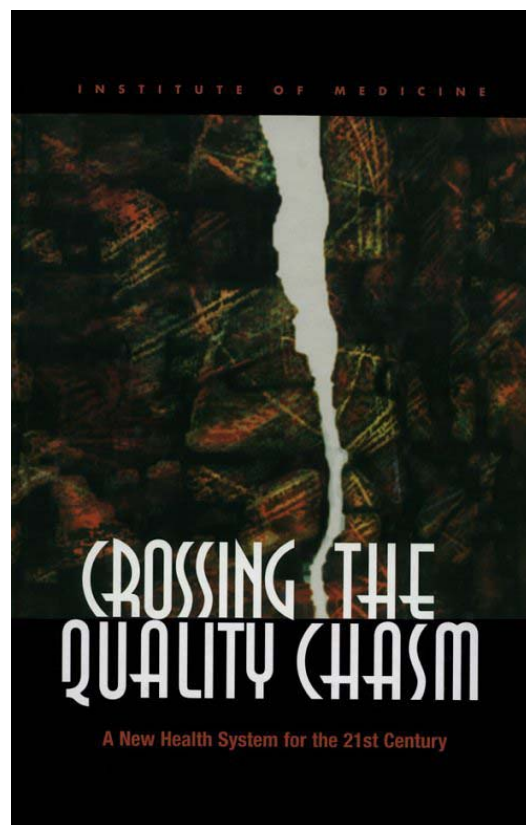
At the same time, patient safety and quality of care also need significant improvements

- In a 2001, 95% of doctors say they have witnessed serious medical errors

- Adverse events occur in up to 3.7% of hospitalizations (22,000 – 49,000 people each year)
  - Up to 13.6% of these lead to death
  - Half were preventable

- Medical errors are directly translatable to medical malpractice insurance costs of over $20 billion annually

- Recent study indicates that practice variation may drive $450 billion of unnecessary spending

The question "What to do about healthcare?" has become a top priority for worldwide.

- In the U.S., the Institute of Medicine (established by the National Academy of Sciences) formed a Committee on the Quality of Health Care in America in 1998
- The Committee published two reports:
  - **Too Err is Human: Building a Safer System** (2000)
    - The report said that between 44,000 and 98,000 deaths in the U.S. are caused by preventable hospital errors
    - Encouraged improvements in staffing, training and the use of Computerized Physician Order Entry (CPOE) systems
  - **Crossing the Quality Chasm: A New Health System for the 21st Century** (2001)
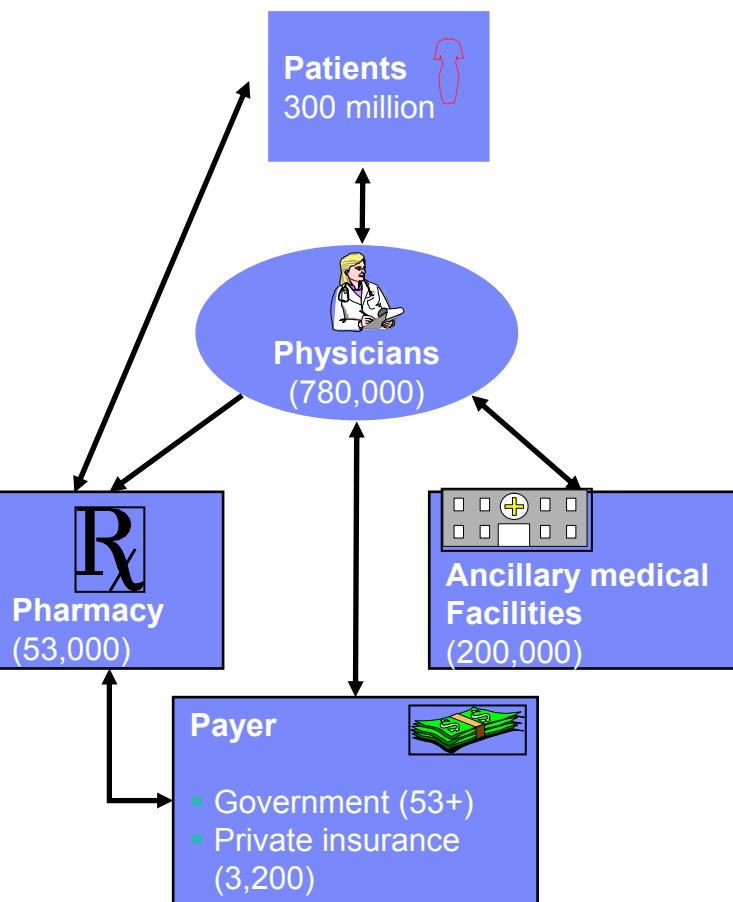
A healthcare best practice is that healthcare systems must establish specific aims for their investments.

Healthcare systems must measure their progress against their specific aims

- Safe

  Avoiding injuries to patients while they receive care

- Effective

  Avoid underuse and overuse, based upon scientific knowledge

- Patient-centered

  Care that is respectful and responsive to individual patient preferences, needs and values

- Timely

  Reducing waits and sometimes harmful delays for those who receive and give care

- Efficient

  Avoiding waste, including waste of equipment, supplies, ideas and energy

- Equitable

  Providing care that does not vary in quality due to personal characteristics

From <u>Crossing the Quality Chasm: A New Health System for the 21st Century</u>, Institute of Medicine, 2001

Information Technology can be a key enabler in addressing these problems… but the critical infrastructure and connectivity are missing

Poor connectivity between many fragmented players*…

Patients
300 million

Physicians
(780,000)

Pharmacy
(53,000)

Ancillary medical Facilities
(200,000)

Payer
- Government (53+)
- Private insurance (3,200)

❖ Fewer than 5% of hospitals have implemented electronic medical records

❖ Less than 5% of U.S. physicians currently "write" prescriptions electronically, although the technology to do so is readily available

❖ 13-15% of hospitals today have some form of computerized medication order entry implemented, but physicians in these organizations enter less than 25% of their orders using the system

Broad support and resources from public, private and government organizations will be critical for building the IT infrastructure

Providers

- **Lack the money to act**

- **Consolidation no magic bullet**

- **Rising expense, falling margins**

- **Nursing shortage**

Payers

- **Consolidation yields multiple incompatible legacy IT systems - lost members/high costs**

- **An aging population requires more costly care**

Initiatives such as the Leapfrog Group and eHealth Initiative are helping sway public opinion

Leapfrog Group

Use employer buying power to drive change

- **Drive computer physician order entry**

- **Educate employees**

- **Rate and compare provider safety efforts**

- **Use incentives and reward performance**

eHealth Initiative

Public-private partnership to improve Healthcare

- **Quality**

- **Safety**

- **Cost-effectiveness**

… through Information Technology

The Leapfrog Group made several key recommendations for hospitals

- **Computerized Physician Order Entry**

- **Intensivists in the ICUs**

- **High volume for high risk procedures**

The eHealth Initiative is a public-private partnership aiming to improve Healthcare through Information Technology
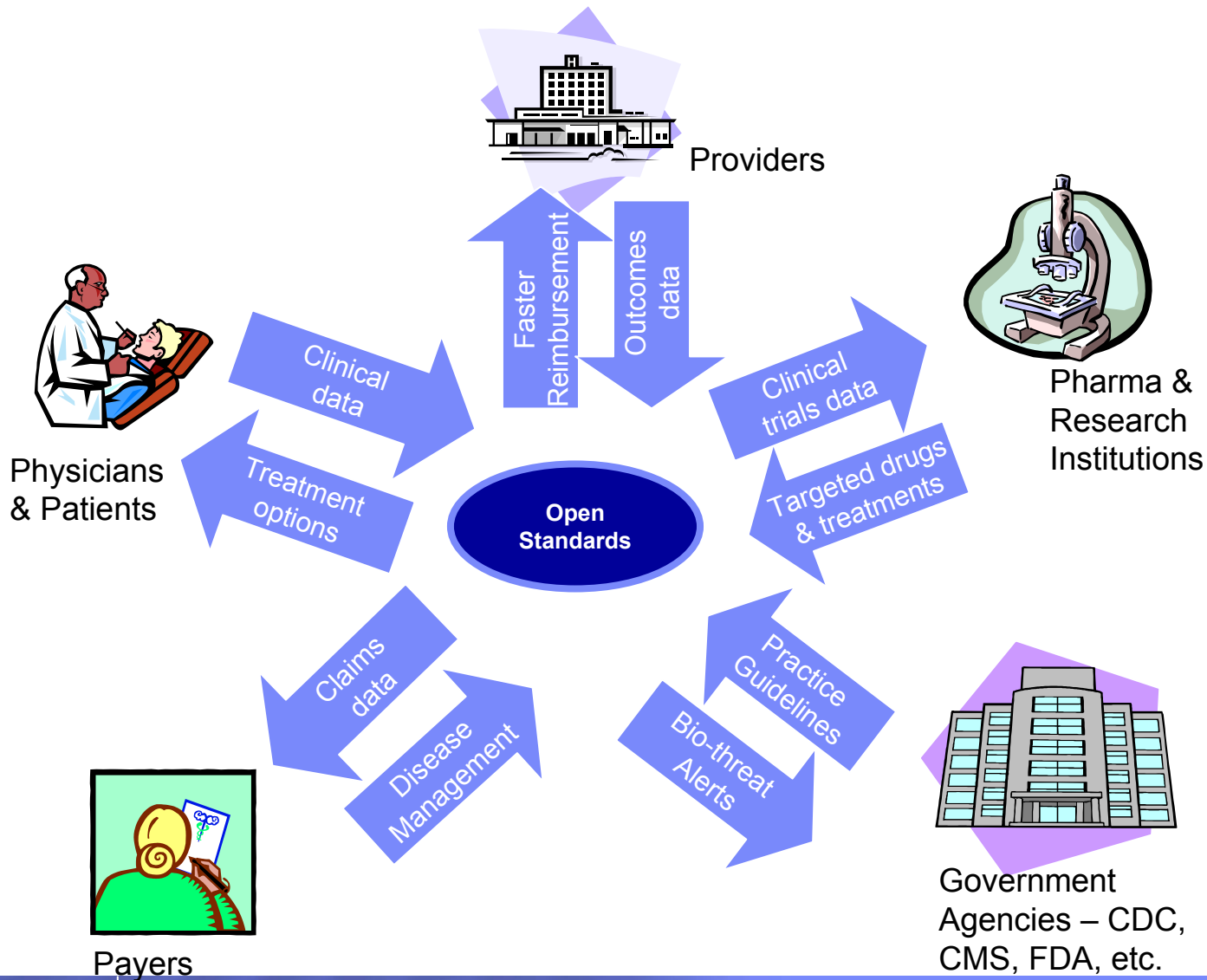
Mission   *To drive improvement in the quality, safety, and cost-effectiveness of health care through information technology.*

Vision   Consumers, providers and those responsible for population health will have ready access to timely, relevant, reliable and secure health care information through an interconnected, electronic health information infrastructure.

… with the broad participation necessary for success

- **Practicing Clinicians**
- **Hospitals, Academic Medical Centers**
- **Payers**
- **Pharmaceutical companies**
- **Quality Improvement Organizations**

- **Government – CDC, CMS, FDA, State Organizations**
- **Researchers**
- **ISV's**
- **Application Vendors**

Primary objective of the eHealth Initiative is to encourage and enable sharing of Health information

Providers

Physicians & Patients

Pharma & Research Institutions

Payers

Government Agencies – CDC, CMS, FDA, etc.

Open Standards

Faster Reimbursement

Outcomes data

Clinical data

Treatment options

Clinical trials data

Targeted drugs & treatments

Claims data

Disease Management

Bio-threat Alerts

Practice Guidelines

The eHealth Initiative is building momentum for the Healthcare industry to adopt IT
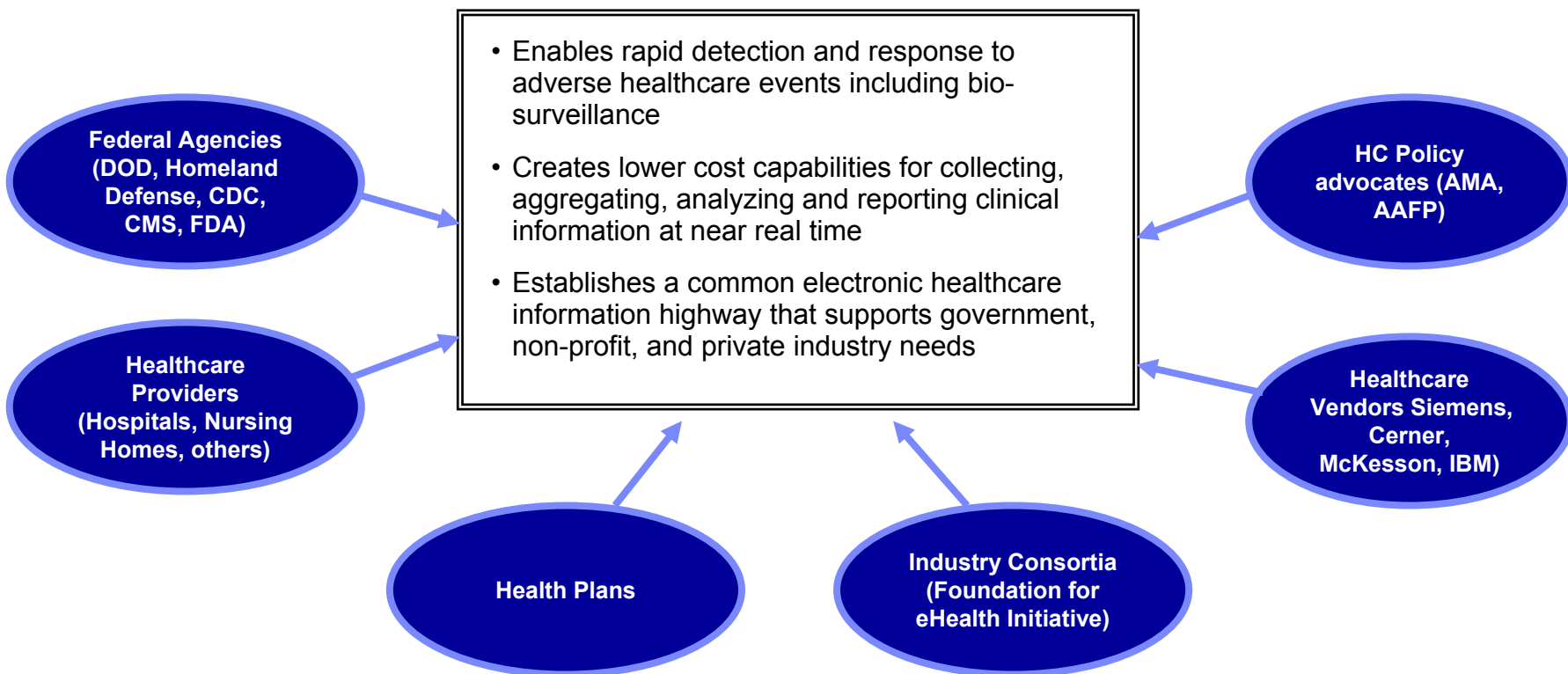
- Mark McClellan, FDA Commissioner announces support – March 2003
  - Announced support of the use of IT to drive automated data collection of adverse events
  - Announced involvement in and support of Connecting for Health and national demonstration project

- FDA proposes new regulation that would require "bar codes" on all prescription, some over-the-counter drugs and vaccines – March 2003

- AHRQ Director, Carolyn Clancy, announces support – March 2003
  - Slated to receive $50 million in additional funding to support demonstration projects related to patient safety

- New HSS position in place with $3 million in funding included in President's FY 04 Budget
  - Bill Yasnoff, MD, PhD, Senior Advisor, National Health Information Infrastructure

The eHealth Initiative has successfully raised funding from multiple public and private sources to help fund technology investments for Providers

- **Federal & State Government**
  - HRSA Grant - $4 million
  - CDC, CMS, DoD, FDA and AHRQ (tentative) have demonstrated commitment of in-kind support through involvement in national demonstration project
  - Exploring support by states under the new supplemental for public health surveillance

- **Philanthropies**
  - National demonstration project has already received staffing, public relations and overall support from the Markle Foundation through Connecting for Health

- **Private Sector**
  - Several hospitals and health care IT suppliers are providing *significant* in-kind support to the national demonstration project
  - Private sector organizations also likely to provide in-kind support to regional and local demonstration/implementation projects

A National demonstration project is already underway…

Healthcare Collaboration Network (HCN)

Federal Agencies (DOD, Homeland Defense, CDC, CMS, FDA)

Healthcare Providers (Hospitals, Nursing Homes, others)

- Enables rapid detection and response to adverse healthcare events including bio-surveillance

- Creates lower cost capabilities for collecting, aggregating, analyzing and reporting clinical information at near real time

- Establishes a common electronic healthcare information highway that supports government, non-profit, and private industry needs

HC Policy advocates (AMA, AAFP)

Healthcare Vendors Siemens, Cerner, McKesson, IBM)

Health Plans

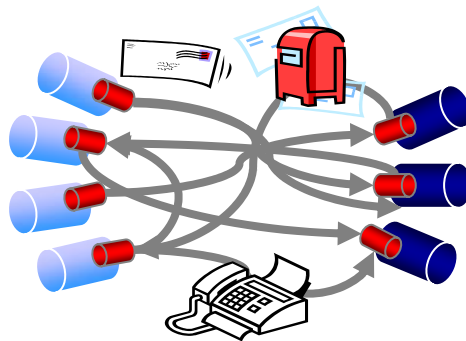**Industry Consortia (Foundation for eHealth Initiative)**

One ultimate goal, supported by stakeholders, focuses on the creation of an interconnected, electronic health information infrastructure, which creates the basis for a National Healthcare Information Highway

The Healthcare Collaborative Network (HCN) was created to gather, analyze, and disseminate critical health data

Most hospitals communicate with agencies and other healthcare players inefficiently on a one to one basis either through direct/closed EDI connection, fax or paper through US mail

Today's mess

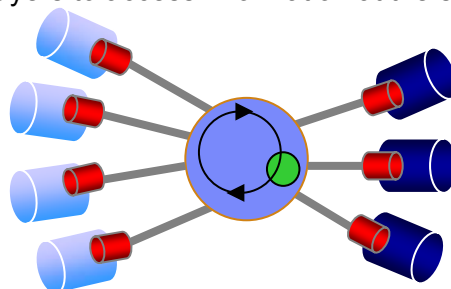Hospitals and Other Providers of Care

Health Agencies, Health Plans and others who need clinical data

A desired future state will enable an automatic sharing of data across an electronic interconnected network allowing multiple players to access information at the same time using open standards

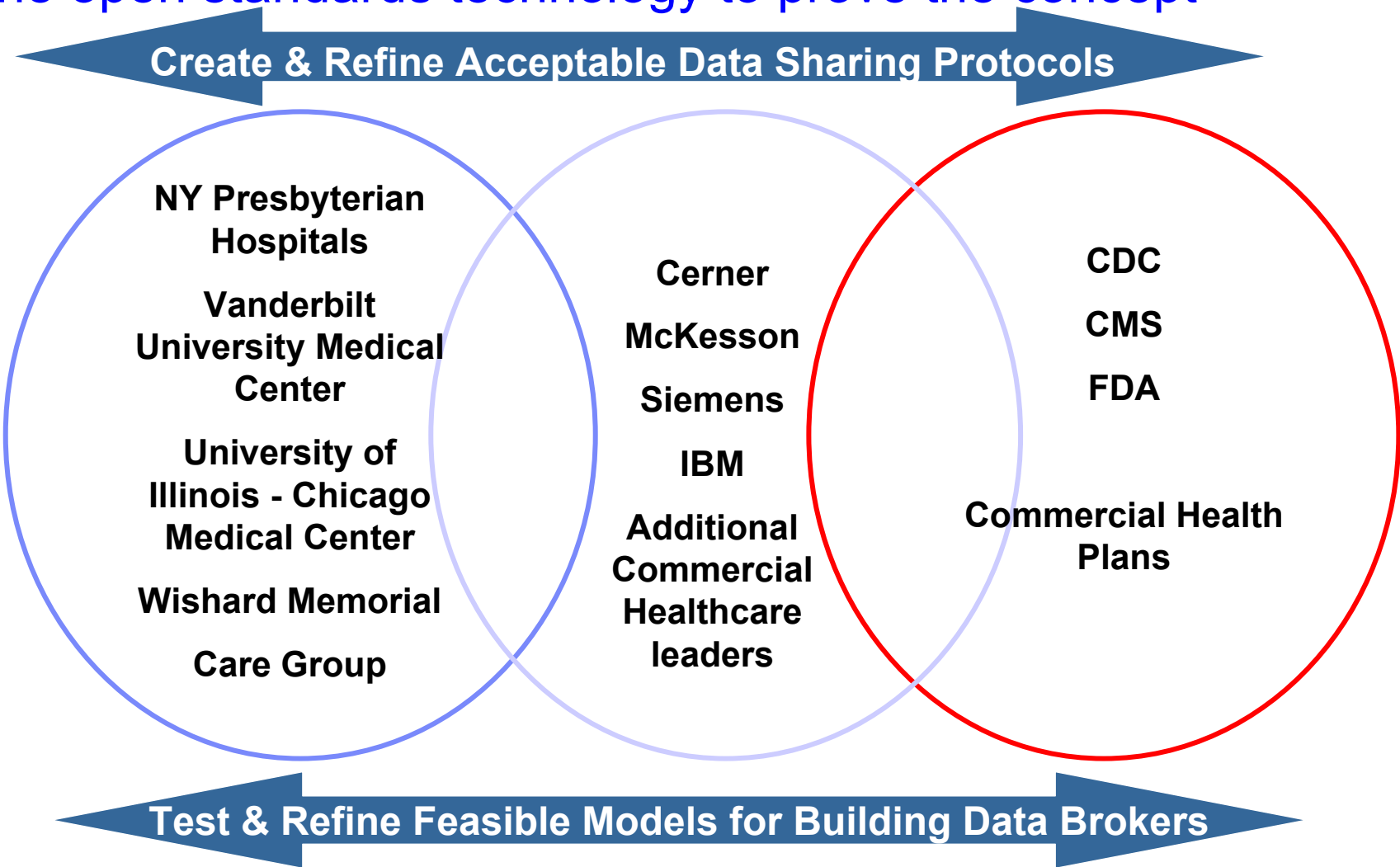*Tomorrow's goal*

Hospitals and Other Providers of Care

Health Agencies, Health Plans and others who need clinical data

Open standards two way message flow

Federal healthcare agencies and industry leaders are participating, through the eHealth Initiative, in a demonstration of the open standards technology to prove the concept

Create & Refine Acceptable Data Sharing Protocols

Current planned participants

NY Presbyterian Hospitals

Vanderbilt University Medical Center

University of Illinois - Chicago Medical Center

Wishard Memorial

Care Group

Cerner

McKesson

Siemens

IBM

Additional Commercial Healthcare leaders

CDC

CMS

FDA

Commercial Health Plans

Test & Refine Feasible Models for Building Data Brokers

Functionality Necessary for HCN:
Appropriate Restrictions on Data Usage

ALL PATIENT DATA: *Everything in the patient charts maintained by all providers, updated continuously*

RESTRICT DATA… *to Settings that have Clinical IT systems (hospitals, Labcorp,PBMs, etc.); next step… to include physician offices*

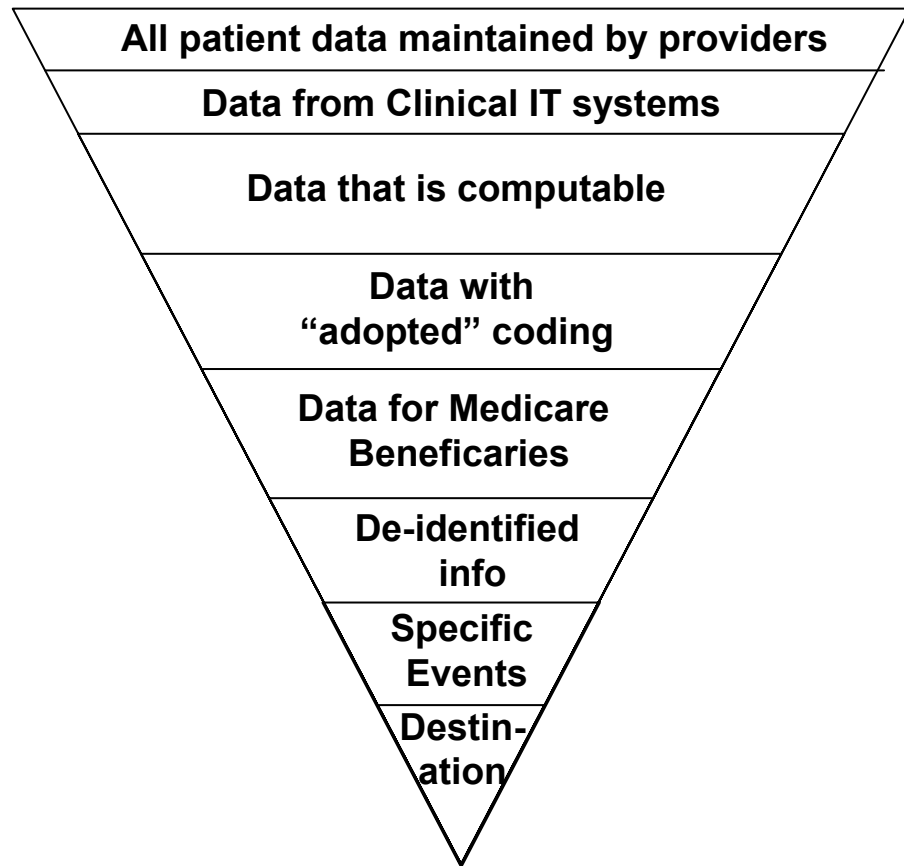**RESTRICT TO…** *Data that can be coded for computable purposes*

RESTRICT TO… *Data that can be coded and for which coding is adopted.*

RESTRICT TO… *Medicare patients*

RESTRICT TO… *Deidentified information*

RESTRICT TO… *business rules to subscribed health events: AMI / Beta Blocker; Drug / Lab; Diagnosis / Geo Code…*

RESTRICT TO… *Correct destinations*

All patient data maintained by providers

Data from Clinical IT systems

Data that is computable

Data with "adopted" coding

Data for Medicare Beneficaries

De-identified info

Specific Events

Destin-ation

HCN begins with all patient data maintained by providers and restricts information to appropriate users based on pre-defined criteria (roles, events, population, etc.)

Agencies have identified data elements to test during the demonstration that enable fast detection of health risks, and that ultimately, enable improved care delivery

Selected data element examples requested for the HCN demonstration project by Agencies

CDC

Surveillance for outbreak triggers:

Anthrax

Respiratory Viral tests

CMS

Quality of care monitoring:

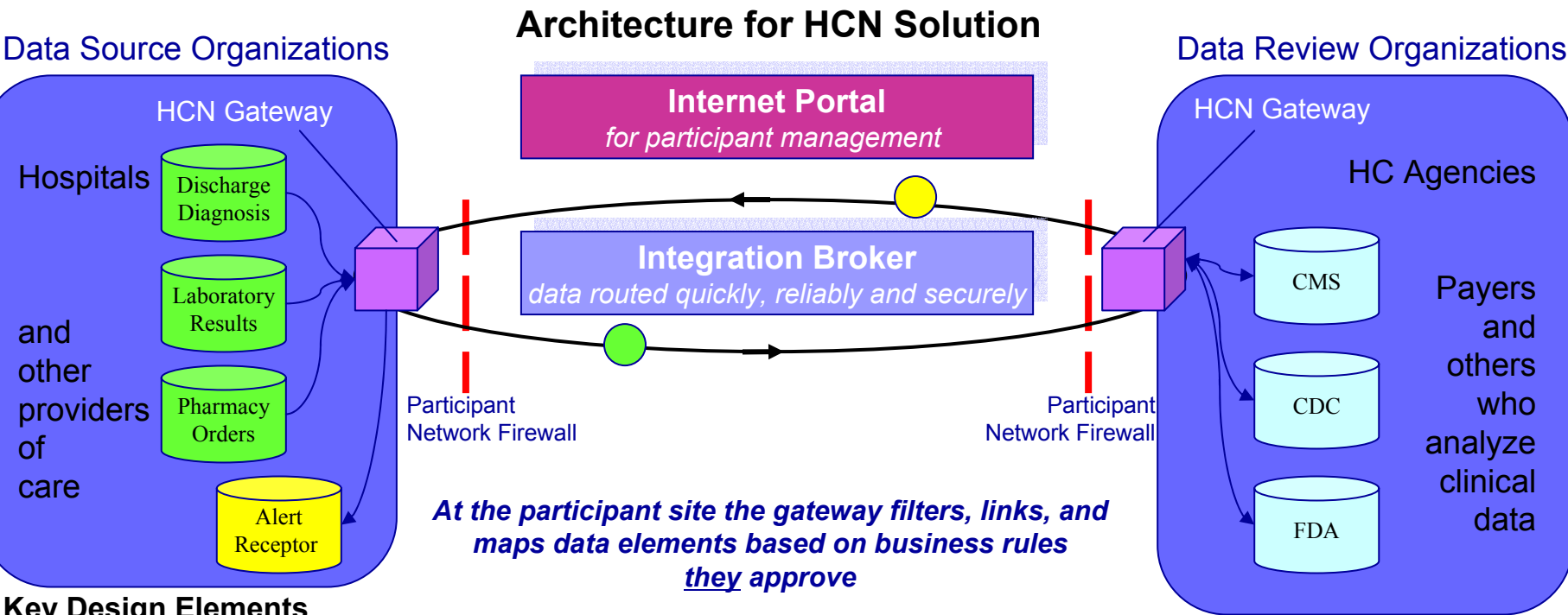**Ace Inhibitors prescribed for myocardial infarction patients**

FDA

FDA adverse drug event detections:

Pregnancy tests for thalidomide recipients

HHS has recently issued requirements for all federal agencies to follow health information exchange standards, which are already in use by most healthcare providers

To meet industry requirements, IBM and partners have developed a low cost, low risk architecture based upon open standards, which facilitates adoption and roll out

Architecture for HCN Solution

Data Source Organizations

HCN Gateway

Hospitals

Discharge Diagnosis

Laboratory Results

and other providers of care

Pharmacy Orders

Alert Receptor

Internet Portal
for participant management

Integration Broker
data routed quickly, reliably and securely

Participant Network Firewall

Participant Network Firewall

At the participant site the gateway filters, links, and maps data elements based on business rules <u>*they*</u> *approve*

Data Review Organizations

HCN Gateway

HC Agencies

CMS

CDC

FDA

Payers and others who analyze clinical data

Key Design Elements

- **HCN uses existing data available in most provider settings (HL7 v2.4)**
- **Data Review Organizations request data**
- **Data Source Organizations approve Reviewers' requests for data**
- **Solution will be compliant with HIPAA regulations and transmit non-directly identifiable data; and meets highest security standards around authentication and encryption**
- **The system uses open standards and a non-proprietary implementation approach**

The eHealth Initiative offers a unique opportunity for participating organizations to drive change

- Gain early intelligence on changes in the environment that will affect your business (legislation, regulatory changes, standards, market movement, etc.)

- Benefit from policy changes that will provide incentives (financial or otherwise) for the diffusion of information technology to improve health care

- Work with stakeholders from every sector of health care: practicing physician groups, health systems, health care IT suppliers, health plans, purchasers, pharmaceutical and medical device manufacturers, and federal agencies

- Demonstrate leadership by working with the nation's leaders in the public and private sectors

Participation is encouraged through a variety of programs

- National initiative to drive rapid diffusion of computerized prescribing in ambulatory environments

- Interoperability initiatives:
  - Connecting for Health
  - Public-Private Sector Collaboration for Public Health

- National Demonstration Project and Regional Demonstration Projects – Healthcare Collaboration Network (HCN)

- Policy Working Group (Advocacy)