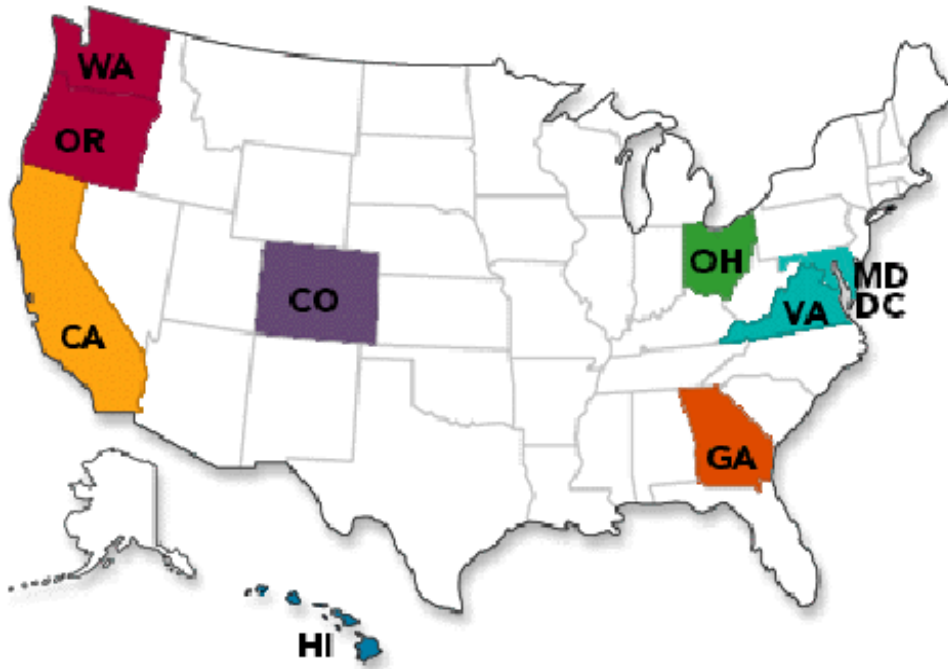


Kaiser Permanente's Journey: Using Health IT to Transform Health Care Delivery

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About Kaiser Permanente



- Nation's largest nonprofit health plan
 - Integrated health care delivery system
 - 8.7 million members
 - 14,000 physicians
 - 165,000 employees
- Serving 9 states and the District of Columbia
 - 36 hospitals and medical centers
 - 431 medical offices
- \$40.3 billion annual revenues (2008)

Our Structure

Kaiser Foundation Health Plans

Nonprofit, public-benefit corporations that contract with individuals and groups to arrange comprehensive medical and hospital services. Kaiser Foundation Health Plans contract with Kaiser Foundation Hospitals and medical groups to provide services.

Kaiser Foundation Hospitals

A nonprofit, public-benefit corporation that owns and operates community hospitals in California, Oregon, and Hawaii; owns outpatient facilities in several states; provides or arranges hospital services; and sponsors charitable, educational, and research activities.

Permanente Medical Groups

Partnerships or professional corporations of physicians. Each region has its own Permanente Medical Group. The Permanente Medical Groups assume full responsibility for providing and arranging necessary medical care in each region.

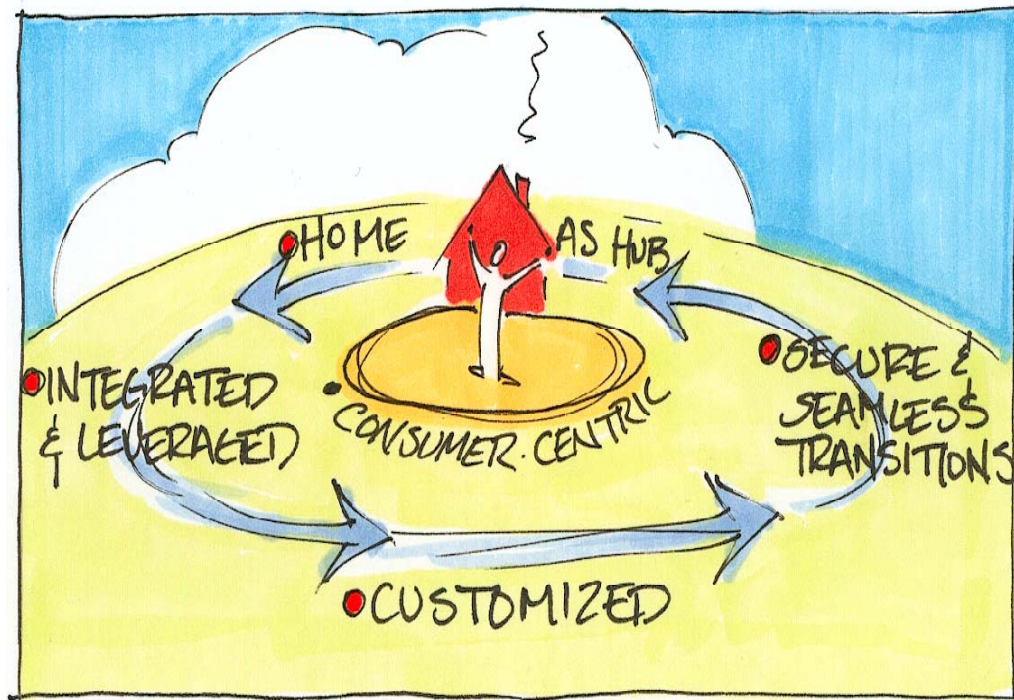
Our Mission

To provide affordable,
quality health care services
and to improve the health of
our members and the
communities we serve.

Where We're Going: Our Vision for the Future: "Blue Sky"

Home as the hub

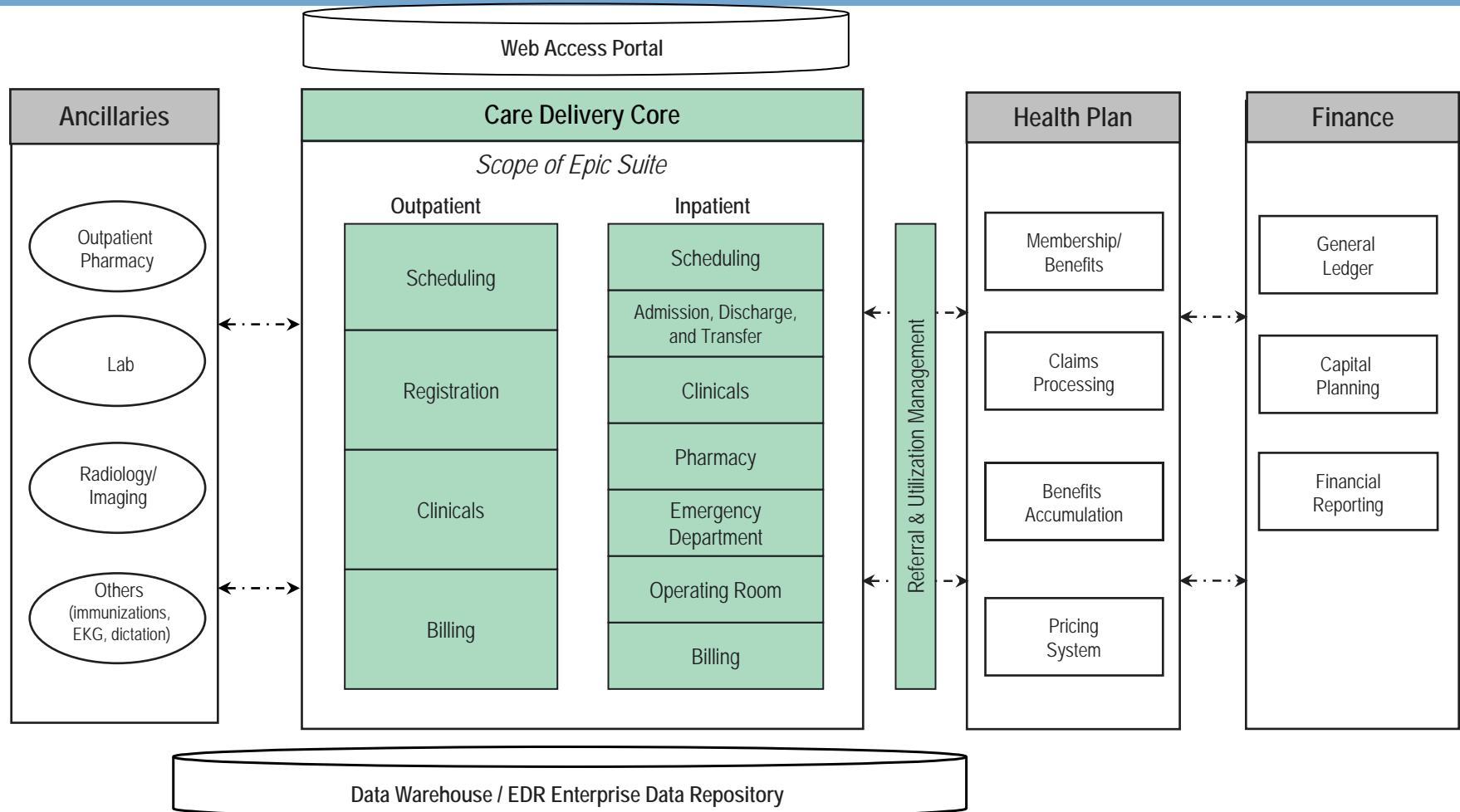
Integration &
leveraging



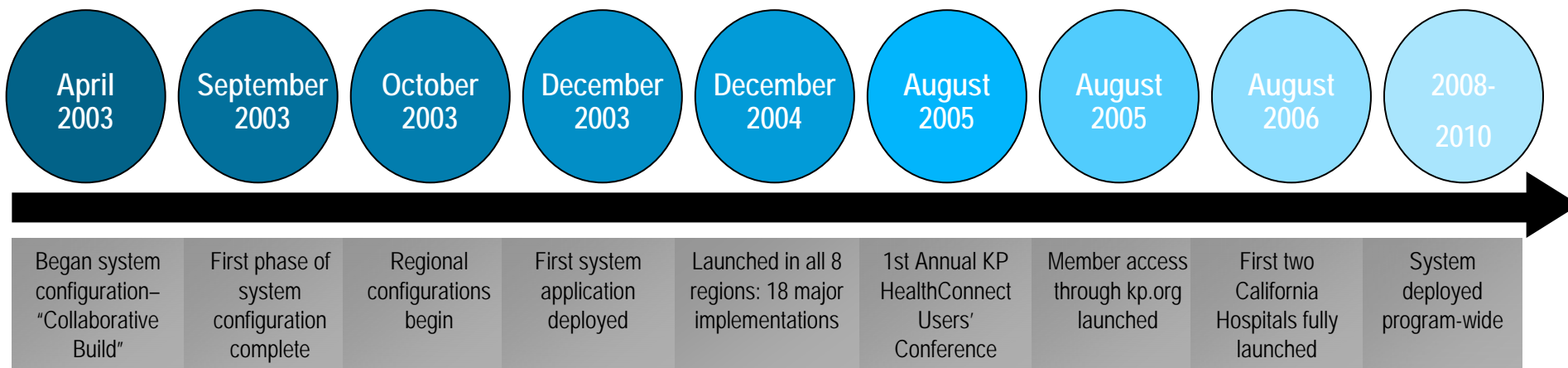
Secure and
seamless
transitions

Customization

Scope of Kaiser Permanente HealthConnect™



The KP HealthConnect Journey



With Deployment Completed...

It is the end of the beginning

- Kaiser Permanente is now essentially paperless across the continuum of care (where we control the full continuum)
- Our clinical IT software suite is standards-based
 - HL7, SNOMED-CT, LOINC, RxNORM, DICOM, etc.

Barriers to Utilizing IT to Improve Care Delivery

People:

- Culture of Health Care
- Clinical Leadership
- Skills/Education

Barriers to Utilizing IT to Improve Care Delivery (continued)

Process

- Increasing complexity of health care
- Complexity of workflows
- End-to-end patient-centered view is often missing
- Little use of system-engineering tools for design, analysis and monitoring

Barriers to Utilizing IT to Improve Care Delivery (continued)

Technology

- Lack of integrated clinical information systems: Data is “locked away” in various applications (or paper) and databases
- Data standards
- Interoperability standards
- Usability issues
- Privacy and security concerns

Barriers to Utilizing IT to Improve Care Delivery (continued)

Health care system and environment

- Structure of health care in the U.S.
- Health care financing and reimbursement system
- System level view missing
- Cost

Unintended Consequences of IT in Health Care

Errors in the process of entering and retrieving information

- Human/computer interface issues
- Cognitive overload: overemphasis on structured and complete information entry or retrieval

J Am Med Inform Assoc. 2004;11:104-112

Unintended Consequences of IT in Health Care (continued)

Errors in the communication and coordination process

- Misrepresenting collective, interactive work as a linear, clear-cut, and predictable workflow
- Misrepresenting communication as information transfer
- Decision support overload
- Loss of prior mechanisms for catching errors

J Am Med Inform Assoc. 2004;11:104-112

Greatest Surprises

- The simple stuff can bite you (e.g., data center power, inadequate project management).
- The perfect is always the enemy of the good.
- Physician and nurse resistance was not an issue.
- Patients love it, have high expectations of it, and are not excessively worried about privacy.

Everything is Changing

Relationship between professionals and members is altered

- 3.5 million (and growing) use portal
 - Labs, messaging, appointments, questionnaires, decision support

Relationships among professionals is altered

- Team care includes everyone (MDs, nurses, pharmacists, receptionists)
- Consultations are real-time

No clinical decisions are made without data

Benefits to Date

Pharmacists Care for Diabetics

- They have access to the clinical system
- Diabetics present for their care materials
 - Syringes, test strips, medication or insulin
- They receive decision support related to screening and can order tests by protocol
 - Rates of HgbA₁C testing have increased, as have rates of control

A Nephrologist *Prevents* Dialysis

Using KPHC and registry software, a nephrologist identifies all diabetics requiring microalbuminuria screening

- He orders the screening and follows up with the patients and primary care
 - Those at risk for ESRD are identified and treated
 - Need for dialysis either averted or time to dialysis lengthened

Colon Cancer Screening by Mail

The system identifies all patients requiring routine colon cancer screening and sends an FOBT kit by mail (letter from primary care doctor)

- Rates of screening rise
- Stage at colon cancer detection earlier

We “Touch” our Members in New Ways

- Until 3 years ago, all touches were visits or phone calls
- More than 3.5 million members log on to *MyHealthManager*
 - Tens of millions of lab results released on line
 - After visit summaries help them understand problems and plans
 - More than 650,000 secure messages/month
 - Office visits may decrease by 25%
 - Office encounters are “proactive”

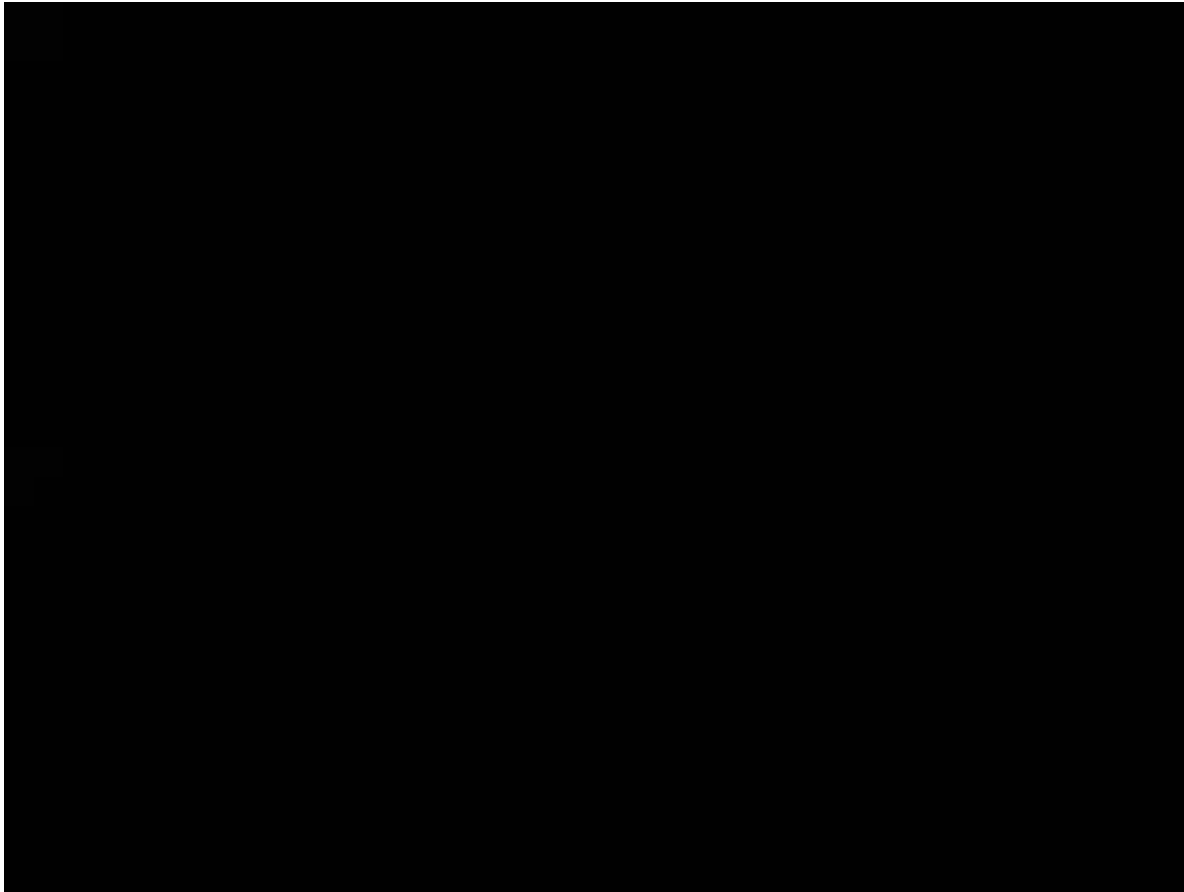
Improvements in CVD Outcomes

- **Improved pharmacologic intervention for secondary prevention**
 - Aspirin-lovastatin-lisinopril (ALL)
- **Dramatic improvements in post-AMI 10-year mortality rates**
 - Ordinary care in US—85% mortality at 10 years
 - Care using registries and nurse/pharmacist follow-up teams—25% mortality at 10 years (>14,000 followed)

And there's more...

- Hospitals are built without record rooms
- “Longitudinal care” is increasing
- Standardization of care in:
 - Orthopedics, anesthesia, obstetrics, oncology, urology, inpatient nursing care planning
- Increasingly rational and lower cost legacy systems environment
- Dramatic increases in patient satisfaction with the After Visit Summary
- Real time health information exchange with the Veterans Administration system

Mary Gonzales



What Next?

Kaiser Permanente has crossed a threshold into a wonderful new world

- Many old care processes can be improved (or abandoned)
 - Many new processes are possible
- ...And many new mistakes will be made.

Please join us, so that we may all learn together and improve health everywhere.