Kaiser Permanente HealthConnect™
The Substance, Strategy, and Impact of Kaiser Permanente’s Electronic Health Record (EHR) System

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Agenda

- Kaiser Permanente Before KP HealthConnect
- KP HealthConnect Deployment
- Lessons Learned
Before KP HealthConnect (circa 2002)

- Nine silos (8 regions + national)
- No common platform
- Numerous disparate IT systems
- Limited standard data elements
- Expensive IT maintenance costs
- Region (physician) owns the paper medical record
- In 1999, began to build a nationwide Clinical Information System (CIS)
The Kaiser Permanente “Blue Sky” Vision

**Integration & Leveraging**
- Medical services are integrated with wellness activities; care delivery processes are integrated with health plan operations.
- IT functionality enables us to leverage scarce or specialized clinical resources - MDs, RNs and other clinical staff.

**Home as the Hub**
- The home, and other settings, will grow significantly as a locale of choice for some care delivery (diagnostics).
- An individual’s care delivery support system has expanded to explicitly include other community and family resources.

**Customization**
- Occurs at any level of the members’ journey with KP (choosing health plans, cost sharing, individual care pathways, and communication modalities.)
- The member drives customization and KP responds.

**Secure and seamless transitions**
- ‘Warm Handoffs’ - The human skill sets and operational processes to deliver care and service effectively, efficiently, and compassionately.

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“Lights on” to “Blue Sky”

- **Deployment**
- **Roll-out**
- **Stabilization**
  - Stabilizing what we have deployed
- **Integration**
  - Integrating with other initiatives and business systems
- **Optimization**
  - Leveraging the system to achieve transformation
- **Benefits Realization**
KP HealthConnect: Fundamental Redesign of Health Care

Future Care Delivery Model
“A Consumer-Centric Paradigm”

Components of Care Delivery in 2015

- **Customization**
  - Members select care
  - Communication modality determined by member
  - Language preference defined by member
  - Members have access to medical record

- **Integration and Leveraging**
  - Cohesive approach to providing care
  - Enhanced access to specialty expertise
  - Member information accessible across all locations

- **Secure and Seamless Transitions**
  - Members asked for information once
  - Members contact “real person” when desired
  - Proactive outreach

- **Home as the Hub**
  - Integration with “smart” home-based diagnostic technology
  - Remote member access to after-hours clinical staff
  - Home monitoring by “care manager”

**Foundational Trends**
- Cost pressures
- Lack of a national health policy
- Aging population
- Financial burden of new technologies and drugs

**Foundational Trends**
- Consumer demand for service
- Consumer demand for choice
- Health care lag behind other industries
- Conversion of fatal diseases into chronic illness

KP HealthConnect capabilities are required to fulfill the future requirements of the Care Delivery strategy.
Leveraging Clinical IT

**Application**

- **Integrated EHR**
  - Inpatient, Outpatient, Lab, Pharmacy, etc.

- **Clinical Decision Support**

- **Remote Access**

- **Medication Order Entry**

- **Internet Access**
  - Email communications, online health information, etc.

- **Automated Reminders**
  - (Preventative & Monitoring Tasks)

- **Charting/Documentation**

**Benefit**

- Quality measurement and improvement plus care research
- Improved diagnosis and disease management
- Increased physician convenience, timeliness, efficiency
- Reduce prescribing errors
- Improved patient access and convenience
- Improve compliance with practice guidelines
- Improve effectiveness through access to patient history

Health Care Organization/Community

Group Practice

Individual Practitioner
Kaiser Permanente HealthConnect™

• More than just an electronic medical record
• The development and deployment of a highly-sophisticated information management and delivery system
• A program-wide system that will integrate the clinical record with appointments, registration and billing
• A complete health care business system that will enhance the quality of patient care
## Kaiser Permanente HealthConnect™ Goals

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<th>Quality Our Patients Can Trust</th>
<th>Personal &amp; Convenient Service</th>
<th>Affordable Health Care</th>
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<td><strong>High Quality</strong></td>
<td><strong>Personal</strong></td>
<td><strong>Affordable</strong></td>
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<td>- We have clinical information available 24/7.</td>
<td>- We have and use up-to-date clinical, social and patient preference information.</td>
<td>- We reduce the cost of care and improve visit experiences.</td>
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<td>- Our clinical outcomes are unsurpassed.</td>
<td>- We provide patients information for shared decision making.</td>
<td>- We eliminate waste associated with paper medical records and missing medical records.</td>
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<td>- Our clinicians know in real-time the recommended best practices.</td>
<td>- We enhance personalized care.</td>
<td>- We eliminate costly in-person services unless medically necessary or desired by the patient.</td>
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<td>- We are the national leaders in patient safety.</td>
<td><strong>Convenient</strong></td>
<td>- We streamline IT and administrative processes and costs</td>
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<td>- We enhance our research to support evidence-based care.</td>
<td>- Our patients access information via telephone, Web and email.</td>
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<td>- We actively support our patients’ participation in their own care.</td>
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<td>- We minimize wait times and out-of-pocket costs with efficient access to care.</td>
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<td>- We achieve superior integration and continuity of care.</td>
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Scope of Kaiser Permanente HealthConnect™

Ancillaries
- Outpatient Pharmacy
- Lab
- Radiology/Imaging
- Others (immunizations, EKG, dictation)

Care Delivery Core

- Scheduling
- Registration
- Clinicals
- Billing
- Health Information Management

Outpatient

- Admission, Discharge and Transfer
- Health Information Management
- Clinicals
- Pharmacy
- Emergency Department
- Operating Room
- Billing

Inpatient

Scope of KP HealthConnect Suite

Health Plan
- Membership/Benefits
- Claims Processing
- Benefits Accumulation
- Pricing System

Finance
- General Ledger
- Capital Planning
- Financial Reporting

Data Warehouse / EDR Enterprise Data Repository
Members Can Actively Participate in Care

Expanded Online Access for Members

- Access medical record
- Make/change appointments
- Send email to doctor
- Check lab results
- Access health Information
- Review eligibility & benefits
- Account summary

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Member-Centric Services

- Your allergies
- Your immunizations
- Your lab test results
- Your ongoing health conditions
- Past office visit information
- Online Rx refills

- Email your doctor
- Your future appointments
- Your eligibility & benefits
- Request a change to your medical record
- Act for a family member
System Enhanced with KP Clinical Content

- Access to library of KP knowledge and best medical practices at the point of care
- Tools and templates that facilitate the delivery of evidence-based medicine
- Dynamic decision-support tools that enhance quality and patient safety
  - Drug-Drug Interactions Alerts
  - Drug Allergy Alerts
  - Best Practice Alerts
  - Health Maintenance Reminders
  - Alternative Order and Medication Alerts
- Patient education and tools to support self-care
Supporting Patient Safety

- IHI 100K Lives bundles
- Drug alerts
- Health maintenance reminders
- Best practice reminders
- “Close the loop” with results, referrals, and follow-up appointments
- Patient safety metrics
Safeguards for Privacy

• Protects member privacy and keeps health information secure
• HIPAA compliant
• Administrative procedures, physical safeguards and technical security mechanisms
  - **User authentication** - Unique user records, automatic log-out of user and/or securing of application, configurable password rules and aging
  - **Entity authentication** – Automatic-logoff, unique user IDs, password, PIN, biometrics, token, single sign-on
  - **Access control** – user-based, role-based and context-based access
  - **Authorization control** – role-based and user-based access
  - **Web access control** - highly-secure internet connections with unique passwords required
Challenges

System capability needed to:

- Share data and move information across 18 instances in 8 regions real time
- Provide a consistent data model to populate a national data repository to support all reporting needs
- Reduce variation and provide evidenced-based clinical decision support and documentation
- Share successful work practices across the country to streamline internal processes and reduce work variation
Challenges

Success is...

- A clear plan for change and operationalized use of the Epic system.
- Business goals enabled by the Epic system
- Higher quality, more efficient, effective operations
- Sponsorship / leadership

Formidable
Leadership & Regions’ Responsibility

Demanding
Regions’ Responsibility with help from National Project Team

Difficult
Vendor / Project Team/ Regions Responsibility

- Effectively trained users
- Consistent and complete system use
- Ease of use

- Program-wide system
- Reliable, consistent and maintainable
- Robust functionality

Get Value from KP HealthConnect
Implement KP HealthConnect
Collaborative Build
With KP HealthConnect (circa 2007)

- Collaborative culture
- One technology platform
- Integrated systems
  - Inpatient/outpatient
  - Inter/Intra-region
- Standardizing data elements
- Retiring expensive legacy IT systems
- Member owns the medical record and is engaged in their own care
Percentage of KP Population Coverage by Year/Suite

Revised 4-24-06

Population coverage based on actual & planned finish dates
Caregiver Benefits

- Single, comprehensive medical record available 24/7
- Alerts that support patient care by catching abnormal results, negative trends, patient history, chronic problems, and drug/procedure combinations
- Access to current treatment guidelines via online references and resources
- Care Management Institute (CMI) protocols and standard test/screens decision support
- Prescribe medication, order lab work, radiology and provide referrals at the point-of-care
- Expanded communications opportunities to improve partnering between patient and caregiver
  - After visit summary to support care post office-visit
  - Secure messaging and other online services
KP HealthConnect Clinicals - Ambulatory
Health Plan Benefits

- Eliminate waste associated with paper medical records and missing medical records
- Provision of multiple services in a single visit
- Increased efficiency for office and emergency room visits
- Reduction in unnecessary office visits
- Elimination of duplicate lab and radiology
- More appropriate and timely referrals
- Increased adherence to formulary
Early Value Realization

- 21st Century Care Innovation Work
- Enhanced Care Team Communication
- Increased Member Satisfaction
- Secure Messaging and EHR Impact on Visit Demand
- Improved Patient Safety
- System Retirement
- Data Consistency/Reporting Efficiency