

EHR-based physician alerts increase uptake of an e-health intervention for chronically-ill patients

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Geisinger[®]

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Collaborating Institutions

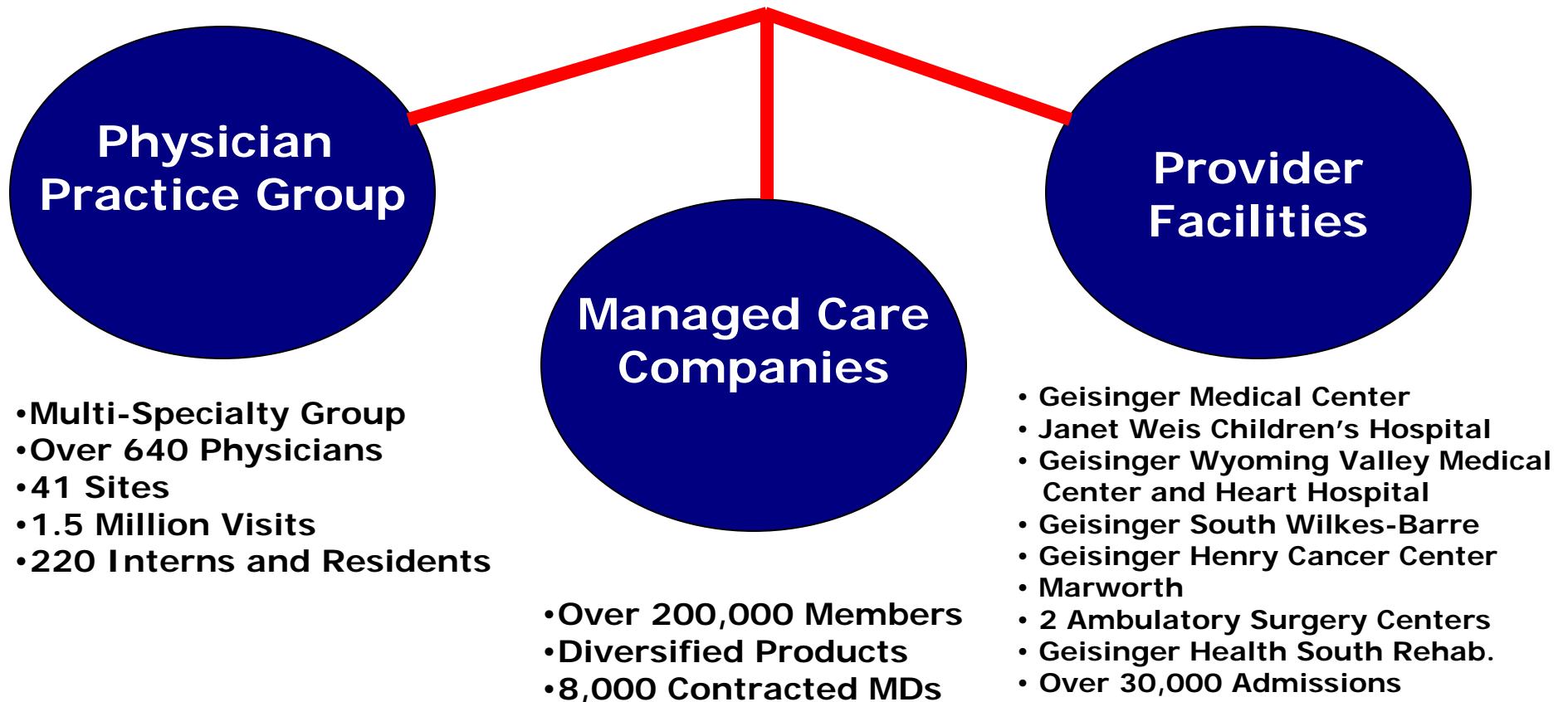
- Geisinger Center for Health Research
 - Walter Stewart, PhD, MPH
 - J.B. Jones, MBA
 - James Walker, MD
 - Zahra Daar, MS
- HealthMedia, Inc
 - Steve Schwartz, PhD
- Robert Wood Johnson Foundation
 - Health e-Technologies Initiative funding

Overview

- Geisinger Health System
- Randomized study
 - e-health to improve self-management of chronic disease
- Enrollment sub-study

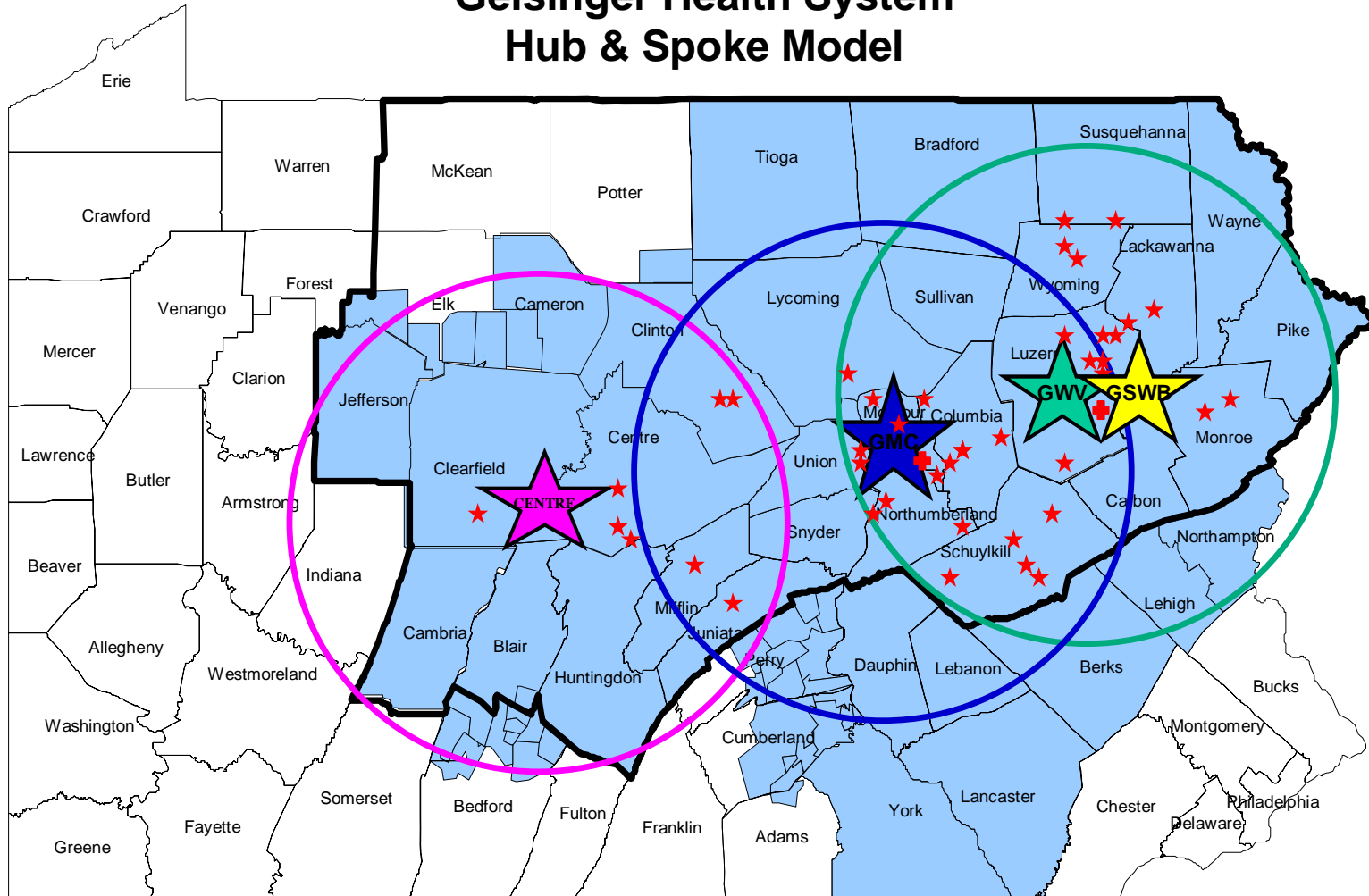
Geisinger Health System

An Integrated Health Service Organization



Geisinger Health System

Geisinger Health System Hub & Spoke Model



MyGeisinger Patient Portal



Your online health management tool

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Message Center
! You have overdue or upcoming health reminder(s)! Please click [here](#) for details.



Play it safe in the sun

by Ann E. Boehler

If you're an outdoor athlete, spring weather means it's time to start taking sun protection even more seriously. Even though the temperature may be struggling to reach 50-degrees, the sun can still wreak havoc on your skin.

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This page is specially prepared for Maria Zasp on Tuesday, 8/2/2005 at 12:18 PM.

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RCT: e-health & self-management

- Intervention Group:
 - Recruit portal-using patients to use a web-based self-management application
 - Phase 1: traditional recruitment model
- Control Group:
 - Portal use only, no web-based self-management tool

Chronic Disease Online Self-Management Tool

My HealthMedia
HealthMedia®
care™
For Your Health

Home Programs My Account Log Out


You are logged in as JBJ.

■ Care for Your Health

- My Plan For Better Health
- Newsletters
- Pain Calendar
- Goal Setting
- Medical Library
- Stretching Library
- Exercise Library
- Relaxation Methods
- Refill Reminder
- Cookbook
- Health Tools
- View Your Questionnaire
- Care for Your Health Survey
- About Care for Your Health

Hello Jb,

Welcome to your Care for Your Health program. Your questionnaire responses helped us design your personal plan to help you manage your chronic condition. By completing your questionnaire you have taken the first step toward getting the tools you need to get back to healthy living. Take some time to explore your program today, and **check back often to see what's new.**



Welcome

Plan:
Your personalized [Care for Your Health Plan](#) has been created just for you! Your questionnaire responses have helped us get to know you, so your plan has the keys to success that are just right for your needs. Read your plan now, and start learning how you can successfully manage your health. (posted April 27, 2006)


Newsletters:


Newsletter 1: Healthy Web Sites (posted May 26, 2006)


Newsletter 2: Getting a Good Night's Sleep (posted June 26, 2006)

Newsletter 3: Meditation (posted July 27, 2006)

Survey:
Is your hard work paying off? Please take two minutes to answer **a few questions** and let us know what you thought about the Care for Your Back program and how you are doing.

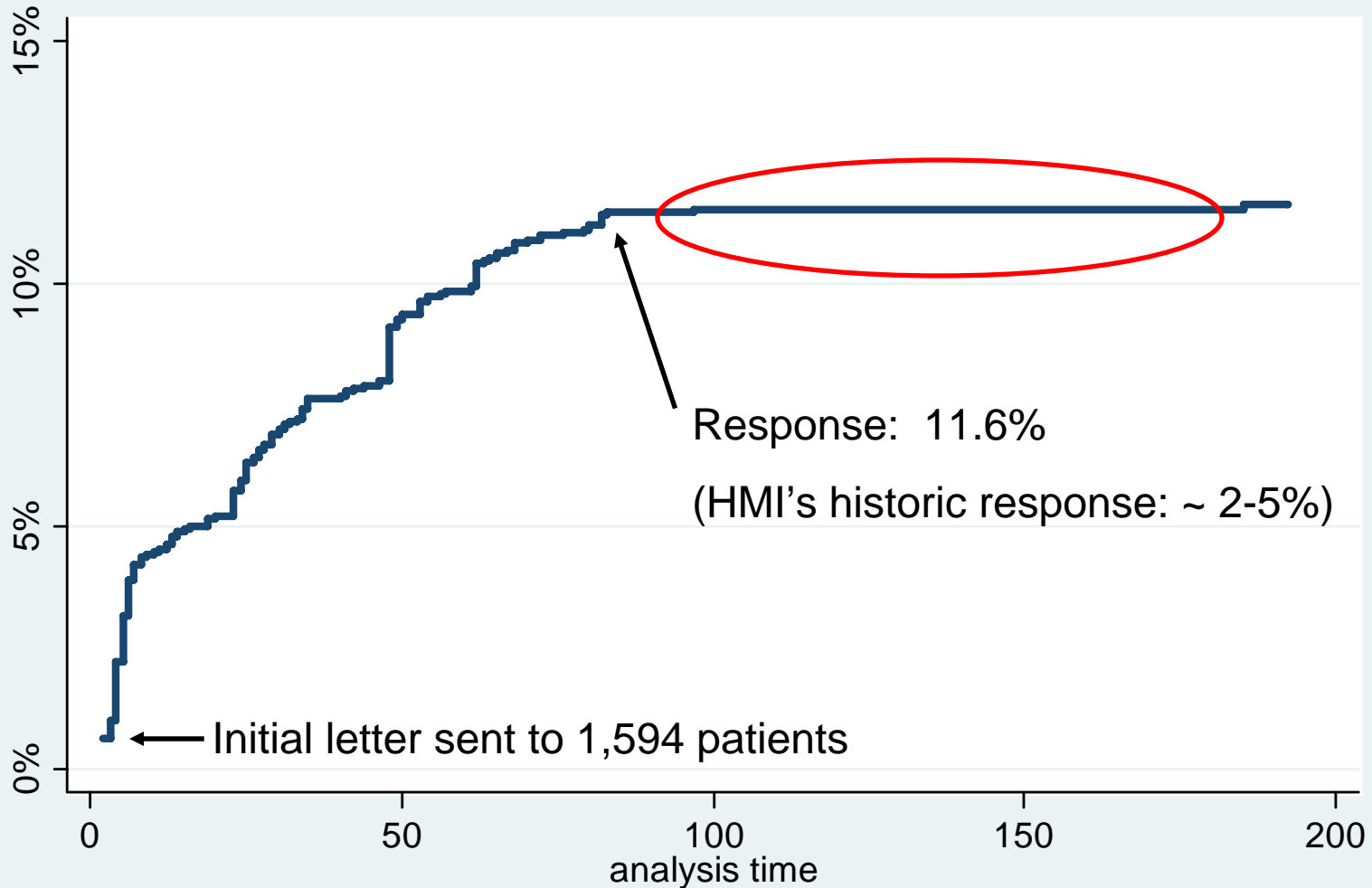
Medical Library 
Check out the [Medical Library](#) to learn more about managing your health condition(s).

Goal Setting 
The [Goal Setting Tool](#) is designed to help you set and achieve your health goals.

Refill Reminder 
The [Refill Reminder Program](#) provides convenient reminders when it's time to refill your

Study Motivation: Initial Results

Cumulative Incidence: Overall Enrollment



Study Aims

- How do you maximize enrollment in an e-health intervention?
 - Prescribing model with EHR-alerts?
 - Multiple, reinforcing communications?
 - Monetary incentives?

Enrollment Sub-study

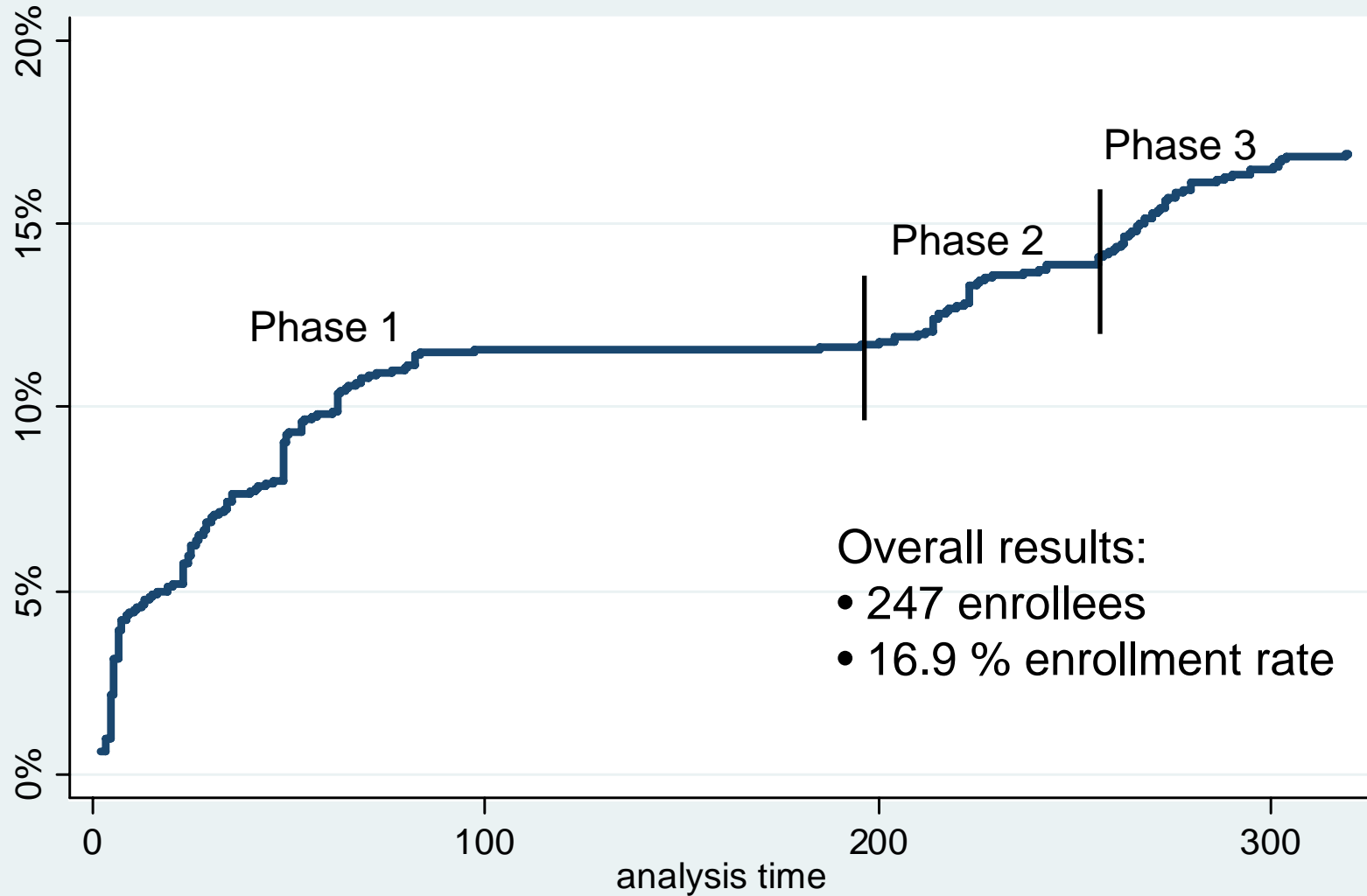
- Phase 1: Traditional approach
- Telephone survey
- Phase 2:
 - Prescription model with EHR-based alert
- Phase 3:
 - Prescription model with EHR-based alert plus incentive

Results: Survey (n=30)

- Post-Phase 1 Survey Findings:
 - 90% use the Internet at least once per week
 - 100% recalled receiving the invitation letter
 - 67% did not recognize the physician signing the letter
 - 42% said recognizing physician mattered
 - 47% indicated a need for additional information

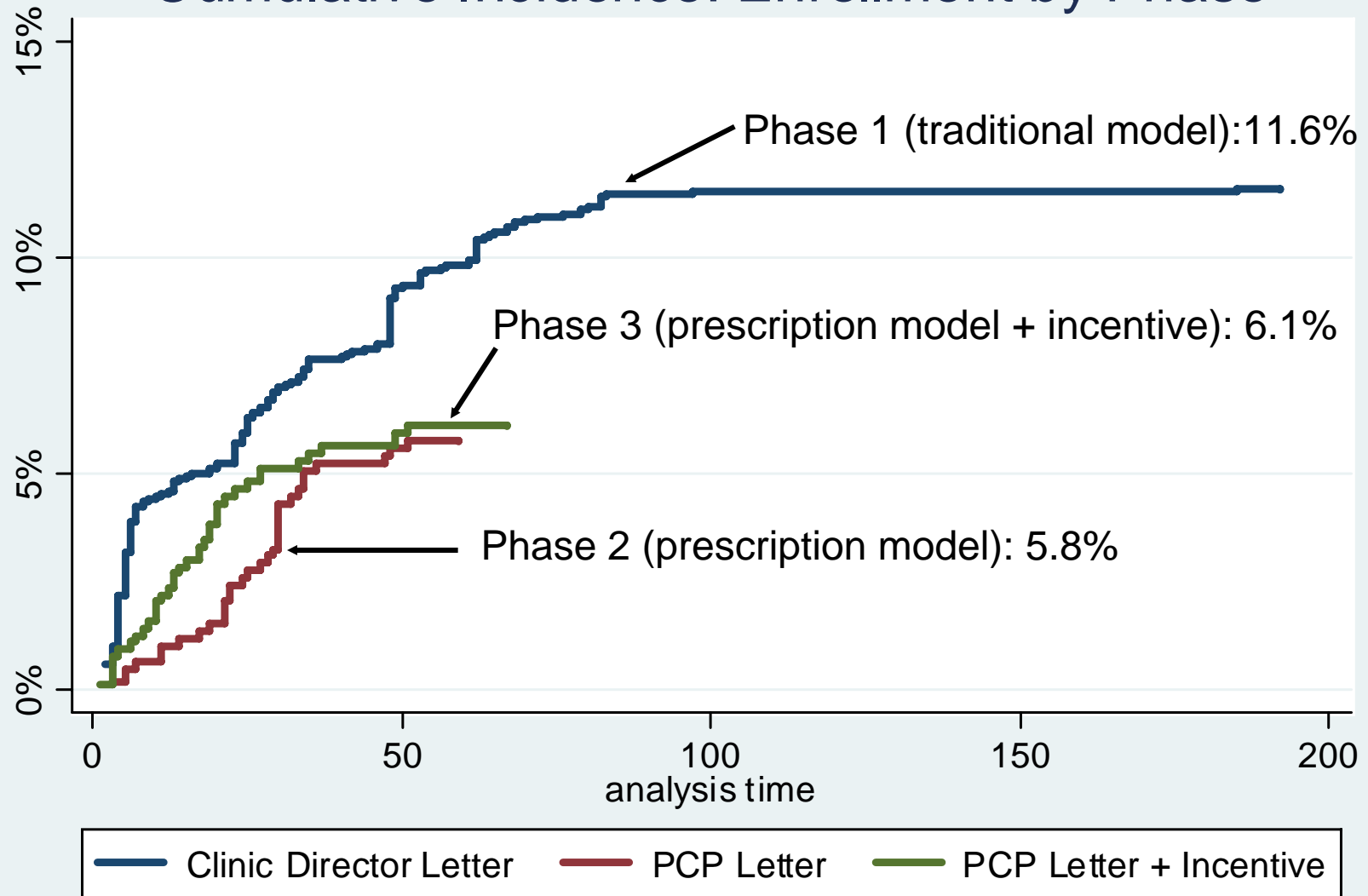
Phases 1-3

Cumulative Incidence: Overall Enrollment



Phases 1-3

Cumulative Incidence: Enrollment by Phase

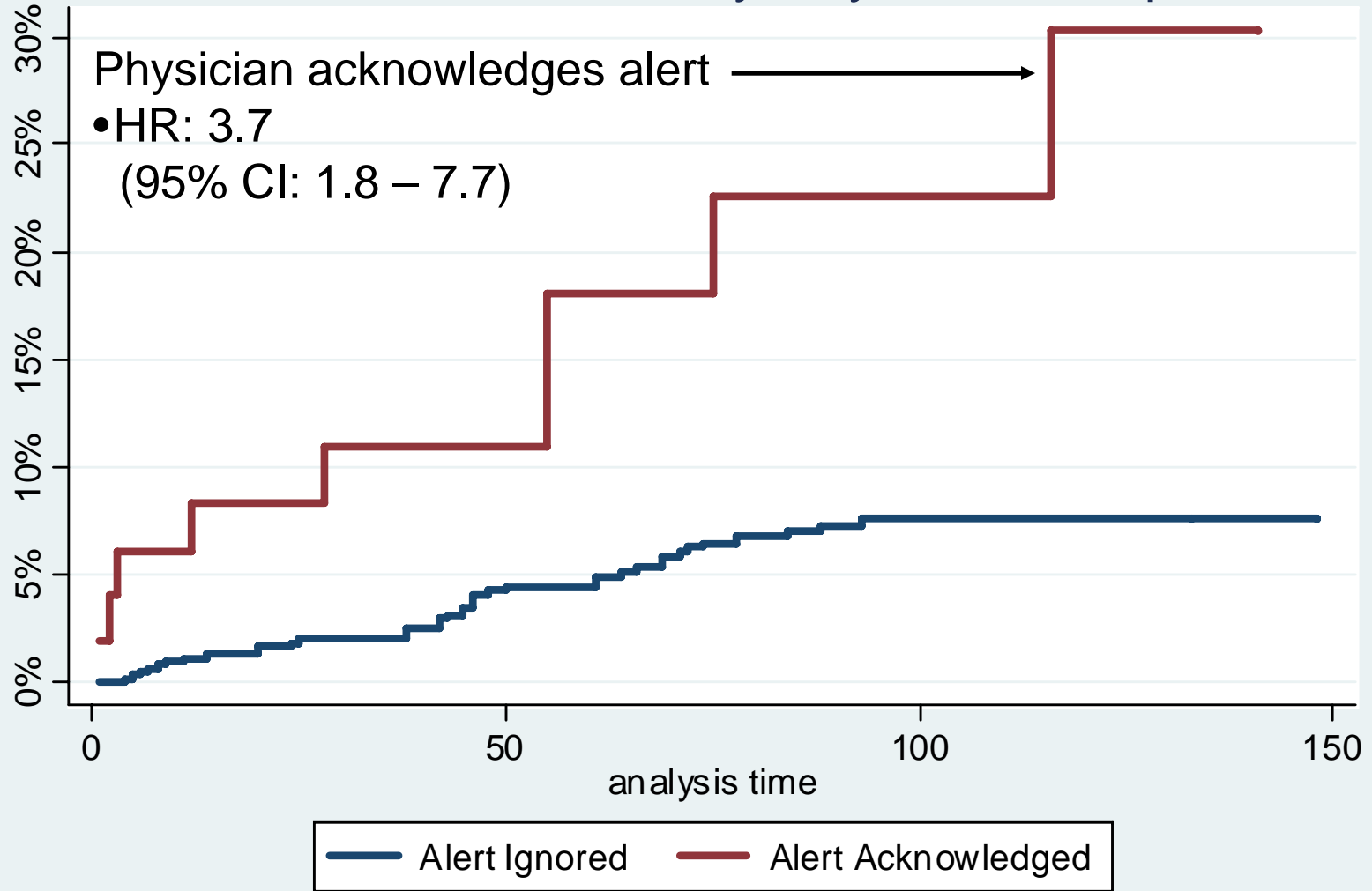


EHR Alerts

- Alert was triggered in 1,299 office visits
 - 681 individual patients (1.9 avg visits/pt)
- Alerts were ignored in 92% of office visits
- 47 office visits of particular interest:
 - Physician acknowledged the alert

EHR Alerts (cont'd)

Cumulative Incidence By Physician Response



Conclusions

- Physicians matter
- A prescribing model may work best
- Workflow is important
- EHR facilitates low-cost patient identification and recruitment

Future Research

- There is still a substantial group of non-enrolling patients
 - Why?
 - In-depth interviews with responders/non-responders
- How do you engage physicians?
 - Develop a workflow model that makes it easy for physician (nurse?) to respond