How Technology is Transforming California Healthcare

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CEO and Founder, HealthTech

It’s not.

It's not.

Much…yet…

The Actual Drivers of Transformation Today

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The transformation of healthcare in California has been driven by:

➔ Health Plans	Utilization controls, capitation of providers
➔ Medical groups, IPAs	Full and partial-risk capitation
➔ Employers	Quality measurement and reporting Pay for performance
➔ State government	Medi-Cal managed care, DSH
➔ Hospitals	Hospitalists

But not – information technology

- ➔ Cutting-edge demonstrations of potential transformation by medical groups, IPAs
- ➔ Larger investments underway by delivery systems, health plans

How Much Is Technology Transforming California Healthcare ?

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How might we measure the transformation of healthcare by technology?

Experience

36 million Californians in 2004:

- __ %: online appointment scheduling
- __ %: pharmacy refills
- __ %: email with physician
- __ %: pay medical bills online
- __ %: customized health education
- __ %: personal health record online

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Infrastructure

- __ %: administrative data integrated
- __ %: integrated clinical data within IDNs
- __ %: integrated data: plan - IDNs
- __ %: community health data shared
- __ %: telemedicine-enabled

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Clinical Care

36 million Californians in 2004:

- __ % : clinical order entry - inpatient
- __ %: clinical order entry - ambulatory
- __ %: clinical results online, shared
- __ %: EMR light
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Clinical Care II

- __ % : remote patient management
- __ %: remote ICU management
- __ %: point of care testing
- __ %: bar coding, RFID
- __ %: remote video translation

These are Disruptive Technologies - Like the Roomba…

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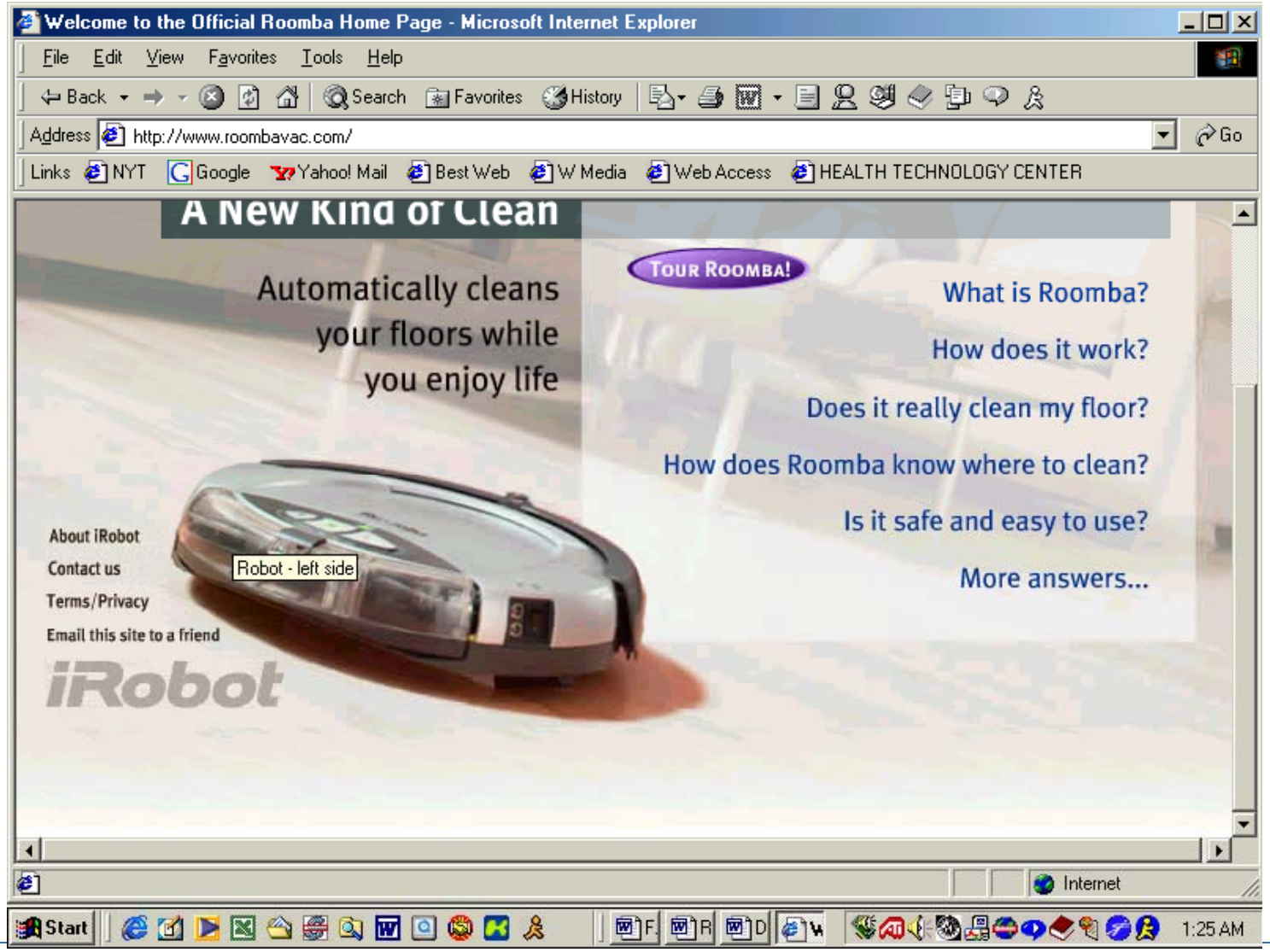

“Mrs. Marshall, get on the scale…”

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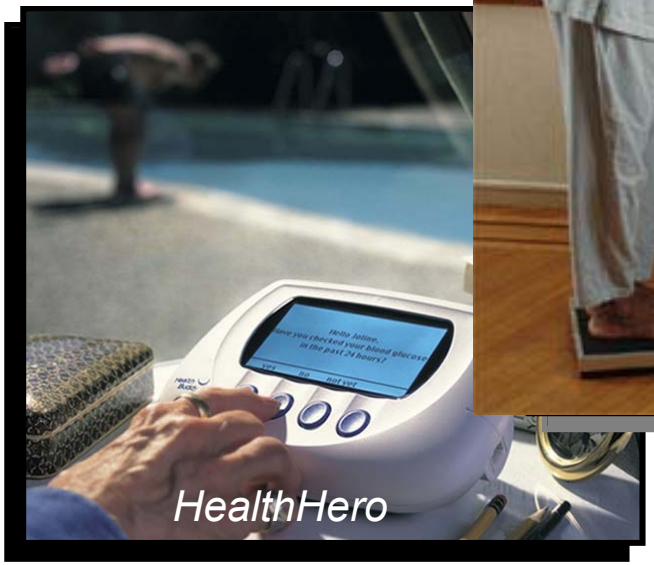
Vocera

Epocrates

Alere

CHF Solutions



HealthHero

Visicu

Home-based Telemedicine for Uninsured, High-risk Diabetic Population

Inpatient Admissions	▼ 32%
Emergency Room Encounters	▼ 34%
Outpatient Visits	▼ 49%

(Diabetes Technology & Therapeutics Journal, 2002)

Asthma Self-management for High-risk Pediatric Population*

Activity Limitation	▼ (p = .03)
High Peak Flow Readings	▲ (p = .01)
Urgent Calls to Hospital	▼ (p = .05)

(Arch Pediatr Adolesc Med. 2002)

Care Coordination: Hypertension, Heart Failure, COPD, and Diabetes*

Emergency Room Visits	▼ 40%
Hospital Admissions	▼ 63%
Hospital Bed Days of Care	▼ 60%
Nursing Home Admissions	▼ 64%
Nursing Home Bed Days of Care	▼ 88%

(Disease Management, 2002)

The Vision

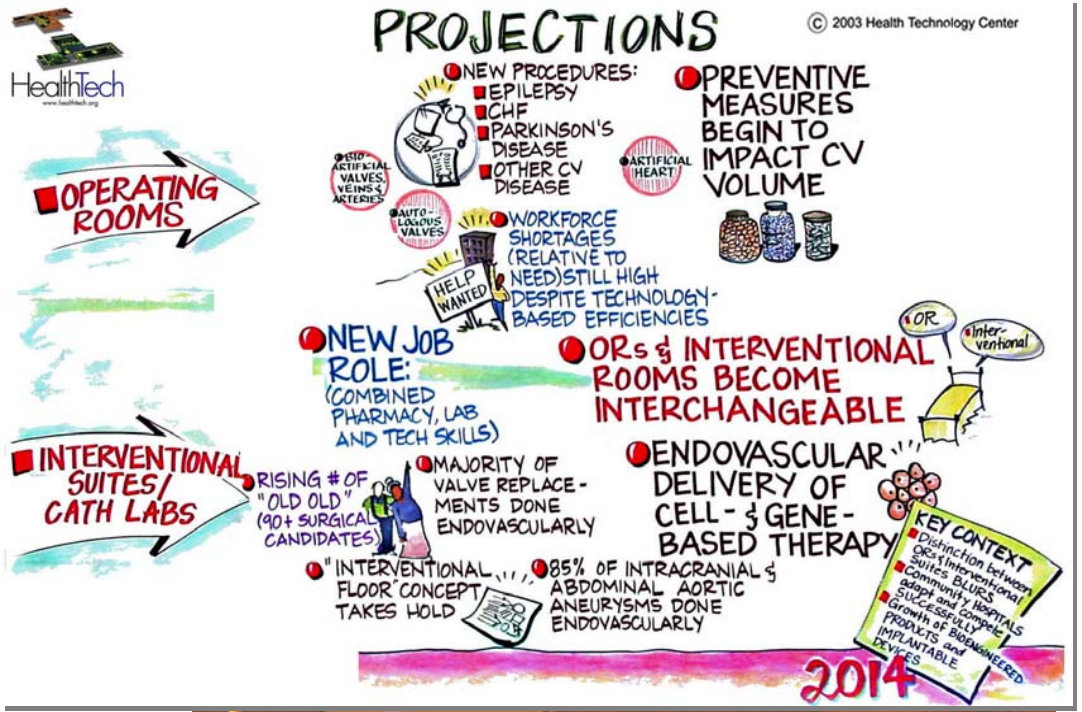
Advancing the use of new technologies to make people healthier.

The Mission

To create a trusted source of expert information about the future of healthcare technologies.

The Means

A nonprofit pooled research center for delivery systems and health plans.
Funding independent of developers and vendors of technology.



HealthTech Partners in California

New 2004

Catholic Health Initiatives

Greenville Medical Center

Health Alliance of Greater Cincinnati

Blue Shield of California Foundation

Lucile Packard Medical Center

Chinese Hospital and HealthPlan

Stanford Hospital

University Health Consortium

HCA Inc.

Froedtert Medical Center

Baylor Health Care System

Bon Secours Health System

Carolinas HealthCare System

Catholic Healthcare West

Centers for Medicare and Medicaid Services (CMS) ***Federal Liaison***

CHRISTUS Health

Medisys Healthcare System

Parkview Health

Partners HealthCare System

Presbyterian Medical Services

The Queen's Medical Center

Ryan Community Health

Veterans' Health Administration

Lenox Hill Hospital

Overlake Hospital

UC Davis Health System

Greenville Health System

Ascension Health

CAPH

Group Health Cooperative

Kaiser Permanente

PeaceHealth

Premier, Inc.

Providence Health System

Sutter Health

VHA Inc.

WellPoint Health Networks

Texas Health Resources

Lumetra

El Camino Hospital

Hudson Health System

Banner Health System

John Muir/Mt. Diablo Health System

IT-Enabled Improvements in Workforce Productivity

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HealthTech's California Partners are Adopting:

➔ Vocera	Direct voice communications systems
➔ I-Stat	Point of care laboratory testing
➔ UC-Davis	Remote video translation services in ED
➔ Visicu	Remote management of ICU
➔ Bridge Medical	Barcoding
➔ UC-Davis Blue Cross	Telemedicine services for institutionalized, ambulatory, inpatient

Not yet…

➔ Radianse	RFID
➔ NEHEN	Regional data exchange
➔ Visicu	Remote management of ED, acute care, LTC

Better, cheaper care – and Projections of State Savings

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Projected net annual benefit, at 75% adoption rate, for Massachusetts:

$2.48 billion

- ✓ Electronic communication between patients and their physicians
- ✓ Electronic prescribing
- ✓ Ambulatory computerized physician order entry
- ✓ Inpatient CPOE
- ✓ Regional data sharing
- ✓ Intensivist onsite 24x7 in ICUs
- ✓ Disease management

New England Healthcare Institute: *Advancing Innovation*, November 2003

www.nehi.net

New England Healthcare Institute Estimates – Massachusetts Savings

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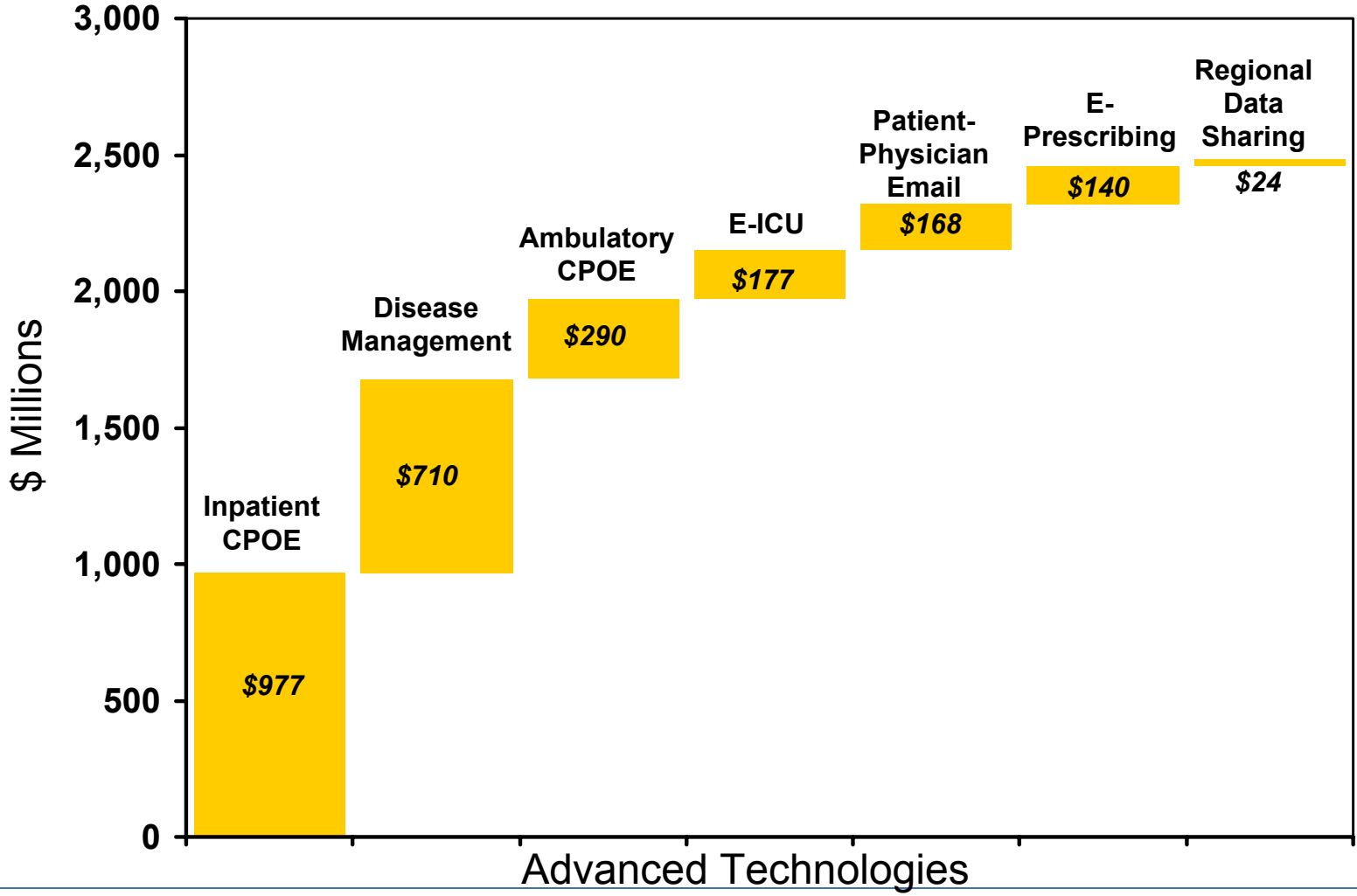
Total Net Annual Benefit: $2.5 Billion



Remote Management of Chronic Disease

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Highly cost-effective vs. standard care

- 32% reduction in hospitalizations
- 25% cost savings of approximately $1,800/patient

Effective and efficient care management

- Leverages use of RNs
- Targets care to those who need it

Improvement in patient quality of life

- Fewer hospitalizations
- Increases patient education and contact with care managers
- High patient satisfaction levels

National Savings

- At 25% adoption = $500 million
- At 50% adoption = $1 billion

Remote Physiological Monitoring: Innovation in the Management of Heart Failure *July 2004*
www.nehi.net

Veterans Administration

- HealthHero 'Buddy'
- National progam

California Medi-Cal

- Reimbursement: RPM
- Resistance – Home care practitioners
- Reimbursement – Telemedicine
- Resistance - Specialists

California as laggard

- *"I thought when I came to California I'd be seeing the most advanced systems…"*
- Legislation: Wyoming, Florida, Delaware
  - Planning bodies
  - Funding
  - Stakeholders brought to the table
- Medicaid and indigent care:
  - Disease management
  - Investment in IT as administrative match

268 Years Later… and the IOM's 10-Year Goal

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The Tipping Point – Are We There Yet?

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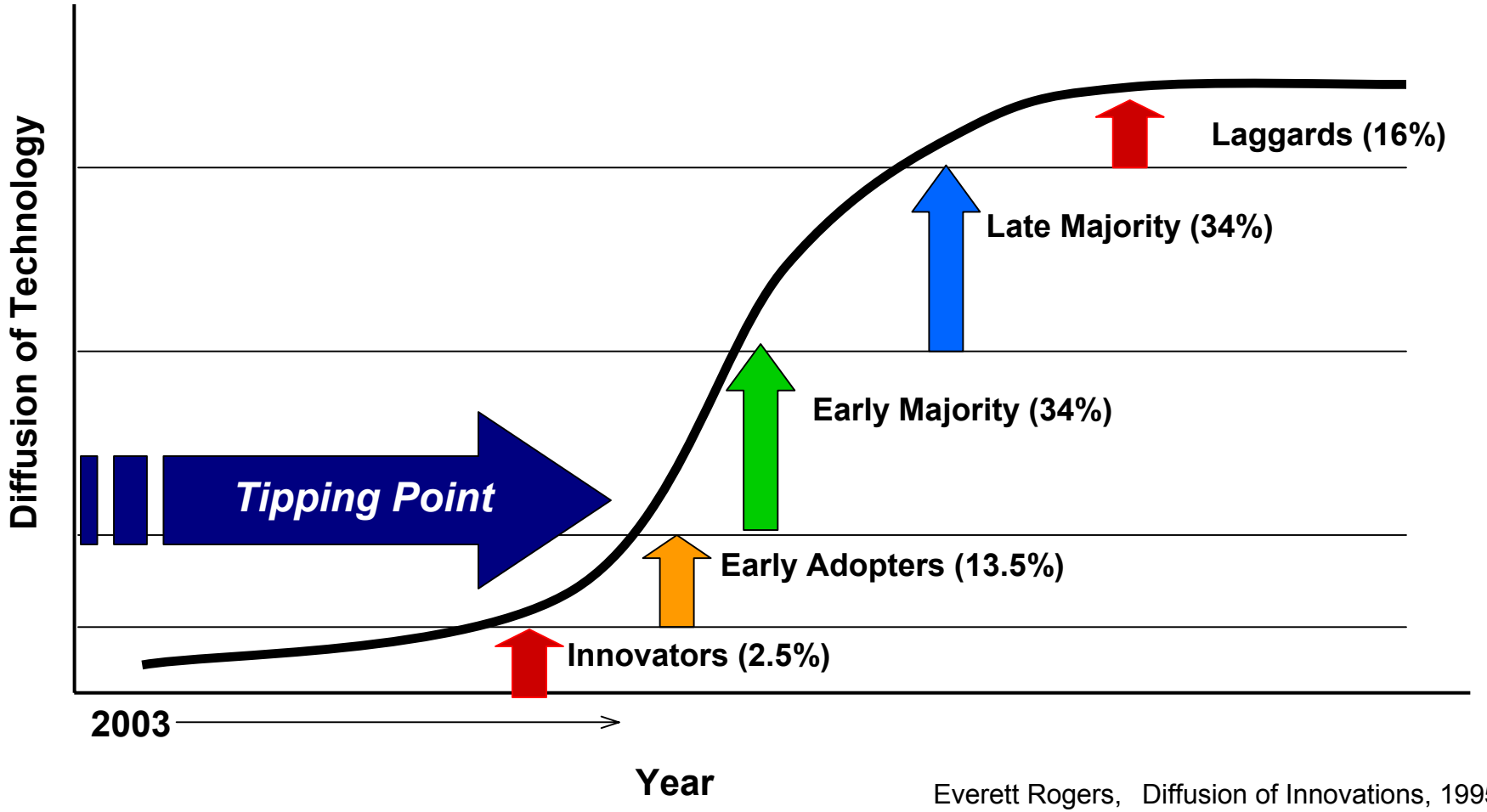

Everett Rogers, Diffusion of Innovations, 1995

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Experience

36 million Californians in 2004:

RANGE	AVERAGE	
• 2 - 35 %	10 %:	online appointment scheduling
• 5 - 30 %	20 %:	pharmacy refills
• 5 - 60 %	40 %:	enroll in health plan online
• 2 - 20 %	5 %:	email with physician
• 2 - 25 %	5 %:	pay medical bills online
• 5 - 30 %	10 %:	customized health education
• 1 - 20 %	5 %:	personal health record online

Source: Structured inquiry of California health care leaders, November 2004

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Infrastructure

RANGE	AVERAGE	
• 2 - 85 %	?60 %:	administrative data integrated
• 5 - 20 %	10 %:	physicians using 'EMR light'
• 2 - 50 %	30 %:	integrated clinical data within IDNs
• 2 - 50 %	5 %:	integrated data: plan - IDNs
• 0 - 10 %	<2 %:	community health data shared
• 3 - 10 %	<5 %:	telemedicine-enabled

Source: Structured inquiry of California health care leaders, November 2004

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Clinical Care

36 million Californians in 2004:

RANGE	AVERAGE	
• 1 - 90 %	?70 %:	clinical order entry - inpatient
• 2 - 30 %	20 %:	clinical order entry - ambulatory
• 2 - 25 %	25 %:	clinical results online, shared
• 4 - 20 %	10 %:	EMR light
• 1 - 20 %	20 %:	full EMR
• 1 – 2 %	1 %:	community health data shared

Source: Structured inquiry of California health care leaders, November 2004

State Agenda for IT Transformation

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State agenda:

- ‘Bank accounts’ for all
  - EHR, direct access for all Californians
  - Security and confidentiality
  - Access for underserved
- Neural networks across the state
  - Providers, anceillary, plans, patients
  - Regional data exchange networks coalesce
  - Establish RHIOs to provide governance, financing
- State investment in IT and IT-enabled programs
  - Medi-Cal financing and savings
  - Uninsured, county responsibilities
  - Private public infrastructure model
  - Remote management approaches
  - Rapid research and deployment mechanisms
- Focus on chronic care, disabled, rural and underserved, and SNF populations
  - Reduce risk
  - Generate savings
- Need for leadership

Federal role:

- Clear the underbrush
  - Standards and certification
  - Fraud and abuse, Stark
  - Enable RHIOs
- Build the highways
  - Network certification for data exchange
  - Public use data:
    - Public health
    - Quality and safety
    - Defense
  - Health quality and efficiency reports
- Reimbursement?

Emergence of Health Data Exchange in California

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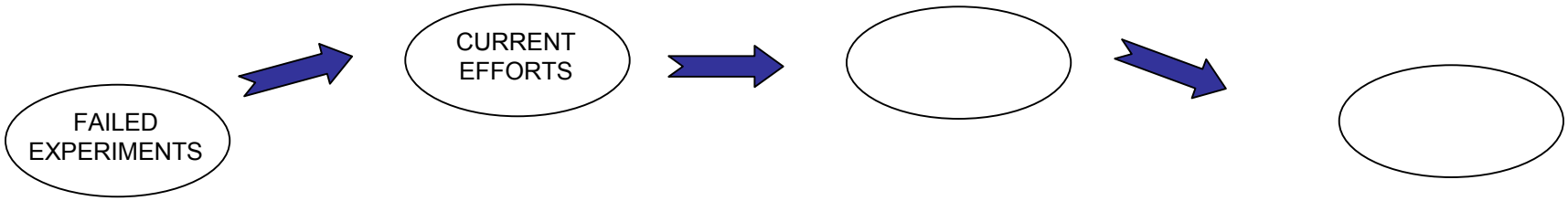

CDHSv SYS

MedUnite

Calinx

Others

Plans

Medical Groups

IPAs

IDNs

Medi-Cal

Regional Data-Sharing Organizations

QIO

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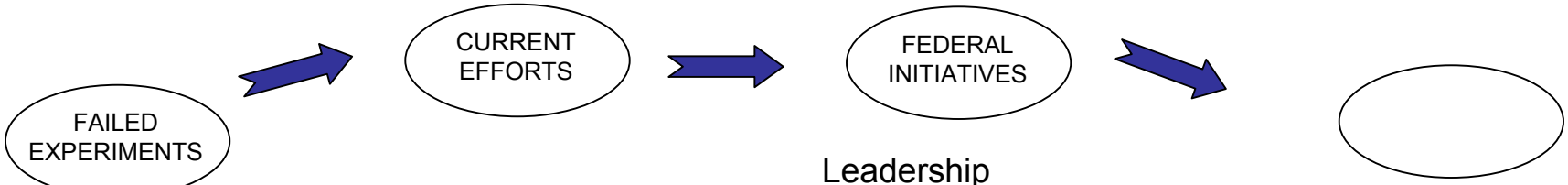

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Regional Data-Sharing Organizations

QIO

Leadership

Clinical Data Standards, EHR Definition

Seed + Demo Funding

Purchaser: FEHBP

Interoperability Commission

Product Certification Commission

Reimbursement

Rhio Definition

Stark, Fraud & Abuse Modification

Emergence of Health Data Exchange in California

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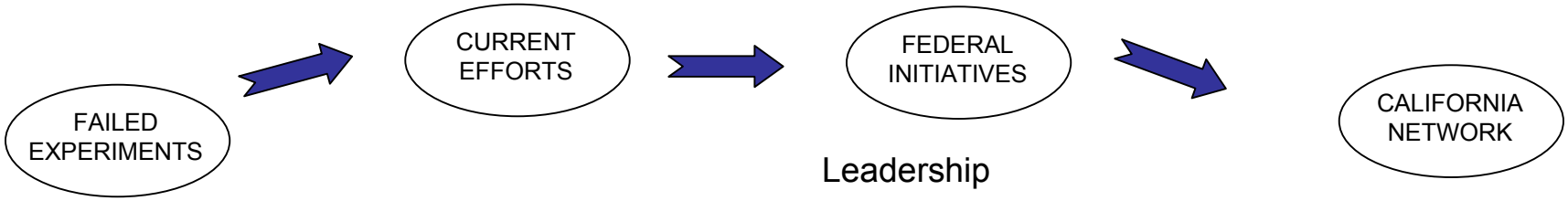

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Purchaser: FEHBP

Interoperability Commission

Product Certification Commission

Reimbursement

RHIO Definition

Stark, Fraud & Abuse Modification

Principles

Benefits + Costs Framework

Financing Models, Funding

Platform Technologies

Enabling Legislation, Regulation

Governance

RHIO(s) Formed

Underinsured and Scared

HealthTech

Translating research into action

www.healthtech.org
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