The Future is Here

American Medical Informatics Association – Annual Policy Meeting
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Hal Wolf
Senior Vice President and Chief Operating Officer
Kaiser Permanente, The Permanente Federation

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“Conclusions: Our findings indicate no consistent association between Electronic Health Records and Clinical Decision Support and better quality.”
EHRs Offer Foundational Data

Source: Michael N. Liebman, PhD
Executive Director Windber Research Institute
Emphasis Must be on Prevention & Population Care

- EHRs move vertically integrated care toward clinically integrated care
  - Disease Registries
  - Improved Pathways of Care
  - Improved Demand Management
  - Targeted Patient Goals Toward Prevention
  - Population Care Management Tools
Largest Integrated Health Care System in U.S.

Kaiser Permanente’s mission is to provide high-quality, affordable health care services and to improve the health of our members and the communities we serve.

- Largest nonprofit health plan in USA
- Largest private deployment of EHR
- 8.7 million members
- 15,000+ physicians
- 167,000+ employees
- Serving 9 states and the District of Columbia
  - 36 hospitals
  - 533 medical offices
- $44.2 billion annual revenues

Source: Kaiser Permanente 2010 Annual Report
Information Technology and Performance Measurement Enable Improved Quality

- Fully integrated EHR: Kaiser Permanente HealthConnect with targeted focus on prevention and chronic disease management.

- Frequent, ongoing use of performance and outcomes measures for continuous improvement and accountability

- Patient engagement through My Health Manager *
  - 3.3 million KP members using My Health Manager, the personal health record available on kp.org
  - 62.5 million sign-ons
  - 10.7 million secure e-mails sent to doctors’ offices
  - 25.8 million lab test results viewed online
  - 8.3 million prescriptions refilled through the online pharmacy

*2010 data
Kaiser Permanente’s Approach to Innovation

**SPREAD**
Trainings, simulations or re-enactments that enable the spread or diffusion of practices or ideas.

**IMPROVE**
Activities that solve problems or improve a current process, technology or architectural design.

**TRANSFORM**
Sometimes called “disruptive” these innovations help KP deliver health and wellness in new ways to our members.
Innovation Landscape at Kaiser Permanente...  

INNOVATORS  
Anyone – anytime, anywhere – who introduces and tests new ideas, processes, and tools to improve and transform KP!

- **Garfield Innovation Center**  
  Learning laboratory where ideas are tested, solutions are developed in a hands-on, mocked-up clinical environment.

- **Innovation & Advanced Technology Team**  
  Identifies, assesses and introduces innovative technologies leveraging Garfield Center, Innovation Lab, Innovation Hunters and other services.

- **Ideabook**  
  Shares successful practices and learnings from subject-matter experts, builds on ideas and info, opens doors to new connections.

- **Innovation Hunters**  
  Innovation specialists appointed by their IT Business Information Officer to increase the velocity of innovation at KP.

- **Regional Innovation Groups**  
  Service Areas and facilities with their own innovation programs.

- **Innovation is in our DNA...**

- **Innovation Fund**  
  Provides seed funding to employees who have ideas about how to leverage technology to improve the health care KP delivers.

- **Innovation Consultancy**  
  Works with a broad range of people to design and implement innovative processes, tools and implement innovative processes, tools, roles, and spaces that improve patient care and the work experience of care providers.

- **Innovation Learning Network**  
  Fosters design thinking and application of innovation / diffusion to ignite the transfer of ideas across KP and other innovation healthcare organizations.

- **Garfield Innovation Network**  
  Grassroots group of innovators, supporters of innovation, and those who are just innovation-curious who want to know what’s happening in the KP-world of design and innovation.

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Closing the O-Gap

DATA

It’s about the data and information
Not the electronic health record

PEOPLE, PROCESS, TECHNOLOGY

It’s about people, systems, and technology

PATIENT

It’s especially about the patient and their entire care process
Mary Gonzales’ Story
Three Models

Real-time Teleconsultation

Store-and-forward Teleconsultation

Telemonitoring (Remote Patient Monitoring)
## Remote Patient Monitoring

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<thead>
<tr>
<th>Modality</th>
<th>Pros</th>
<th>Cons</th>
<th>Comments</th>
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<tbody>
<tr>
<td>Telemonitoring</td>
<td>Better access</td>
<td>Data issues</td>
<td>Multimodal by population</td>
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<td></td>
<td>‘Personalization’</td>
<td>Integration issues</td>
<td>Team-based care</td>
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<td></td>
<td>Early detection</td>
<td>Rules engine issues</td>
<td>Requires initial in-person visit</td>
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<td>Fewer visits and hospitalizations</td>
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<td>Members love it</td>
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Biomedical Systems: Background
Inpatient Biomedical Systems

- Connected to wired and wireless networks that isolate biomedical devices from non-critical and business traffic to protect the systems and ensure connectivity

- Outpatient Biomedical Systems may connect through an isolated or shared network

- System dependencies
  - Ensures bandwidth
  - Security
  - Single data source
End-to-End Focus

Use Cases (UC)
1) Home Monitoring
2) Hospital
   - SubAcute PoC
3) Ambulatory
4) Transport/Inter-PoC
   - Acute, Intensive/Critical
5) PeriOperative (ICU, OR)
   - Emergency
6) ER/Trauma (ETU), eg Burn|Unit
7) Rescue (Ambulance/MedEvac)
8) Ancillary (Renal, Echo, EKG, etc.)
9) Maternity/OB (LR/DR/RJ)
10) Other - eg Nursing Home, MD Office/Suite
Thank You

Hal Wolf
Sr. Vice President
& Chief Operating Officer
Kaiser Permanente,
The Permanente Federation
hal.wolf@kp.org