

# Quality improvement – Evaluation & Innovation at Kaiser Permanente’s Program Office

**Jim Bellows, PhD**

Director, Center for Evaluation & Innovation

**Carol Cain, PhD**

Principal Consultant, Incubation

**Estee Neuwirth, PhD**

Senior Manager, Evaluation & Innovation

**KP Care Management Institute**

June 23, 2009

## Talk outline:

Our team: R&D at KP

**Case study #1:** Complex Chronic Conditions

Background on KP and informatics

**Case study #2:** Panel management

**Case study #3:** Transitions in Care

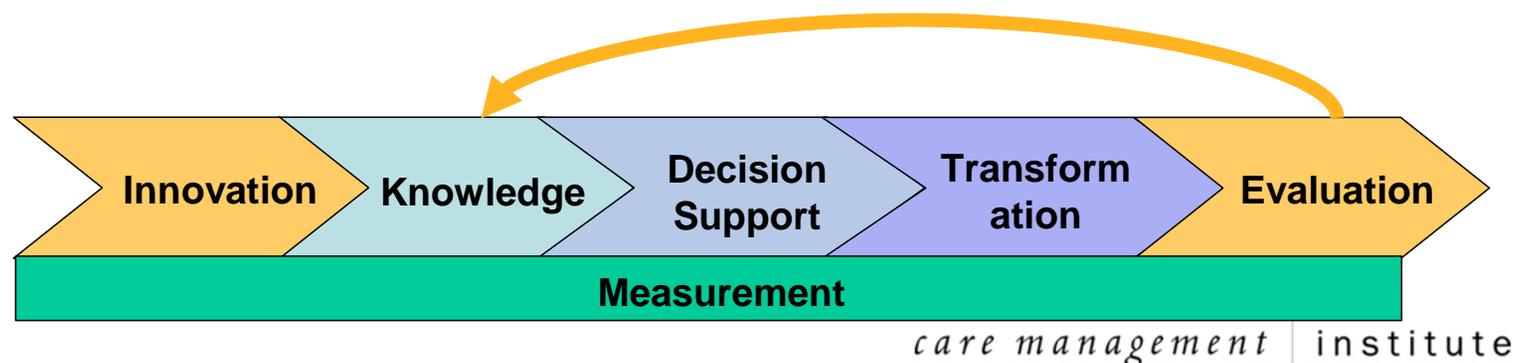
## CMI's Mission and Principles

CMI works with its Regional partners to build a superior integrated care delivery system for KP members

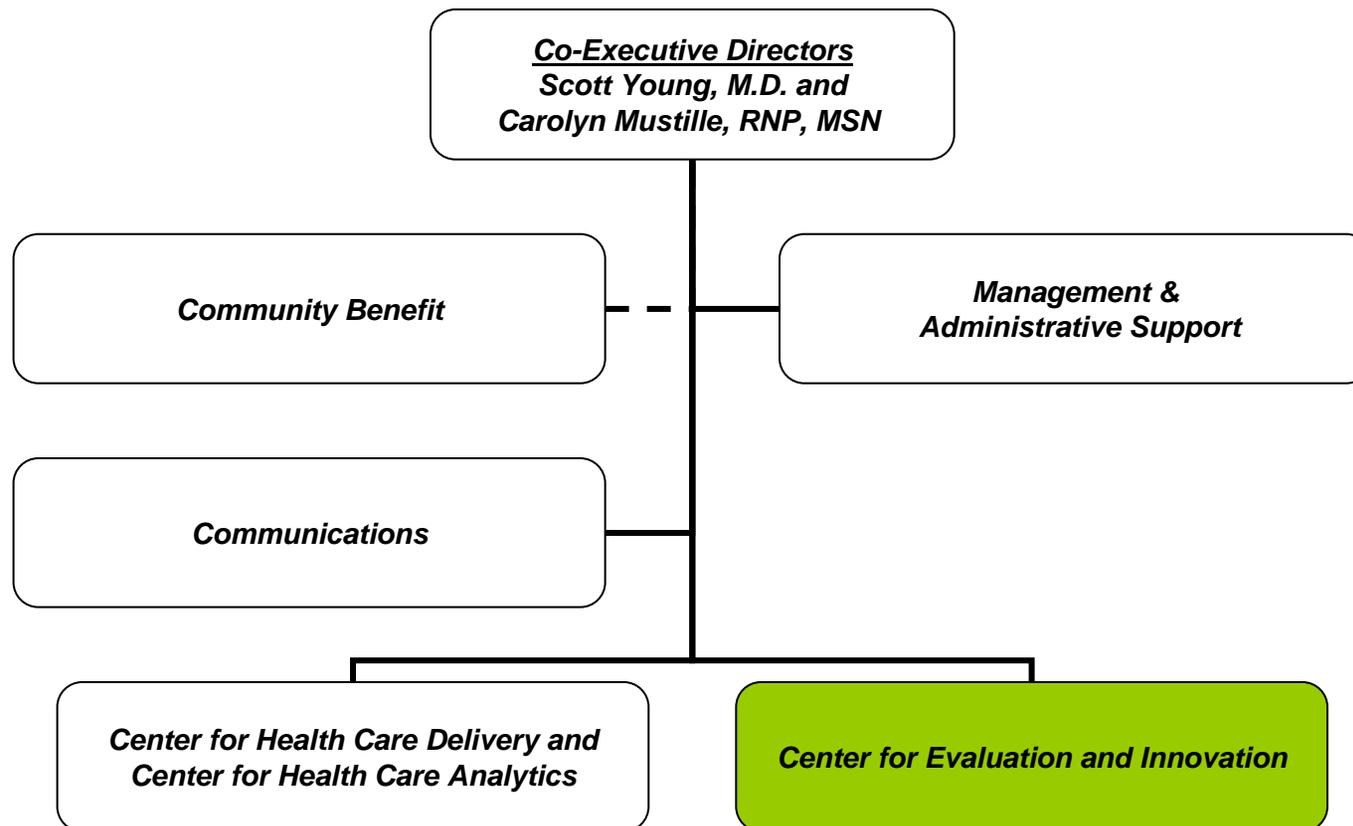
- Keeping patients at the center
- Harnessing technology
- Integrating capabilities across KP
- Applying evidence
- Measuring results
- Spreading successful practices

## CEI Mission

CMI's Center for Evaluation and Innovation (CEI) supports performance improvement across KP by providing performance metrics, identifying success factors, evaluating impact, and supporting innovation



## CMI Organizational Structure



## ■ Initiatives

- Palliative Care
- Complete Care for Complex Conditions
- Transitions in Care
- Cardiovascular Disease

## ■ Region-specific projects

## ■ Services

- Knowledge Services
- Clinical Library
- Network maintenance – Implementation, Analytic, etc.

### Our Mission

CMI works with its regional partners to build a superior integrated care delivery system for KP members.



- Keeping patients at the center
- Harnessing technology
- Integrating capabilities across KP
- Applying evidence
- Measuring results
- Spreading successful practices

**CMI's Center for Evaluation and Innovation (CEI)** supports performance improvement across KP by providing performance metrics, identifying success factors, evaluating impact, and supporting innovation.

#### Center for Evaluation and Innovation

Jim Bellows, PhD, Director  
 Eric Tom, Manager - Analytics  
 Sybil Soghoian, Operations Specialist  
 Christopher Jentz, Program Evaluation  
 Gregory Nah, Program Evaluation  
 Estee Neuwirth, PhD, Program Evaluation  
 Maggie Wang, PhD, Program Evaluation  
 Carol Cain, PhD, Incubation  
 Erin Dirks, Analytics  
 Jennifer Kallenbach, Analytics  
 Lori McGilchrist, Analytics

**[cmi.kp.org](http://cmi.kp.org)**

©2008 Kaiser Permanente

# Our staff



- 12 FTEs
  
- By education
  - 4 PhD
  - 7 Masters-level (2 ABD)
  
- By training
  - 3 Health services research
  - 1 Sociology
  - 1 Biomedical informatics
  - 2 Statistics
  - + Public policy, public administration, business
  
- By work area
  - 5 Analytics
  - 3 Quantitative evaluation
  - 1 Qualitative evaluation (+ contract support as needed)
  - 1 Innovation support and incubation

# Our team



## KP Care Management Institute's Center for Evaluation & Innovation



*care management* | institute

## Talk outline:

Our team: R&D at KP

**Case study #1:** Complex Chronic Conditions

Background on KP and informatics

**Case study #2:** Panel management

**Case study #3:** Transitions in Care

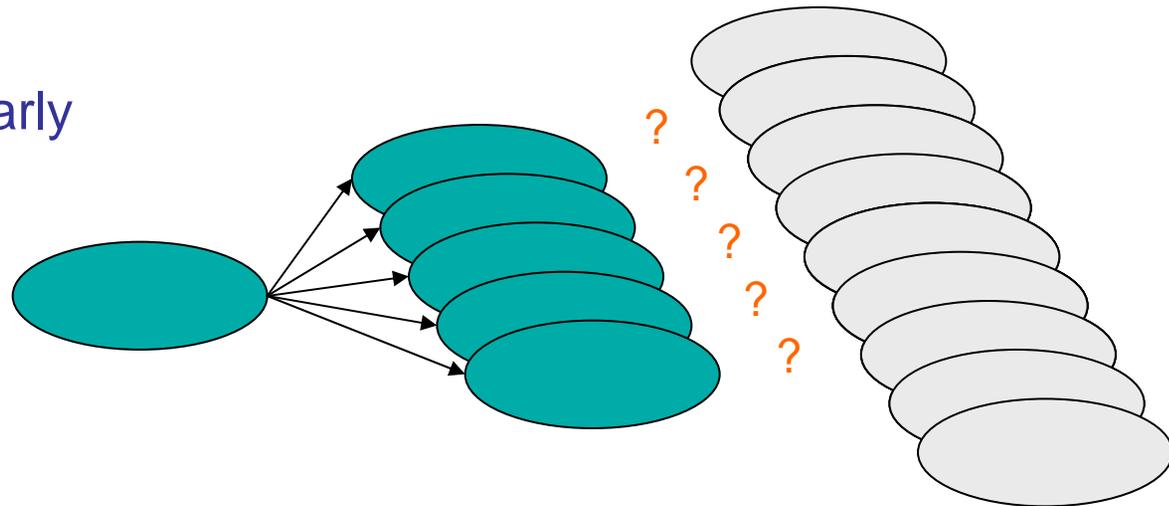
# Program evaluation reveals variations in implementation

Key Components	A	B	C
Patient identification	Light	Dark	Light
Patient engagement	Dark	Dark	Dark
Multi-disciplinary care planning	Light	Dark	Dark
Case management/Coordination	Light	Dark	Dark
Proactive clinical management	Dark	Light	Light
Psychosocial support	Light	Dark	Light
Transitions management	Dark	Light	Dark
End of life care	Light	Dark	Light
Health information technology	Light	Dark	Dark
Program management	Light	Light	Light

Key: dark = robust; light = mechanism in place; N/A = not part of program objectives

# Evaluation at each stage is focused on supporting further spread

For example:  
What does the early majority want to learn from early adopters?



- Typical evaluation of pilots focuses mainly on impact
- Potential adopters have other questions
  - Does the innovation work once it is transferred, or was its initial promise mainly due to specific factors at the innovation site?
  - How will the innovation affect our patients? Our staff? Our costs? Our roles and relationships?
  - Which version seems to work best?
  - What site-specific factors are important?

# Case study #1: Home monitoring for Complex Chronic Conditions

HomMed Home - Central Station Current Status

Navigator 8 1 2

Test, Patient Memorial Hospital - North Side C

Condition	Patient Name	Weight	Blood Pressure	SpO2	HR	Temp	Answers	Additional
ALERT		245.0	160 / 105 (123)	86	115	-	2 Yes, 8 No	
ALERT		162.0	157 / 90 (112)	87	105	99.1	10 No	
ALERT		133.5	151 / 95 (114)	93	110	-	1 Yes, 9 No	
ALERT		222.0	118 / 66 (83)	89	84	-	10 No	Glucose within limits, Spirometry within limits
ALERT		139.5	120 / 85 (97)	87	75	98.6	8 No	Glucose within limits
ALERT		125.0	124 / 82 (96)	88	70	-	6 No	
ALERT		112.0	115 / 71 (89)	95	103	99.0	5 No	Glucose within limits
ALERT		150.5	125 / 75 (92)	95	72	98.6	9 No	
No Limits Set		150.4	124 / 75 (103)	95	76	99.0	2 No	
NDR		-	-	-	-	-	-	
NULL		-	-	-	-	-	-	
Incomplete		162.0	125 / 75 (92)	95	80	-	7 No	
Incomplete		-	120 / 85 (97)	92	70	-	10 No	

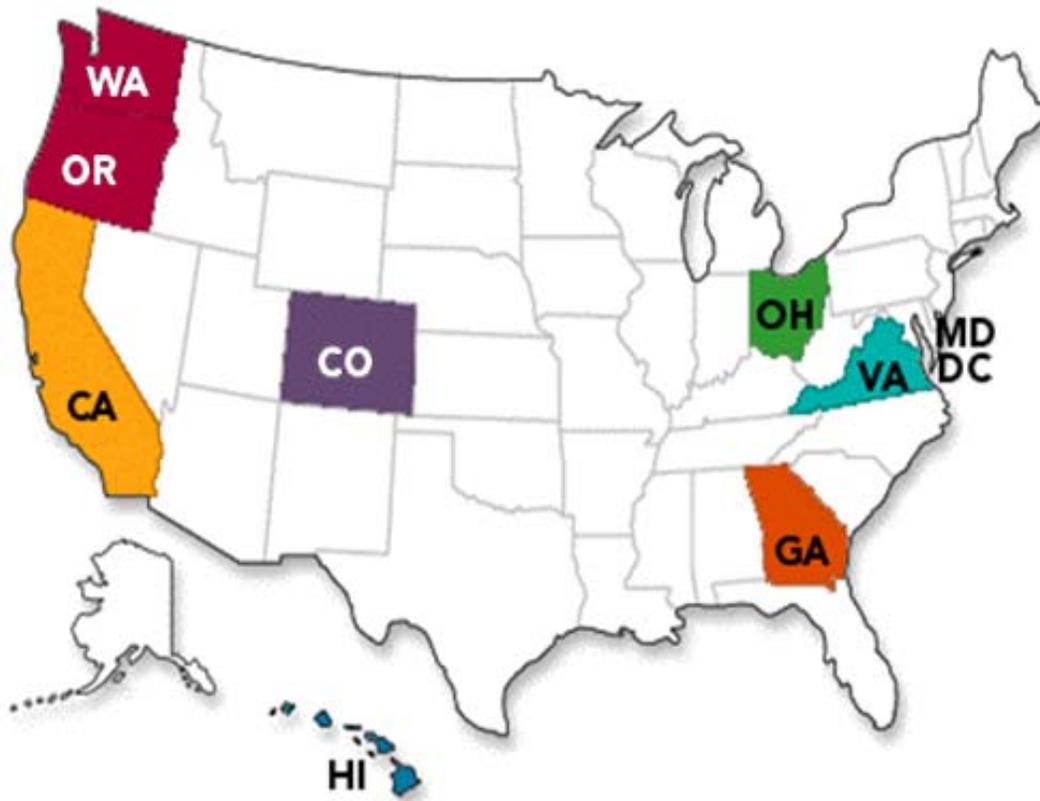
Condition	Patient Name	Weight	Blood Pressure	SpO2	HR	Temp	Answers	Additional Devices
Within Limits		150.5	125 / 75 (92)	94	66	-	10 No	PT/INR within limits
Within Limits		136.0	134 / 88 (106)	97	79	98.6	8 No	
Within Limits		182.0	115 / 75 (88)	93	69	-	6 No	Spirometry within limits
Within Limits		158.5	125 / 75 (92)	97	72	98.8	9 No	Glucose within limits
Within Limits		160.5	131 / 90 (104)	96	63	99.0	5 No	
Within Limits		170.0	125 / 75 (92)	95	70	98.6	10 No	
Within Limits		150.5	124 / 74 (91)	94	66	-	10 No	PT/INR within limits
Within Limits		124.0	115 / 75 (88)	97	79	98.6	8 No	
Within Limits		133.5	134 / 88 (105)	93	69	-	6 No	Spirometry within limits
Within Limits		163.0	125 / 75 (92)	97	72	98.6	9 No	Glucose within limits
Within Limits		155.5	131 / 90 (104)	96	63	98.4	5 No	
Within Limits		133.0	126 / 76 (93)	95	70	99.0	10 No	

Alert Limits Respond

Patient List Tabular Trends Demographics Equipment Setup Notes



# America's Largest Non-Profit Health Care Program



- Integrated health care delivery system
- 8.7 million members
- 14,000 physicians
- 160,000 employees including 41,000 nurses
- 8 regions in 9 states and D.C.
- 32 hospitals and medical centers
- 421 medical offices
- \$38 billion operating revenue (2007)

# A focus on information technology



Kaiser Permanente has made a multibillion dollar investment in KP HealthConnect, a secure nationwide electronic data system that is:

- More than just an electronic record
- A highly sophisticated information management and delivery system
- A programwide system that integrates the clinical record with appointments, registration, and billing
- A complete health care business system that will enhance the quality of patient care

# Clinical decision support: SmartSets



The screenshot displays the Epic Hyperspace interface for a patient named Zznatest, Adultmale. The main window shows a SmartSet titled "SmartSet - STONES (URO - NATL)". The interface includes a menu bar at the top with options like Desktop, Action, Patient Care, Billing, Hospital Billing, Reg/ADT, Reports, Report Mgmt, Tools, Admin, and Help. Below the menu bar is a navigation bar with buttons for Back, Forward, Home, In Basket, Chart, Encounter, Tel Encounter, Hospital Chart, Patient Lists, Secure, Print, and Log Out. The patient information bar shows MRN E12129, Age 67 year, Sex M, PCP Kaiser Prodnam, PCN Class, Bee Stings, Allergies, Alert N, Spec Feat N, and kp.org Inactive.

The SmartSet content is organized into sections:

- PROGRESS NOTES - Right Click to Edit
  - Progress Notes - Click [+] for Additional Progress Note Choices (single)
- DIAGNOSIS - Right Click to Add Comments Only
  - Diagnosis (multiple)
- MEDICATIONS - Right Click to Edit Details
  - Medications related to stones (multiple)
    - Pain Medications (multiple)** (highlighted with a red box):
      - ibuprofen 800 MG TAB, 1 TAB PO TID WITH FOOD PRN PAIN, #100, RF 0 {DD Mod3...}
      - (TYLENOL W/CODEINE) #3 TAB, 1 TAB PO Q4H PRN PAIN, #30, RF 0
      - (VICODIN) 5-500 MG TAB, 1-2 TABS PO Q6H PRN PAIN, #30, RF 0
      - (PERCOCET) 5-500 MG TAB, 1-2 TABS PO Q6H PRN PAIN, #30 RF 0
      - hydromorphone 2 MG TAB, 1-2 TABS PO Q4H PRN PAIN, #30, RF 0
- ORDERS - Right Click for Order Detail, Future, Standing, etc.
  - Laboratory - Serum (multiple)
  - Laboratory - Urine (multiple)
  - Laboratory - Other (multiple)
  - Imaging (multiple)
  - Procedures Performed at Visit (multiple)
  - Referrals (multiple)
- LEVEL OF SERVICE & FOLLOW-UP - Right Click to Complete LOS Calculations
  - LOS Calculator - Right Click to Complete Level of Service Calculations (single)
  - Follow-up - Right Click to Edit Disposition and Follow-up Data (single)
- PATIENT INSTRUCTIONS

Annotations in red text with arrows point to the "Pain Medications" sub-section and a specific medication row, labeled "Opened Sub-Section" and "Individual Order within a Sub-Section" respectively.

On the right side of the SmartSet window, there is an "Authorizing Provider" section with a dropdown menu showing "PROVIDER, KP [1]" and a checkbox for "Cosign for Procedures". Below that is a "SmartSet Notes" section with a text area containing the following text: "8/22/05 This version has passed QA. In this version, we have added generic urology office visit progress notes for male and female." At the bottom of the SmartSet window is a "Legend" section with a green circle for "Standing order" and a purple square for "Future order".

The bottom of the screenshot shows the Windows taskbar with the Start button, several application icons, and the system tray showing the time as 14:00 PM.

# Clinical decision support: Best Practice Alerts



Best Practice Alerts

Pop-up that alerts clinicians to patient safety or health maintenance reminders, utilization reminders, and quality reminders.

**Epic Hyperspace - CPK-FP - PRODUCTION** | Results, Staff Msg

Desktop Action Patient Care Scheduling HIM Billing Hospital Billing Reg/ADT Referrals Reports Report Mgmt Tools Help

Back Patient Lists Home Schedule In Basket Review Encounter Tel Encounter Orders Encounter Send Msg Secure Print Log Out

Home Kpnw, Eight

**Kpnw, Eight** Age Sex DOB MRN Allergies Spec Feat PCP Alerts Pat Type kp.org  
55 yrs F 8/6/1952 61739802 Dairy Aid, Iodine And Iodine Con\* N LUH, ALBER\* HM N/A Inactiv

Chart Review  
SnapShot  
Launch RRS  
Graphs  
Growth Chart  
Flowsheets  
EKG Report  
Demographics  
Letters  
Smartforms  
History  
Problem List  
Allergies  
Medications  
Order Entry  
Episodes  
Level of Service  
Imm/Injections  
FYI  
Visit Navigator

**Visit Navigator (10/9/2007 visit with HICKEY) - Viewing**

Images Questionnaires Admin Benefits SmartSets Open Orders Change PCP Print AVS PreVisit Summary

**Epic** Allergies: «Reviewed on 9/12/2007» Dairy Aid, Iodine And Iodine Containing Compounds, Penicillins Class, Sulfa Class, +  
KPNW,EIGHT (6173-98-02) Sex: Female DOB: 8/6/1952 Age: 55  
Preterm Risk

**KPNW Charting**

**BestPractice Alerts**

**Action(s)**

- DISEASE MANAGEMENT: This patient is due or due soon for a lipid screening test. ACTION: Use the SmartSet to order.**  
Last TG=175 on 9/2/2004  
Last CHOL=165 on 9/2/2004  
(LIPID PANEL last done: 6/1/2007)  
 Open SmartSet: Lipid Screening Yearly
- DISEASE MANAGEMENT: High Risk HTN patient with previous BP > 140/90 or BP not taken within 1 yr. ACTION: Consider education and/or adjustment of therapy.**  
 Open SmartSet: HYPERTENSION ADULT IM FP - NW

Accept

**Relevant Results**

CBC, IRON (Last 3 results in 3 years)

WBC	HGB	HCT	PLT	Fe	Ferritin
-----	-----	-----	-----	----	----------

WILEY CHAN | Results, Staff Msg | 12:01 PM

# SmartText Used in Patient Instructions



## SmartText (ETX)

Text block that can include SmartLinks and SmartLists, and can be restricted by age/gender. Multiple Types (such as Progress Notes, Letter, Patient Instructions).

The screenshot displays the Epic Hyperspace interface for patient Zznatest, Adultmale. The patient's MRN is E12129, age 67, sex M, and PCP is Kaiser Prodnam. The patient has allergies for Pcn Class and Bee Stings. The interface shows the 'Patient Instructions' section for a visit on 5/1/2006. The instructions text is as follows:

Abdominal Pain

Your Kaiser Permanente Care Instructions

Abdominal pain has many possible causes. Some are not serious and get better on their own in a few days. Others need more testing and treatment. If your pain continues or gets worse, you need to be rechecked and may need more tests to find out what is wrong.

Do not ignore new symptoms, such as a fever, nausea and vomiting, urination problems, pain that gets worse, or dizziness. These may be signs of a more serious problem.

A red box highlights the text block, and a red arrow points to the word 'SmartText' written in red text on the left side of the screenshot.

# kp.org: MyChart Personal health record (PHR)



**KAISER PERMANENTE** Home Sign on Web

Change your region: California - Northern

Your health record Get health advice Appointments/Rx refills Your plan Locate our

**Past office visit information**

- Help
- About this feature

Related links:  
 Health encyclopedia

**A convenient history of previous visits**

This page displays basic information about your recent visits. If you need more information please contact your Permanente facility. If you have any questions about the information on this page, please call 1-800-123-4567.

Date	Time	Provider	Department	Details
11/06/2003	10:30 AM	Grant Petersen, MD	Campbell Medical Offices	<a href="#">Details</a>
09/03/2003	2:45 PM	Grant Petersen, MD	Campbell Medical Offices	<a href="#">Details</a>

**Appointment Information**

**Date:** 11/06/2003  
**Time:** 10:30 AM  
**Visit Type:** Clinic Visit  
**Visit with:** Grant Petersen, MD  
Campbell Medical Offices  
**Reason for Visit:** Diabetes

**Vitals**

**Blood Pressure:** 110/60  
**Respirations:** 26  
**Pulse Rate:** 72  
**Height:** 5' 8"  
**Temperature:** 99  
**Weight:** 188 lbs  
**Temp Source:** Oral  
**SAO2:** 98%

**Lab Orders**

HBA 1C

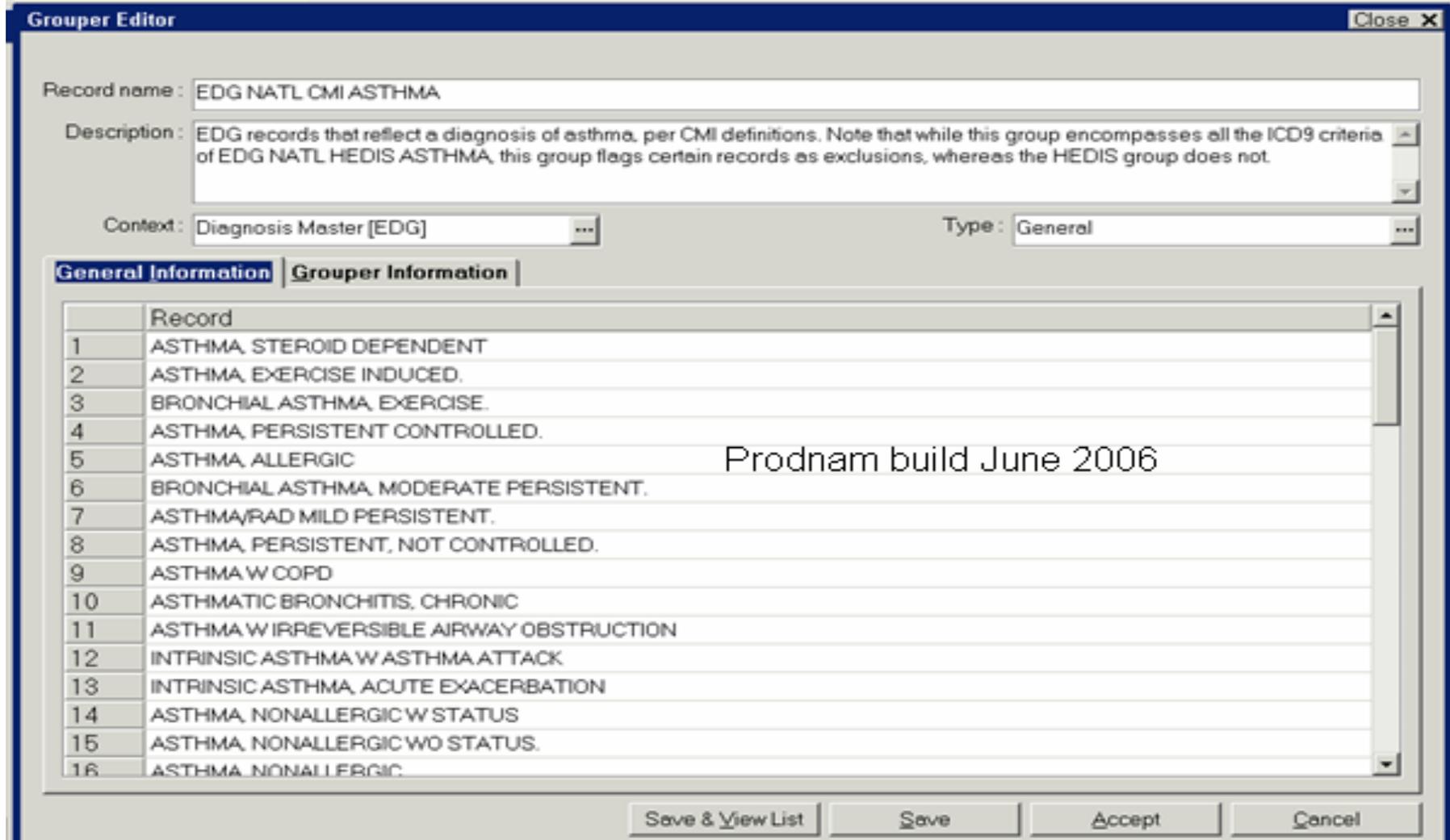
**Patient instructions**

Please check your blood sugar twice a day, before breakfast and dinner, for three days. Send the results by e-mail message to me next week. See the Diabetes featured health topic on kp.org for more information on diet and diabetes.

# CDS Infrastructure: Groupers

## Groupers (VCG)

Grouper master file that defines groups of other master files; for example, over 200 EDG terms for asthma can be placed into one VCG record.



Record name: EDG NATL CMI ASTHMA

Description: EDG records that reflect a diagnosis of asthma, per CMI definitions. Note that while this group encompasses all the ICD9 criteria of EDG NATL HEDIS ASTHMA, this group flags certain records as exclusions, whereas the HEDIS group does not.

Context: Diagnosis Master [EDG] Type: General

**General Information** | Grouper Information

Record
1 ASTHMA, STEROID DEPENDENT
2 ASTHMA, EXERCISE INDUCED.
3 BRONCHIAL ASTHMA, EXERCISE.
4 ASTHMA, PERSISTENT CONTROLLED.
5 ASTHMA, ALLERGIC
6 BRONCHIAL ASTHMA, MODERATE PERSISTENT.
7 ASTHMA/RAD MILD PERSISTENT.
8 ASTHMA, PERSISTENT, NOT CONTROLLED.
9 ASTHMA W COPD
10 ASTHMATIC BRONCHITIS, CHRONIC
11 ASTHMA W IRREVERSIBLE AIRWAY OBSTRUCTION
12 INTRINSIC ASTHMA W ASTHMA ATTACK
13 INTRINSIC ASTHMA, ACUTE EXACERBATION
14 ASTHMA, NONALLERGIC W STATUS
15 ASTHMA, NONALLERGIC WO STATUS.
16 ASTHMA, NONALLERGIC.

Prodnam build June 2006

Save & View List Save Accept Cancel

# KP HealthConnect Community Library



KPHC Community Library: Advanced Search - Mozilla Firefox

File Edit View History Bookmarks Tools Help

http://d.kp.org/pkc/national/operations/kphc/harvesting/advanced\_search.html

KAISER PERMANENTE HEALTHCONNECT

Community Library

Home / Search About Harvesting Showroom Browse Table of Contents Additional Content Help Contact

### Search

- NEW (10/02/08): NCAL PRL SmartSets/OrderSets and related LGL Locators have been added to the KPHC Community Library. See [Frequently Asked Questions](#) for more information.
- The KPHC Clinical Content Showroom has been retired. Click [here](#) for more details.
- Epic-Released records are temporarily unavailable.

Content extracted on: 02-26-09.

[Search Tips](#)  
[California Instance SmartText Search](#)  
[Blue Book - Current view of ALL national SmartPhrases \(May 2006\)](#)

Search Reset Search

You do not need to select all checkboxes to get all content in a given section.

#### Search Terms

Search in Titles Only

To retrieve pages that include either word A OR word B, use an uppercase "OR" between terms.  
There is no need to include "AND" between terms.

#### Setting

Ambulatory  
 Emergency Department  
 KP.ORG

Inpatient  
 Operating Room

#### Content Contributor

NOTE: Each region's content list includes only those tools that were created from scratch or "saved as" from another environment (e.g. PRODNAM). The lists do not include content that was used directly "as-is" from another environment.

Colorado/Exempla  
 Georgia  
 Hawaii  
 Mid-Atlantic States  
 National

NCAL Lead  
 Northwest  
 Ohio  
 SCAL Lead

#### Content Type

\* Tools can be further restricted by Functional Type.  
‡ Some content will be available only for regions that have converted to PRL functionality.

Alternative\*  
 Best Practice Alerts / Locators\*‡  
 Documentation Flowsheet Groups / Rows\*  
 Documentation Flowsheet Template  
 Flowsheet  
 Health Maintenance Module

Questionnaire\*  
 SmartForm  
 SmartLink  
 SmartSet (LGQ)  
 SmartSet - Best Practice Alert (LGQ)

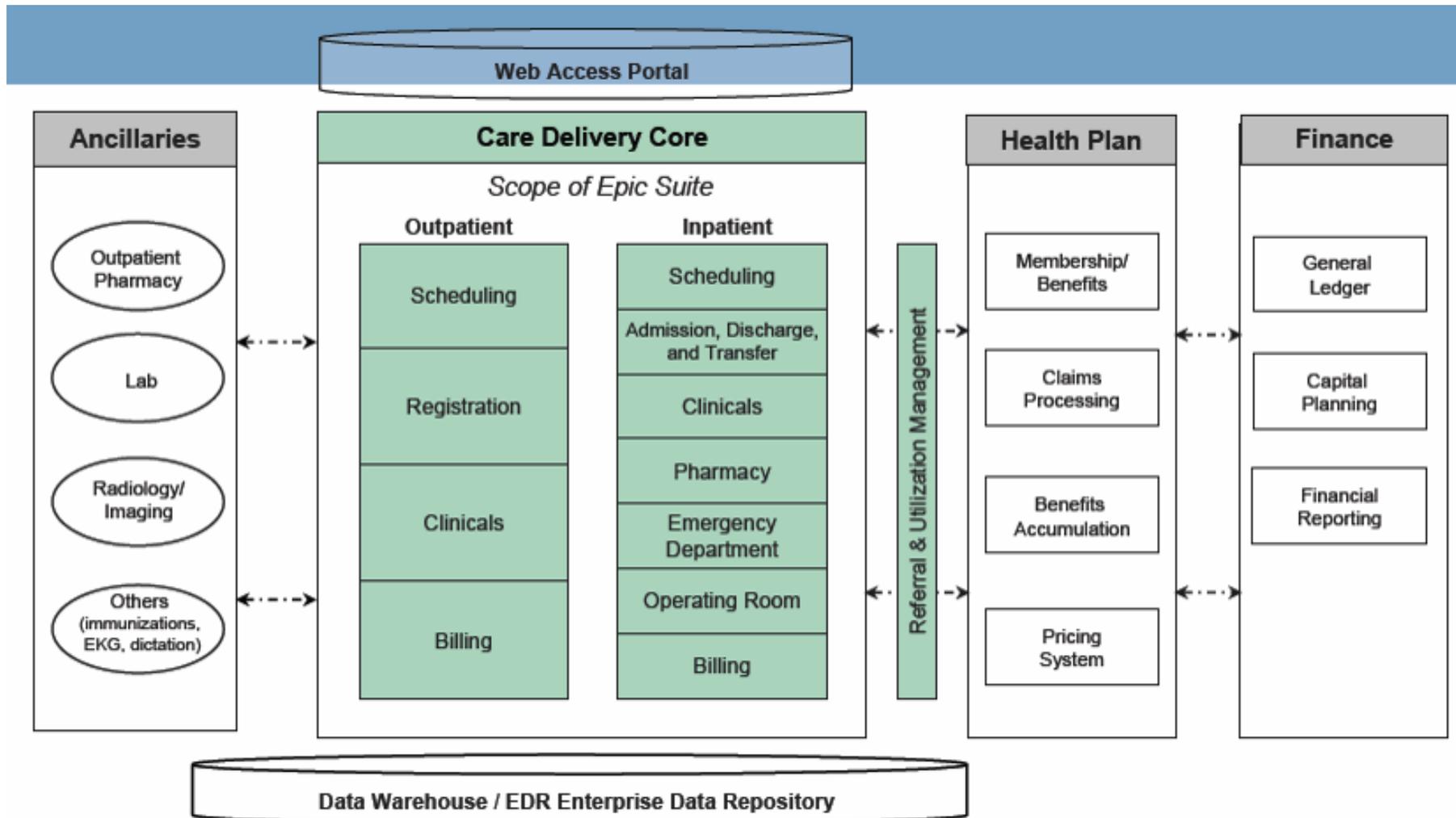
#### Specialty

Caution! Specialty Search may return incomplete results. Specialty is not always captured due to regional build variations. Specialty Search is most appropriate for LGQ SmartSet/OrderSet searches.

Hold **ctrl+click** to select/unselect individual values.  
Hold **shift+click** or **click+drag** to select ranges.  
Hold **shift+ctrl+click** to select both ranges and individual values.

-All-  
-Unclassified-  
Administration-Disease Management  
Administration-Dme, Member Relations

# KPHealthConnect is one of many IT Systems



## Talk outline:

Our team: R&D at KP

**Case study #1:** Complex Chronic Conditions

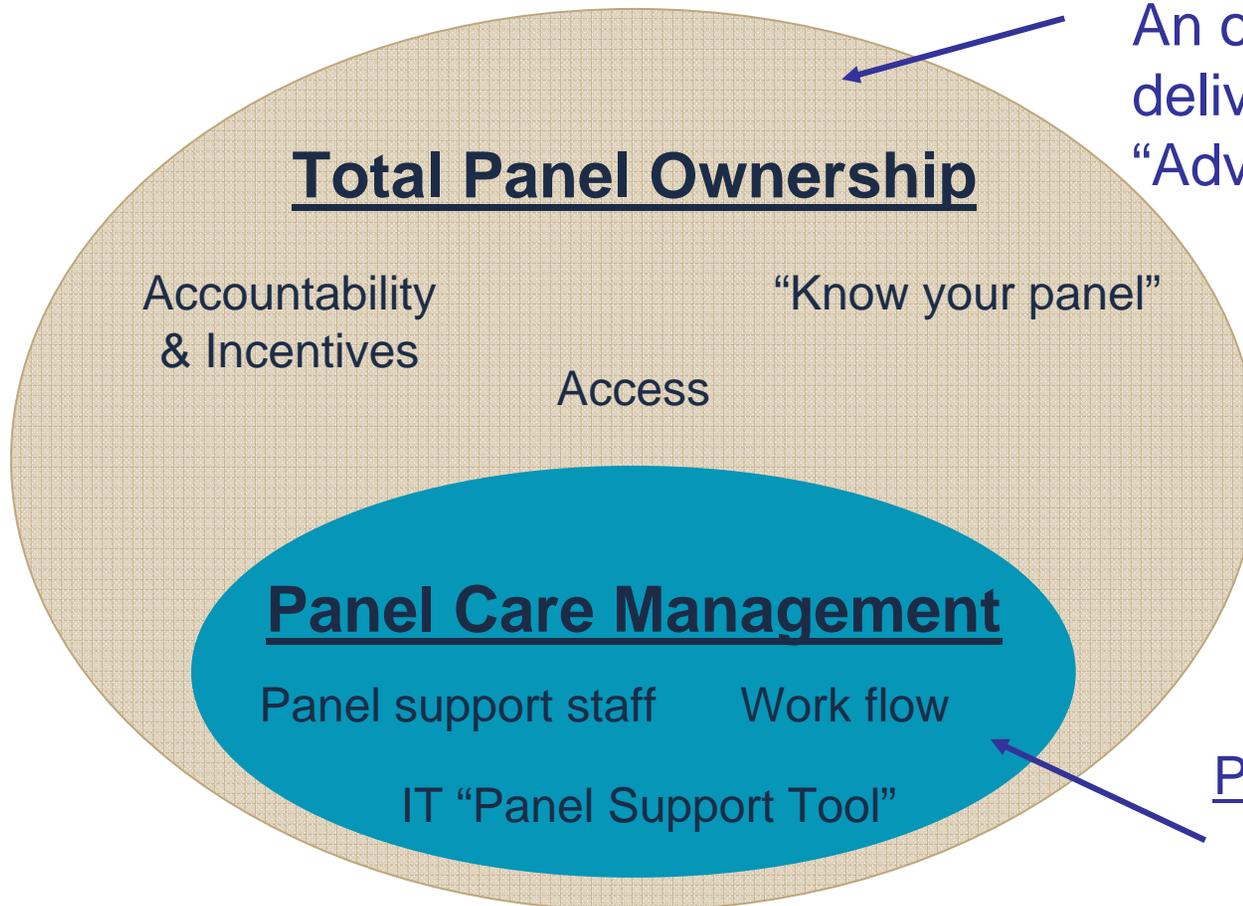
Background on KP and informatics

**Case study #2:** Panel management

**Case study #3:** Transitions in Care

# Culture change: PCP responsibility for patients who do not present

Total Panel Ownership:  
An overall approach to delivering care, based on “Advanced Medical Home”



Panel Management:  
Specific tools and processes for finding and closing “care gaps”

# Team-based population care



**Kaiser Permanente uses evidence-based guidelines, registries, and team-based population care for patients with chronic conditions, such as:**

- › **Asthma (2.7% of members)**
- › **Cardiovascular artery disease (3.4%)**
- › **Chronic pain (5.1%)**
- › **Depression (7.1%)**
- › **Diabetes (9.3%)**
- › **Heart failure (1.4%)**
- › **Obesity (30% of adults)**



# PHASE:

## Proven preventive therapies



KAISER PERMANENTE



### 4 Drug Interventions

- Antithrombotic medication
  - Treatment with aspirin 81-325 mg daily unless contraindicated
  - If contraindicated, use of clopidogrel is recommended
- Lipid-lowering medications
  - Treatment with statin is recommended even if LDL-C is <100 mg/dL
- ACE inhibitors
  - Treatment with ACE inhibitor long-term unless contraindicated
- Beta blockers
  - Treatment with a beta blocker for members with CAD, PAD, and AAA unless contraindicated

### Controlling 3 risk factors

- Blood pressure
- Lipids
  - Statin dose sufficient to bring LDL-C levels < 100 mg/dL
- Blood glucose control
  - HgA1c < 7.0 is optimal for members with diabetes

### 4 Lifestyle Changes

- Tobacco Cessation
- Physical Activity
- Healthy Eating
  - Recommend a diet rich in fruits, vegetables, legumes, nuts, whole grains, and n-3 polyunsaturated fat
- Weight Management
  - Weight management reduces multiple risk factors



# Panel Management process

## People

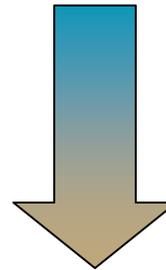
Dedicated PCP time  
Support staff (MA,  
RN), protected time

## Process

Identifying patients  
with care gaps and  
conducting outreach

## IT Tool

Internally developed,  
linked to electronic  
data sources



Generate list  
of patients,  
by care gaps

Prepare  
clinical data  
summaries

Review patient  
status, decide  
on treatment

Execute  
orders,  
communicate

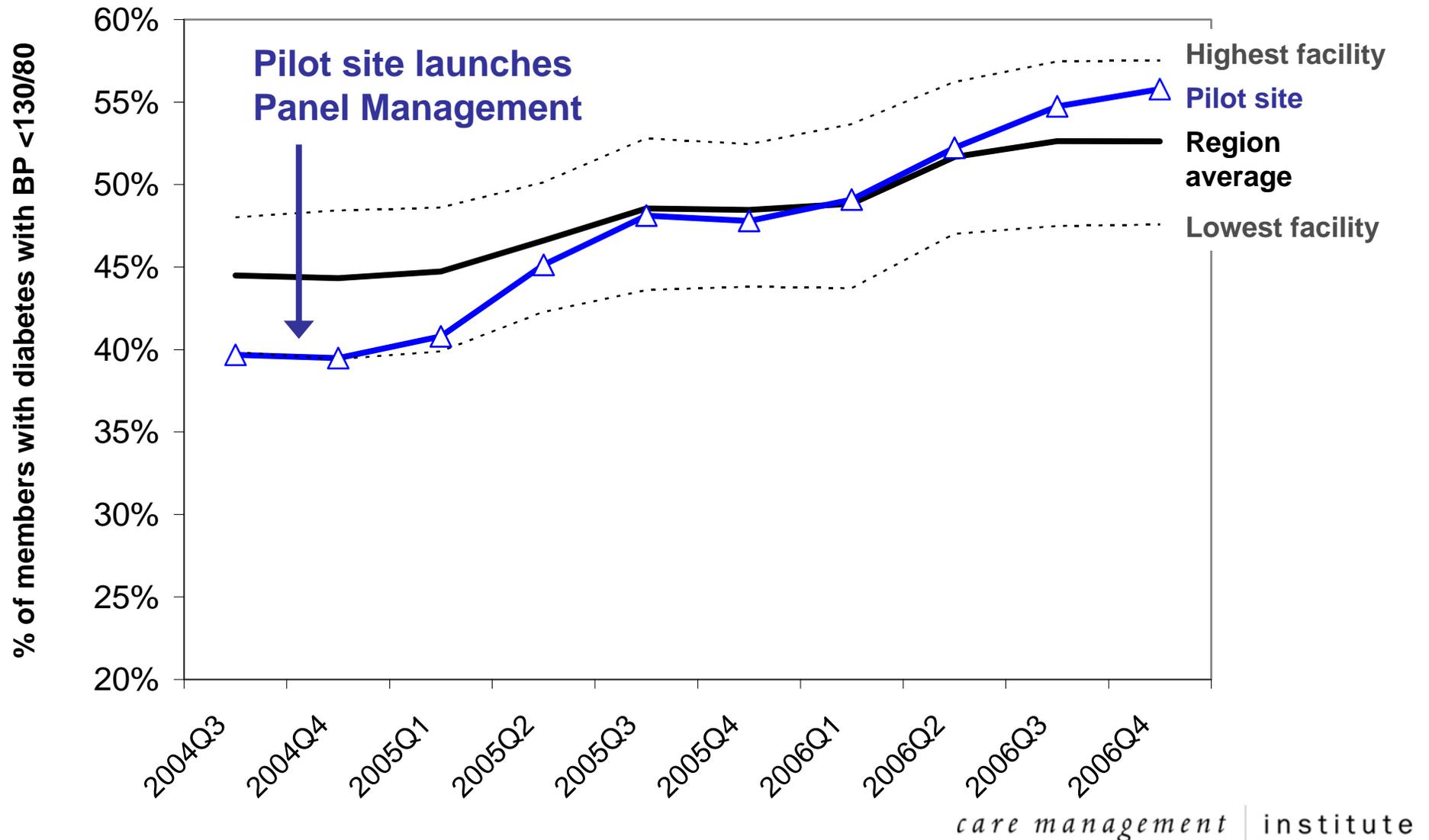
RN or other licensed staff –  
clinic-based or centralized

Primary Care MD

Clinic-based staff

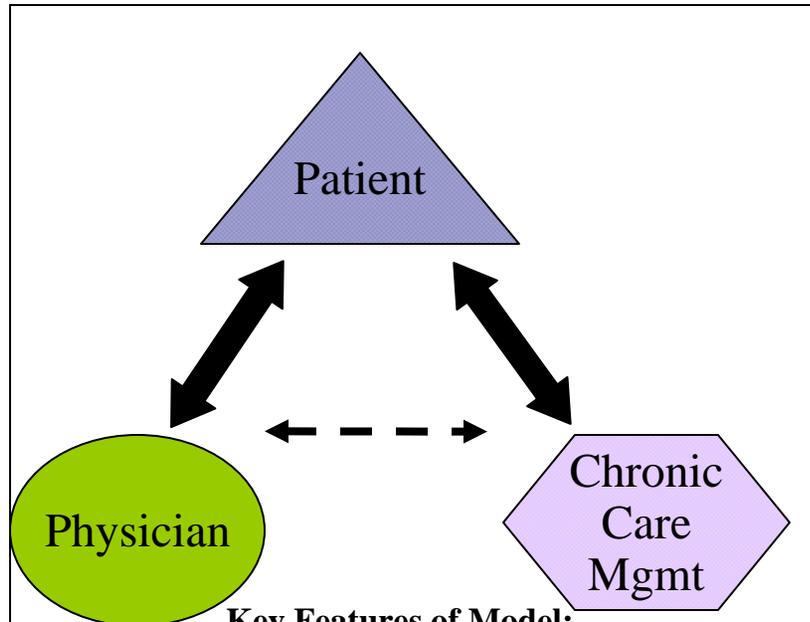
# Early signs of success

## Diabetes - Blood Pressure Control



# Key features in the model of care

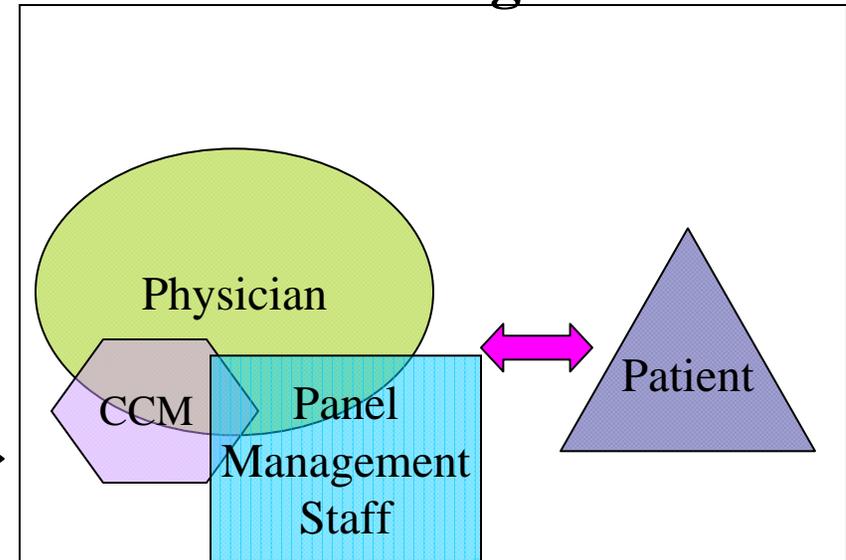
## Previous Model



### Key Features of Model:

- Physician care primarily reactive – visit based and responsive
- Limited capacity for risk stratification or proactive care management interventions
- Care management program siloed (more or less) from primary care team with ancillary staff “offloading” physician
- Minimal communication and coordination between physician and care manager

## Panel Management



### Key Features of Model:

- Physician and team proactive, accountable for clinical outcomes and patient satisfaction
- Systematized process for coordinating physician and panel management team activities
- Increased capacity & options for chronic care, leveraging physician time and ancillary staff support to extend physician
- Sophisticated I.T. infrastructure supporting population-level chronic care

## Therapy Gaps

Therapy	
<b>Asthma</b>	<input type="checkbox"/> Consider start/increase of inhaled steroids
<b>Heart Protection</b>	<input type="checkbox"/> Heart Protection (Statins, ACE-I, Aspirin) for High Risk Populations
<b>Statins</b>	<input checked="" type="checkbox"/> CVD & DM populations <input type="checkbox"/> Based on 10yr CAD risk score
<b>ACE/ARB</b>	<input checked="" type="checkbox"/> CVD risk (HOPE and EUROPA trials) <input checked="" type="checkbox"/> DM Nephropathy <input checked="" type="checkbox"/> Heart Failure
<b>Aspirin</b>	<input type="checkbox"/> Daily Aspirin for High Risk Populations <input type="checkbox"/> Based on 10yr CAD risk score
<b>Betablockers for</b>	<input checked="" type="checkbox"/> Post-MI <input checked="" type="checkbox"/> Heart Failure
<b>Glycemic control</b>	<input type="checkbox"/> Insulin consideration when A1c >9 and on Orals > 1yr <input type="checkbox"/> Metformin consideration when BMI > 27 and A1c > 8
<b>BP control - Consider adding BP meds when BP &gt; 140/90</b>	<input type="checkbox"/> High Risk populations <input type="checkbox"/> Uncomplicated HTN
<b>Osteoporosis</b>	<input type="checkbox"/> Women 65+ with T-score ≤ -2.5 <input type="checkbox"/> Post-fracture - osteoporosis per HEDIS

## Monitoring Gaps

Chronic Condition - Monitoring	
<b>DM</b>	<input checked="" type="checkbox"/> HbA1c screening due <input checked="" type="checkbox"/> Renal screening due <input type="checkbox"/> Eye screen due <input type="checkbox"/> Foot screen due
<b>High Risk Populations:</b>	<input checked="" type="checkbox"/> LDL screening for high risk populations due
<b>Monitoring Meds (HEDIS)</b>	<input type="checkbox"/> Annual Labs Due
<b>CKD</b>	<input type="checkbox"/> Lab(s) due - Creatinine, microAlb/Cr or UPr/Cr, Hgb, Lytes

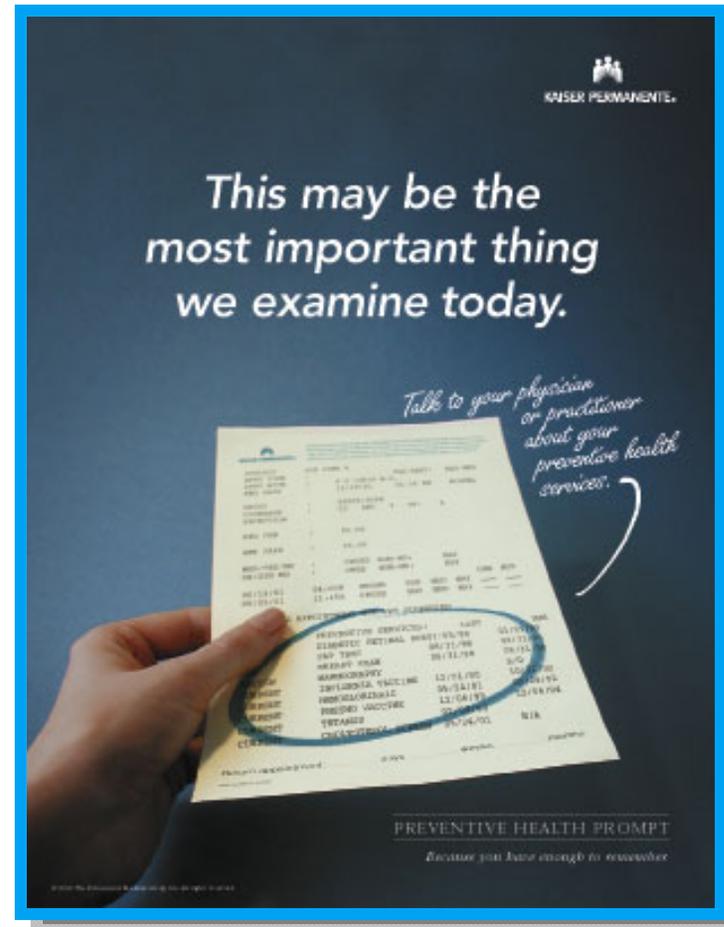
## Prevention Gaps

Primary Prevention	
<b>High Risk Populations</b>	<input type="checkbox"/> Flu shot due (during flu season) <input checked="" type="checkbox"/> Pneumovax due
<b>General Population</b>	<input checked="" type="checkbox"/> Mammo due <input checked="" type="checkbox"/> Pap smear due <input type="checkbox"/> Colorectal screening due <input checked="" type="checkbox"/> Cholesterol screening due q 5yrs  <input checked="" type="checkbox"/> Tetanus shot due <input type="checkbox"/> Osteoporosis screening due

# A focus on health promotion

**Preventive Health Prompt (PHP)** printed at every visit to track preventive services. A shared tool with copy to patient and to clinician. Includes due dates for:

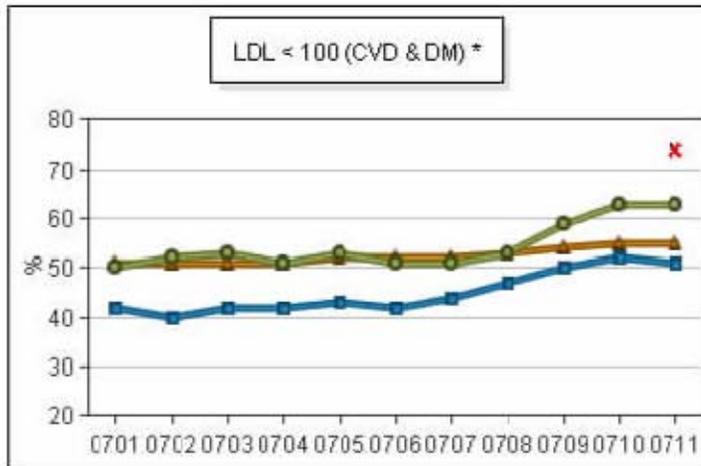
- Mammogram
- Sigmoidoscopy
- Pap smear
- Immunizations
- Cholesterol check
- Routine physical
- Pneumonia vaccine, etc.



# Whole-panel views – vital signs for the primary care team

■ All Panels 
 ■ PCP 
 ■ HCT 
 ✖ Max

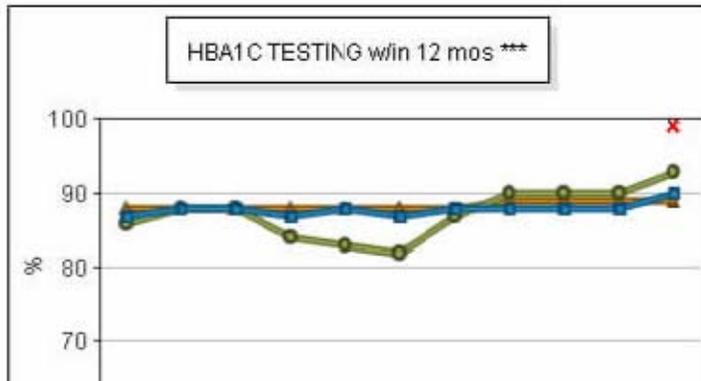
## Intermediate Outcome



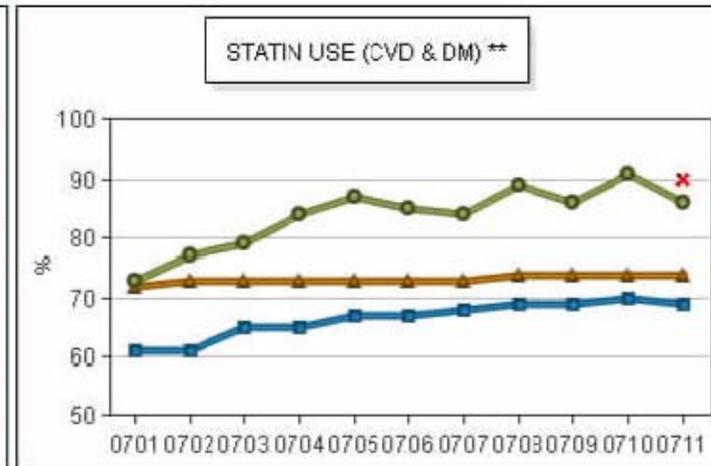
[Print](#) % CVD and DM pts with LDL LT 100

[Click Here to see All Intermediate Outcomes Graphs](#)

## Chronic Condition Monitoring



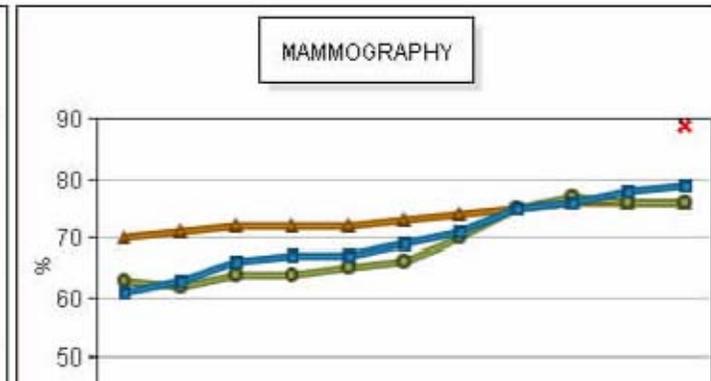
## Therapy



[Print](#) % CVD and DM pts age 40-80 with recent Statin at min. Lova 40 or equiv.

[Click Here to see All Therapy Graphs](#)

## Primary Prevention



# Rapid Region-wide improvement after full transition to panel management



HEDIS Measure Effectiveness of Care	Q4 2006	HEDIS 90 <sup>th</sup> %ile	Q4 2007	Change
DM HBA1c Screening	90.8%	92.7%	93.5%	2.7%
DM LDL Screening	85.4%	85.4%	90.9%	5.5%
DM Retinopathy Screening	69.6%	69.3%	75.3%	5.7%
DM Nephropathy Screening	89.4%	91.2%	92.6%	3.2%
DM LDL <100 (Commercial)	46.6%	52.6%	52.8%	6.2%
DM LDL <100 (Medicare)	60.2%	64.5%	66.4%	6.2%
DM HbA1c >9% (poor control)	24.9%	< 20.4%	23.6%	1.3%
Breast Cancer Screening	82.0%	80.1%	82.9%	0.9%
Cervical Cancer Screening	81.4%	87.1%	84.5%	3.1%

# Panel management – Qualitative results



- Patients like it – they appreciate the outreach and reminders
  - “When someone reminds you of your health, it’s really important, and I really appreciate it.”
  
- PCPs feel more effective... but still feel crunched for time
  - “Panel management doesn’t make my day any easier, but it makes my day better.”
  
- A surprise on staffing: The PMA role may be better suited to unlicensed medical assistants than to registered nurses
  - The PMA role can feel like a broadening of role for a medical assistant, but a restricted role for an RN
  - Physicians tend to lean on RNs to make routine clinical recommendations, but...
    - “It sounded like the nurse and the doctor were not talking to each other. I don’t want the nurse knowing something that the doctor doesn’t know.”

- “Understanding Panel Management: A Comparative Study of an Emerging Approach to Population Care.” Neuwirth EB, Schmittiel JA, Tallman K, Bellows J. *Permanente Journal* (2007) 11:3
- <http://xnet.kp.org/permanentejournal/SUM07/panel-management.html>

“Panel Management” Practices in Primary Care

A Tool Kit for Enhancing Kaiser’s Complete Care Program

April 2007



Sponsored by:  
Care Management Institute & 21<sup>st</sup> Century Care Initiative  
Program Offices  
1 Kaiser Plaza  
Oakland, CA 94612

© 2007. Kaiser Permanente. All rights reserved.

## Talk outline:

Our team: R&D at KP

**Case study #1:** Complex Chronic Conditions

Background on KP and informatics

**Case study #2:** Panel management

**Case study #3:** Transitions in Care

# Patient-centered transitions design

## CMI & Innovation Consultancy

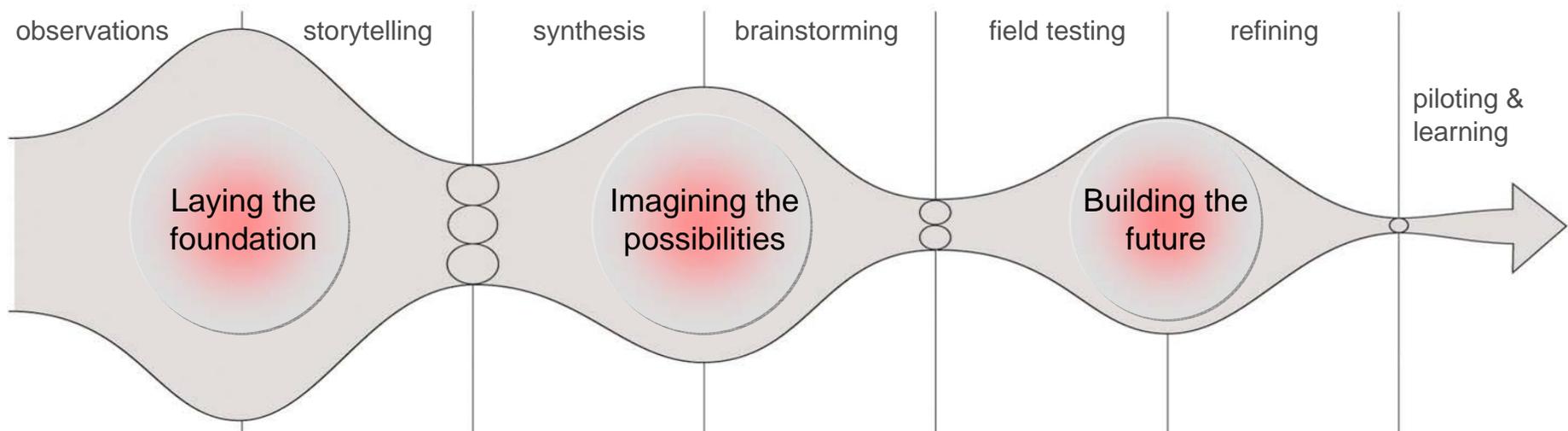


May - Jun

Aug 4-5  
Deep Dive

Sep - Dec

Dec +



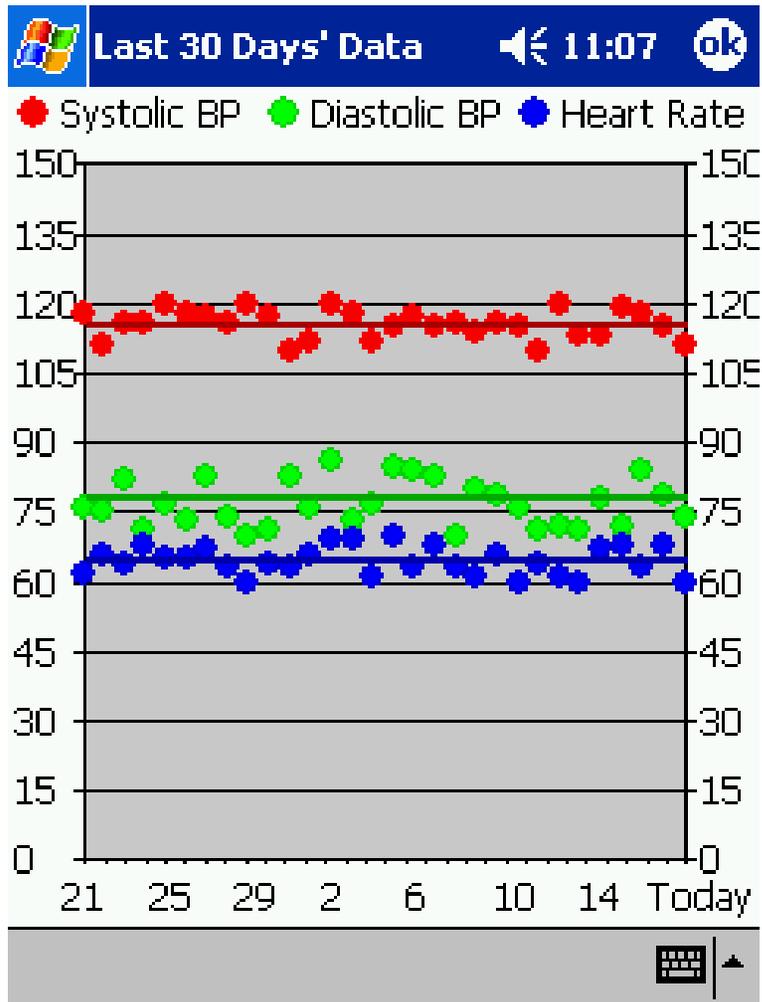
<http://ideabook.kp.org/groups/pt-transitions>

care management | institute

# 2008 methodology breakthrough: Video ethnography



# Storytelling: “My blood pressure is lower than your blood pressure”



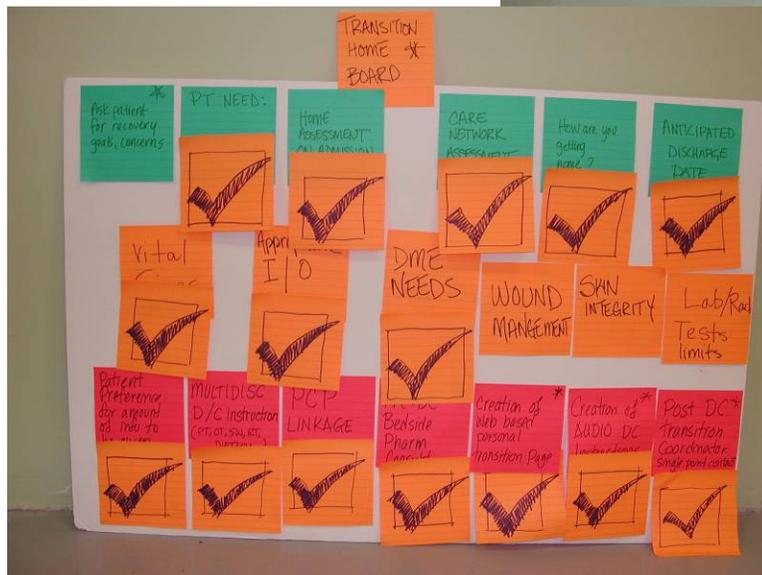
- One way Dr. Kuyawe tries to keep his patients out of the hospital is by using the panel support tool
- He actually shows patients how they rate compared to other patients.
- “Everyone wants to be competitive,” he explains.
- He may show a patient their blood pressure on a graph and point out that it is the highest of his whole panel.
- No one wants this distinction so they will actually work harder to lower their blood pressure, for the end goal of coming back and seeing how they’ve moved lower on the graph.

# Findings | The Patient Perspective



- Patients focus on and value other things, not the transition itself:
  - they are concerned about their condition and “getting well”, “going home” and “getting back to normal”
  - their hospitalization is an interruption of their normal life—it’s an “artificial” setting
- “One foot out the door”
  - On the day of discharge, patients are emotionally focused on going home and are not capable of efficiently absorbing information
- The discharge process is often a “bad ending”
  - lengthy and unpredictable time span
  - poor coordination between hospital floor and pharmacy
- Only after they get home and start to experience their recovery do patients really recognize and understand they face barriers to optimal recovery
  - care information that is skimpy or hard to understand and interpret in relation to their individual circumstances
  - complex medication regimes
  - re-contacting the right person or department at Kaiser
- Caregivers play a far larger role in managing “transition” and recovery than seems to be recognized by providers

# Brainstorming & Enacting: tools, roles, space, and processes



# Field testing in West LA





**diagnosis**



**activity**



**medication**



**diet**

primary family/friend is: \_\_\_\_\_

destination is: \_\_\_\_\_

has medical equipment and supplies: \_\_\_\_\_

follow up scheduled: \_\_\_\_\_

picked up medication: \_\_\_\_\_

discharge received: \_\_\_\_\_

**home needs**

I want to understand the medical terms.

I don't want to be a burden on my family and friends.

Will my body change?

I want to be free from pain.

Getting to the bathroom is hard.

My family thinks I need more help but I am fine.

I worry my doctor is wrong.

**Medication**

Drug	Strength	Frequency	Directions	Notes	Start	Stop
<b>Over-the-Counter Medications</b>						
<b>Non-Prescription Medications</b>						
<b>STOP taking the following medications</b>						

KAISER PERMANENTE  
WEST LOS ANGELES MEDICAL CENTER

folder created for: \_\_\_\_\_

City: \_\_\_\_\_

Here are some resources you may find useful as you care for your friend/loved one. When you go home, you can take this folder with you to use as a reference guide.



	MON	TUE	WED	THUR	FRI	SAT	SUN
Morning							
Afternoon							
Evening							

**Important Phone Numbers**

**Clinical Questions**  
Primary care physician or KP-on-call: (888) 576 - 6225

**Pharmacy Questions**  
Clinical pharmacy: (310) 737 - 4900 or (323) 857 - 2144  
Refills: (866) 391 - 2679

**Primary Care Appointments**  
Appointment line: (800) 954 - 8000  
Primary care clinic: \_\_\_\_\_

**Billing / Financial Questions**  
Financial center: (323) 857 - 3709 or 3804  
Admitting: (323) 857 - 2141  
(800) number on hospital bill: \_\_\_\_\_

**Covered Benefits**  
English (7am-7pm): (800) 464 - 4000  
Chinese dialects: (800) 757 - 7585  
TTY: (800) 777 - 1370

**Durable Medical Equipment**  
(323) 857 - 2320

KAISER PERMANENTE An Innovation Consultancy Prototype



# Ideas evaluated & field tested



## CONCEPT

# An online listing of patient care and home needs.

## Halted Idea - **ELECTRONIC REGISTRY FOR PATIENT NEEDS**

Caregivers are often overwhelmed and overtaxed with all of the patient care needs. Friends and family can sign up for these activities in order to help spread the responsibilities of the patient & caregiver's needs among many people.

The screenshot shows the 'Lotsa Helping Hands' website interface. At the top, there's a navigation bar with links like Home, How it Works, Create a Community - It's Free, About Us, Partners, Tell a Friend, and Sign In. Below this is a main content area with a slide titled 'Debbie's Helpers'. A callout box highlights the process of creating a new activity: 'Creating a new activity is simple using the supplied templates. Selecting dates and adding customized instructions makes community coordination easy.' The interface includes a form for 'Edit Activity Info' with fields for Name, Activity Coordinator, Start date, Repeats, and Delivery time. To the right, there are calendar views for August, September, and October 2007. A testimonial box at the bottom right says 'What Users are Saying: I don't know who you guys are but this web site has been invaluable in assisting my friend in getting meals and help with her kids. We have 35 people signed on and it has gone so smoothly thanks to you.'

# Real-time knowledge management: Blogging



Cannot find server - Microsoft Internet Explorer

File Edit View Favorites Tools Help

Address http://:nharfile002.har.ca.kp.org/tic

## Transitions in Care

Care Management Institute (CMI) 2008 Initiative: From hospital

### The Deep Dive

July 21st, 2008



We have completed the observations, shared stories and learnings with all of you in the regional sites, and now it is time for West Los Angeles, Colorado and Hawaii to come together for a 2 - day activity we call a "Deep Dive."

**OBSERVERS** are invited to the first morning of the Deep Dive, August 5th from 8:30-10:15 am.

During the Deep Dive you will:

1. Hear the themes of our patient centered observations
2. Stretch your thinking by brainstorming new ways to assist our

Posted by [Chris McCarthy](#) on Sep 24, 2008 11:25:40 AM

This prototype gives a visual indicator to the patient (in the hospital room) and care team as to what educational for the patient. The current categories are: basics, diet, medication, home needs and follow-up. Each section has to indicate the level of understanding: **Red - not taught**, **Yellow - taught**, **Green - understood**. In the picture below the "tiles" that are on the left and right of the Care Board.

**PLAN:** Have one patient try the JHB prototype for one hospital stay.

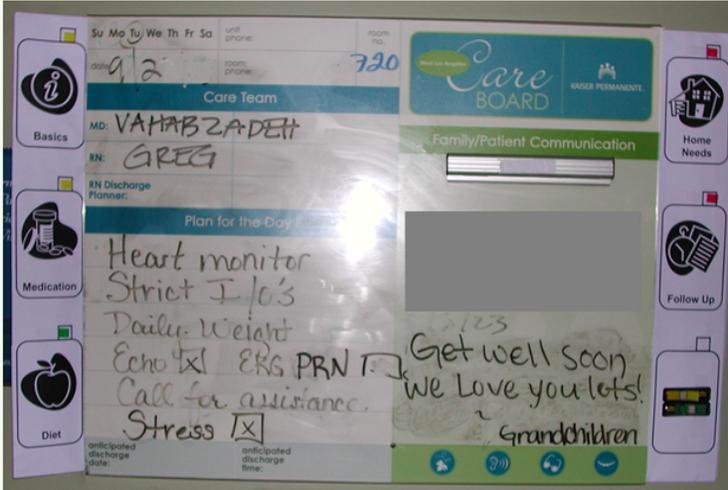
**PREDICATIONS:** 1) Nurses will have a hard time incorporating new tasks into their workflow. 2) Patients will like the information display.

**DO:** Posted one journey home board in a CHF's patient room, and backfilled one nurse to aid in prototyping and test the prototype.

**STUDY:**

Took 15 minutes to go over all sections of the board  
RN was surprised about how quickly she was able to do the education  
RN used board as visual to teach each section  
RN used the red/yellow/green as a guide to keep the patient engage  
RN used the board to keep each section focused  
Family loved that they easily could understand "where" in terms the patient is in their understanding of info  
Family liked that they quickly understood what the baseline was  
Family/patient liked the simplicity

ACT Plan test board with two patients and two nurses who are on the roster week of 9/29



- What's distinctive about our approach?
  - Partnership among improvement, innovation, and evaluation
    - Evaluation not arms-length, but with sufficient independence
  - Relevance and timeliness
  - Patient focus
    - Voices of Our Members

Questions?



*care management* | institute

# Thank you!

## KP Care Management Institute

Jim Bellows, PhD  
Director, Center for Evaluation & Innovation  
[jim.bellows@kp.org](mailto:jim.bellows@kp.org)

Carol Cain, PhD  
Principal Consultant, Incubation  
[carol.h.cain@kp.org](mailto:carol.h.cain@kp.org)

Estee Neuwirth, PhD  
Senior Manager, Evaluation & Innovation  
[estee.neuwirth@kp.org](mailto:estee.neuwirth@kp.org)