Health IT for Preventive Cancer Screening: A Population-Based Approach to Patient-Centric Care

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Preventive Cancer Screening

- USPSTF recommends routine preventive cancer screening including breast, cervical and colorectal cancer among eligible individuals

- Breast cancer: most common cancer among women in US. Second leading cause of cancer death in women
  - 192,370 new cases of invasive breast cancer
  - 40,170 deaths from breast cancer

- Colorectal cancer: the third most common cancer in men and women in US
  - 106,100 and 40,870 new cases of colon and rectal cancer
  - 49,920 deaths from colorectal cancer

- Cervical cancer, which tends to present in mid-life, was once one of the most common causes of cancer death for women in US
  - 11,270 new cases of invasive cervical cancer
  - 4,070 deaths from cervical cancer

Goal for Today's Discussion

- Despite USPSTF recommendations and known benefits of screening, not all eligible individuals are screened

  - Breast (mammography): 66.5% eligible women up to date

  - CRC: 46.8% eligible individuals up to date

  - Cervical (Pap): 79.6% eligible women up to date

- How do we ensure that all eligible patients receive appropriate preventive cancer screening?

- How do we design and implement health IT systems that perform comprehensive cancer screening?

Ensuring All Eligible Patients Receive Appropriate Preventive Cancer Screening

- Requires a population-based perspective

  ➢ In contrast to a traditional visit-based perspective

- Health IT can support population management

- Preventive cancer screening is a key task of primary care systems

- Too often falls short of ideal evidence-based care

  ➢ Especially in racial and ethnic minorities, and low income and non-English speaking patients

Comprehensive Cancer Screening

- Must integrate multiple conditions to present a single, patient-centric perspective
  - Ex.: 62 year old woman due for breast, cervical, CRC screening
  - Conceptually no different than a patient dealing with diabetes, COPD and knee osteoarthritis
- Current efforts generally focus on a single cancer and use a narrow, one-size-fits-all approach to patient reminders
  - Ex.: mailed letter, phone call, etc.
- Patient-centric care model
  - Comprehensive cancer screening may involve multiple tests that can be at different stages of completion for any patient
  - Easier for primary than specialty-based system to address

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Underpinning for a Conceptual Model

- A Population-Based Approach to Patient-Centric Care

- System Goals:

  ➢ Ensure all eligible patients receive appropriate preventive cancer screening including traditionally underserved groups

  ➢ Provide comprehensive cancer screening

- Underlying Assumptions:

  ➢ Operating in a resource-limited health care system

  ➢ Achieving goals in an efficient manner

Our Conceptual Model

- Population-based surveillance
  - ➢ Primary care practice network perspective
- Patient-centric care model
  - ➢ Comprehensive cancer screening
  - ➢ Concept of non-visit or between-visit care
- Role of the PCP as a catalyst for improved care
  - ➢ Accurate list linking patients to correct PCP or practice
- Health systems are heterogeneous, resource-limited environments
  - ➢ Use of information technology to improve efficiency of efforts
  - ➢ Designed as "fail safe" system to complement visit-based and specialty-based efforts with ability to evolve into a primary system

From a Conceptual Model to Reality

- Identifying our primary care population

  ➢ Linking all patients to a specific PCP or practice

- Developing measures and identifying eligible patients

  ➢ Comprehensive cancer screening: breast, cervical, colorectal

- Designing prototype system

  ➢ Mammography FastTrack: improving breast cancer screening rates

- Next step: comprehensive cancer screening

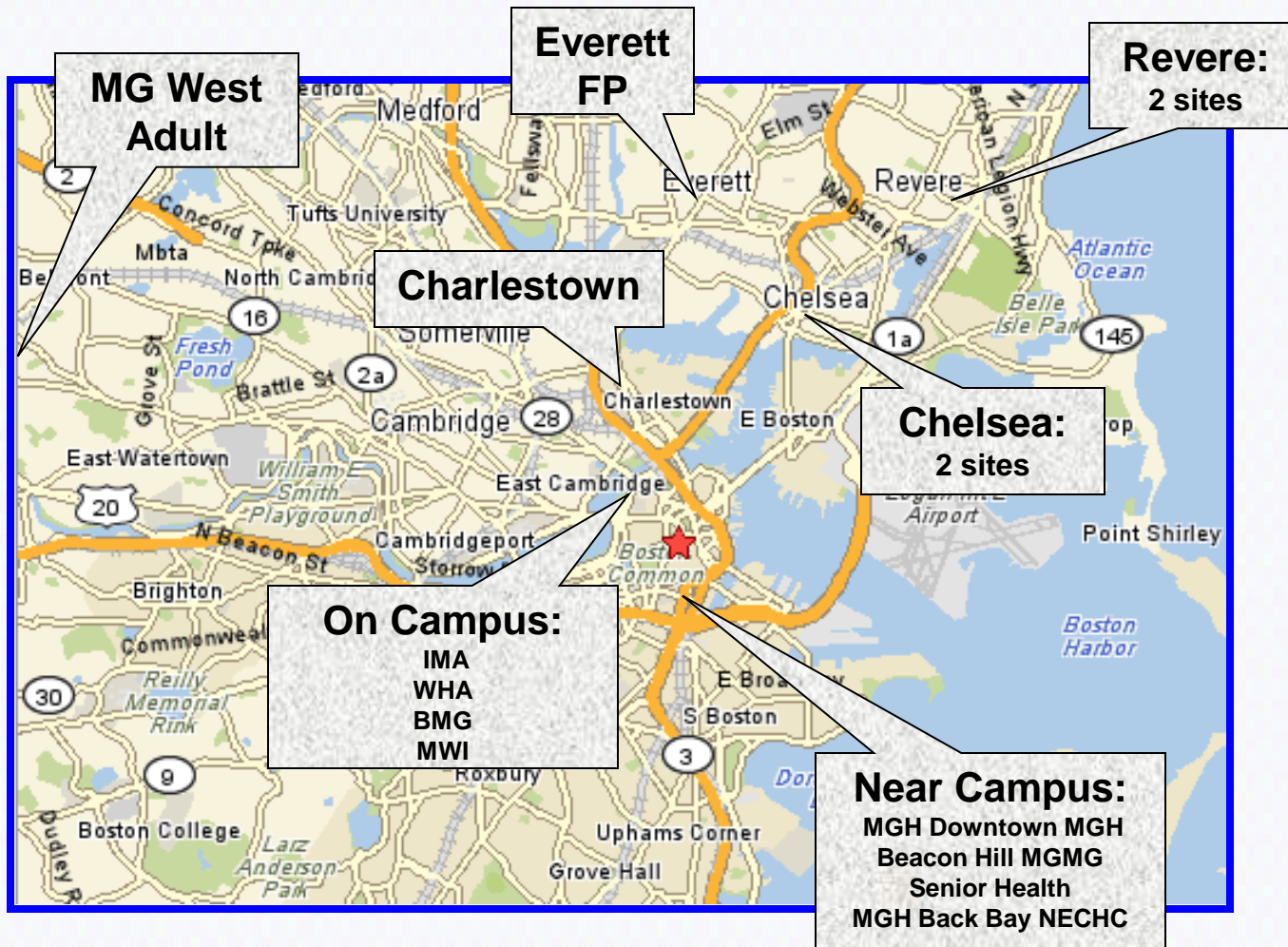 ➢ Technology for Optimizing Population Care in a Resource-limited Environment (TOP-CARE)

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MGH Primary Care Network Setting:
General Internists & Family Physicians

MG West Adult

Everett FP

Revere: 2 sites

Charlestown

Chelsea: 2 sites

On Campus:
IMA
WHA
BMG
MWI

Near Campus:
MGH Downtown MGH
Beacon Hill MGMG
Senior Health
MGH Back Bay NECHC

MDs: 178

FTEs: 101

Practices: 15

Patients:155,590
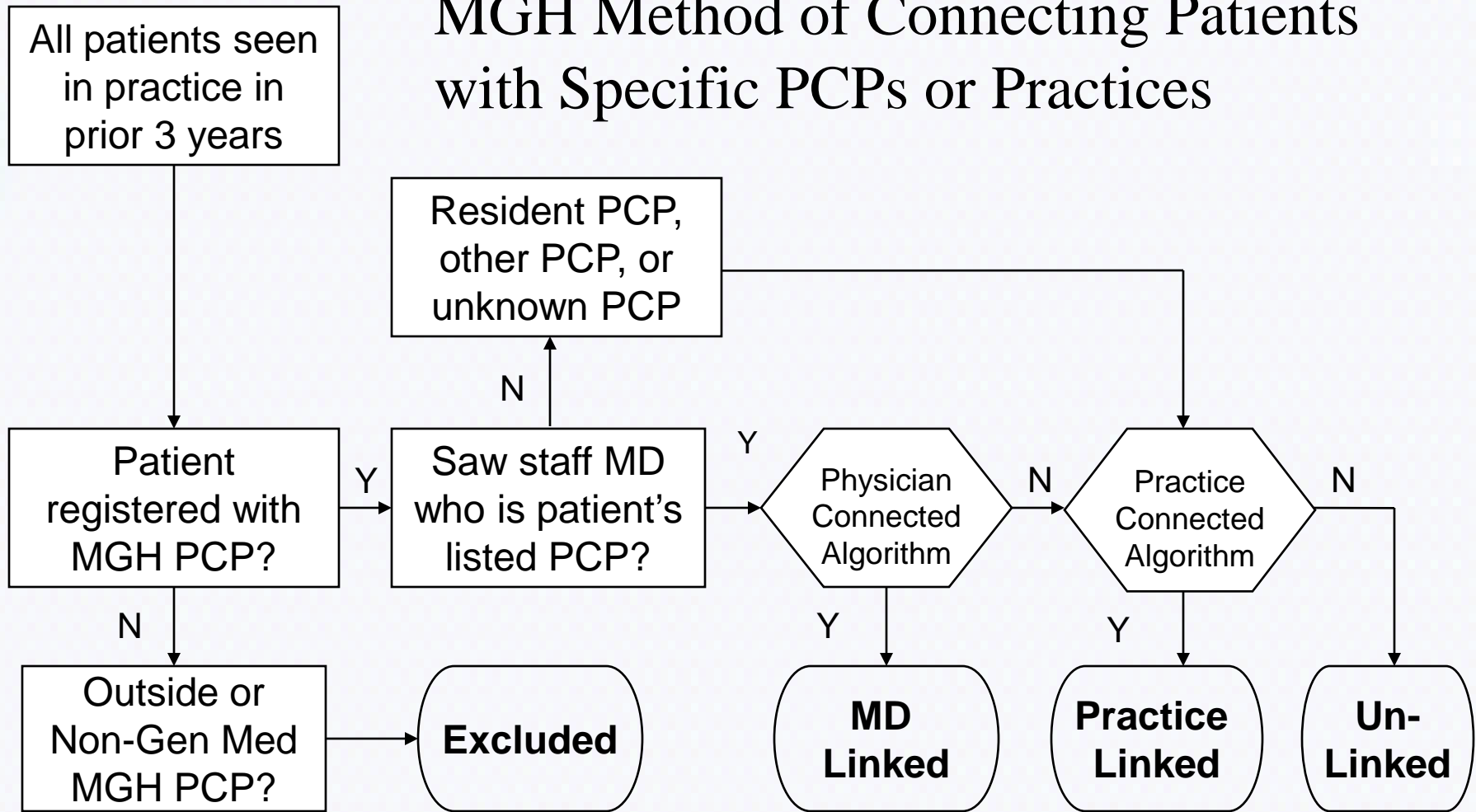
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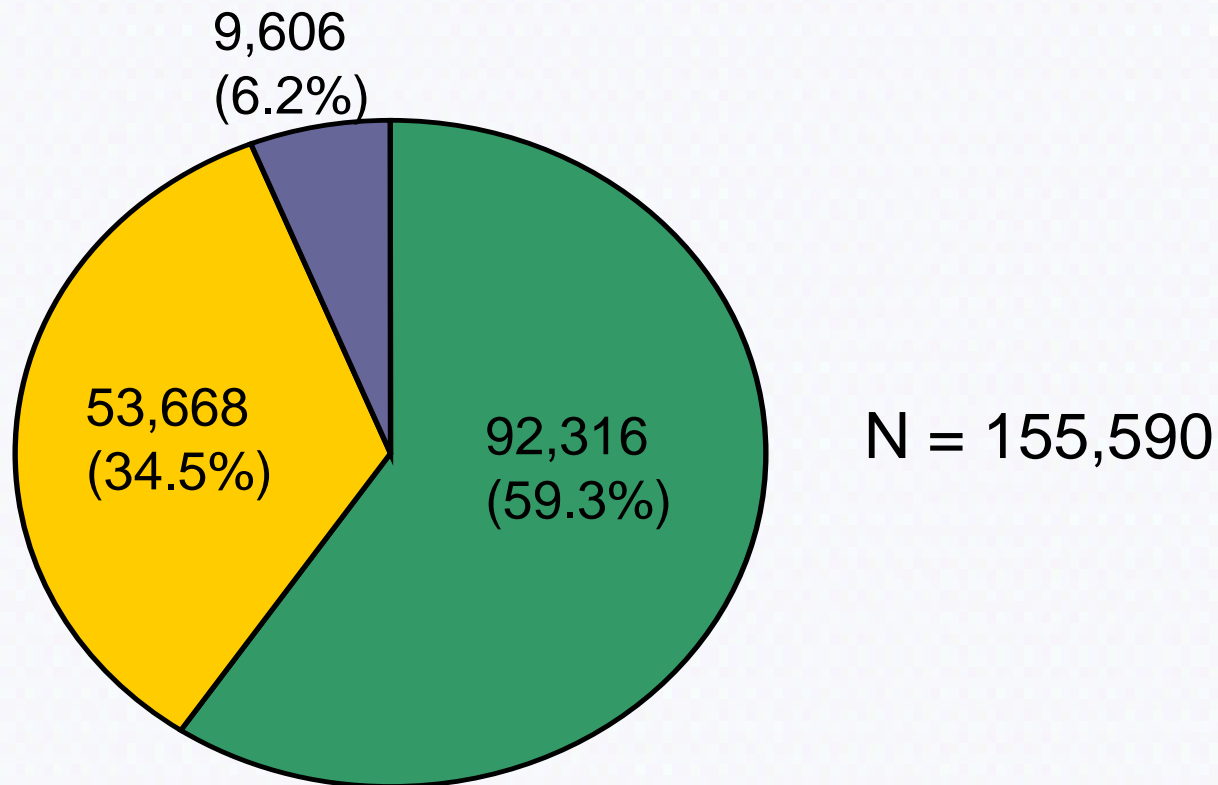# MGH Method of Connecting Patients with Specific PCPs or Practices

All patients seen in practice in prior 3 years

Patient registered with MGH PCP?

N → Outside or Non-Gen Med MGH PCP? → **Excluded**

Y → Saw staff MD who is patient's listed PCP?

N → Resident PCP, other PCP, or unknown PCP

Y → Physician Connected Algorithm

Y → **MD Linked**

N → Practice Connected Algorithm

Y → **Practice Linked**

N → **Un-Linked**

Atlas et al, Annals Intern Med 2009

MGH Patient Linkage Status

N = 155,590

9,606 (6.2%)

53,668 (34.5%)

92,316 (59.3%)

PCP Linked   Practice Linked   Un-Linked

MGH Quality Measures By Linkage Status
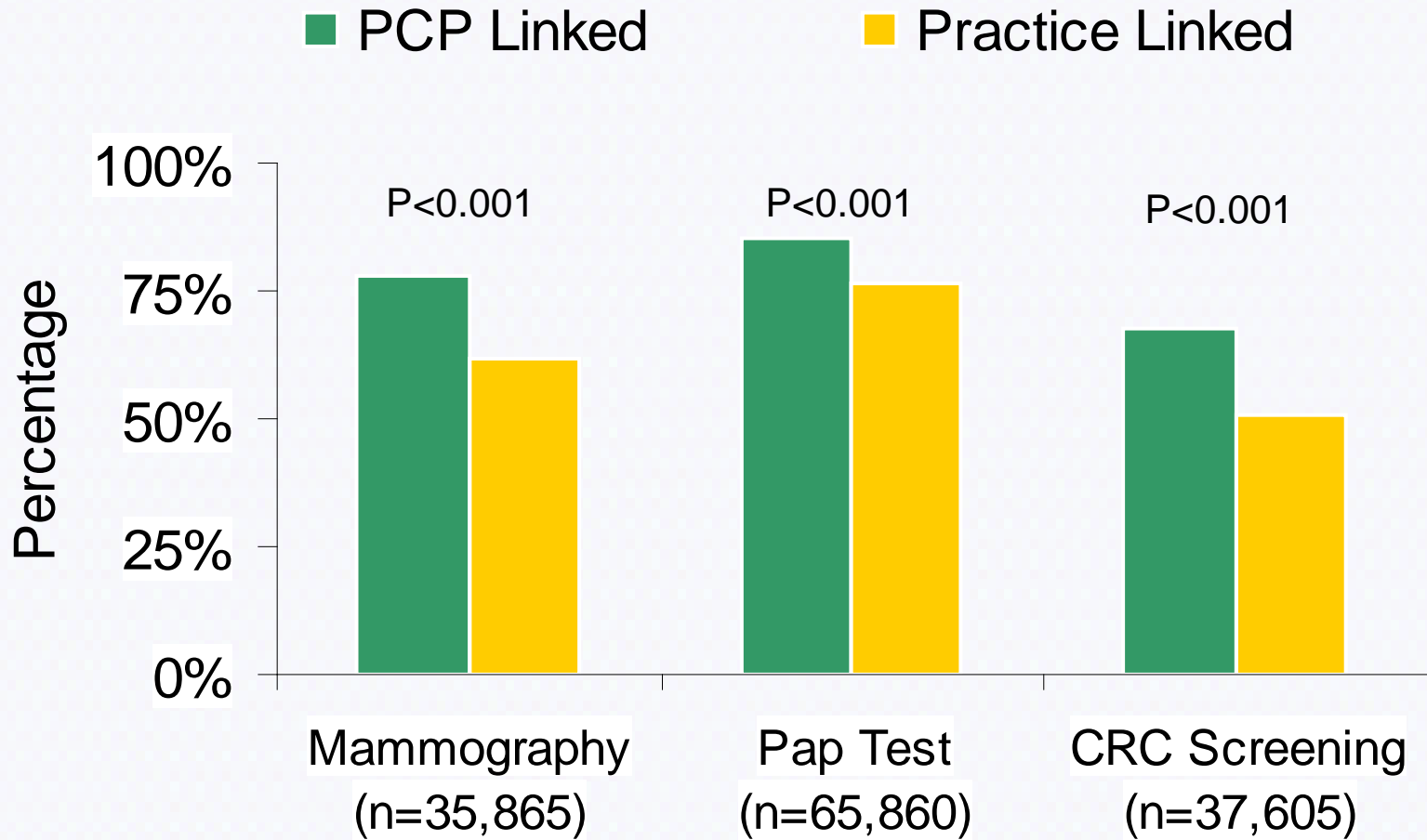
CRC Screening – By Race & Linkage

Aged 52-69*

■ White ■ Black ■ Asian ■ Hispanic □ Other

Percentage Completed

Overall
- White: 64
- Black: 61
- Asian: 55
- Hispanic: 47
- Other: 44

PCP Linked
- White: 67
- Black: 65
- Asian: 58
- Hispanic: 49
- Other: 51

Practice Linked
- White: 50
- Black: 52
- Asian: 44
- Hispanic: 43
- Other: 30
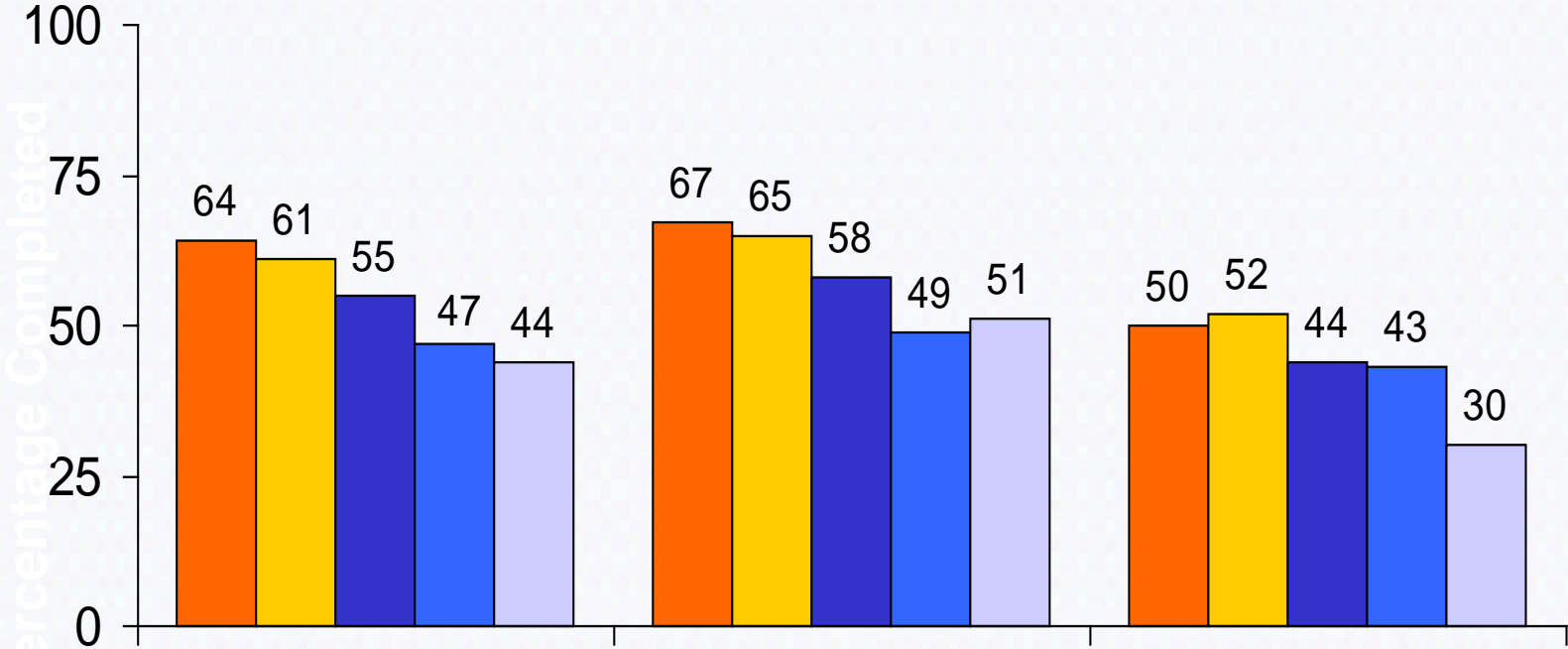
* n = 37,601;
CRC: 1) FOBT- 1 yr; 2) Sigmoidoscopy or DCBE - 5 yrs or 3)Colonoscopy – 10 yrs

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Mammography FastTrack Study

- Funded by National Cancer Institute R21 grant

- Cluster randomized trial of practices to the intervention (n=6) or usual care (n=6) groups

- Intervention Period: 3/20/2007 – 3/19/2008

- Eligible patients: 6730 women 42-69 years old with no documented mammogram in prior <u>two</u> years

  - Exclusions: Bilateral mastectomy, death

- Overdue patients seen in practice reviewed by:

  - PCP – for her/his physician-linked patients

  - Case manager – for practice-linked patients (ex. resident PCP)

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Study Procedures

- Trained tool users in intervention practices
  - PCP/practice case managers screened overdue list
  - Practice staff delegates contacted overdue patients

- Delegate assigned to each PCP/case manager

- Emails to users with direct link to tool

- PCPs and practice case managers reviewed overdue list

- Central mailing of letters to patient

- Practice staff delegate contacted patients to schedule

File Edit View Insert Format Tools Actions Help

Paste All Items

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To... Atlas, Steven J, M.D.

Cc...

Subject: Your Mammography Quality Report and List of Potentially Overdue Patients – Please Open!

Mammography data is now available for your primary care panel.

We have identified all women between the ages of 42-69 years that are directly linked to you and linked them to their mammography results for the past 2 years.

Please select the following link to review the results for your panel and to take action to electronically order mammograms for your overdue patients.

http://oncall.partners.org

We hope this information is helpful to you. Please don't hesitate to contact me with any questions or comments.

Sincerely,

Michael J. Barry
Director, MGH Primary Care Operations Improvement

Start | \\Sf... | SA... | Inb... | Gm... | Ins... | Em... | You... | Fas... | 12:21 PM

Provider Tool Interface

[Video Removed for 508 Compliance]

1 Year Usage of FastTrack Tool by PCPs

Practice	Total PCPs in Practice	PCPs with use	% of PCPs with use
1	5	5	100%
2	15	15	100%
3	7	7	100%
4	16	14	88%
5	8	7	88%
6	13	11	85%
Total	**64**	**59**	**92%**

Mammography FastTrack: 1-Year Usage

Legend: □ Letter Sent ■ Deferrals □ No Action

- All Patients N=3054: N=2274 (Letter Sent), N=378 (Deferrals), N=402 (No Action)
- MD-Linked N=1689: N=1042 (Letter Sent), N=275 (Deferrals), N=372 (No Action)
- Practice-Linked N=1365: N=1232 (Letter Sent), N=103 (Deferrals), N=30 (No Action)
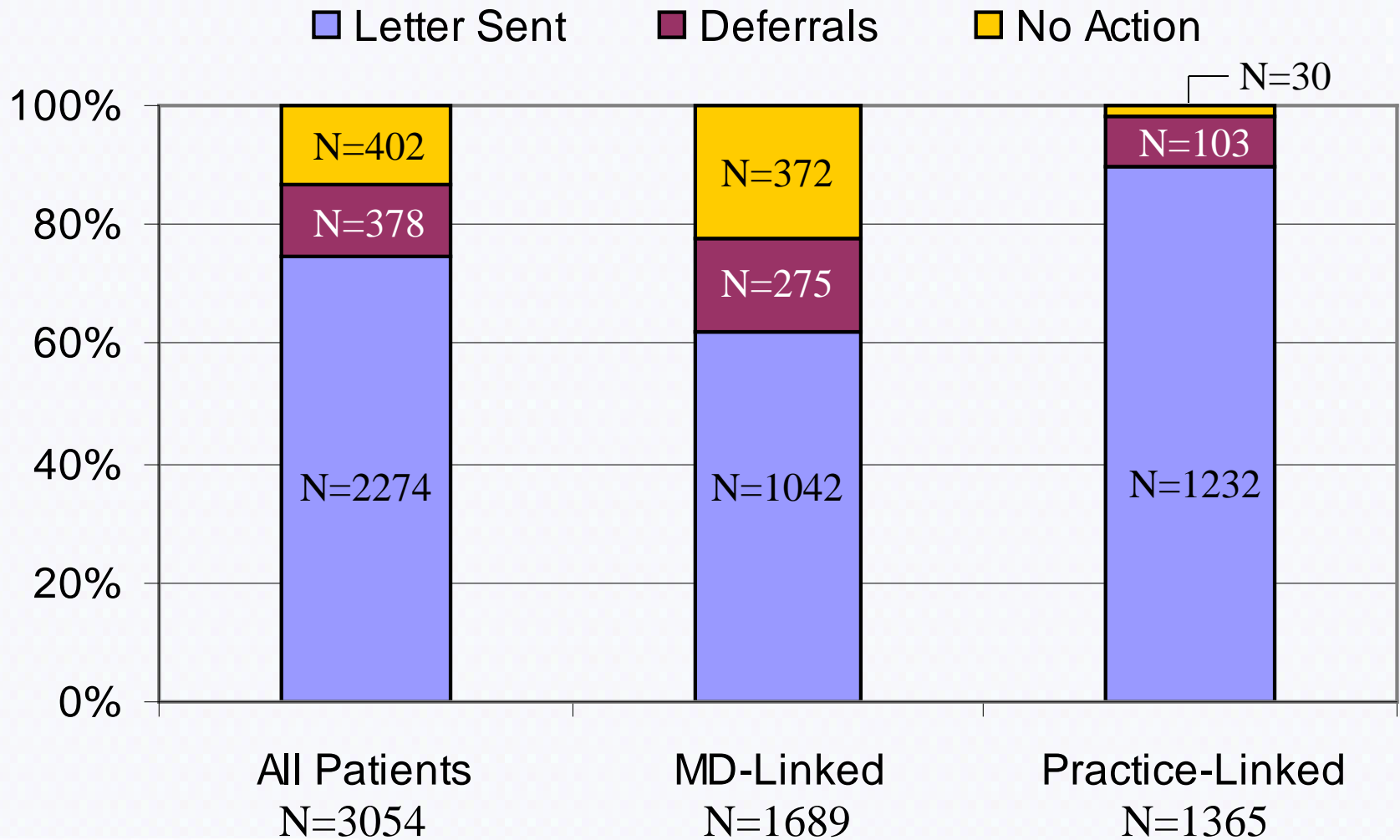
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Physician/Case Manager Deferral Reasons
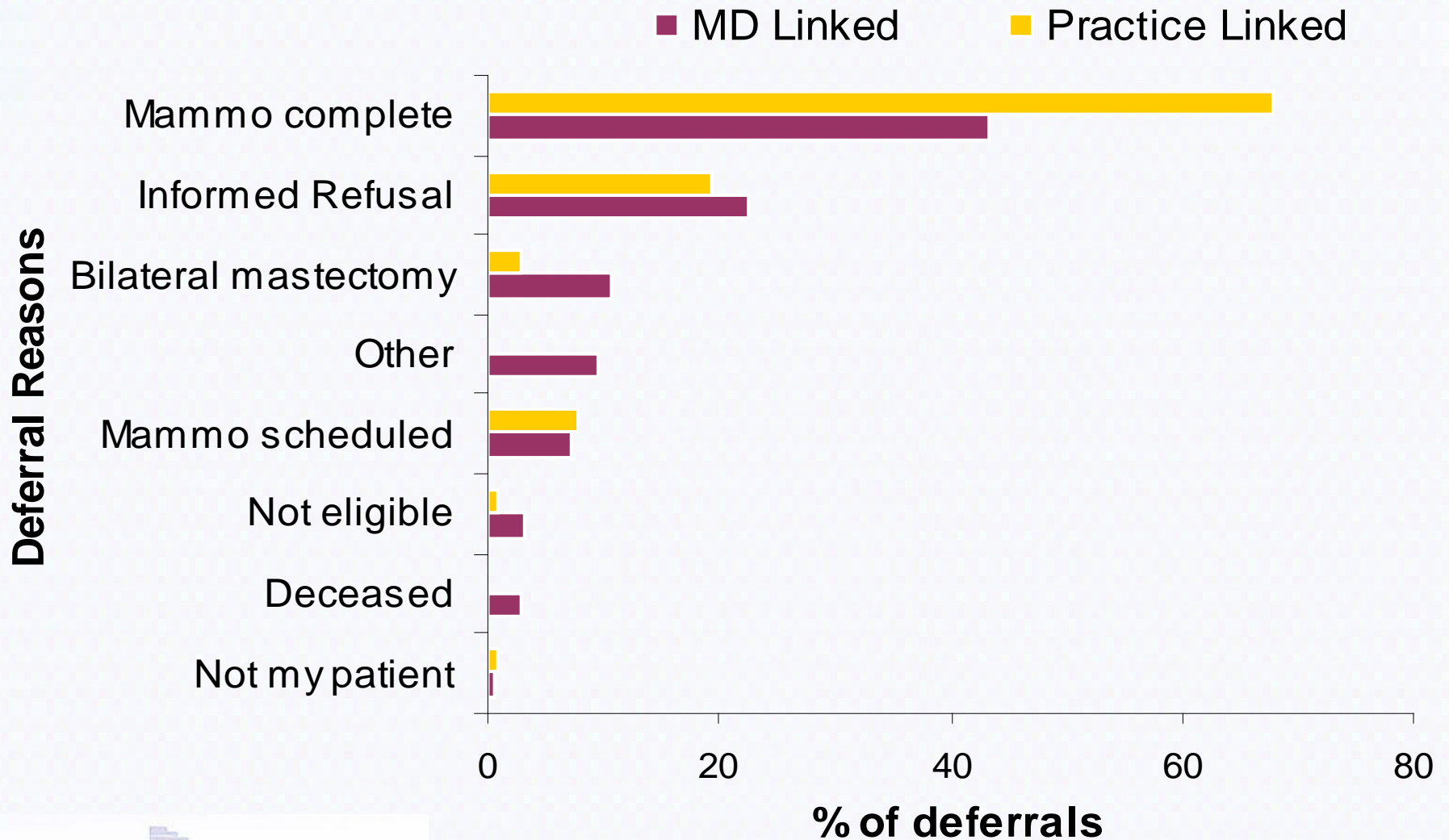
Next step: Comprehensive cancer screening

- **TOP-CARE Study: AHRQ R18 Grant**
  - Take population, visit-independent perspective
  - Function across heterogeneous primary care network
  - Implement advanced health IT system to identify, contact, track all eligible network patients for comprehensive cancer screening
  - Improve overall cancer screening rates, including disadvantaged patients
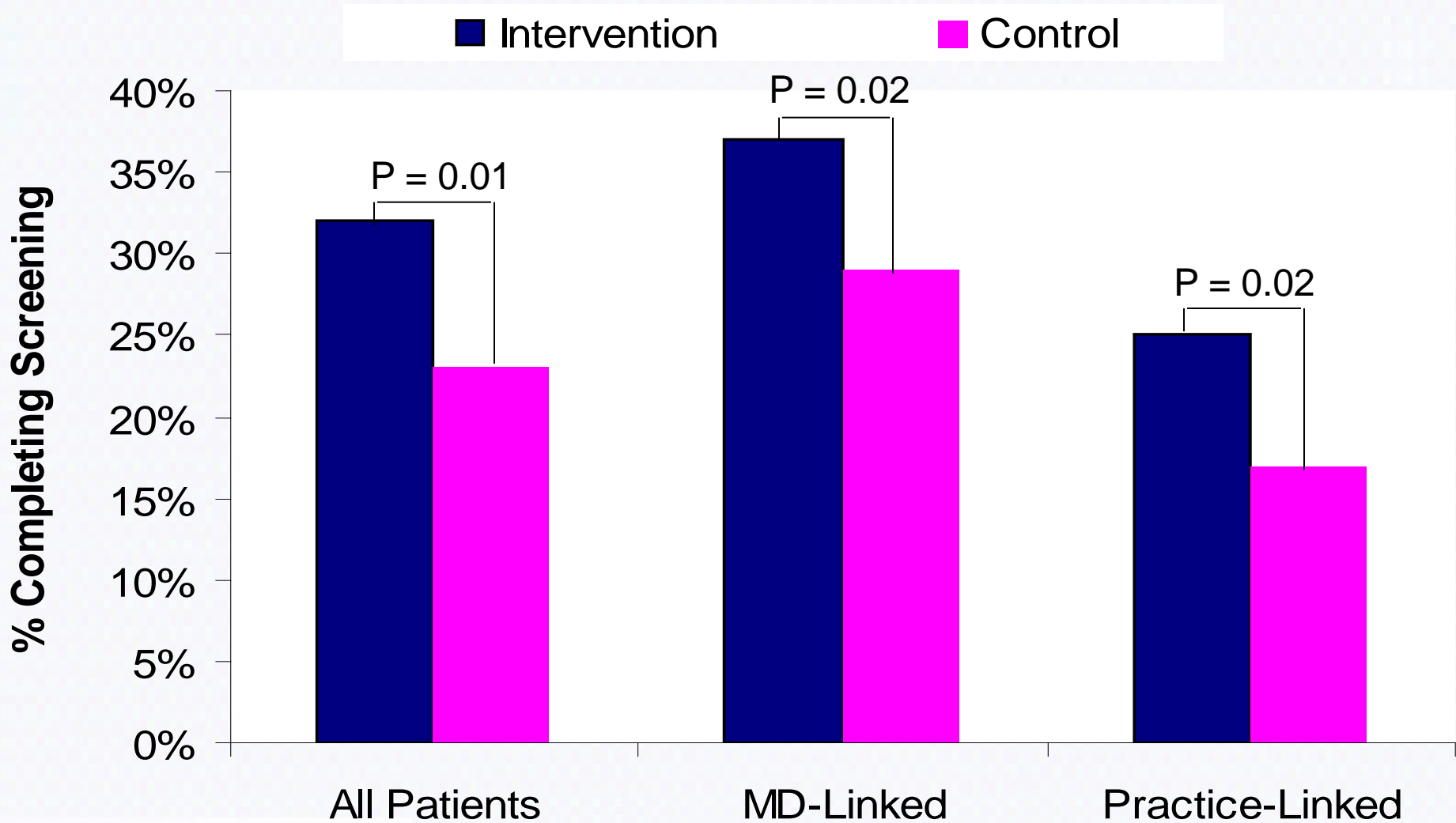
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Next step: Comprehensive cancer screening

- **"Real World" Demonstration Project**
  - ➢ Develop automated cancer screening notification system in all MGH primary care practices
  - ➢ Implement an operational system for patient tracking and outreach
- **Research Goal**
  - ➢ Assess value of incorporating each clinician's unique knowledge about his or her patient panel to increase the efficiency and effectiveness of patient outreach efforts

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TOP-CARE Challenges

- IT tools for visit-independent care
  - Identifying and tracking patient populations (i.e. registries) in real-time with tool that optimizes care in a visit-independent setting
- Workflow integration of IT tools
- Risk assessment
  - Patient risk profiles that may change over time
- Capturing meaningful measures
- Implementation into our existing healthcare system
- Mass customization
- Patient-centric visit-independent care

THANK YOU!

- **Questions?**

- **For more information**
  - Steve Atlas
  - satlas@partners.org

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TOP-CARE: Specific Challenges

- **Provider and Workflow Issues**
  - Provider training to develop visit-independent care perspective
  - Role of PCPs, population managers, staff delegates
  - PCP compensation with current visit-based fee-for-service payment
  - Patient navigators to help non-English speaking patients
- **Health IT System**
  - Real-time primary care population data
  - IT tool for visit-independent care
  - Providing user the data they need to perform required tasks
    - Feeds from multiple IT systems: scheduling, EMR, labs, radiology, etc
  - Automated letters: content and mailings
  - Ongoing vs. one-time use

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