Patient Gateway Update

Jonathan Wald, MD, MPH

MGH IS Steering Committee
July 12, 2004

Outline

- Patient portals in industry

- Patient portals – at Partners

- Patient Gateway status

- The investment in "Core" development
  - Budgeting in FY'05
  - Impact of dropping Core development in FY'05

Industry context

- Institute of Medicine report: Quality in the 21st Century
    - Safe, Effective, Patient-centered…
    - Calls for innovation in models of care

- Internet-based services are maturing
    - Convenience and cost-savings in banking, retail, travel, etc.
    - Maturing business models
        - Security, authentication, account management, etc.
        - Mixed services (asynchronous requests/replies, synchronous online chats, phone services)
    - Consumers experience (and expectations) have grown

- Healthcare delivery is changing as a result

Profound healthcare industry changes

- *Vast resources* available in health and medicine
  - Consequence: Self-care obstacles are lowered. But abundant information creates challenges. **Where should I go for the answer? Who can I trust?**

- Rapid dissemination of *advances in treatment and diagnosis*
  - Consequence: **What does that new information mean for me? Do I need to get evaluated? Do I need to change my treatment?**

- *Direct-to-consumer marketing* of pharmaceuticals and services
  - Consequence: Empowerment is growing. Online services are growing. But new information and services generate new questions. **What is that drug? Is it safe? Is it for me? Who offers that service? Is one better than another?**

- *Intense focus* on safety, error reduction, and systems of care
  - Consequence: Assumptions of "error-free" care are gone. Consumers are concerned. Providers are placing great emphasis on simplifying care processes, leveraging the empowered patient, monitoring for quality, and addressing fundamental "information" problems (missing information, fragmented information, poor communication, poor decision support, etc). All parties are asking: **Will I be safe? What can I do about this?**

Consequence: Patient portals

- ◆ Internet-style services
  - ❖ Efficient and convenient, available instantly, everywhere, all the time (ACCESS)
  - ❖ Layering and packaging of services with flexibility is key (to encourage use)

- ◆ Offers tailored information "services" to the patient

- ◆ Engages the patient directly in "systems of care"
  - ❖ Opens the office chart to the patient, sharing meds, allergies, labs, schedules, and more…
  - ❖ Pre-visit and post-visit contact extends continuity of care
  - ❖ Every patient can access monitoring and decision support capabilities

- ◆ Allows focused marketing to the consumer and patient
  - ❖ e.g. Disease management services, flu shot reminders, health information alert

- ◆ Trust is the most important consequence
  - ❖ Dependable service, rich information, activated patients, and improved access lead to heavier use of the portal
  - ❖ Heavier use of the portal improves satisfaction, trust, and the strength of the relationship

Growth in patient portals nationally

- CareGroup's PatientSite* (>15,000 pts; proprietary system)
  - Early adopter (2000)
  - Rich portal that includes **labs, patient links, message attachments, etc**
  - **Enterprise adoption at BIDMC by end-of-year 2004**, including full rollout of **RelayHealth WebVisit functionality**

- UC Davis (>8000 pts; RelayHealth portal and Epic EMR)
  - Physician and staff feared proliferation of inappropriate messages (that never materialized); Physician productivity was not affected
  - Early pilot in 11/01, with complete rollout planned by end of 2004 to specialty and primary care; High consumer satisfaction and ease of use was found

- Many others with established programs:
  - Providence Health Systems; PeaceHealth; Kaiser; Memorial Herman; Sloan Kettering; MD Anderson; Sutter; Dartmouth, Geisinger; Henry Ford; *and many more…*

- Patient portal marketplace is maturing
  - Many products on the market; early product integration efforts seen; mixture of off-the-shelf products and innovation efforts is common

- Massachusetts BCBS announced support for reimbursed web visits (May 2004)

* Patient Gateway offers a subset of these services

Patient portal drivers

◆ **Patient demand is high**

❖ According to national surveys >80% want online access to their own medical information and related health services

❖ Patients value patient portal convenience. They say they want to:

✳ Email my doctor (75%); Track immunizations (69%); Note mistakes in my record (69%); Transfer information to new doctors (65%)

◆ **Practice staff feel they can improve service to patients**

❖ An electronic request, instead of multiple phone calls (to make the request and check on its status) is much better for staff

◆ **Non-disruptive to the physician**

❖ Text requests/messages are more efficient and less disruptive than phone calls

❖ Messages are screened before reaching the MD;

❖ Physician decides how s/he will participate (or not)

◆ **Business models**

❖ Suggest efficiency and service quality can improve markedly with volume

❖ Reimbursement for web visits

Platform for innovation

- Beyond core services, patient portals provide a foundation for 21st century health care delivery
    - ❖ Well-suited for non-urgent situations in an established physician-patient relationship

- Care Management
    - ❖ Immunizations; family history; review of systems; medication list management and safety; health maintenance reminders; etc.
    - ❖ Targeted references and source material; marketing of related services;

- Disease Management
    - ❖ Medical "frequent flyers" gain the most value in terms of efficiency and quality improvement
    - ❖ More continuous access/contact with the care team
    - ❖ Data sharing, remote monitoring
    - ❖ Goal is to create greater loyalty, empowerment, and physician trust

- Innovative models of care
    - ❖ Online support groups
    - ❖ Continuous care and remote care

Overview of Patient Gateway

Jonathan Wald, MD, MPH

MGH IS Steering Committee
July 12, 2004

Patient Gateway Goals

- Help with routine administrative requests
  - ❖ Prescriptions, appointments, referral authorizations

- Increase useful online messaging
  - ❖ Avoid burdening the MDs whenever possible

- Keep staff productive
  - ❖ Reduce volume of messages to staff
  - ❖ Reduce handling time and improve service levels for the patient

- Promote patient empowerment
  - ❖ Offer chart information, and health and disease info, to the patient

- Understand patient portal requirements

- *Platform for innovation*

Patient Gateway Features

- Secure, convenient, Web-based services for patients, physicians, and staff that improve:
  - ❖ Management of administrative and clinical care tasks
  - ❖ Quality of care and safety
  - ❖ Patient access to resources for care

- Core features (go-live Feb 2002)
  - ❖ Patients: Requests, messaging, chart info, health library, practice info, profile
  - ❖ Practice: Message triage and management

- Known limitations
  - ❖ English only, PC only, Adult patients only
  - ❖ Primary care practices participating in AHRQ study
  - ❖ Practices that use Web LMR (not Win32 version)

Login for the patient

Patient Gateway Menus (patient portal)

MGH Bulfinch Medical Group - Founders 3
PATIENT GATEWAY

Home | Logout
Feedback | Policies
Sitemap | Surveys

Mail | Requests | Health Record | Health Library | Practice | My Profile | Help

Welcome

- Staff
- Directi...
- Insuran...
- Contac...
  (practi...

- Mail...
- Request Defaults

- Mail
  (secure)
  Notification
  Pharmacy
  Contact info
  Registration info

...dications

Illnesses &
Conditions
Drugs
Medical Tests
Self Help
(from Healthwise)

Our practice includes 19 physicians, each of...
staff at MGH and a faculty member at Harvar...
School. We are dedicated to medical excellence and to

Illustration: Requesting a Medication Renewal

Illustration: Requesting a Medication Renewal

Prescription Request Form

Important Information

An appointment with your physician within the last 12 months is generally required before a prescription renewal is written.

- **Prescription Renewals:** check with your pharmacy for refills (shown on the label of your medication) before requesting a renewal from our office.
- **Process time:** Requests may take several business days to process.
- **Narcotics:** Please call the office after completing this form.
- **New requests only:** To contact us about an existing request, please send us a message instead of using this form.

▼ Medications

02/12/2003 Prednisone	2 Tablet(s) by mouth every morning; Dispense 8 tablet(s);3 Refills; No substitutions	Mills,Jeffrey T.	Renew
02/11/2003 Valium (Diazepam)	2.5 Tablet(s) by mouth QAM/Q; Dispense 11 tablet(s);1 Refills; No substitutions	Diamond,Donna B.,R.N.	Renew
02/11/2003 Mircette	1 TAB by mouth once a day; Dispense 3 month(s);12 Refills; No substitutions	Kiernan,David P.	Renew
02/05/2003 Dostinex (Cabergoline)	0.25 MG by mouth BIW; Dispense 100 tablet(s); No substitutions	Linson,Patrick William,M.D.	Renew
02/04/2003 Tylenol (Acetaminophen)	1 Tablet(s) PNGT every 4 hours;	Das,Prajnan,M.D.	Renew

Illustration: Requesting a Medication Renewal

An appointment with your physician within the last 12 months is generally required before a prescription renewal is written.

- **Prescription Renewals:** check with your pharmacy for refills (shown on the label of your medication) before requesting a renewal from our office.
- **Process time:** Requests may take several business days to process.
- **Narcotics:** Please call the office after completing this form.
- **New requests only:** To contact us about an existing request, please send us a message instead of using this form.

Please fill out the following information:
A red asterisk (✱) indicates required information.

▼About the Medication ▷ Step 1 of 4

✱ **You have asked to renew:**

02/12/2003 Prednisone   2 Tablet(s) by mouth every morning;   Mills,Jeffrey T.
                         Dispense 8 tablet(s);3 Refills; No
                         substitutions

✱ **Are you sure the details (refills,dispense,dose, etc.) are correct?**

◉ Yes -this is exactly what I need

○ No - I would like: [   ]

Additional comments:
[   ]

✱ **Please re-check that the information is complete and correct before continuing.**

[Cancel] [Next]

Illustration: Requesting a Medication Renewal

Illustration: Requesting a Medication Renewal

Illustration: Requesting a Medication Renewal

Patient Gateway
Connecting with care.

Workflow

Patient Requests
Renew Rx
Request Appt
Referral Auth.
Freeform request

Profile
Address or Insur.
change

Patient

Health & Disease
Information

Staff

Chart Copy

Other Staff

Physician

Medical Chart

Office Chart
Meds & Allergies

Interface to LMR:
Open chart
Create chart note
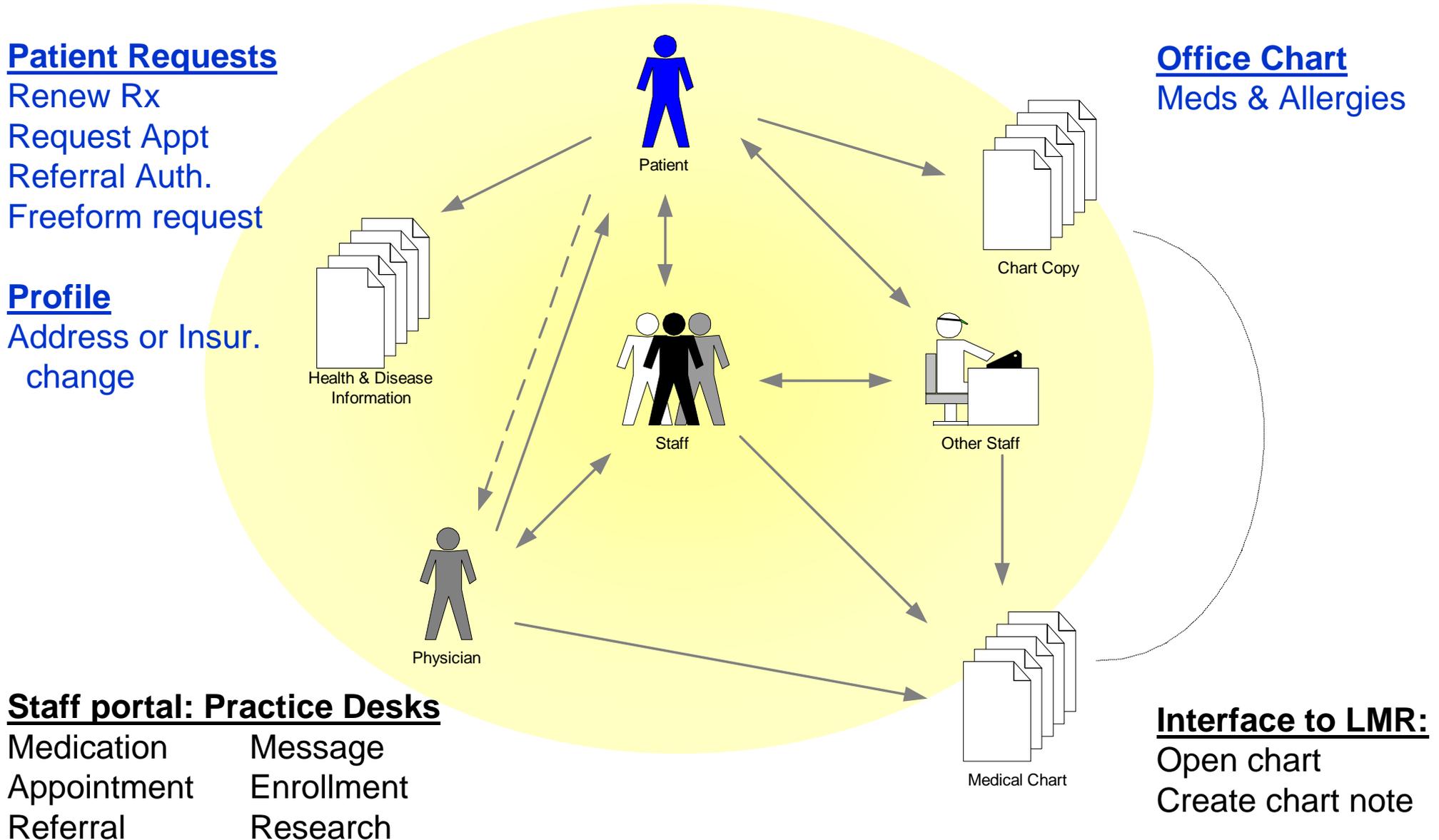
Staff portal: Practice Desks
Medication   Message
Appointment   Enrollment
Referral   Research

Patient Gateway Projects

Patient Gateway Project Phases

Pilot (2001-2003)   6 practices, 500 patients, Markle Fndn. Research ($.3M, Bates)
     Proof of concept; Understand infrastructure and support; Interfaces

AHRQ "PACCT" study (2002-2006)   12 practices, 15k patients ($1.7M, Middleton)
     Scale the infrastructure and support; Study quality of care

Oncology (late '03-'05)   Pilot in Oncology; Grant funding?
     Enhancement for care coordination with multiple practices

Partners Passport ('04+)   Jim Mongan initiative

Partners Passport

Specialty care

Multi-practice

PACCT study

Pilot

Product support

1/02   1/03   1/04   1/05   1/06

Practice Operations → Research → Specialty
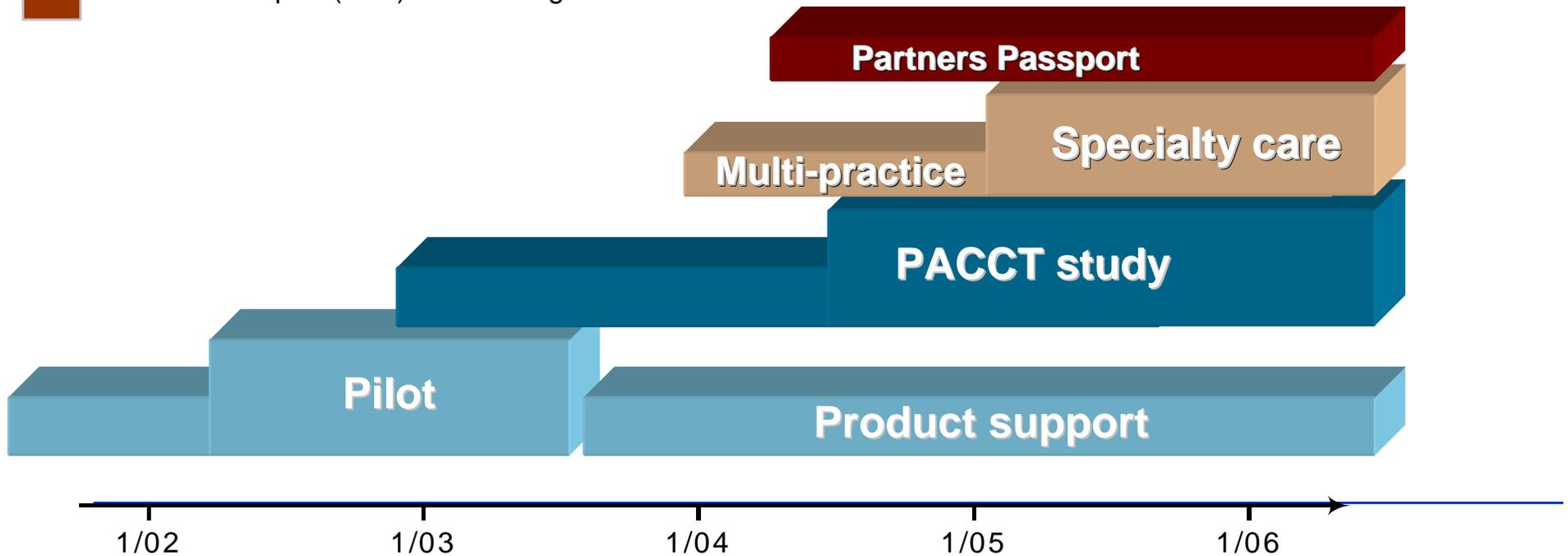
Goals of the AHRQ study – Sep '02 to Feb '06

- **Does quality of care improve when study patients provide information about:**
  - ❖ Medications
  - ❖ Diabetes self-management
  - ❖ Family history
  - ❖ Health maintenance

- **Basic workflow**
  - ❖ Patients are invited to fill out a "medical journal"
  - ❖ Journal summary information is provided to the MD/RN
  - ❖ Outcomes are measured after 12 months
    - ❈ Med ADEs, HbA1c etc, Familial risk factors, HM adherence
    - ❈ Chart completeness/correctness, user satisfaction, technology adoption/use

- **Project snapshot**
  - ❖ $1.7 million over 3 years (no cost extension into Year 4); Middleton/Wald (PI/Co-PI)
  - ❖ 12 primary care practices; 15,000 patients
  - ❖ Seek to enroll (consent) 5400 patients (2700 in Arm 1, 2700 in Arm 2)
    - ❈ Arm 1 intervention: Meds/Allergies/Diabetes
    - ❈ Arm 2 intervention: Family history / Health Maintenance
  - ❖ Intervention go-live in October 2004 (Arm 1) and February 2005 (Arm 2)
  - ❖ Follow patients for 1 year

Specific Aims of AHRQ grant

- Specific Aim 1:
  - ❖ To evaluate the impact of pre- and post-visit electronic patient prompts and a shared online medication list on detection of ADEs, medication list accuracy, and patient medication knowledge.

- Specific Aim 2:
  - ❖ To evaluate the impact of pre- and post-visit electronic patient prompts on chronic disease outcomes and adherence to health care maintenance and chronic disease guidelines.

- Specific Aim 3:
  - ❖ To evaluate the impact of prompted patient family history assessment on detection of familial risk factors.

- Specific Aim 4:
  - ❖ To identify and address technology adoption enablers and barriers to shared online health records for patients and physicians.

Active projects

◆ AHRQ PACCT study

◆ Partners Passport

  ❖ 4 service offerings are identified: ID Cards, Nurse advice, Network follow-up, Patient Gateway

  ❖ Pilot is set to begin in October 2004

◆ Oncology Patient Gateway

  ❖ Multipractice analysis is underway

  ❖ Pilot anticipated for CY 2005

Overview of metrics for Patient Gateway
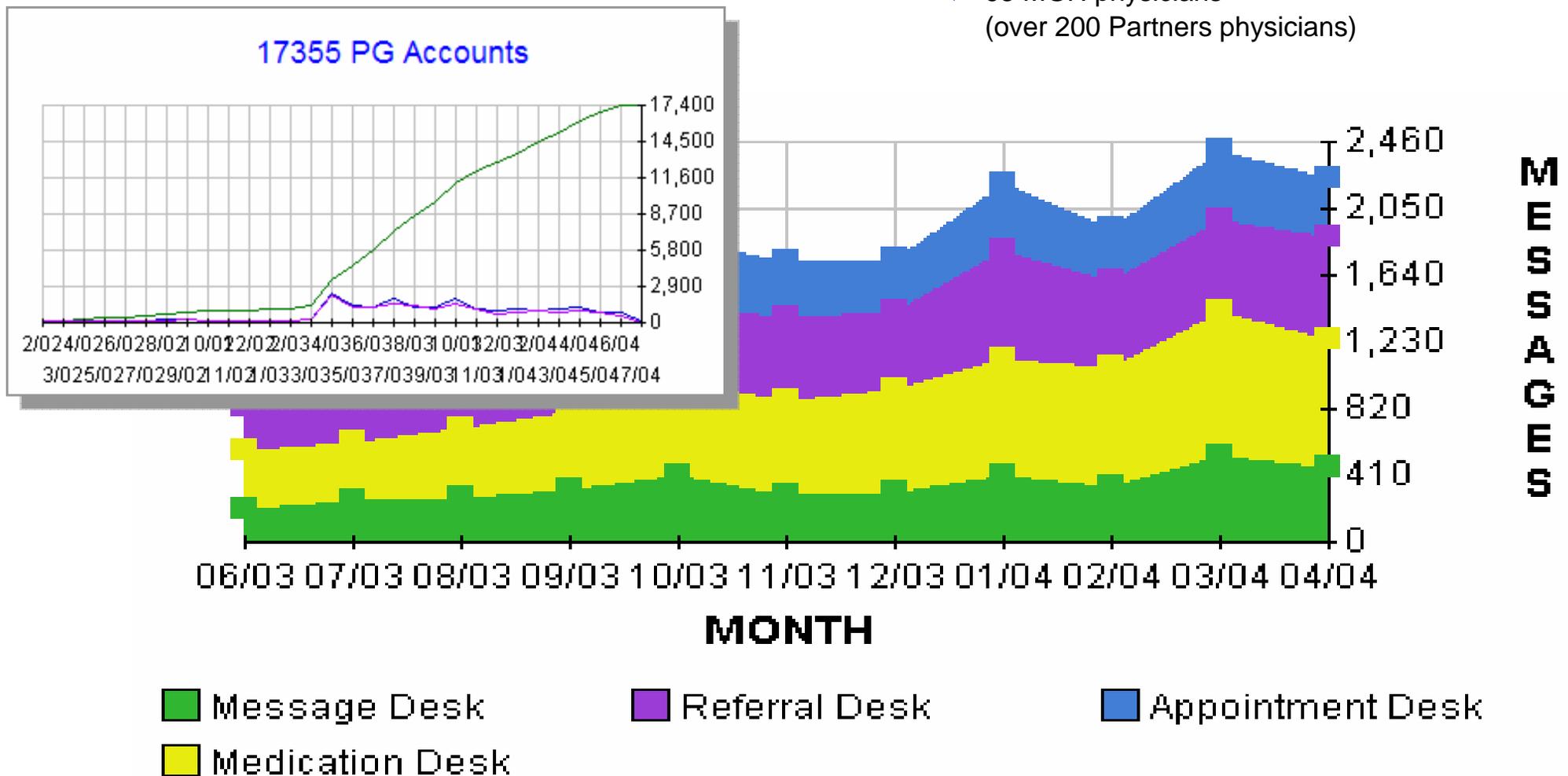
MGH Profile:
8 MGH Practices with 12,150 patient accounts (for 95 MDs)

	MDs	Patient Accounts	Go live date	Mean age, F%	Requests (13 wks)
Bulfinch Medical Group	19	3838	Mar 02 (Fnd) Mar 03 (all)	49y, 51%	1279
Beacon Hill Primary Care	13	2333		44y, 49%	749
Senior Health	8	122	Dec 02	74y, 50%	24
Revere	16	694	Mar/Sep 03	47y, 63%	148
Downtown	4	2750	Apr 03	38y, 65%	1026
Women's Health	22	1892	Jun 03	45y, 97%	668
Charlestown	13	521	Oct 03	45y, 61%	149
Chelsea	--	--	Summer 04?	--	--
TOTALS	**95**	**12,150**			**4,043**

Patient Gateway at MGH:
Requests per Week (last 2 years)

Patient Requests per week
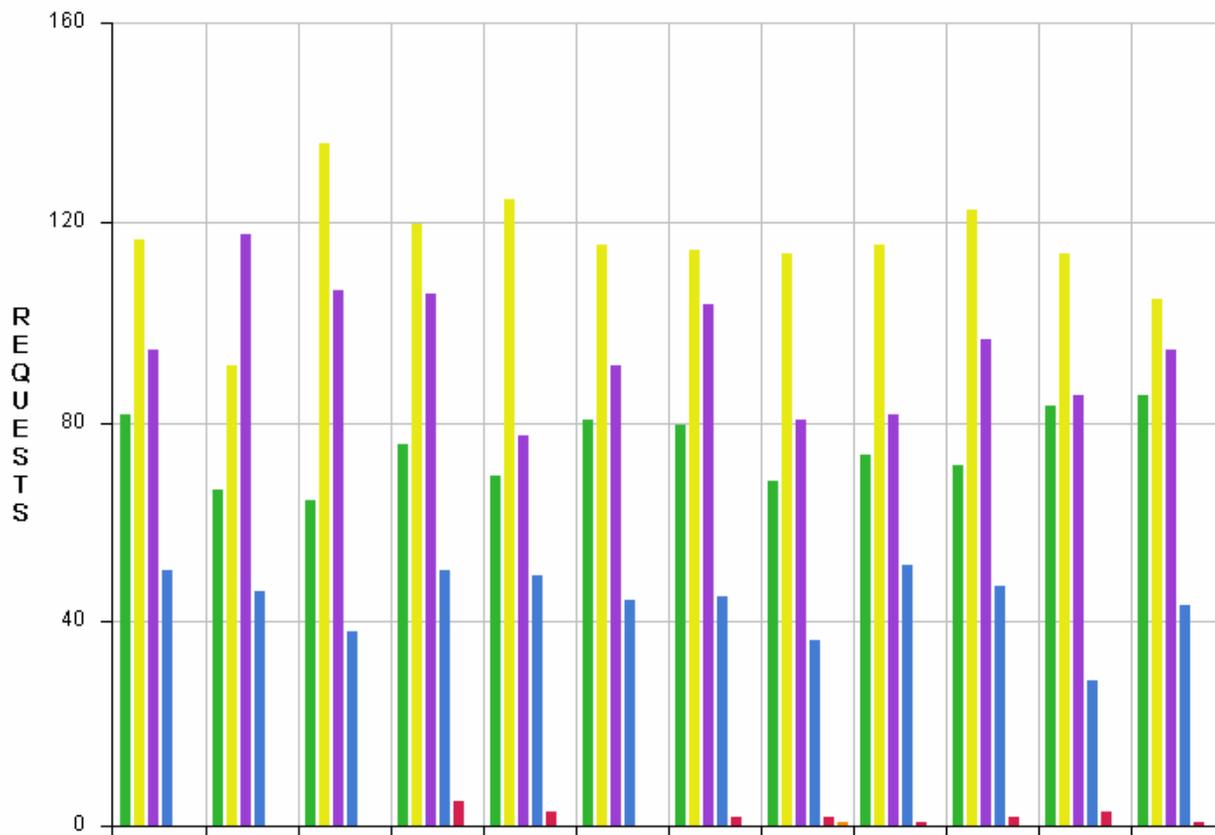
Avg=311
(last 13 wks)
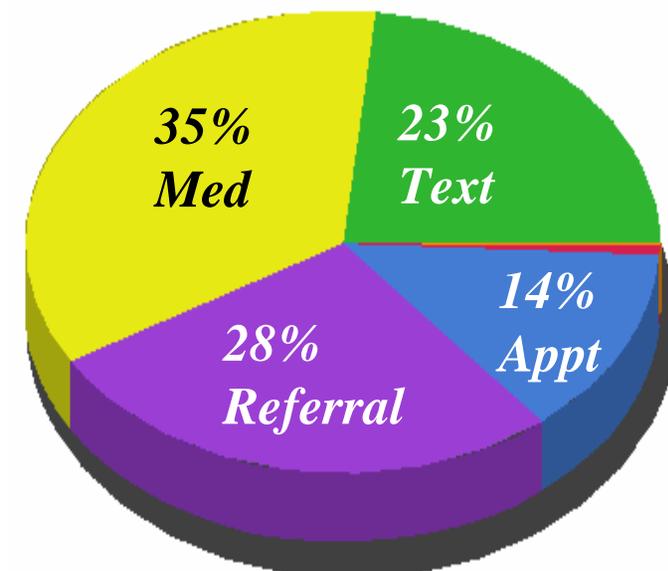
Patient Gateway:
Satisfaction by Physicians at Partners Healthcare

◆ "Physician Attitudes Toward Using a Secure Web-based Portal Designed to Facilitate Electronic Communication with Patients" (Kittler et al)

  ❖ Submitted to *Informatics in Primary Care*

  ❖ 43 physicians surveyed, 56% response rate (24), conducted Apr-Jun 2003

◆ Physician survey at Partners

  ❖ 63% felt PG could improve overall practice communication with patients

  ❖ 88% felt PG could facilitate better management of refill requests

  ❖ 84% felt PG could facilitate better management of referral requests

  ❖ 71% felt PG could facilitate better management of appointment requests

  ❖ 71% felt PG could improve overall office efficiency

  ❖ 62% reported that they would recommend PG to colleagues (see detail below)

      ❅ 62% reported that they would recommend PG to colleagues

      ❅ 28% were "not sure" they would recommend it;

      ❅ 10% thought it was "too early to tell"

      ❅ 0% said they would "not recommend" PG to colleagues

Patient Gateway:
Satisfaction by Staff at Partners Healthcare

- Staff at 10 primary care clinics were surveyed about attitudes toward electronic communication with patients; Staff at 3 primary care clinics were surveyed after using Patient Gateway

- Attitudes towards increasing electronic communication with patients showed growing enthusiasm among those using Patient Gateway

Bar chart — Percentage (y-axis, 0% to 60%); categories Hesitant and Enthusiastic.
- Hesitant: Before PG implementation 37%, After PG implementation 20%
- Enthusiastic: Before PG implementation 17%, After PG implementation 50%

Legend:
- Before PG implementation
- After PG implementation
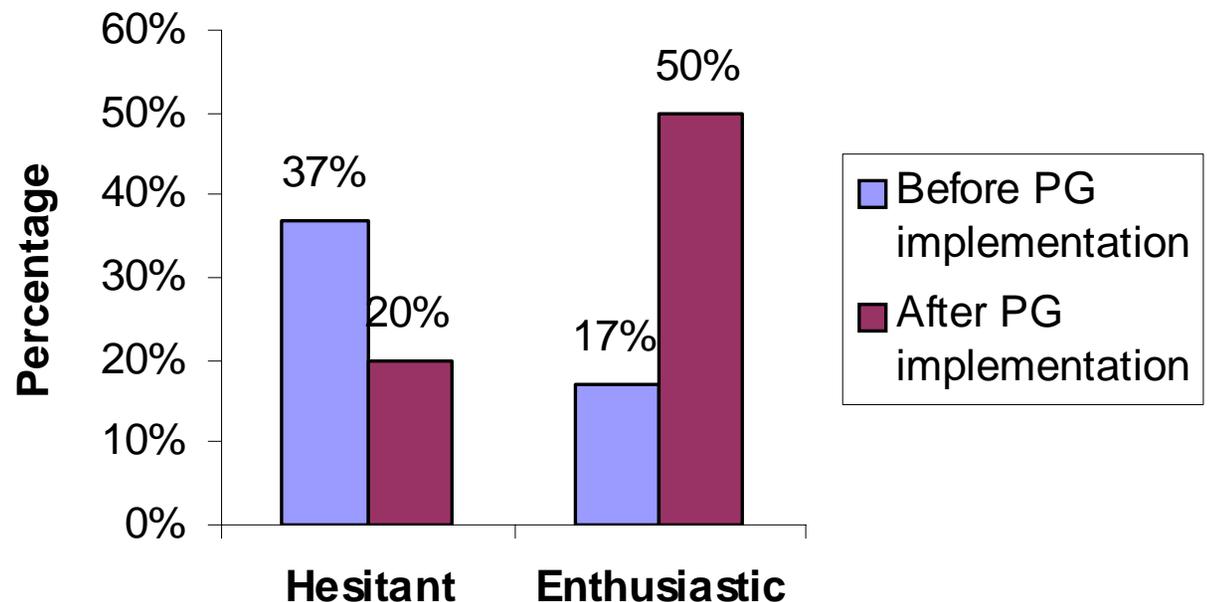
Patient Gateway:
Satisfaction by Patients at Partners Healthcare

◆ *Preliminary analysis*, based on patient survey
   2000 randomly chosen patients, enrolled in PG >6 months; 23%
   response rate (conducted in 2003)

◆ Patient survey at Partners

   ❖ 65% reported overall satisfaction with PG

   ❖ 67% believe the system is private and secure

   ❖ 80% of those who received a response to a message were "mostly" or
     "completely" satisfied with the response

   ❖ An overwhelming majority valued the ability to send an administrative question,
     request a prescription, referral approval, or appointment via PG (all above
     82%)

   ❖ A minority of patients reported it was "always" (8%) or "usually" (19%)
     important to communicate directly or only with their provider

Conclusions from Data available so far…

- Qualitative data and quantitative data support:
  - ❖ High satisfaction among physicians, staff, patients with experience
  - ❖ Initial fears dissipate (of inappropriate messages, high volume/workload, etc)
  - ❖ Efficiencies are no worse, and for many, greater, using PG than telephone
  - ❖ Enthusiasm among practices is clear – as shown by growth in recruitment and requests for system improvements

- The current (FY04) focus is PACCT, and initiating Multipractice.
  - ❖ FY04 has demonstrated product success, growing internal demand, and growing marketplace adoption of patient portals

- FY05 is an important year to solidify core services, address enhancements critical to productivity and scalability, and prepare for expanded rollout in FY06
  - ❖ High priority enhancements are designed to improve value (lower costs, raise benefits)

- FY06 will focus on Deployment (specialty care will be ready)
  - ❖ Site funding for practices using PG is anticipated to begin in FY06

FY'05 Budget
(and proposed "Core" Development project)

Patient Gateway:
FY'05 budget overview

- 3 existing projects
  - PACCT (System, Grant)
  - Product Support (System)
  - Oncology (OSL)

- 2 new projects proposed
  - Core (MGH / BWH / Parent)
  - MGH Expansion – (status?)

FTE's in FY'05

Project Name	Amount	Contribution		
		PHS System	BWH	MGH
Patient Gateway -- PACCT development	7.90	7.90	0.00	0.00
MGH Patient Gateway Expansion	0.00	0.00	0.00	0.00
Patient Gateway Core Product Development	2.16	0.72	0.72	0.72
Patient Gateway OSL	3.00	3.00	0.00	0.00
Patient Gateway Product Support	4.25	4.25	0.00	0.00
Grand Total	**17.31**	**15.87**	**0.72**	**0.72**

Dollars in FY'05

Expense Type	Project Name	Amount	Contribution		
			PHS System	BWH	MGH
Operating	Patient Gateway -- PACCT development	$260,120	$260,120	$0	$0
Operating	Patient Gateway Core Product Development	$206,441	$68,745	$68,745	$68,745
Operating	MGH Patient Gateway Expansion	$0	$0	$0	$0
Operating	Patient Gateway OSL	$0	$0	$0	$0
Operating	Patient Gateway Product Support	$461,751	$461,751	$0	$0
OP Total		**$928,312**	**$790,616**	**$68,745**	**$68,745**
Capital	Patient Gateway -- PACCT development	$78,609	$78,609	$0	$0
Capital	Patient Gateway OSL	$346,069	$346,069	$0	$0
CAP Total		**$424,678**	**$424,678**	**$0**	**$0**
Grand Total		**$1,352,990**	**$1,215,294**	**$68,745**	**$68,745**

Enhancement Needs – PG Core Development project

- Expand Office Chart information:
  - ❖ From Meds/Allergies only, to include Labs
  - ❖ This will reduce staff workload, information delays for patients

- Add broadcast/narrowcast messaging to patients
  - ❖ Ability to send a message to all practice patients using Patient Gateway
  - ❖ Ability to send a message to subgroups of practice patients using Patient Gateway, such as:
    - ❉ Diabetes patients
    - ❉ Patient with upcoming appointments
    - ❉ Patients with a certain type of insurance

- LMR – Patient Gateway interactions
  - ❖ Notification to physicians via LMR Clinical Messages
  - ❖ LMR Lab letters sent to patients via PG (instead of postal mail)

- Alternatives (if prioritized)
  - ❖ Web visits
  - ❖ Pre-visit history forms, registration forms, other forms
  - ❖ PACE-related improvements/integration

Summing up

- FY05 focus: steadying the platform

- Core development addresses a backlog of product improvements needed for wide deployment

- These changes go hand-in-hand with specialty care work that will be underway in FY05, and with reducing costs and improving benefits to enhance value as expanded use occurs

- This project is necessary to ensure that staff and physicians will continue to realize the value – time savings, convenience, etc.

Sample Maintenance Cost Model for *Patient Gateway***

	2006	2007	2008	2009	2010	2011	2012
# MDs using PG (50% gro	300	450	675	1013	1519	2278	3417
% MDs (of 4000)	8%	11%	17%	25%	38%	57%	85%
Patient accounts (150/MD	45,000	67,500	101,250	151,875	227,813	341,719	512,578
Support cost ($.10/pt/mo)	$ (54,000)	$ (81,000)	$ (121,500)	$ (182,250)	$ (273,375)	$ (410,063)	$ (615,094)
PG staffing costs (5% gro	$ (1,800,000)	$ (1,890,000)	$ (1,984,500)	$ (2,083,725)	$ (2,187,911)	$ (2,297,307)	$ (2,412,172)
Total (support + staffing)	$ (1,854,000)	$ (1,971,000)	$ (2,106,000)	$ (2,265,975)	$ (2,461,286)	$ (2,707,369)	$ (3,027,266)
Site responsibility	8%	11%	17%	25%	38%	57%	85%
Site allocation*	$ (139,050)	$ (221,738)	$ (355,388)	$ (573,575)	$ (934,520)	$ (1,541,931)	$ (2,586,184)
Remaining cost (parent)	$ (1,714,950)	$ (1,749,263)	$ (1,750,613)	$ (1,692,400)	$ (1,526,767)	$ (1,165,438)	$ (441,082)
Web visits/MD/mo	2	3	4	5	6	7	8
Web visit reimbursement	$ 24	$ 24	$ 23	$ 22	$ 21	$ 20	$ 20
Yearly reimbursement	$ 172,800	$ 388,800	$ 745,200	$ 1,336,500	$ 2,296,350	$ 3,827,250	$ 6,561,000
Adjusted cost*	$ (1,627,200)	$ (1,501,200)	$ (1,239,300)	$ (747,225)	$ 108,439	$ 1,529,943	$ 4,148,828
Site responsibility	8%	11%	17%	25%	38%	57%	85%
Site allocation*	$ (122,040)	$ (168,885)	$ (209,132)	$ (189,141)	$ 41,173	$ 871,350	$ 3,544,331
Remaining cost (parent)	$ (1,505,160)	$ (1,332,315)	$ (1,030,168)	$ (558,084)	$ 67,266	$ 658,593	$ 604,497

* **Assumptions**: Yearly growth of physicians and patients is 50%; PG staffing grows at 5%; Site responsibility is related to the % of MDs (of 4000) using PG;
[Second scenario considers Web visit reimbursement]

**Disclaimer: This draft has not been widely discussed or circulated and requires more input.