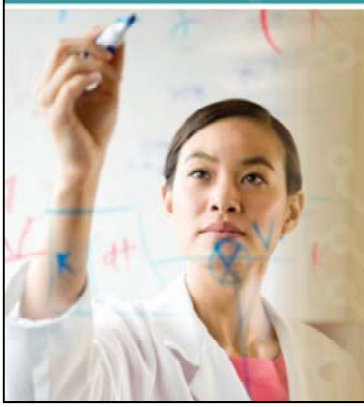
Harnessing the Power of IT to Make Lives Better



CIO100 Symposium

Dick Daniels
Business Information Officer
August 23, 2010

KAISER PERMANENTE®

- **U.S. Health Care**
  an inconsistent, uncoordinated, unmeasured non-system
- **Our Unique Organization**
  playing all positions on the health care field
- **Technology-Enabled Health Care**
  unleashing the power of information on health care
- **Questions & Answers**

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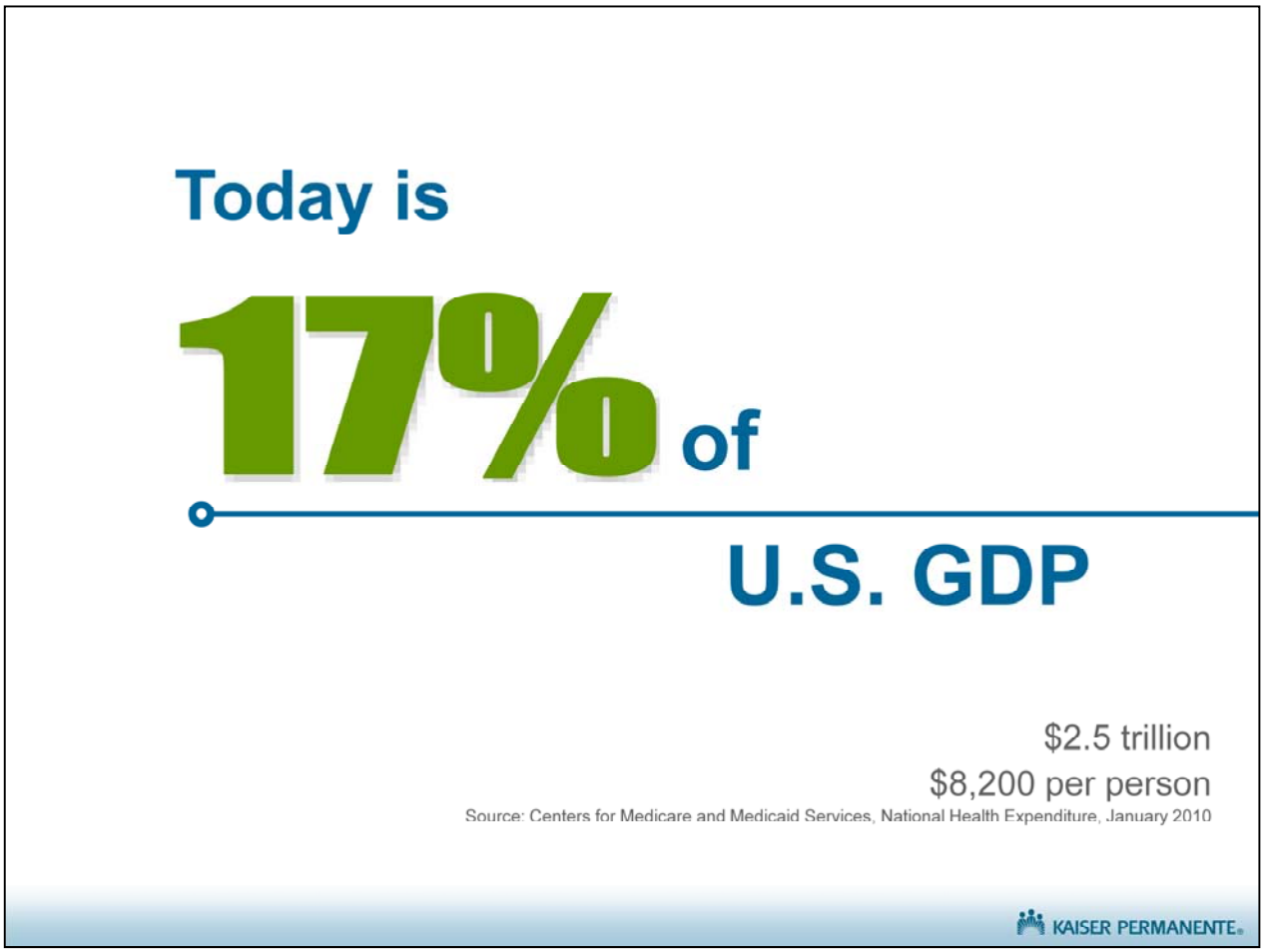
U.S. Health Care

an inconsistent, uncoordinated, unmeasured non-system


Today is
17% of
U.S. GDP
$2.5 trillion
$8,200 per person
Source: Centers for Medicare and Medicaid Services, National Health Expenditure, January 2010
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By 2019, projected to be

19% of

U.S. GDP

$4.5 trillion
$13,400 per person
6% annual growth

Source: Centers for Medicare and Medicaid Services, National Health Expenditure, January 2010

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Market Dynamics

growing uninsured

15%

of U.S. population does not have health insurance

Source: Kaiser Family Foundation / HRET Survey of Employer Sponsored Health Benefits, 1999 - 2008

uneven consumption

75%

of U.S. health care costs are result of five chronic conditions

Source: US Centers for Disease Control and Prevention. "Chronic Disease Overview", Nov 2005

avoidable expenditure

13%

of U.S. health care costs caused by unnecessary lab and radiology tests

Source: ME Frisse, RL Holmes – Journal of Biomedical Informatics, 2007

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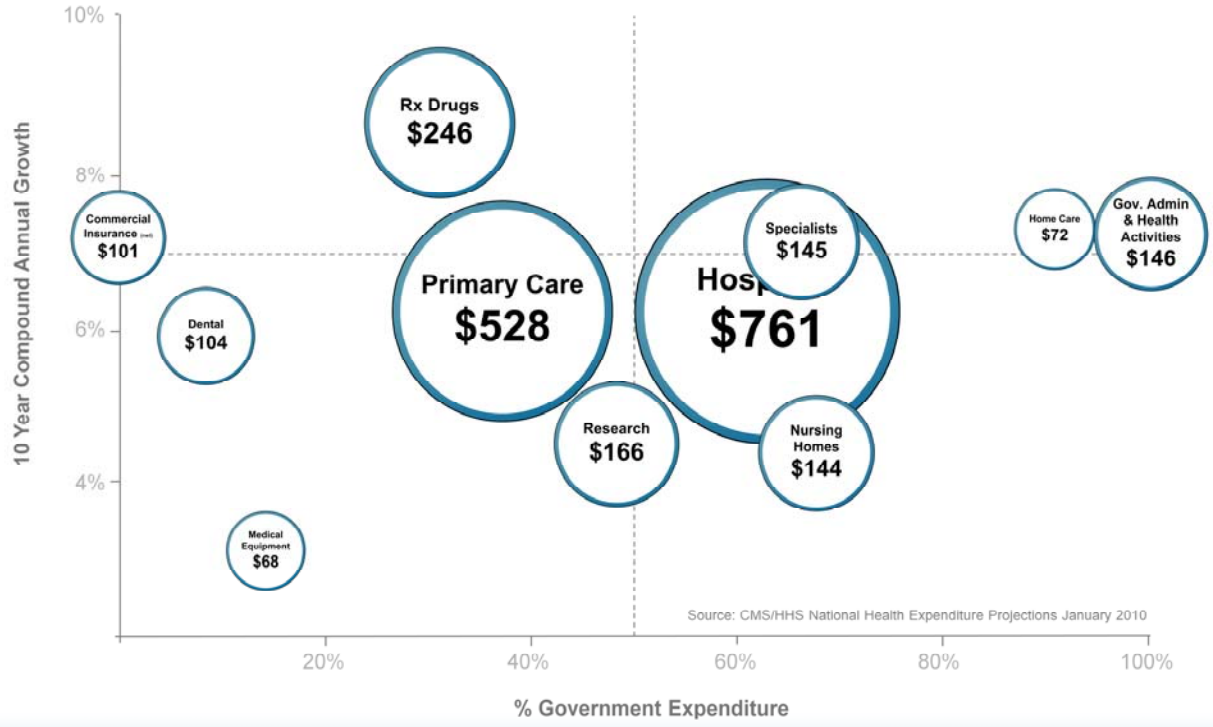
A Disconnected System



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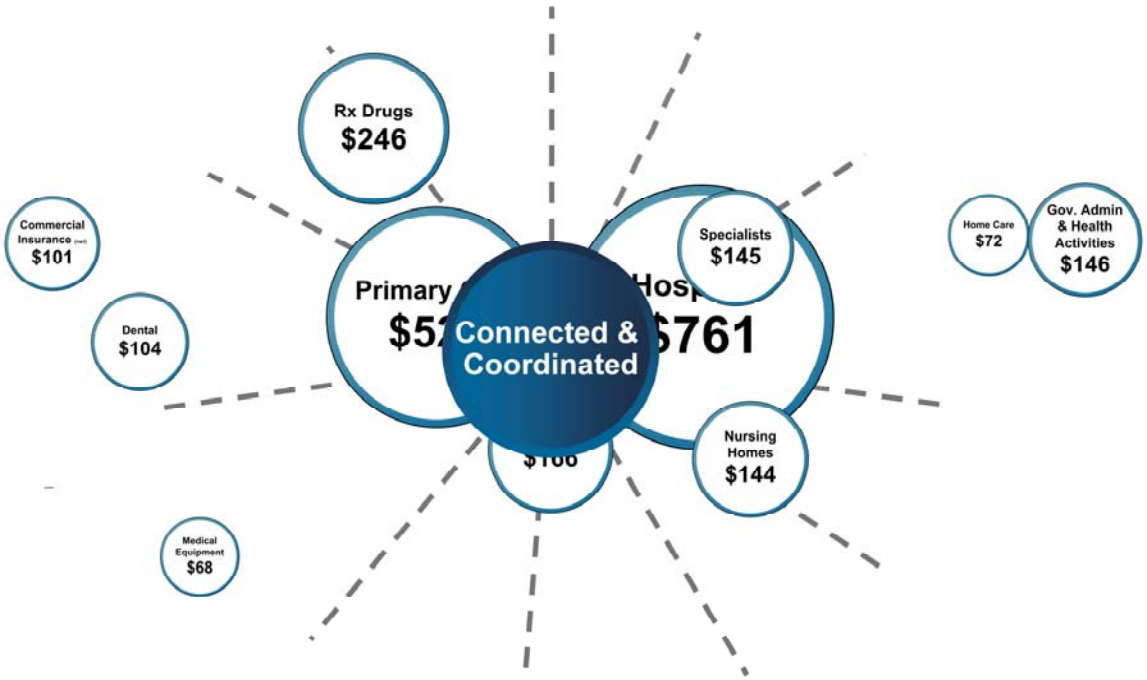
A Reformed U.S. System



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Our Unique Organization

playing all positions on the health care field

Our Integrated System

- primary care
- specialty care
- home care
- hospital
- lab
- pharmacy
- optical
- dental
- insurance
- research

Care Delivery

54 thousand **physicians** and nurses

36 **hospitals**

431 **medical office buildings**

36 million **doctor office** visits in 2009

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Our Integrated System

- primary care
- specialty care
- home care
- hospital
- **lab**
- **pharmacy**
- **optical**
- **dental**
- insurance
- research

Ancillary

61 million — **lab tests** performed

129 million — **prescriptions** filled

8 million — **imaging** studies performed

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Health Net

- 6.7 million members
- $15 billion in revenue

CIGNA

- 11 million members
- $11 billion in medical revenues

Our Integrated System

Research

Division of Research

- **100+ researchers**
- **56 grants** (2009)
- **200 scientific articles** (2009)

Mail-Order Rx Study
a recent example

84.7 percent of patients who received medications by mail stuck to their physician-prescribed regimen, **versus 76.9 percent** who picked up their medications at "brick and mortar" Kaiser Permanente pharmacies

Source, American Journal of Managed Care, January 2010

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Our Integrated System

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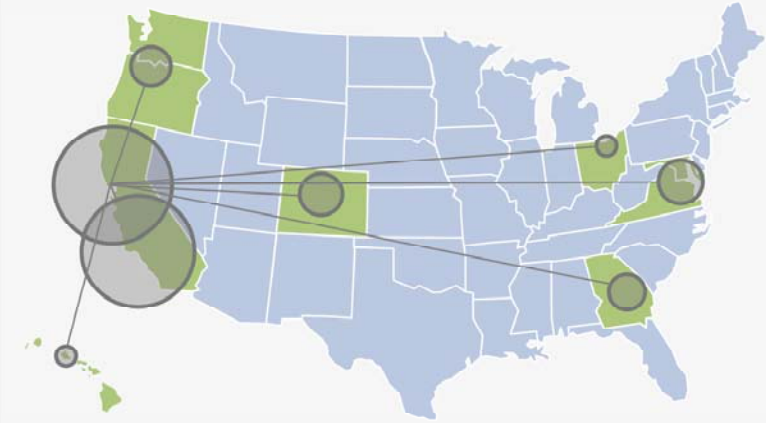
- primary care
- specialty care
- home care
- hospital
- lab
- pharmacy
- optical
- dental
- insurance
- research

Largest integrated delivery system

(bigger than 42 U.S. states & 130 countries)



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Cleveland Clinic

- 2,000 physicians and scientists
- 4.2 million patient visits per year
- 73,000 surgeries

Kaiser Permanente

Technology-Enabled Health Care

unleashing the power of information on health care

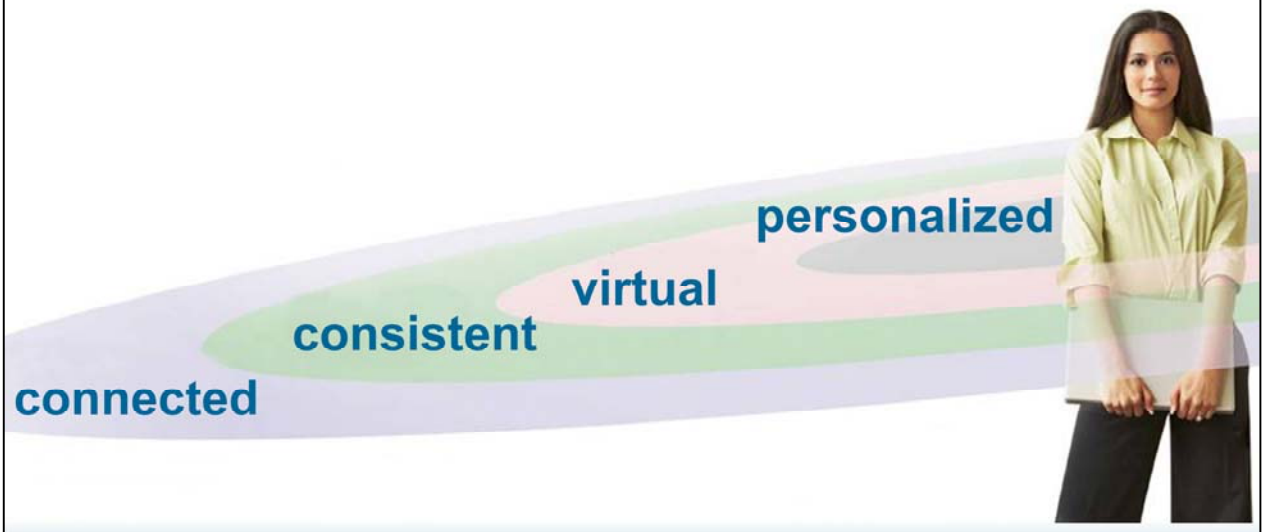
Kaiser Permanente

Technology-Enabled Health Care

Connected TV advertisement

Our Vision

all of the information about all of the patients all of the time



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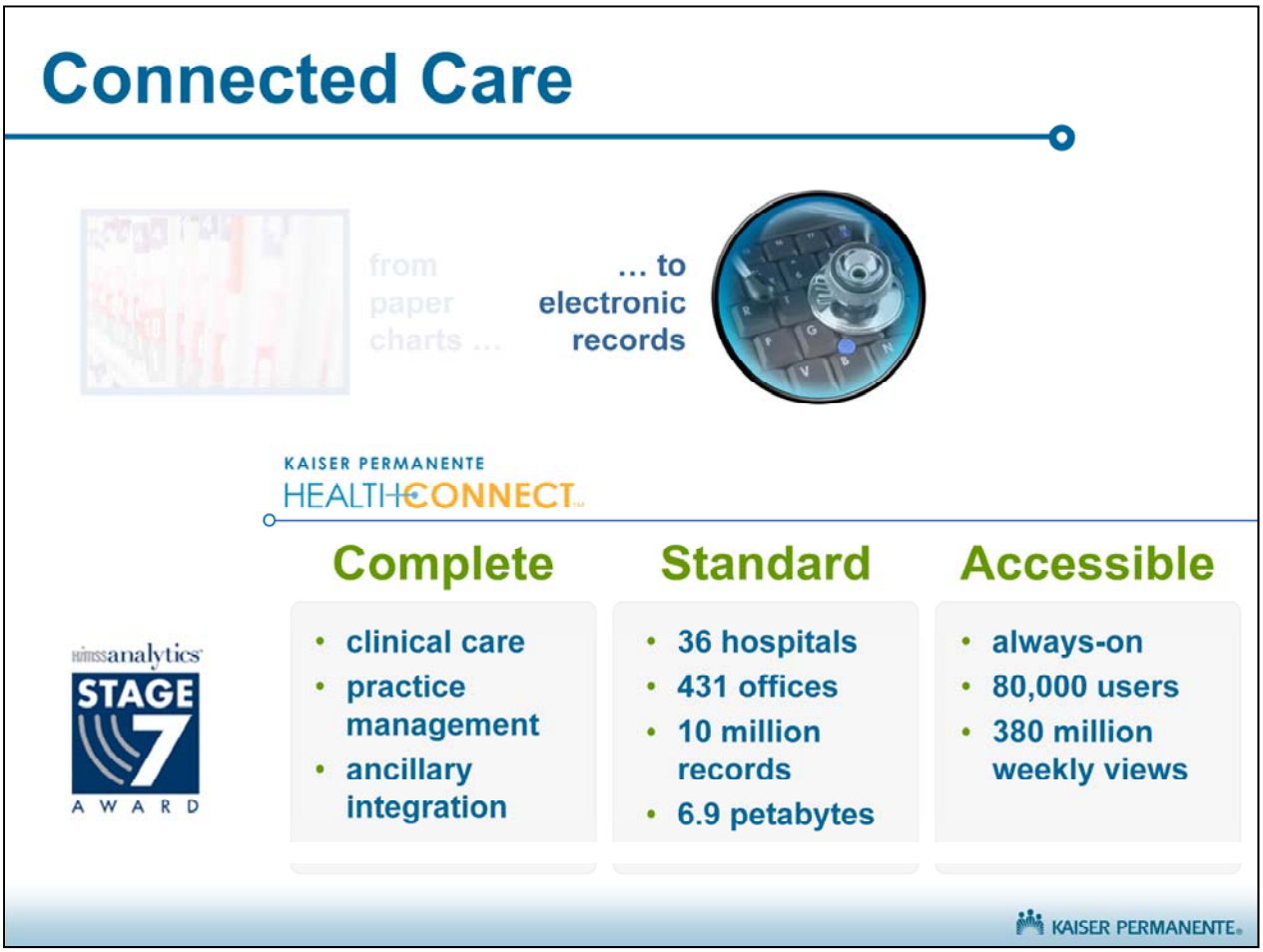


Starts with KP HealthConnect

- Our journey starts Our integrated electronic medical records

Notable stats:

- 135,000 active users
- 80,000 concurrent users daily
- 10 million electronic medical records
- 32 million electronic prescriptions
- 3 million unique online users

- Care givers can immediately access patient records

- Members / Patients have convenient access to their lab results & other records

Consistent Care

care registries

our **Smart Tools** identify at-risk populations enabling care teams and patients to intercede earlier, contributing better outcomes

16%
increase
in patients with hypertension controlling blood pressure

Source: National Labor College & Kaiser Permanente, "Teamwork, Technology, and Coordinated Care Improve Outcomes and Lower Costs", July 2009

50%
lower rate
of hospitalization for diabetic patients

Source: Kaiser Permanente, Internal Analysis, March 2009

88%
reduced
risk of cardiac-related mortality within 90 days of heart attack

Source: The Permanente Journal, "Collaborative Cardiac Care Service: A Multidisciplinary Approach to Caring for Patients with Coronary Artery Disease", Summer 2008

KAISER PERMANENTE®

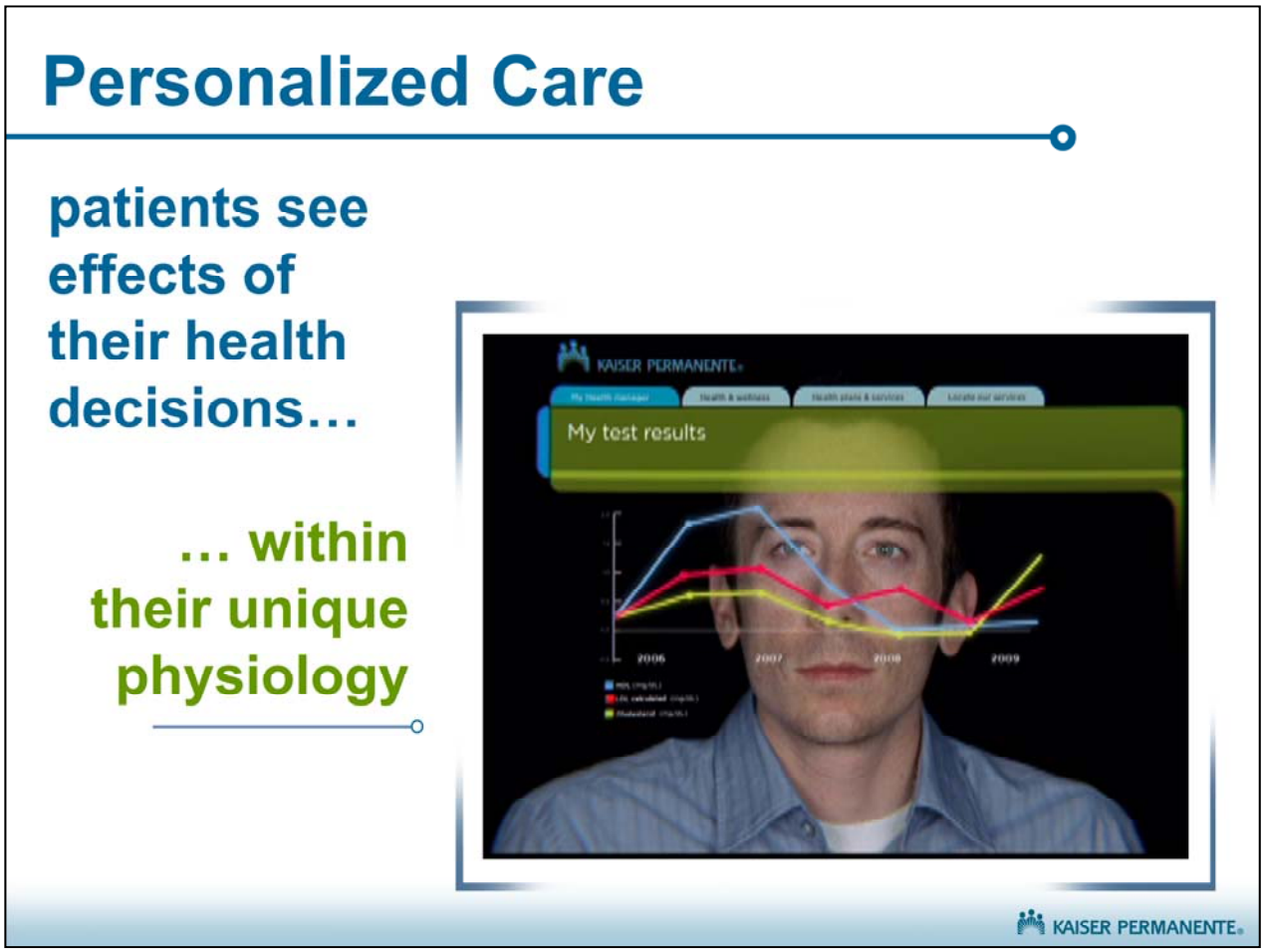
Integrated tools create not only convenience, but well-being

Today, KPHC enables online interactions through My Health Manager:

- 27 million e-visits (interaction with your doctor online or via telephone)
- 8 million secure emails (up from 7 million in 2008)
- 7 million online prescription refills (up from 6 million in 2008)
- 21 million online lab results viewed

In the future we will see

- Dynamic Monitoring through pervasive, wireless devices
- Virtual Care Teams that interact in your health life through multiple modes
- Medical Analysts – personal researchers become part of your care team brining latest external learning's, information and predictive tools to your unique genetic make-up



Business Week - Trimming Health-Care Costs Without Reforming the System

- Eddy showed predictions of model almost exactly matched the results from clinical trials. Then it was time to tackle a real-world problem.
- Kaiser prescribing new cholesterol-lowering drug, Mevacor, from Merck (MRK).
- Kaiser plugged data into the Archimedes model, the computer simulation predicted that the net benefit was tiny
- Doctor conceived a new approach, give patients a trio of generic medicines—aspirin, a cholesterol-lowering statin, and a blood-pressure-lowering ACE inhibitor
- Using Archimedes and thousands of virtual patients, Eddy compared the drug combination to the traditional approach
- Model took half-hour to simulate a 30-year trial
- Found controlling blood sugar accomplished little, but the simple three-drug combination would cut heart attacks and strokes by 71%.
- KP launched a two year study with 68,560 members with diabetes or heart disease
- Researchers followed patients and compared them to 101,464 similar patients who didn't take the combination
- The results mirrored Archimedes' prediction almost exactly.
- Patients who took drugs some of time had a 60% reduction in heart attacks and strokes
- Patients adhered more closely to the drug regimen, the benefit was an 80% reduction

Program saved about $250 per person treated. Multiply that by the number of

Personalized Care

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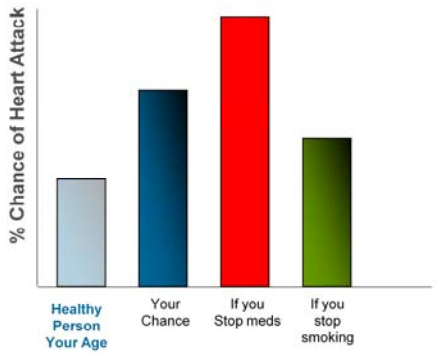
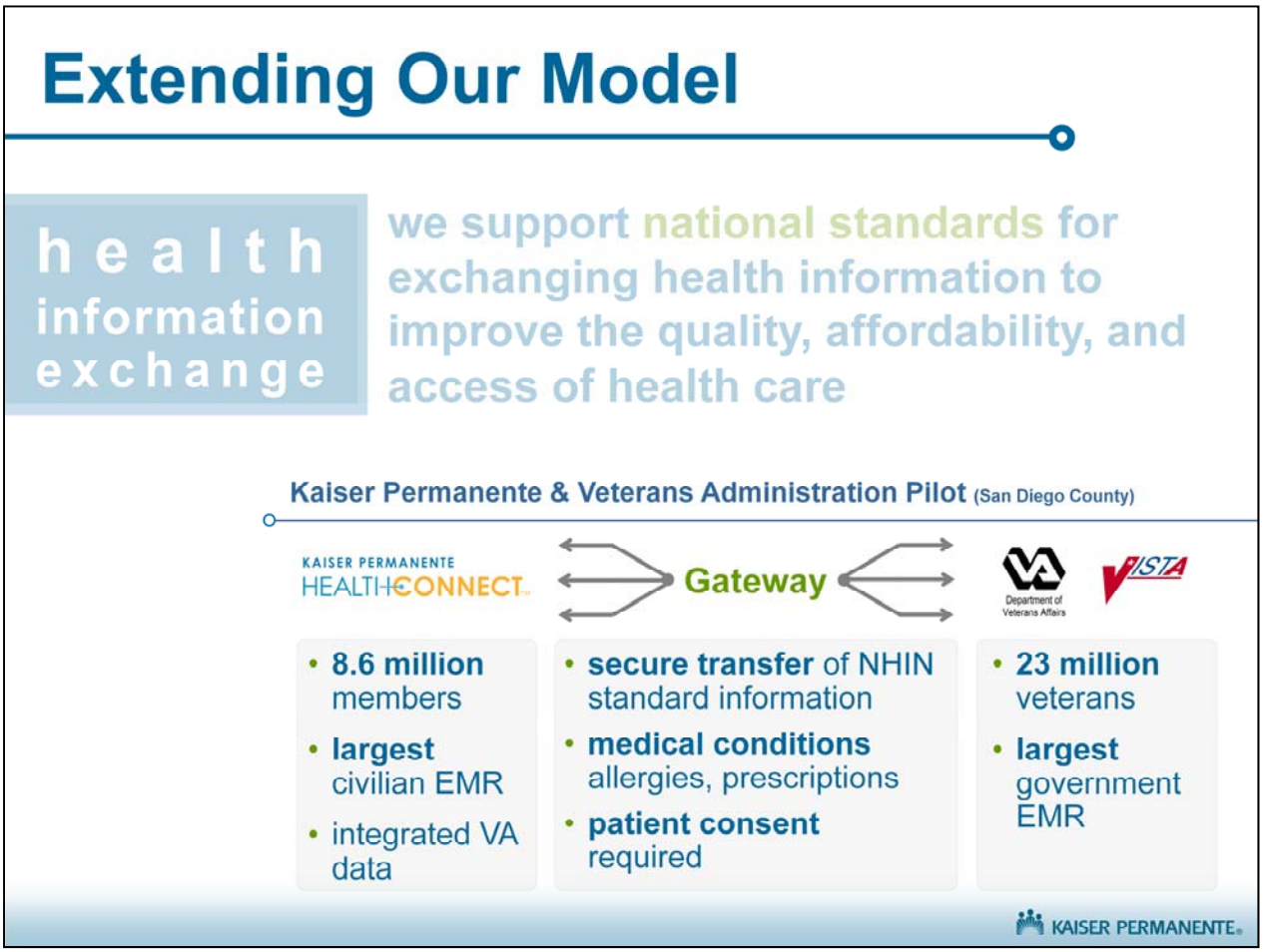
Predictive Analytics

Doctors and patients will know the outcomes of therapies and choose accordingly

Personal Health Report : risk of heart attack

Name: *Patient X* **Age:** *45* **Sex:** *M* **Weight:** *210*
Smoker: *Y* **HDL:** *80* **LDL:** *27* **Total Cholesterol:** *140*





VA, KP Unveil Project to Exchange Patient Data Electronically", January 2010

- Using the Nationwide Health Information Network (NHIN), which provides a technological gateway to support interoperability standards and permits the secure exchange of health information
- "Today it takes weeks when a patient comes in and says, 'I've had care in another institution and I'd like you to see a doctor so you can take care of me.'
- They have to go through onerous process of requesting those records, signing for them, mailing them, and having them copied on paper," said John Mattison, MD.
- "What we have achieved with this pilot is that [the] process of taking weeks to get paper records now occurs in seconds.
- Using the NHIN construct will ensure that the "same infrastructure and set of operability standards are available to anyone and everyone across the country who wants to participate," Mattison added.
- "We're committed to enabling others in joining in."
- The NHIN isn't a system "so much as a set of standards and protocols for the exchange of health information," said Stephen Ondra, MD, VA's senior policy advisor
- An estimated three out of four veterans currently receive a portion of their care in the private sector, Ondra said.
- "To take care of those patients, we really need to have the visibility to share with each other what each of us provides to those patients—to understand conditions and to understand what treatments they've had, what medications, what allergies."

Questions & Answers