UPMC

The Role of IT Leadership in Healthcare

Jody Cervenak, CIO, Physician Service Division
Suzanne Paone, IT Executive Director

PghTech Women Network Leadership Breakfast
Thursday January 21, 2010

UPMC's Vision

To provide outstanding patient care to shape tomorrow's health system through clinical innovation, biomedical and health services research and education.

- Create a new economic future for western Pennsylvania
- Export excellence nationally and internationally
- Fuel the development of new businesses that emerge from UPMC's intellectual capital, core capabilities and management expertise.
- Remain steadfastly committed to providing premier health care services to our region and contributing to the community.

UPMC

- UPMC is ranked among the 19 hospitals recognized by U.S. News &World Report as “America’s Best Hospitals.”
- The Pittsburgh region’s largest employer, with 50,000 employees and more than $7 billion in revenue
- UPMC comprises 20 tertiary, specialty, and community hospitals, 400 outpatient sites and doctors’ offices, and retirement and long-term care facilities
- UPMC provides health insurance (UPMC Health Plan)
- Over 3.5 million unique patients served (accounts)
- Over 30,000 eRecord users

UPMC's Information Technology

$ 1.2 Billion

Total IT commitment and investment over the past 5 years

Have we received Value?

The Archives of Internal Medicine Study

Clinical Information Technologies and Inpatient Outcomes January 2009

Background: Despite speculation that clinical information technologies will improve clinical and financial outcomes, few studies have examined this relationship in a large number of hospitals.

Methods: We conducted a cross-sectional study of urban hospitals in Texas using the Clinical Information Technol
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admitted to responding hospitals between December 1, 2005, and May 30, 2006.

Results: We received a sufficient number of responses from 41 of 72 hospitals (58%). For all medical conditions studied, a 10-point increase in the automation of notes and records was associated with a 15% decrease in the adjusted odds of fatal hospitalizations (0.85; 95% confidence interval, 0.74-0.97). Higher scores in order entry were associated with 9% and 55% decreases in the adjusted odds of death for myocardial infarction and coronary artery bypass graft procedures, respectively. For all causes of hos-

Conclusion: Hospitals with automated notes and records, order entry, and clinical decision support had fewer complications, lower mortality rates, and lower costs.

Arch Intern Med. 2009;169(2):108-114

UPMC has automated ~ 65% of records

For all medical conditions studied, increase in automation of clinical records related to a decrease in mortality rates

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Higher ratings of
Decision
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>500,000 Decision Support Rules Fire Every Month

The Archives of Internal Medicine Study

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Hospitals with more advanced order entry capability experienced decreases of 9 percent and 55 percent, respectively, in

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UPMC placed 21,144,356 eRecord Inpatient Orders Last Year

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New England Journal of Medicine Survey

July 3, 2008

Healthcare IT News

PUBLISHED IN PARTNERSHIP WITH HIMSS

David Blumenthal na

March 20, 2009 | Chip Means, Web Edi

David Blumenthal, MD

WASHINGTON – The Departmer
as the Obama Administration's N
Blumenthal will lead the impleme
information technology infrastruct
according to an HHS press releas
"I am humbled and honored to ha
in the effort to harness the power
said Blumenthal. "As a primary ca
every day for 10 years, I understa
out a vision of health reform that
without the help of our most adva

The NEW ENGLAND JOURNAL of MEDICINE

Care — A

Sowmya R. Rao,
H., Ashish Jha,
y, Ph.D., Sara
umenthal, M.D.,

In his study, only 1.5% of US hospitals have a comprehensive Electronic Record System

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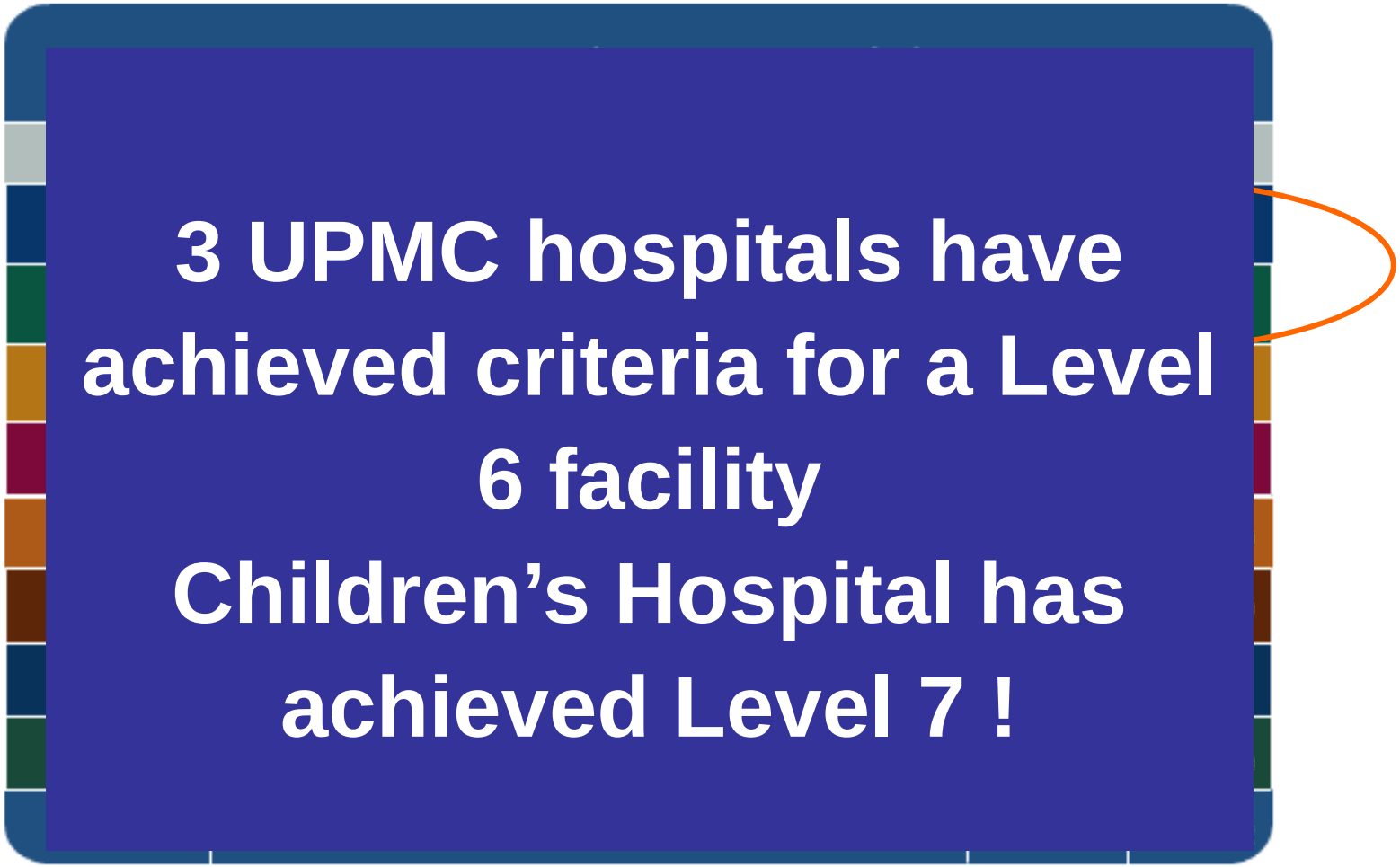
HIMSS Analytics EMR Adoption Model



Data from HIMSS Analytics℠ Database N = 5167/5172 ©2009 HIMSS Analytics

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New England Journal of Medicine Survey

March 25, 2009

Results Four percent of physicians reported having an extensive, fully functional electronic-records system, and 13% reported having a basic system. In multivariate analyses, primary
medical centers,
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Conclusions Phy
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Most recent studies suggest 12.4% of Physician Practice sites have implemented UPMC Practices are 75 % implemented

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Health-information
improve health care
the practices of physicians in the United States.[1,2] To date, there have been no definitive national studies that provide reliable estimates of the adoption of electronic health records by U.S. physicians. Recent estimates of such adoption by physicians range from 9 to 29%.[4,5] These percentages were derived from studies that either had a small number of respondents or incompletely specified definitions of an electronic health record.[5,6]

UPMC

What Most Will Face...

UPMC Revenue Cycle Technology Value

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Physician Services Revenue Cycle (since 2005) has reduced FTE's by 18% while increasing revenue by 65% and increasing cash processed per FTE by 102%

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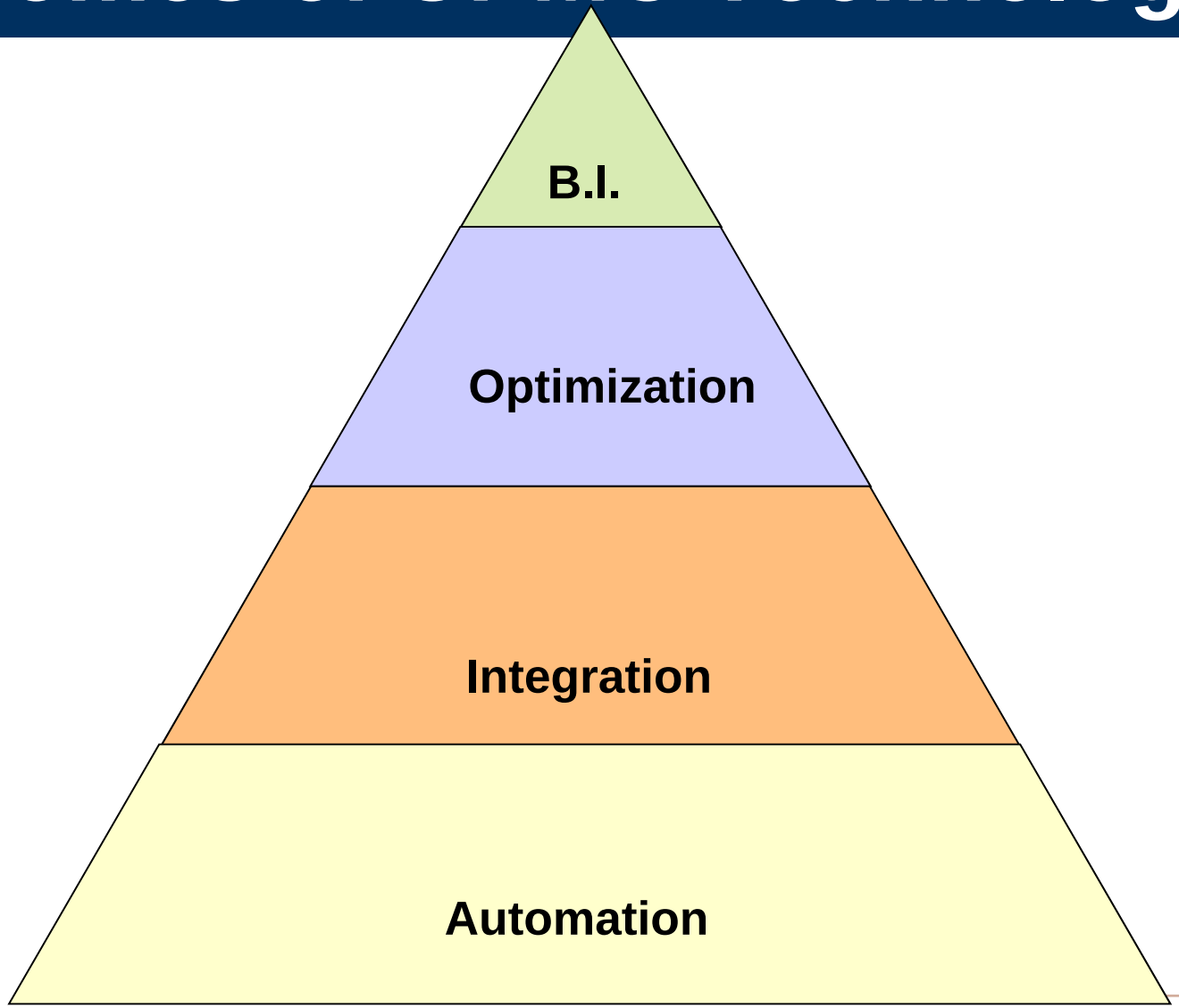
Outcomes of UPMC Technology



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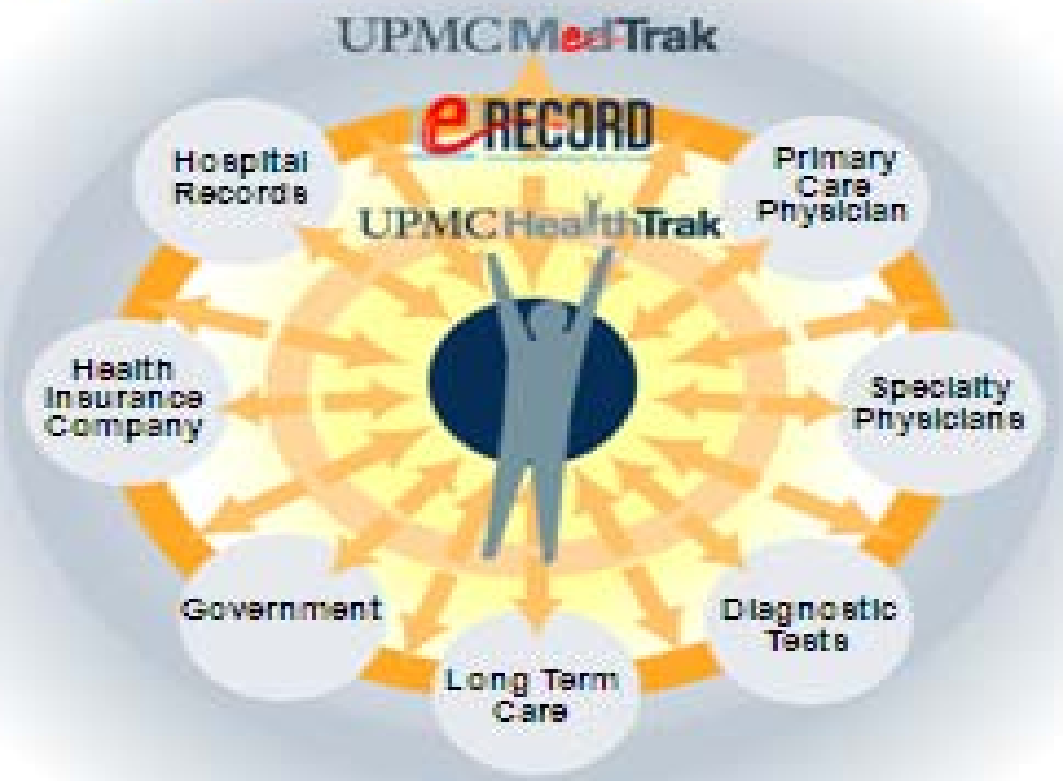
Key Challenges

- Engineering
  - Process
  - Automation
  - Redesign/Optimization
- Organizational
  - Enterprise thinking
  - Shared services and information
  - Standardization
- Culture
  - Change Management
  - Integration
  - Customer Service
  - Differentiation

Consumerism and Healthcare

Empowered Patients



UPMC HealthTrak

- Began rolling out base model in April 2008
- Currently over 27,000 patients
- Implemented in over 65 practice locations
- UPMCHealthTrak is a multidisciplinary collaborative effort supported by finance, clinical, operations, and information technology teams
- The UPMCHealthTrak program is a multidisciplinary collaborative effort governed by a steering committee led by our CFO and CMIO, with guidance from IT, Clinical Operations, Legal, Corporate Communications, and Finance

Levels of HealthTrak

Business HealthTrak

Functions:

- Appointment requests
- Business Office correspondence
- Link to UPMC online bill pay capability
- Update demographic information

Requirements:

- Must be a UPMC patient
- Physician's office must have Cadence (Scheduling) installed
- Does NOT require the office be live with EpicCare

Clinical HealthTrak

Functions:

- All current Business HealthTrak capabilities
- Ability to view portions of patient record
- *Medical advice request
- *Prescription renewal requests (physician must approve
- Test result release (automated)

Requirements:

- Physician's office must use EpicCare
- Physician must participate in HealthTrak (Epic MyChart)

HealthTrak eVisits

Functions:

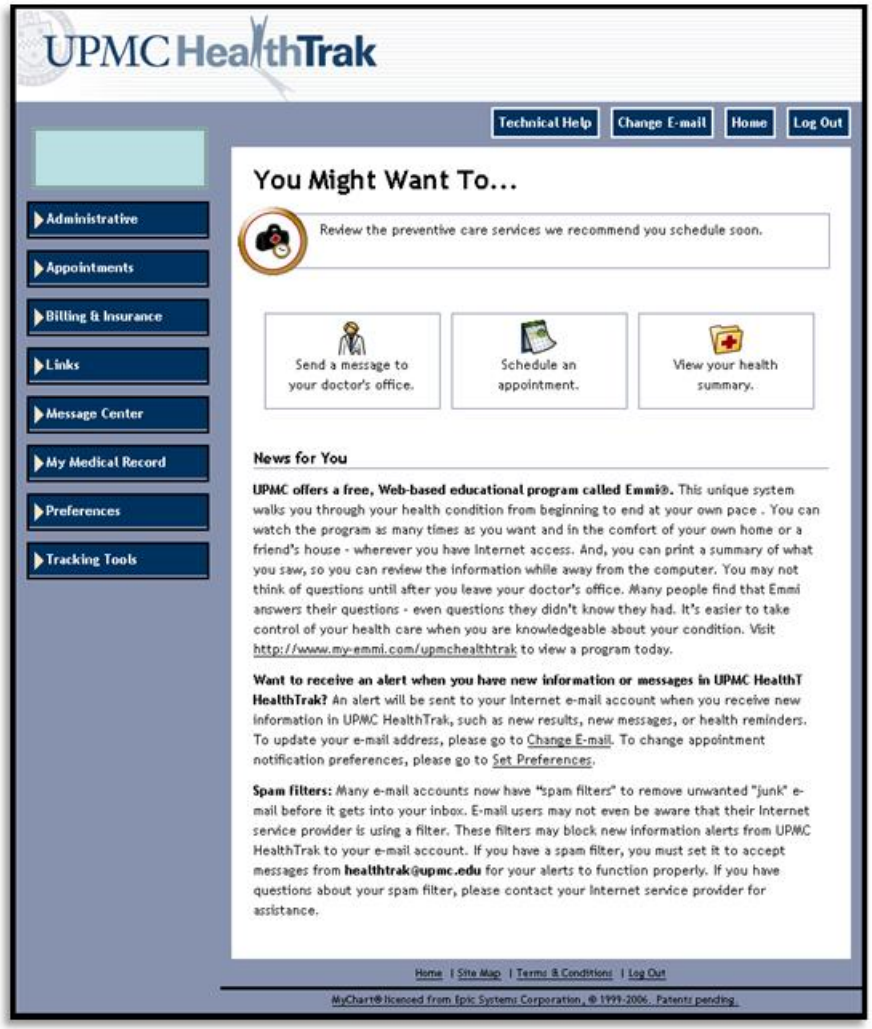
- All current Clinical HealthTrak capabilities
- Ability to do an online patient health visit for select conditions including cough, red-eye, back pain, and more (will require physician time)

Requirements:

- Must be a Clinical HealthTrak patient
- Physician must participate in eVisits

UPMC HealthTrak Features

- Multiple Enrollment Options
- Review Personal Health Information *(Current Health Issues)*
- Release of Test Results *(Lab & Interpretive)*
- Medical Advice Request
- Medication Renewal Request
- View Visit List & Information
- Direct Scheduling
- Appointment Requests
- Appointment Cancelations
- Submit Demographic Changes
- Submit Customer Service Requests
- Submit Patient Entered Flowsheets



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eVisits Project

- Evaluated eVisit products available on the market
- Decided to pursue an integrated EMR-based solution
- Co-designed eVisits with a collaborative effort between Epic (EMR vendor) and UPMC physicians

Current Symptoms for eVisits

Currently there are 7 possible eVisit symptoms to choose from:

- Back Pain
- Cough
- Diarrhea
- Red Eye
- Sinus/ Cold Symptoms
- Urinary Symptoms
- Vaginal Irritation/ Discharge

In addition, there is an “Other” category if the patient’s symptoms are not among the 7 listed.

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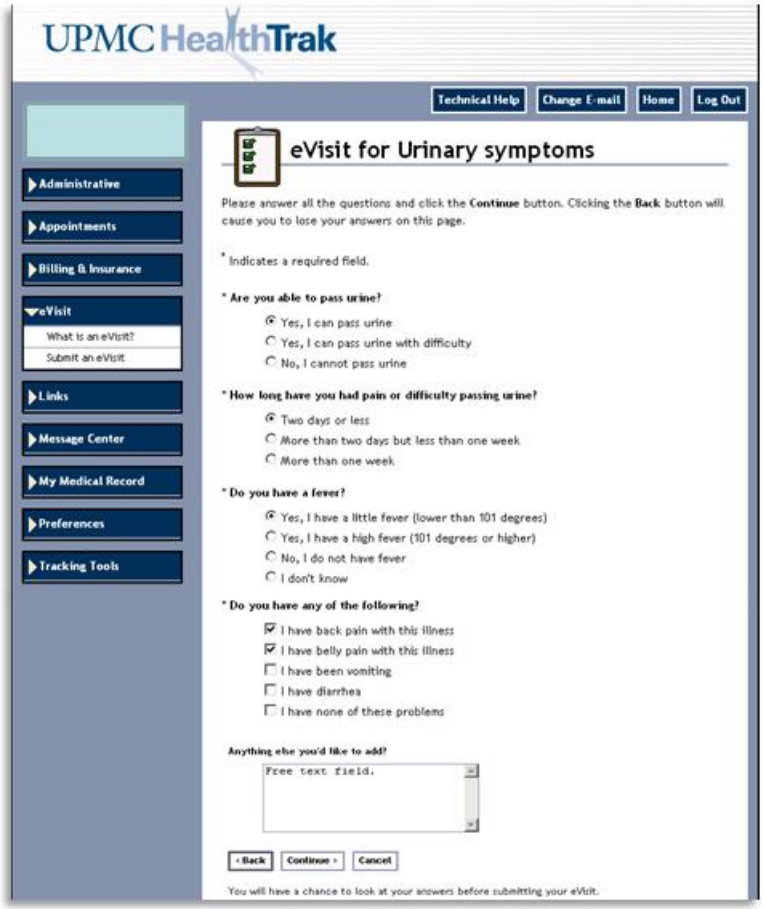
Patient Questionnaire - Urinary

If the patient chooses one of the 7 symptoms, a predefined questionnaire appears on the next screen. The patient must answer all the questions

Depending on the question the answers can be:

- Single answer
- Multiple answer
- Free text field

The questions may also have branching logic.



eVisit Statistics

- eVisit rollout began with a complimentary pilot:
  - 420 total eVisit requests were submitted from Aug 1, 2008 to Mar 31, 2009
- Charging for eVisits began on April 1, 2009:
  - 155 total eVisit requests were submitted from Apr 1, 2009 to Aug 1, 2009
- Pilot involved four UPMC primary care practices
- Most patients have ongoing health issues: average 4.76 active problems on the patients' problem list

eVisit Statistics

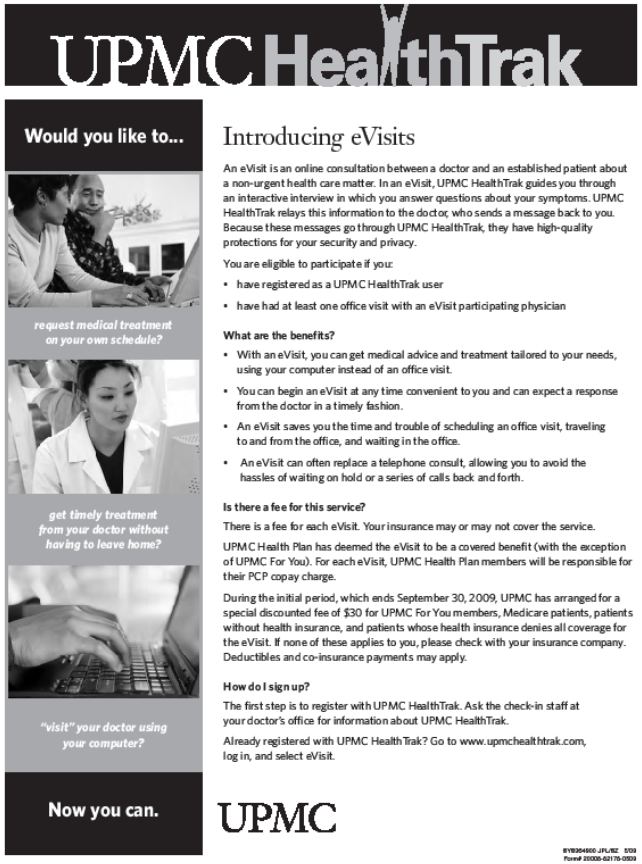
- Patient overview
  - Requests: 25% male, 75% female

Age Breakdown	Count
18-24	7%
25-34	17%
35-44	25%
45-54	24%
55-64	20%
65+	6%

Condition	Count
Sinus/cold symptoms	196
Back Pain	29
Cough	43
Diarrhea	16
Urinary symptoms	36
Red Eye	10
Vaginal irritation/discharge	15
Other	228

eVisit Marketing

- Only form of marketing for the pilot was a patient brochure:



UPMC HealthTrak

Would you like to...

request medical treatment on your own schedule?

get timely treatment from your doctor without having to leave home?

"visit" your doctor using your computer?

Now you can.

Introducing eVisits

An eVisit is an online consultation between a doctor and an established patient about a non-urgent health care matter. In an eVisit, UPMC HealthTrak guides you through an interactive interview in which you answer questions about your symptoms. UPMC HealthTrak relays this information to the doctor, who sends a message back to you. Because these messages go through UPMC HealthTrak, they have high-quality protections for your security and privacy.

You are eligible to participate if you:

- have registered as a UPMC HealthTrak user
- have had at least one office visit with an eVisit participating physician

What are the benefits?

- With an eVisit, you can get medical advice and treatment tailored to your needs, using your computer instead of an office visit.
- You can begin an eVisit at any time convenient to you and can expect a response from the doctor in a timely fashion.
- An eVisit saves you the time and trouble of scheduling an office visit, traveling to and from the office, and waiting in the office.
- An eVisit can often replace a telephone consult, allowing you to avoid the hassles of waiting on hold or a series of calls back and forth.

Is there a fee for this service?

There is a fee for each eVisit. Your insurance may or may not cover the service.

UPMC Health Plan has deemed the eVisit to be a covered benefit (with the exception of UPMC For You). For each eVisit, UPMC Health Plan members will be responsible for their PCP copay charge.

During the initial period, which ends September 30, 2009, UPMC has arranged for a special discounted fee of $30 for UPMC For You members, Medicare patients, patients without health insurance, and patients whose health insurance denies all coverage for the eVisit. If none of these applies to you, please check with your insurance company. Deductibles and co-insurance payments may apply.

How do I sign up?

The first step is to register with UPMC HealthTrak. Ask the check-in staff at your doctor's office for information about UPMC HealthTrak.

Already registered with UPMC HealthTrak? Go to www.upmchealthtrak.com, log in, and select eVisit.

UPMC

BYB304600 JPL/BZ 5/09
Form# 20008-62176-0509

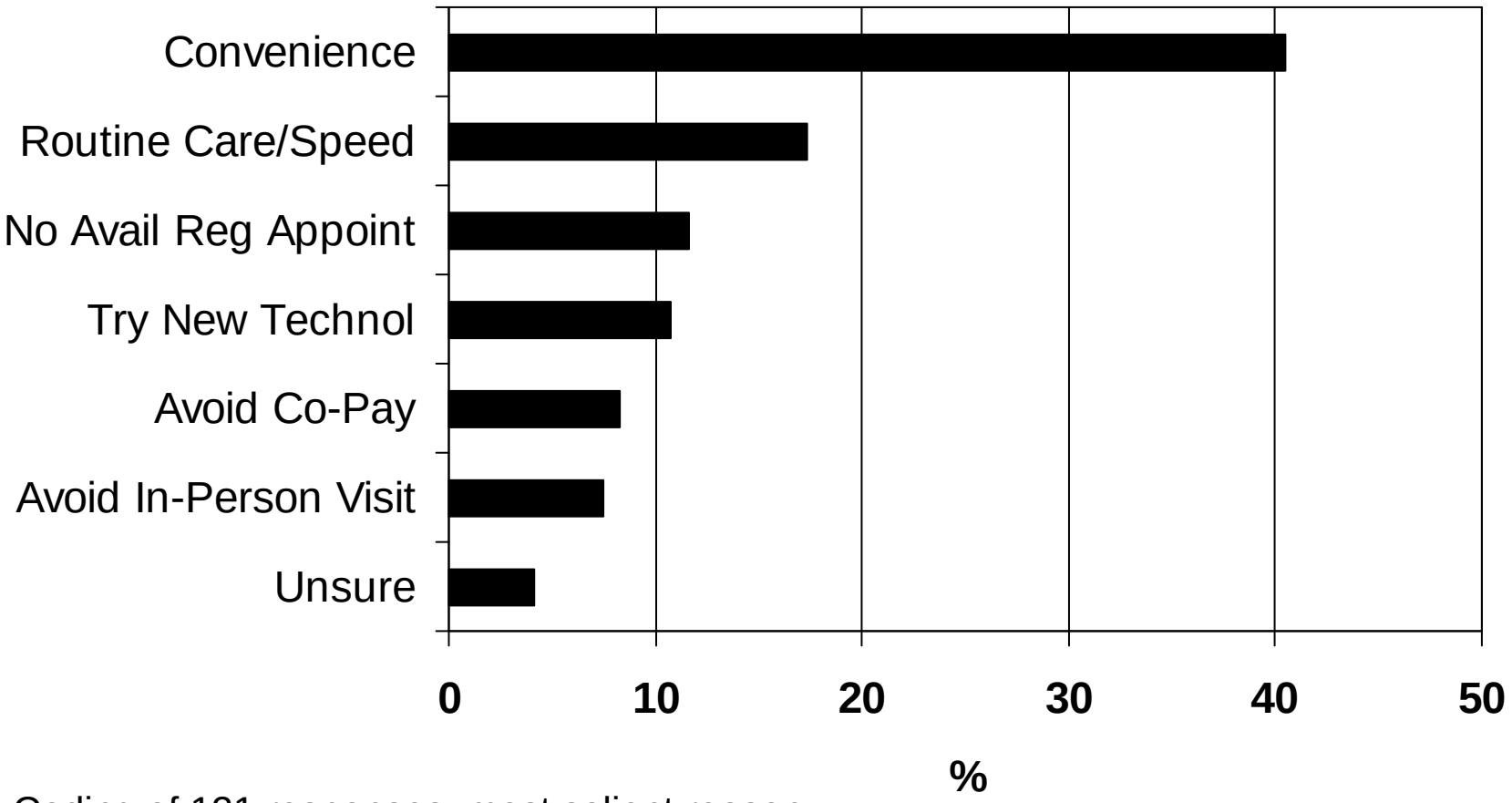
eVisit Patient Study

- Partnered with University of Pittsburgh to conduct a telephone survey
- Surveyed 156 patients, response rate of 82%
  - Female 71%, male 29%
  - Age:

18-39	32.5%
40-49	30.8%
50-59	24.8%
60+	12.0%

- College graduate: 48.7%
- Not currently working: 14%
- Median number of physician visits per year: 3

Primary Reason for eVisit: Open-Ended Responses



Coding of 121 responses; most salient reason

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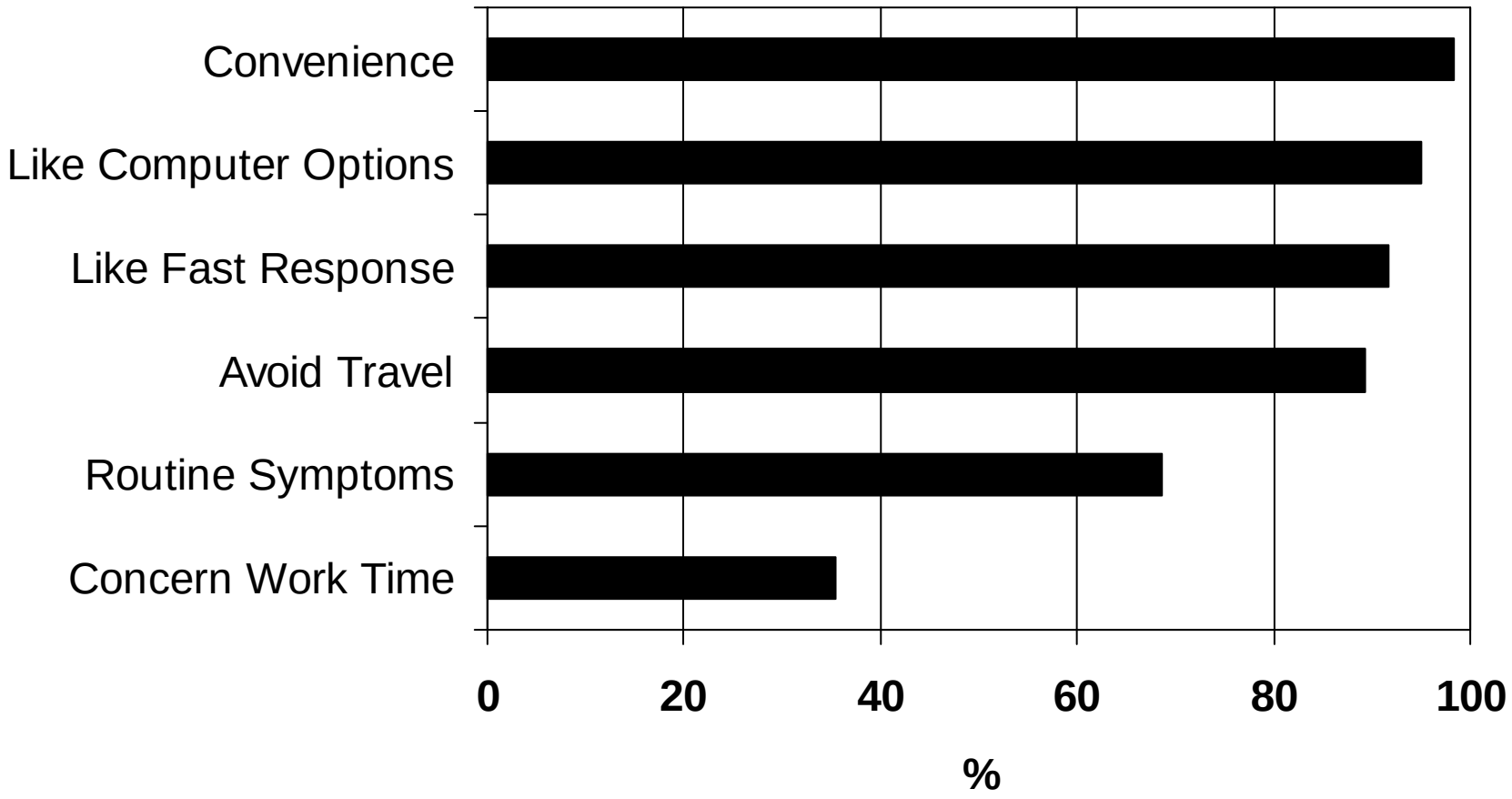
Reasons for eVisit: Structured Responses



121 responses

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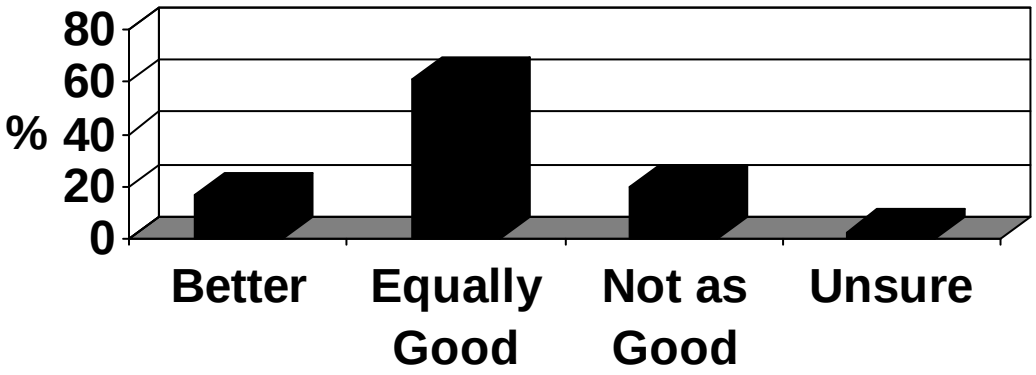
Satisfaction with eVisit

- Questions/concerns not answered: 11.6%
- Would make another eVisit: 95%
- Compared to in-person visit:



Patients and eVisits

- Preserving access to their primary care physician
- Affordable
- Convenient care
- Efficient
- Reduces absenteeism
- Can enter their own vital signs
- Improves the quality of care

Lessons Learned

- Physician and office buy-in is a must
- Address Legal/Compliance issues to ensure billing coding compliance
- Address financial and billing office concerns
- Establish consistent eVisit coverage times and support (goal: 7 days/week coverage)
- Continually evaluate your eVisit program for data to support approaching payors for eVisit reimbursement
- Expect a learning curve for eVisits
- eVisits must be promoted… if you build it they may not come

Technology Challenges

- Platforms
- Suppliers
- Data
- Integration
- User Adoption
- IT Staffing

External Constituencies, Business Services supported with Consolidating Technology

Constituencies :

Public:
- Consumers
- UPMC Patients
- Non-UPMC Patients

Providers:
- UPMC Employed Providers
- Referring Providers
- Institutional Providers

Others:
- Patient Transportation
- Companies
- Insurance Companies
- Law Firms
- Others

Access Methods

- External phones
- Internal network/ phones
- eMail
- Portals
  - MedTrak
  - HealthTrak
  - InfoNet
  - UPMC.com
  - Others

Office of Physician Relations (OPR) / Integrated Medical Call Center (IMCC)

Services
- Automated Notification of Clinical and Administrative events
- Data Quality maintenance – contacts/ preferences / relationships
- Patient transfers
- Customized Answering Services
- OnCall Schedules
- Paging services
- 1st Level Support for Portals
- UPMC Support for Emergency planning and drills
- On Demand Medical Record Transfer

Consolidating' Technology

Applications ions by Functions:

Contact Management
- Contact Synchronization with Updater
- Web Update for Contact Information
- Administrative Tools

Automated Notification
- Message Delivery using IBM MQ products and custom code
- 40+ Message Types
- Multiple Delivery Channels: Interactive Voice, eMail, Fax, Paging

Portal Delivery
- MedTrak with OnCall Schedules, Physician Training, Find a PCP
- PrepLink with Emergency Preparedness solutions

Call Center Solutions
- hCRM for Answering Service, Emergency Call out, 1st Level support for portals, etc.

Databases:

Contact Data Store (EPCD13) | **Physician Training** | **MS CRM**

Content Management | **OnCall** | **WebEOC – Extended use** | **Pt / Pr Relationship Data Store (CUPID)**

Security Infrastructure and Portal Solutions:

~ Identity and Access Management for UPMC ~ CAI Framework for secure Internet access ~ WebShpere ~ IBM security solutions ~ Microsoft AD

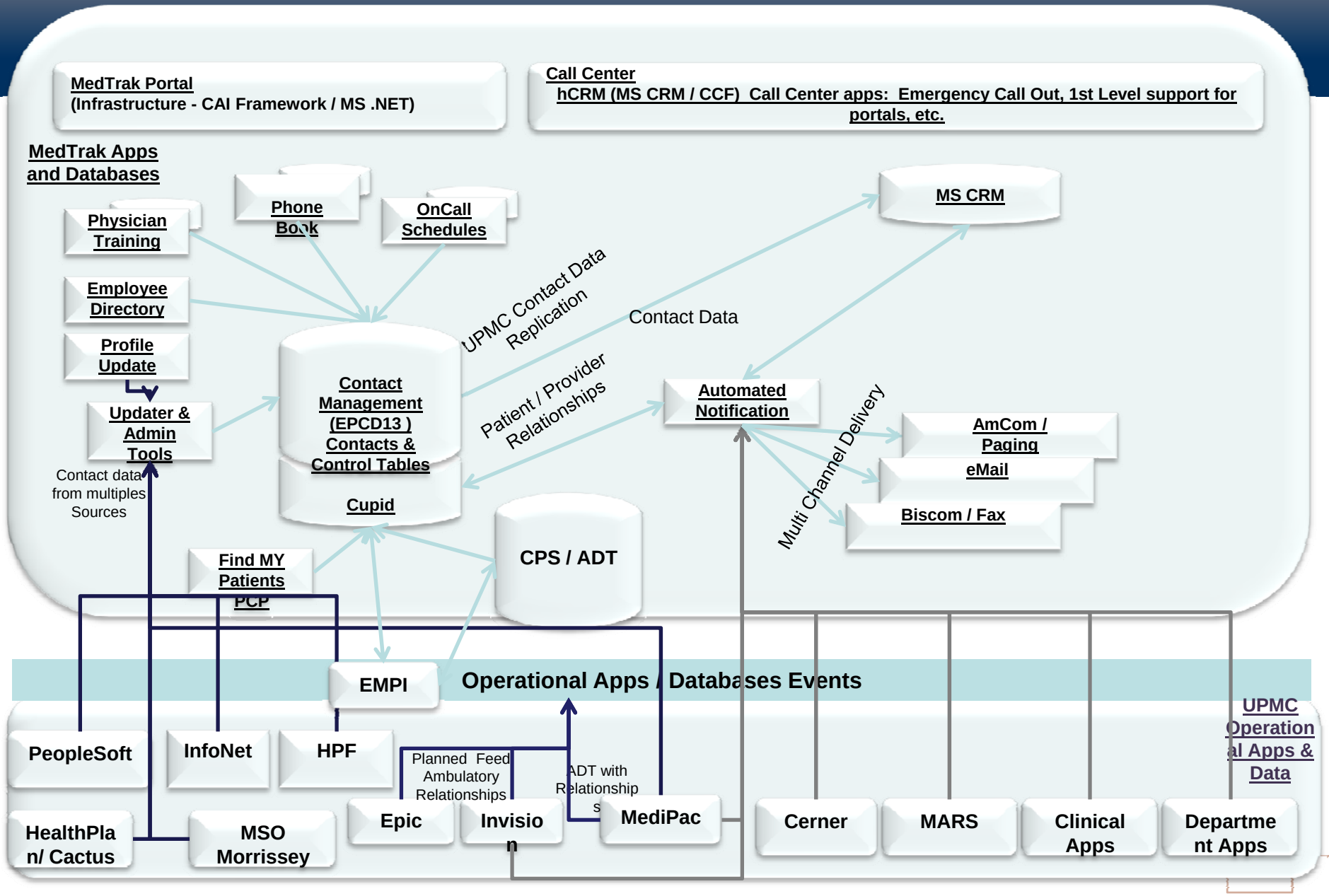
UPMC Applications and Data

~ PeopleSoft ~ MediPac ~ Epic ~ Invision ~ MARS ~ Clinical Application ~ Departmental Applications

UPMC Infrastructure

~ Network ~ Hardware / Software ~ Telephones ~ Facilities ~ Personnel

Consolidating Technology for Operational Applications



Leadership Implications

- Strategic/Organizational
  - Disruptive Nature of Consumerism in Traditional Health Care
  - Place in Market Strategies
  - New Lines of Business
- Operational
  - eCommerce in health care challenges policy (e.g. proxy)
  - Challenges existing service models
- Individual
  - Provider (paternalistic versus patient centered models)
  - Consumer (likeness and differences to other eServices models)