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KP HealthConnect
Information driving reform

Using information to drive health system improvement: Discussion today:

- Introduction to KP
  - Who are we?
  - KP's Performance
  - Our Electronic Health Record
    - Scope
    - High level impact of the EHR

- Information driving reform: 5 levels of information

- Blue Sky Vision – our vision for the future

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Kaiser: Compared to US Market

NCQA Rankings:
- KP Regions are the top 4 Medicare plans in the country
- KP is ranked #1 in Medicare in each of the KP regional markets where we operate
- 6 KP Regions are in the top 50 Commercial health plans

Medicare Star Ratings:
- Of 660 plans in the USA, 440 applied for Star ratings: only 9 plans received 5 stars.
- 4 KP plans: CA, Hawaii, NW and Colorado all received 5 stars - the highest rating from CMS for 2012

Joint Commission:
- 10 of our hospitals have been recognized as "top performers"

HEDIS:
- We rank #1 in the nation in 11 Commercial measures

KP HealthConnect / EHR
- KP is the 2011 recipient of the HIMSS Organizational Davies Award for excellence in the implementation and value derived from HIT
- In the last 3 years, 35 KP hospitals have HIMSS Stage 7 Awards in recognition of its health information technology expertise. Only 61 hospitals in the nation have this award as of 2011

TIME

October 17, 2011 Time Article:
- 'KP stands 'head and shoulders' above the other large insurers'
- KP's standout performance in 'Consumer Reports' national rankings of some 830 insurance plans raises an obvious question: What makes KP so different?....

About Kaiser Permanente
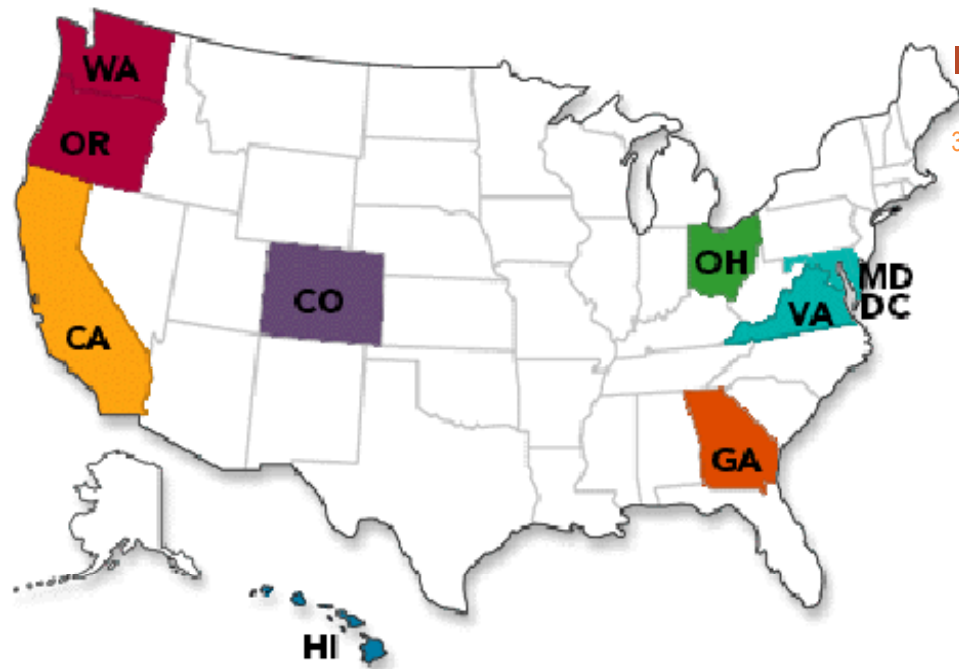
- Nation's largest **nonprofit** health plan
- Integrated health care delivery

  3 Organizations in one: Health insurer, hospital system, physician partnerships

- 8.9 million members
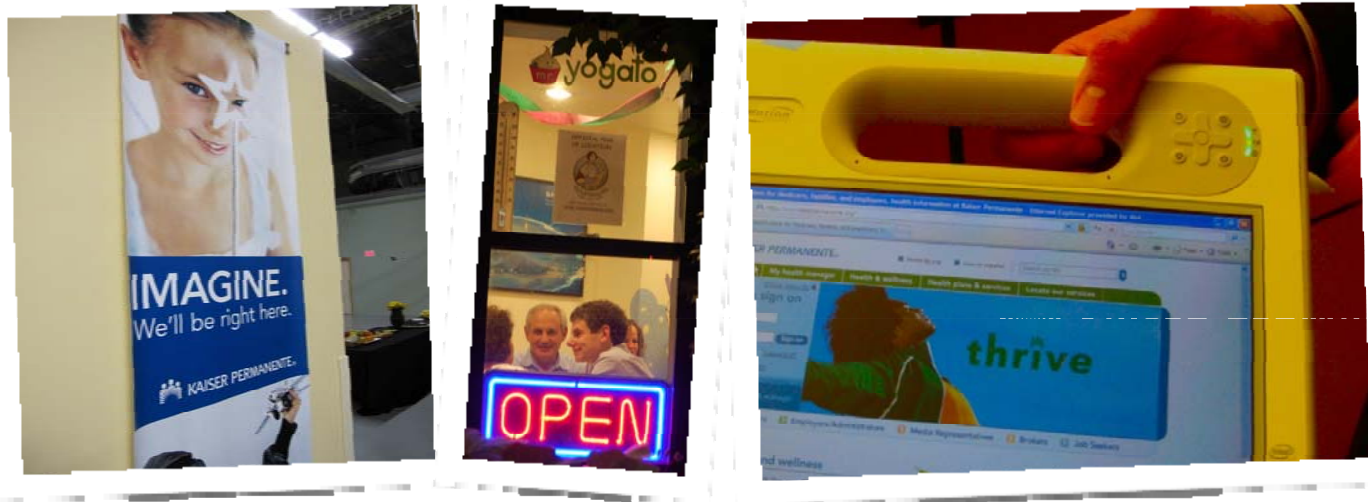- 15,000 physicians
- 167,000 employees
- Serving 9 states and DC
- 36 hospitals
- 533+ medical offices
- $44 billion annual revenues (2010)

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Our investment in technology:
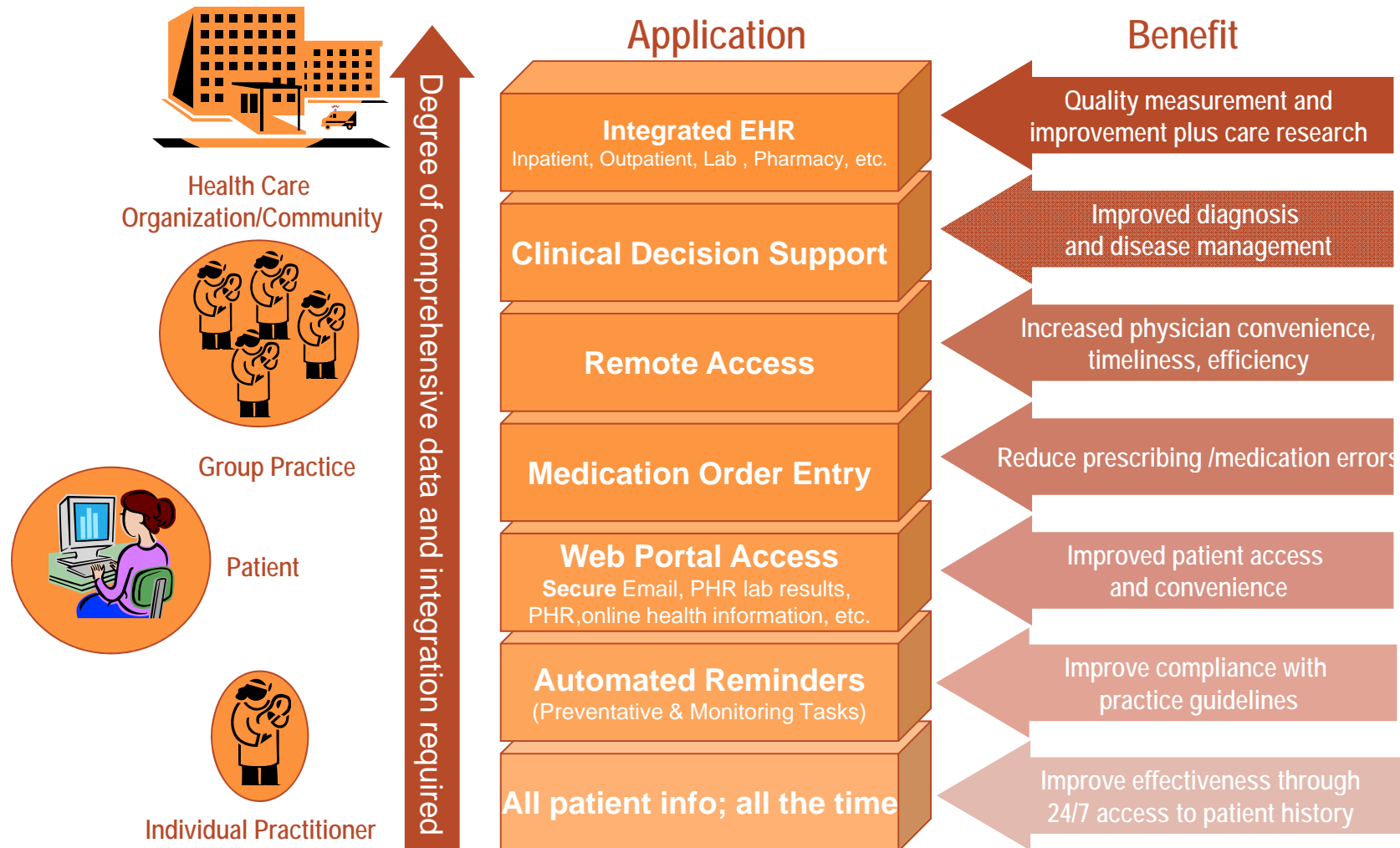# Kaiser Permanente HealthConnect®

- The world's largest and one of the most advanced civilian deployments of an electronic health record
- KP HealthConnect was implemented 2004-2010 specifically to transform care and service delivery
- Our greatest benefits are the resulting improvements in quality and effectiveness of patient care

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Integrating health care across the continuum

- **Inpatient and outpatient** clinical care: documentation, ordering, decision support
- Hospital and outpatient practice management: billing, scheduling, registration, ADT (admission, discharge and transfer)
- **Ancillary systems**: pharmacy, labs, radiology, etc.
- **Online** access to personal health record:
  My Health Manager on kp.org
- **One data model** underlying all EHR components

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The features of Health IT

Health Care Organization/Community

Group Practice

Patient

Individual Practitioner

Degree of comprehensive data and integration required

Application

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

Clinical Decision Support

Remote Access

Medication Order Entry

Web Portal Access
Secure Email, PHR lab results,
PHR,online health information, etc.

Automated Reminders
(Preventative & Monitoring Tasks)

All patient info; all the time

Benefit

Quality measurement and improvement plus care research

Improved diagnosis and disease management

Increased physician convenience, timeliness, efficiency

Reduce prescribing /medication errors

Improved patient access and convenience

Improve compliance with practice guidelines

Improve effectiveness through 24/7 access to patient history

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- Information driving reform: 5 levels of information

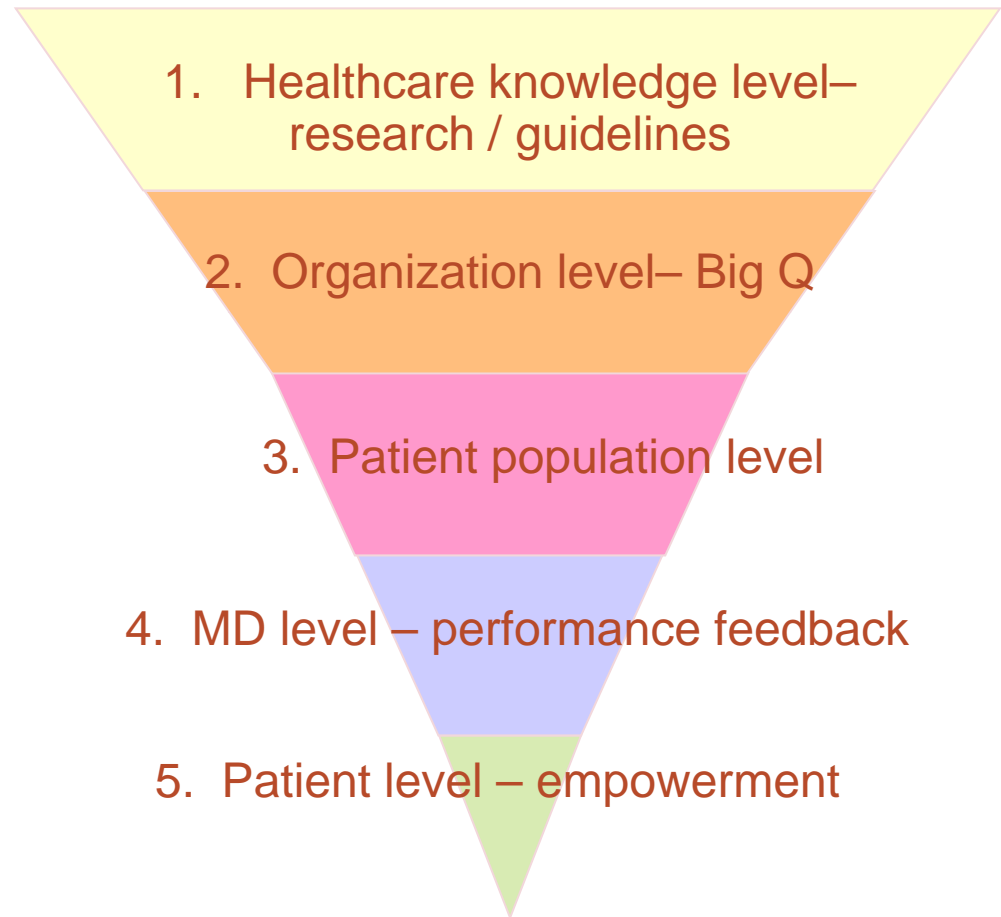- Blue Sky Vision – our vision for the future

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Information is power at many levels

Information is power:

- Power to know what the problem is
- Power to know where to act
- Power to know what to change

Information driving reform:
5 levels of information work together to drive improvement in the healthcare system. They are all enabled and dependant on the HER for data.

1. Healthcare knowledge level– research / guidelines
2. Organization level– Big Q
3. Patient population level
4. MD level – performance feedback
5. Patient level – empowerment

1. Healthcare knowledge – level: A Tale of 2 studies

Tale of Study 1 – It was the best of times, it was the worst of times for researchers in the city of San Antonio….

ALLHAT* – a classic RCT – randomized control trial

- 42,418 patients
- $120 million
- Conducted over 8 years

- Results – Thiazide-type diuretics are most effective at controlling hypertension

- Given the low cost of this diuretic class, they postulated $3.1 billion savings over 10 years

ALLHAT* – Antihypertensive , lipid lowering treatment to prevent health attack trial. Sponsored by the national heart, lung and blood institute

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1. Healthcare knowledge – level: A Tale of 2 studies

Tale 2 – Meanwhile in Denver, David Magid, MD had an idea….

ALLHAT – a classic RCT – randomized control trial
- 42,418 patients
- $120 million
- Conducted over 8 years

- Results – Thiazide-type diuretics are most effective at controlling hypertension

Magid* study
- 4,000,000 patients
- $200,000
- Conducted over 1.5 years

- Results – For the 60% of patients that were not under control / complete hypertension control, ACE Inhibitors and beta blockers are effective as 2nd line medications.

-

*Magid, David J.; Shetterly, Susan J.; Margolis, Karen L.; Tavel, Heather M.; O'Connor, Patrick J.; Selby, Joe V.; Ho, P. Michael, "Comparative Effectiveness of Angiotensin-Converting Enzyme Inhibitors Versus β-Blockers as Second-Line Therapy for Hypertension", Circ Cardiovasc Qual Outcomes, 2010;3:453-458.

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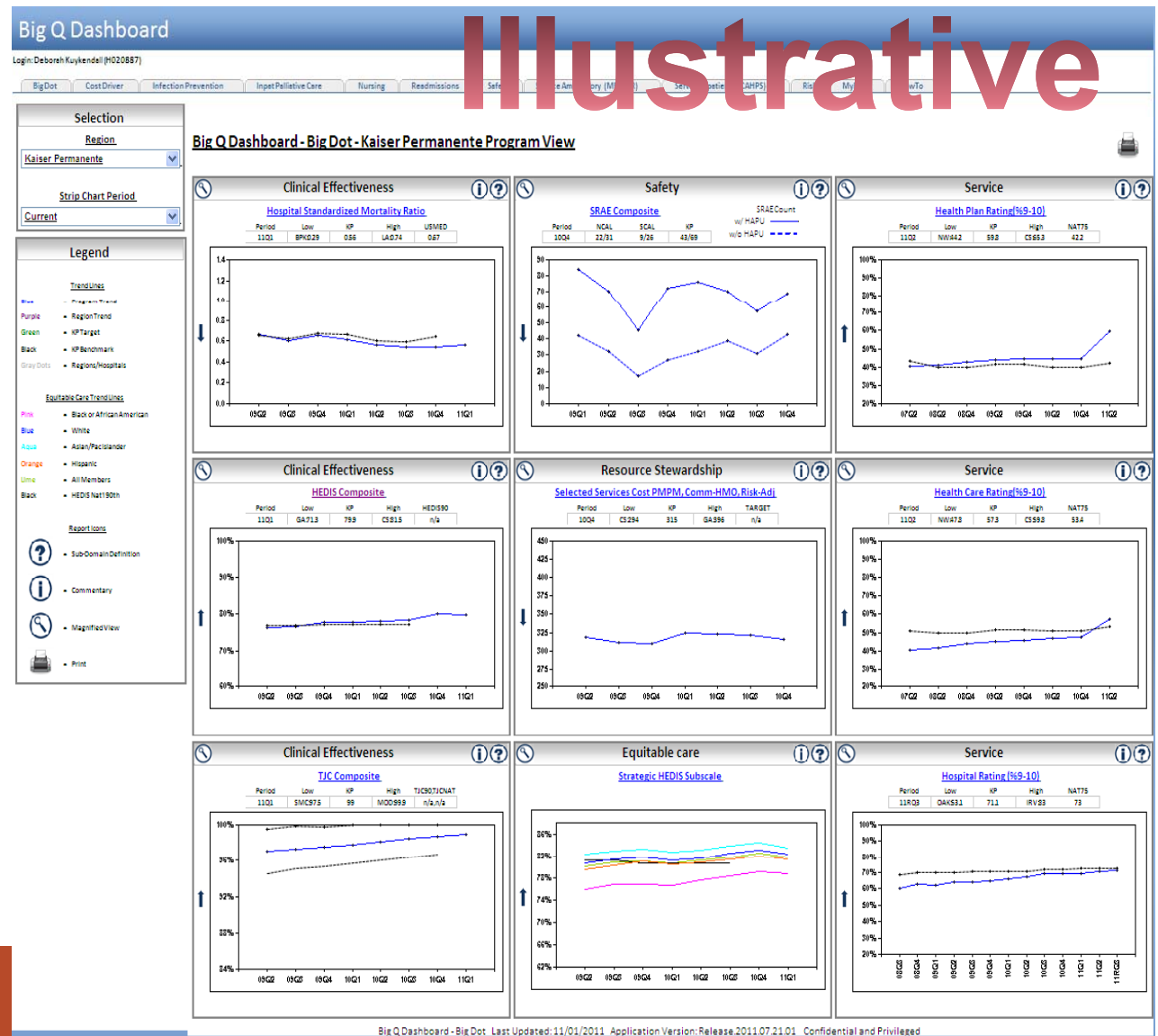# 1. Healthcare knowledge – level: A Tale of 2 studies

RCTs are the traditional gold standard for healthcare research. EHRs and their vast store of data (in depth and breadth) offer an alternative with pros and cons.

	ALLHAT Study	Magid Study
Statistical Design	Randomized Control Trial	Retrospective observational
	- Eliminate Patient Bias	-Adjust for patient bias: Matched case control. N.b. needs a large sample
	- Limited target group	- Cross-sectional population
	- Controlled conditions	- Real World conditions
Results	$120,000,000 over 8 yrs	$200,000 over 1.5 yrs
	42,418 patients	4 million patients

2. Organization- Level: Big Q

Unlike other industries, where the common denominator is often $, healthcare requires a balanced scorecard approach.

- Clinical Effectiveness: inpatient and outpatient
- Safety
- Service / patient satisfaction
- Cost efficiency
- Equity in care

3. Patient population Level

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Demo Site

getting started | updates | FAQs | user guide | glossary | contact us

— The Panel Support Tool —

| choose a provider | search / panel view | visit info | risk factors | logout |

PCP: DEMO DOC   Panel Size : 1158   Y Indicates in the registry

Report	MRN	NAME	Age	Sex	Prev	Gap	DM	CVD	CHF	HTN	CKD	Last Seen	Rev'd
☐	000000027	DEMO27	76	F		20	Y				Y		3/23/2006
☐	000000455	DEMO455	39	M		17	Y				Y		
☐	000000370	DEMO370	50	F		17	Y			Y	Y	12/16/2004	
☐	000000419	DEMO419	45	M		17	Y						
☐	000000441	DEMO441	35	M		17	Y				Y		
☐	000000599	DEMO599	43	M		16	Y			Y			
						14	Y	Y	Y	Y	Y	7/6/2005	3/22/2006
						12	Y			Y	Y	3/13/2006	
						12		Y		Y		4/13/2005	
☐	000000566	DEMO566	37	F		12	Y				Y	7/16/2005	
☐	000000567	DEMO567	54	M		11		Y		Y		7/29/2004	
☐	000000707	DEMO707	73	M		11	Y			Y		2/28/2006	
☐	000000746	DEMO746	58	F		10	Y			Y		12/27/2005	
☐	000000000	DEMO00	55	M		10	Y			Y		1/26/2005	
☐	000000989	DEMO989	85	F		10		Y	Y	Y		5/25/2004	
☐	000000559	DEMO559	79	F		10	Y			Y	Y	9/3/2005	

> The Panel Support tools have been shown to be effective in improving patient quality of care and reducing "care gaps" in a published study

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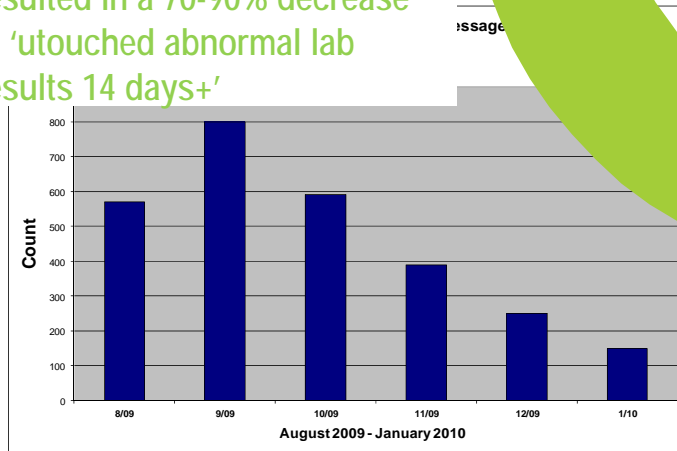# 4. MD – level: Performance feedback loops

MD leaders identify info needs

Analysts extract data and craft report to reflect focus

...t of Untouched Messages by Location / ...ment / Recipient

6	Department	Message Recipient	Count
...ICE	DEPT	FIRSTNAME, LASTNAME MD	3
	DEPT	FIRSTNAME, LASTNAME MD	15
		FIRSTNAME, LASTNAME MD	3
		FIRSTNAME, LASTNAME MD	2
XYZ MEDICAL OFFICE	DEPT	FIRSTNAME, LASTNAME MD	4
	DEPT	FIRSTNAME, LASTNAME MD	28
	DEPT	FIRSTNAME, LASTNAME MD	9

Dept MD Chiefs share with MDs

Monitoring MD inbaskets resulted in a 70-90% decrease in 'utouched abnormal lab results 14 days+'

MD maintains / improves practice. Reports track progress

Count

800
700
600
500
400
300
200
100
0

8/09 9/09 10/09 11/09 12/09 1/10

August 2009 - January 2010

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5. Patient – level: Empowerment

- 3.6 million registered users
- 52 million sign-ons
- 10 million secure emails
- 25 million tests viewed
- 6.8 million Rx refills orders

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5. Patient –Level: Empowered!

- **Efficiency /convenience improved!**
  - Patients who use secure e-mail:
    - Are 7% to 10% less likely to schedule a routine office visit[1]
    - Make about 14% fewer phone contacts
  - Those who book appointments online are up to 50% more likely to keep them
- **Quality of Care Improved!**
  - In a matched-control analysis published in *Health Affairs*, secure email was associated with a 2.0 to 6.5% improvement in performance on HEDIS measures, such as glycemic (HbA1c), cholesterol, and blood pressure screening and control[2]
- **High Patient Satisfaction!**
  - 85% rated encounters 8 or 9 on a 1-9 scale[3]

[1] Zhou, Yi Yvonne; Garrido, Terhilda; Chin, Homer; Wiesenthal, Andrew; Liang, Louise, "Patient access to an electronic health record with secure messaging: impact on primary care utilization," **The American Journal of Managed Care**, Vol 13:418-424, July 2007.

[2] Zhou, Yi Yvonne; Kanter, Michael H; Wang, Jian J; Garrido, Terhilda, "Improved Quality at Kaiser Permanente Through E-Mail Between Physicians and Patients," **Health Affairs**, Vol 29, No 7 (2010); 1370-1375.

[3] Internal KP study, "Harvesting Value: Early Findings from Kaiser Permanente HealthConnect™" presented to Center for Information Therapy by T Garrido, C Serrato, J Oldenburg (1/15/2008)

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Blue Sky Vision Themes

In 2015, the care delivery model is a consumer-centric paradigm where the consumer presumes choice.

Members will characterize KP as providing customized and fully integrated/leveraged services with secure and seamless transitions from person to person with care that can occur in their homes for an affordable cost.
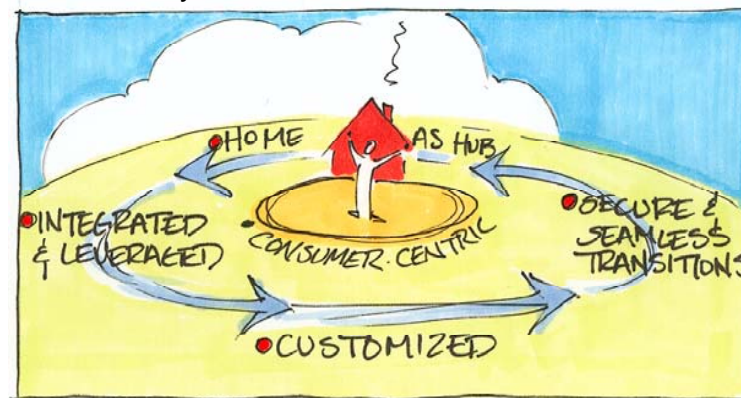
Home as the Hub

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

Integration and 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 and make our processes more efficient.

Secure and seamless transitions

'Warm Handoffs' - The human skill sets and operational processes to deliver care and service effectively, efficiently, and compassionately.

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.

Blue Sky Vision Next Steps

William Gibson, science fiction author wrote:

"The future is already here, it's just not evenly distributed".

The majority of the technology necessary to achieve the KP Care Delivery of 2015 exists in the IT marketplace today.

The key is to leverage the technology to achieve the bigger gain (delivering on the KP Promise).

KP culture and MD/employee work processes may need to face critical transitions

[1]Brentari, Ruth; Garrido, Terhilda; Mittman, Robert; Liang, Louise; Weiland, Allan; Wiesenthal, Andrew M.; Cordova, Richard D., "Blue Sky Care Delivery 2015, Part 1", The Permanente Journal/Fall 2003/Volume 7 No. 4.
[2]Brentari, Ruth; Garrido, Terhilda; Mittman, Robert; Liang, Louise; Weiland, Allan; Wiesenthal, Andrew M.; Cordova, Richard D., "Blue Sky Part II: The Health Encounter", The Permanente Journal/Winter 2004/Volume 8 No. 1.
[3]Brentari, Ruth; Garrido, Terhilda; Mittman, Robert; Liang, Louise; Weiland, Allan; Wiesenthal, Andrew M.; Cordova, Richard D., "Blue Sky Part III: Chronic Care Encounter", The Permanente Journal/Spring 2004/Volume 8 No. 2.

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