

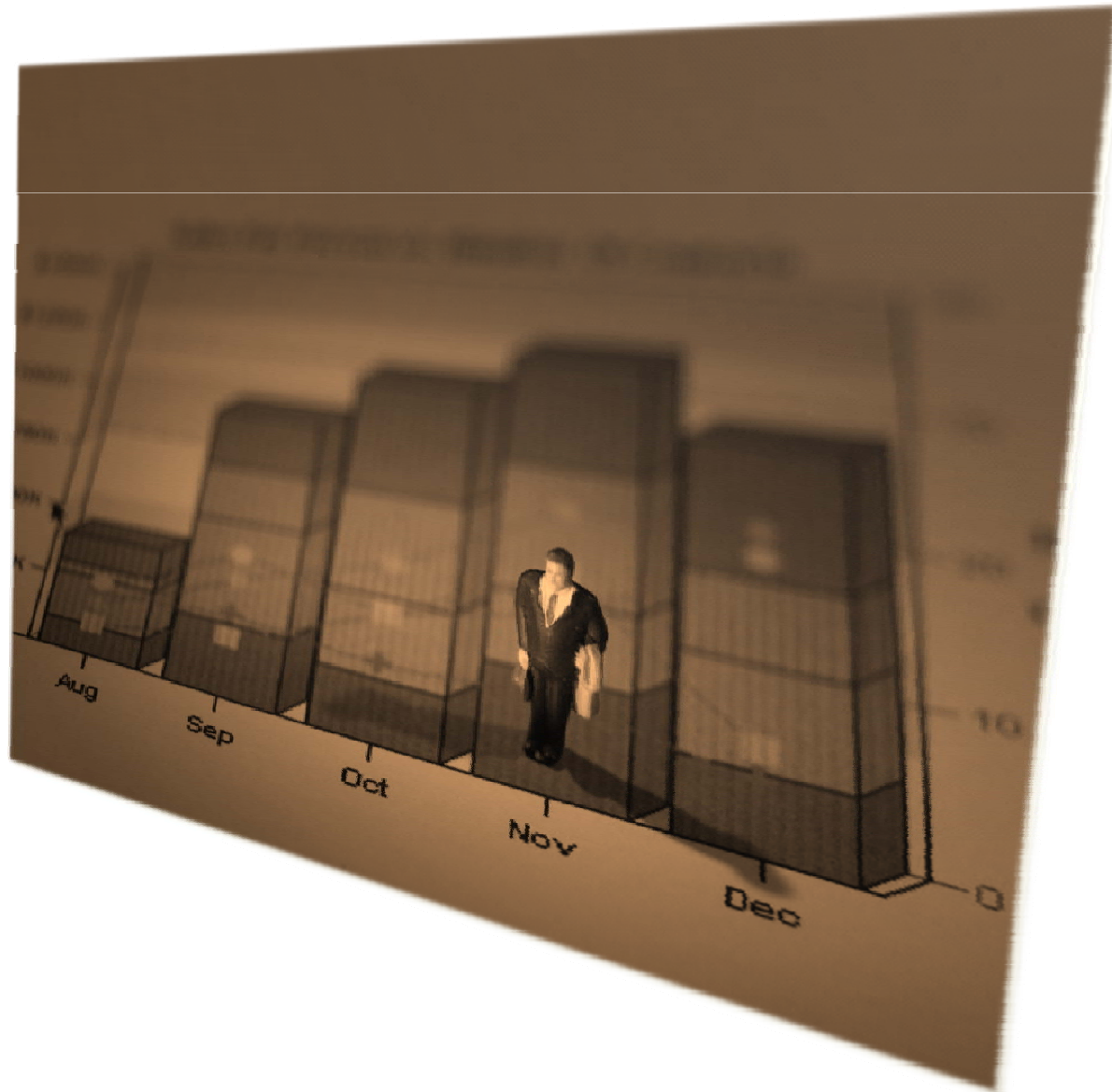
# Implementing Patient Portals in Safety Net Organizations

Part B: Measuring the Impact of Patient Portals



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**February 17, 2011**

# Measuring Impact of Patient Portals: What the Literature Tells Us



# Patient Level Measures



- Mostly reported by integrated health systems
- Characteristics of users and overall use (patient demographics, who's using what features?, trends in enrollment, regular users, Über users)
  - ✓ KP: users were women, ages 40-60; patients with diabetes; less than half with college degree; half with income < \$75K
  - ✓ Geisinger: users are young parents, family members caring for elderly parents, and patients with chronic disease

# Patient Level Measures



- If you build it, will they come?
  - ✓ PatientSite: users were more likely to be healthier, white, and less likely to have Medicare/Medicaid
  - ✓ British National Health Service (HealthSpace): 0.13% enrollment likely due to cumbersome registration process (business plan anticipated 10% enrollment)

# Patient Level Measures



- What features are used most?
  - ✓ Prescription refills
  - ✓ Schedule appointments
  - ✓ Secure messaging with providers
  - ✓ View test results
  - ✓ View problem/medication lists

# Patient Level Measures



- Patient concerns?
  - ✓ Personal health information available online (some concerned and some not)
  - ✓ Inst. for Family Health's MyChart MyHealth: Patient portal may hinder communication with providers
  - ✓ UPMC HealthTrak: offered to internal and family med practices – portal use was linked to dissatisfaction with patient-provider relationship and vice-versa




# Patient Level Measures



- Patient concerns?
  - ✓ My Wellness Portal (Oklahoma) – only 60% of patients thought it improved patient-provider interactions
  - ✓ PAMFOnline – Patients feel more connected to providers; 90% provider and patient satisfaction

# Patient Level Measures



- Patient portals and chronic disease management
  - ✓ Most report on use for patients with diabetes
  - ✓ SF General Hospital HIV/AIDS program uses “myHERO” (monitor CD4, viral load) 
  - ✓ Interactive, personalized content is important for sustained use
  - ✓ Most portals also allow patients to track exercise, nutrition, and other data (weight, blood glucose, bp)



# Patient Level Measures



- Patient portals and children
  - ✓ Allowing parental proxy access to a child's records may not be easy
  - ✓ Minors have reproductive and substance abuse privacy rights that vary by state
  - ✓ Organizations must define what services and information will be available to parents via proxy access
  - ✓ Organizations must determine the who, when, where, and how of the parental proxy access authorization form and its process

# Patient Level Measures



- Parental proxy access authorization
  - ✓ Will the provider or the release of information staff give the authorization form to the parent?
  - ✓ When will the authorization form be available (e.g., at the time of the visit with the provider or anytime by release of information staff)? How long is the authorization valid?
  - ✓ Where will the forms be stored after completion?
  - ✓ How will the form be validated (e.g., picture ID of parent or guardian, validation of the parental relationship)? Who will validate the form?

Source: Green-Shook, Sheila. "Parental Proxy Access via Web Portals: Ensuring Compliance and Quality Documentation " Journal of AHIMA 80, no.7 (July 2009): 60-61.

# Patient Level Measures



- Parental proxy access authorization – questions for vendors
  - ✓ Can I filter what features are available to someone viewing someone else's record via proxy access?
  - ✓ What tools do you have to facilitate and work proxy requests from patients?
  - ✓ Do patients have the option to control who has proxy access to their record?
  - ✓ Can patients control what features are available to proxies manually?

# Patient Level Measures



- Parental proxy access – focus groups of teens and parents – PAMF patient portal
  - ✓ Portals may enhance communications between minors and providers, and minors and parents
  - ✓ Teens and parents had conflicting feelings about what should be shared
  - ✓ Parents wanted to know for what services they were being billed

# Patient Level Measures



## CHILD UNDER 12 PROXY REQUEST FORM

This form should be completed by a parent or legal guardian ("Proxy") who wants access to portions of his/her under 12 year old child's electronic protected health information ("ePHI") maintained by the Medical College of Wisconsin, Froedtert Hospital, its affiliated clinics and/or Community Memorial Hospital (the "Organizations") through MyChart. There is no access to a child's MyChart account for a child aged 12 - 17 years old. The Proxy will need to show his/her photo ID.

**Child's ("Patient") Information:** Verify pre-printed information and complete all gray items.

Patient's Name:		DOB:	
Address:		Medical Record #:	
Phone Number:		Last 4 SSN:	

**Parent/Legal Guardian ("Proxy") Information:** If the Proxy sees providers at the Organizations, the Proxy needs to also complete the Enrollment Form if not already completed.

Email Address:			
Proxy's Name:		DOB:	
Street Address:		Phone #:	
City:		State:	
		Zip:	

**My Relationship to the Child is as follows:**

☐ Parent

OR

☐ **Permanent Legal Guardian of the Patient** – Must attach a copy of the Court Order Appointing Guardian and Letters of Guardianship verifying the Proxy's status as permanent legal guardian of the patient.

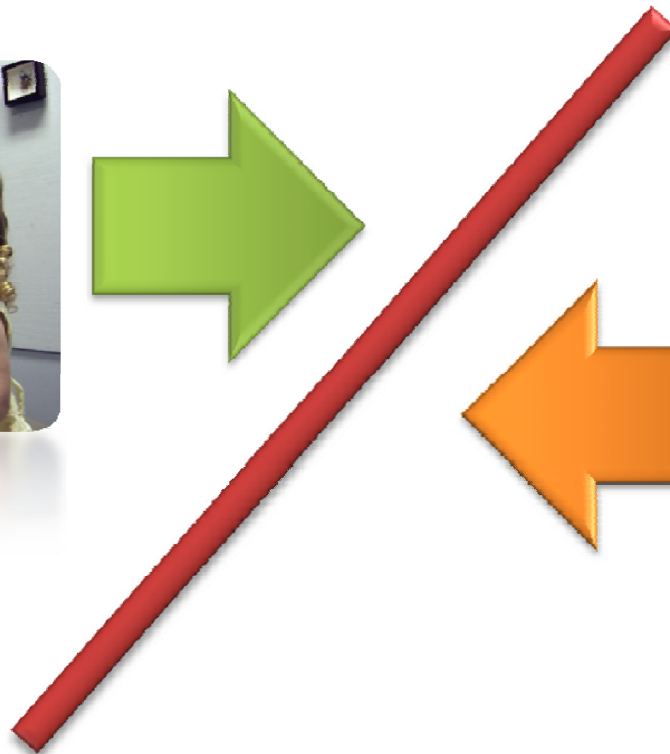
**By signing below, I acknowledge and agree that:**

- I will be using my own MyChart account at the Organizations to access the Child's MyChart account.
- I will comply with the terms and conditions on the MyChart web page (located at <http://www.mychartlink.com>, then

Source: Froedtert, and Medical College of Wisconsin. "Parental Access to Electronic Medical Record of a Child Under 12 Request Form." Available online at <https://www.mychartlink.com/mychart/en-us/docs/ChildProxyRequest.pdf>.



# Organization Level Measures





# Organization Level Measures



- ✓ Link patient measures with organization-wide changes – conducted primarily in integrated health care delivery systems
- ✓ Vast majority with KP
- ✓ Conducted retrospectively, pre/post, and sometimes with a control group
- ✓ Very, very few studies (so far)

# Organization Level Measures



- ✓ Telephone call volume
- ✓ UC-Davis primary care network:
  - + retrospective study: case clinic-control clinic
  - + case call volume lower in case clinic
  - + 22 v 26 calls/1,000 patients/workday
  - + case message volume (web + call message) averaged 14% less in case clinic and fell six times faster than control clinic
  - + conclusion: web messaging may have enhanced efficiency of non-visit care

# Organization Level Measures



- ✓ Telephone call volume
- ✓ KP Hawaii region:
  - + retrospective study: administrative data 2004-07
  - + office visits ↓26%; telephone visits ↑ 9-fold
  - + online messaging ↑ from .03 to .23 messages/member
- ✓ KP Northwest region:
  - + retrospective cohort and matched case-control study
  - + ↓ in annual office visit rates of 9.7% visits/member in cohort; 6.7% net ↓ between users and controls
  - + 13.7% net ↑ in annual telephone contacts between users and controls

# Organization Level Measures



- ✓ E-mail messaging on quality of care measures
- ✓ Even fewer studies
- ✓ KP Southern Cal
  - + 35,000 patients with diabetes, hypertension or both
  - + Use of secure patient-physician e-mail was associated with improved performance on HEDIS measures
  - + proportion of patients whose HEDIS measures improved ranged from 4-11 percent
- ✓ How did the e-mail messaging improve care?
  - Better continuity?
  - Better physician-patient connectedness?
  - Greater focus on self-management supports?

# Organization Level Measures



## EXHIBIT 1

**Difference In Performance On HEDIS Effectiveness-Of-Care Measures Among Patients Using And Not Using Secure E-Mail To Communicate With Their Physicians, Kaiser Permanente Southern California, 2008**

HEDIS measure	HEDIS performance difference between users and nonusers of secure e-mail <sup>a</sup>	p value
<b>PATIENTS WITH DIABETES</b>		
HbA1c screening	6.9	$p < 0.0001$
HbA1c less than 9%	11.1	$p < 0.0001$
LDL-C screening	7.2	$p < 0.0001$
LDL-C less than 100 mg/dl	10.5	$p < 0.0001$
Retinopathy screening	8.3	$p < 0.0001$
Nephropathy screening	4.2	$p < 0.0001$
BP less than 140/90	6.6	$p < 0.0001$
BP less than 130/80	6.1	$p < 0.0001$
<b>PATIENTS WITH HYPERTENSION ONLY</b>		
BP control less than 140/90	4.0	$p < 0.0001$

Zhou et al. Improved quality at Kaiser Permanente through e-mail between physicians and patients. Health Affairs 2010; 29(7): 1370-1375.

# Organization Level Measures



- ✓ Cost-effectiveness of patient portals
- ✓ Studies are almost nonexistent!
- ✓ UC-Davis primary care network:
  - + case v control clinic (i.e., web messaging vs. not)
  - + compared productivity of physicians
  - + 25 vs. 23 visits/day
  - + 50 vs. 45 RVUs/day
  - + net increase of \$95/physician/day in case clinic



**Electronic Health Record (EHR) Financial Benefits Per Full-Time-Equivalent (FTE) Provider, For Fourteen Solo/Small Group Practices (Benefits Per Year), 2004-05**

					Among practices with benefits	
	Average per FTE provider <sup>a</sup> (\$)	Percent of total benefits	No. of practices with benefits	Median (\$)	Minimum (\$)	Maximum (\$)
Total benefits per provider	32,737	100.0	14	38,450	6,600	56,161
Increased coding levels	16,929	51.7	10	21,250	3,040	41,711
Efficiency savings/gains	15,808	48.3	14	14,611	1,000	50,700
Efficiency savings	13,144	40.1	12	12,444	1,000	42,500
Personnel savings (excluding transcription)	6,759	20.6	9	8,333	5,333	30,000
Transaction savings	5,334	16.3	7	10,800	8,500	12,000
Paper supplies savings	1,051	3.2	9	1,000	500	5,333
Efficiency revenue gains from increased visits	2,664	8.1	3	8,200	6,600	22,500

Robert H. Miller, Christopher West, Tiffany Martin Brown, Ida Sim and Chris Ganchoff. The Value Of Electronic Health Records In Solo Or Small Group Practices. *Health Affairs* 2005; 24(5); 1127-1137.

■ **Time to pay back EHR costs.** Assuming some lag time (say, six months) in generating benefits, the average practice paid for its initial and cumulative ongoing EHR costs within two and a half years and began to reap more than \$23,000 in net benefits per FTE provider per year. The median practice took even less time to pay for EHR costs. However, practices varied in benefits and costs: Although ten of fourteen practices would pay for their EHR costs within four years, one practice would take nine years, and two would never pay for their EHRs, assuming unchanged benefits. However, practices were optimistic about increasing benefits, including practices that were slow to realize financial benefits.

■ **Risk.** Three practices experienced considerable financial risks, other than a long payback period. Two had severe billing problems that were at least partly EHR-related. One had no billing or revenue for three months; another had no revenue for ten months (and nearly went bankrupt). A third had to redo its billing for the first six weeks after implementation and later endured a complete system crash that resulted in total loss of data and several weeks of providing care with no computer access or paper charts.

Robert H. Miller, Christopher West, Tiffany Martin Brown, Ida Sim and Chris Ganchoff. The Value Of Electronic Health Records In Solo Or Small Group Practices. *Health Affairs* 2005; 24(5); 1127-1137.

# What's It Worth?



- UPMC – over 50% of diabetes patients were willing to pay \$0 (Source: Hess et al., 2006)
- Family Physician Practice in AZ – 60% willing to pay \$10/year, 31% willing to pay \$50+/year (for e-visits); ended up charging \$15/year (Source: Adler, 2008)
- “To my surprise, a couple of patients described it as a ‘rip-off,’ one wanted to know if we were going to start charging for parking now, and one nice 66 year-old lady responded when she heard about the \$15 annual charge, ‘That’s ridiculous.’ ” (Source: Adler, 2008)

Sources: Hess et al. The diabetes patient portal: Patient perspectives on structure and delivery. *Diabetes Spectrum* 2006; 19 (2): 106-110.

Adler K. Making a case for online physician-patient communication. *Family Practice Management*, May 2008, A3-A6.

# Basic Cost Savings

- ✓ 63 cents for not mailing lab results
- ✓ \$17 for online billing questions (vs. telephone)
- ✓ \$7 for online appointment scheduling



Caveat: references for these figures were unavailable

# Basic Cost Savings

Secure messaging feature of portal can results in savings of...

- ✓ 62 cents for each appointment reminder
- ✓ \$1.75 per phone call to patients
- ✓ \$2.69 for each lab result delivery



The figures “...are based on industry averages for number of communications and typical office costs.”

Caveat: references for these figures were unavailable

Source: [http://www.ehealthinitiative.org/uploads/NMISAgendaslides/NMIS\\_Power\\_Point-Clinical\\_Msgr\\_and\\_Patient\\_Portal.pdf](http://www.ehealthinitiative.org/uploads/NMISAgendaslides/NMIS_Power_Point-Clinical_Msgr_and_Patient_Portal.pdf)



**Patients Per Month:** 800

**Percentage of Visits as New Patients:** 10

**Percentage as Physician Referrals:** 0

**Cost per Patient Related Mailing:** \$1.25

**New Patient Visit Value:** \$100.00

**No Show Percentage:** 10

**Do you currently call or mail reminders in advance of appointments? If so, what is the cost per call/ mailing?**1

**Average Rx Renewals Per D/Provider:** 6

**Percentage of Patient Visits with Lab/Tests:** 60

**Lab Results Delivery:** Call

**Bad Debt Write Off:** \$10,000.00

**Bad Debt Write Off / Physician Extender:** \$4,000.00

**Average Hourly Wage:** \$15.00

**Projected Hours Saved:** 40

**Total Projected Monthly Cost Savings:** \$884.00

**Total Projected Monthly Revenue Increase:** \$400.00

**Total Projected Monthly Staff Efficiency Increase:** \$600.00





### Projected Monthly Cost Savings

APPLICATION	DESCRIPTION	IMPACT
Pre-Registration	Savings from mailing patient pre-registration packets	\$75
Online Bill Payment	Savings from a reduction in bad debt, improved revenue cycle, and budget plans	\$521
Lab Results Delivery	Savings from automated lab results delivery (Patient Messaging)	\$288
<b>Total Projected Monthly Cost Savings</b>		<b>\$884</b> <b>MONTHLY</b>

### Projected Monthly Revenue Increase

APPLICATION	DESCRIPTION	IMPACT
Referral Management	Revenues from an increase in new patient referrals	\$0
Appointment Reminders	Revenues from a reduction in no-shows	\$400
<b>Total Projected Monthly Revenue Increase</b>		<b>\$400</b> <b>MONTHLY</b>

### Projected Monthly Staff Efficiencies

APPLICATION	DESCRIPTION	IMPACT
Pre-Registration	Hours saved from patient pre-registration & health history	3
Appointment Requests	Hours saved from online appointment requests	4
Prescription Renewals	Hours saved from online prescription renewals	6
Appointment Reminders	Hours saved from automated appointment reminders (Patient Messaging)	19
Lab Results Delivery	Hours saved from automated lab results delivery (Patient Messaging)	8
<b>Projected Hours Saved</b>		<b>40</b> <b>HOURS</b>
<b>Average Hourly Wage (including fringes)</b>		<b>\$15</b> <b>PER HOUR</b>
<b>Total Projected Monthly Staff Efficiencies</b>		<b>\$600</b> <b>MONTHLY</b>

Source: <http://www.medfusion.net/roicalculator/results.php?set=g>

## Meaningful Use Criteria Met by Secure Messaging

- ✓ Provide a summary of care record for patients referred to or transitioned to another provider or setting.
- ✓ Send reminders to patients (per patient preference) for preventative and follow-up care.
- ✓ Provide patients with timely electronic access to their health information.
- ✓ Provide patients with an electronic copy of their health information.
- ✓ Provide patients with clinical summaries for each office visit.

# Three Stages of CMS's Meaningful Use Initiative

## Stage 1 (2011-13)

- ✓ Criteria focus on basic elements of HIT and quality
- ✓ Electronically capture information
- ✓ Track clinical conditions
- ✓ Communicating information

## Stage 2 (2013-15)

- ✓ Disease management
- ✓ Clinical decision support
- ✓ Medication management
- ✓ Patient access to health information
- ✓ Quality measurement

## Stage 3 (2015+)

- ✓ Improvement in all areas of quality and safety
- ✓ Improvement in population health

**Implementation  
Measures**



**Outcome Measures**

# Measuring Impact of Patient Portals: Try to Build in These Measures Upfront

- ✓ Very little, if any, studies with safety net population
- ✓ Two types of measures to consider:
  - ❖ *Implementation measures* (trends in use, features used, patient/provider satisfaction, patient engagement) – most commonly reported and probably, more so, with meaningful use
  - ❖ *Organizational measures and patient outcomes* (administrative efficiencies, health quality outcomes, physician productivity, cost savings) – not commonly reported yet, but will probably be driven by meeting meaningful use criteria in next 5-10 years



## **Measures should span across:**

- + how many and who is using what
- + patient and family engagement
- + patient and provider satisfaction with use and care
- + clinical/health care quality outcomes
- + administrative efficiencies

For a detailed synthesis of this information, please download the white paper from:

<http://www.chcf.org/publications/2011/05/measuring-impact-patient-portals>