Dancing with the Devil You Know: Partnering with Delivery Systems in Implementation Science

A Case History

Steven M. Asch MD MPH
Associate Chief of General Medical Disciplines, Stanford
Chief of Health Services Research, VA Palo Alto

Outline for this Talk

- **Why partner with delivery systems?**
- **VA QUERI – HIV/Hepatitis C as a model of partner-based research**
- **Projects to promote HIV testing as an example of successful partnership**


No more
dead mice

Where is the disconnect?

Partners (QI)	Researchers
Fast	Before grant funding runs out
Good enough	Robust to validity threats
Targeted to operational decisions	Produces generalizable knowledge Control of lines of inquiry

The Partner-Based Research Challenge

Is our audience

A other scientists and academics,

B practitioners and policymakers, OR

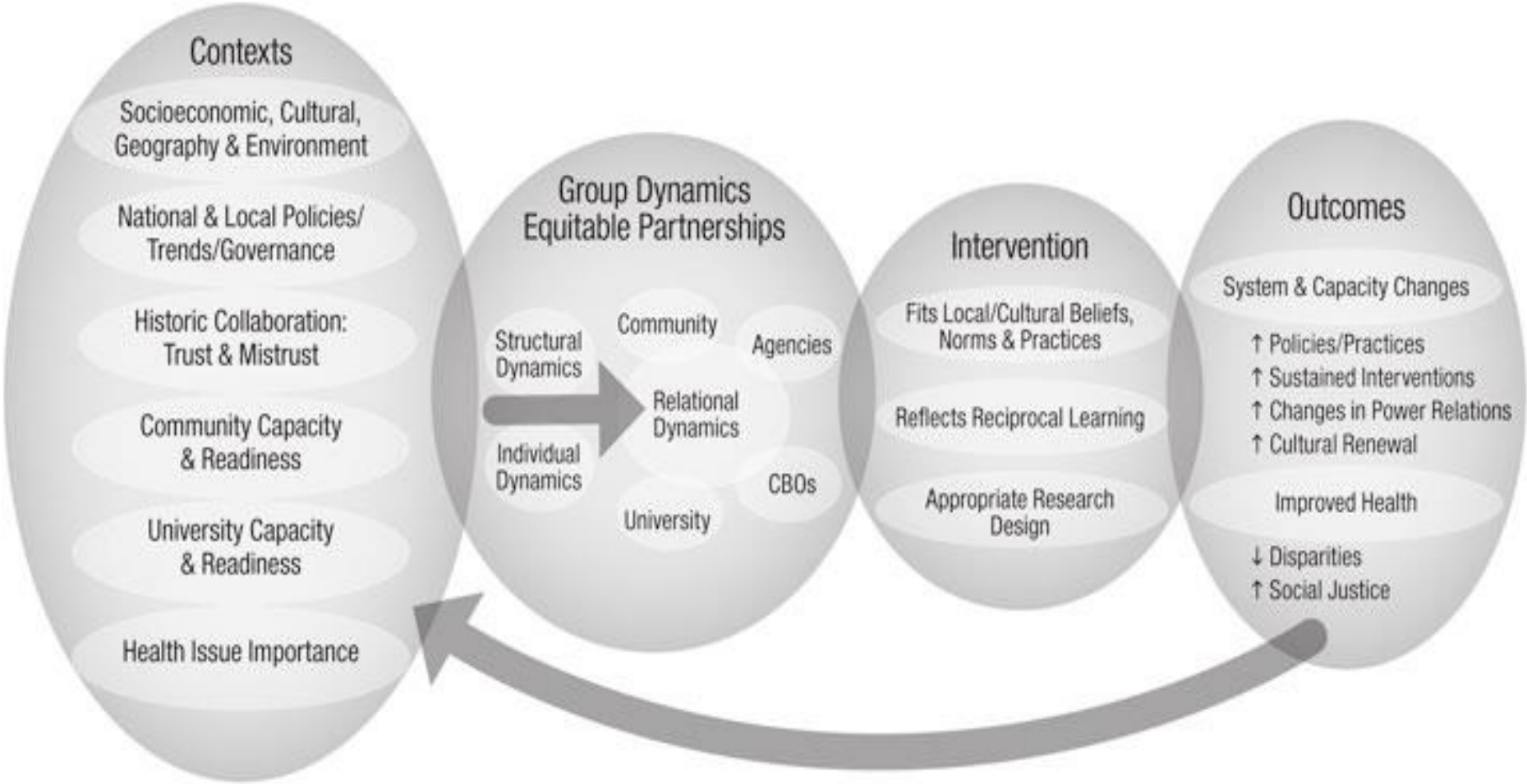
C can we serve two masters?

The Yin and Yang of Quality Improvement and Research

Paolo Freire
1921-1997

Community Based Participatory Research (CBPR) Model

Wallerstein and Minkler, 2008,2010



NIH View of Translational Research

- According to the National Institutes of Health, "in order to improve human health, scientific studies must be translated into practical applications."

“Implementation Research is the scientific study of methods to promote the systematic uptake of clinical research findings and other evidence-based practices into routine practice, and hence to improve the quality (effectiveness, reliability, safety, appropriateness, equity, efficiency) of health care. It includes the study of influences on healthcare professional and organisational behaviour.” *Implementation Science* 2009, **4**:18

Promoting Action on Research Implementation in Health Services (PARIHS)

Successful implementation

= f (E, F, C)

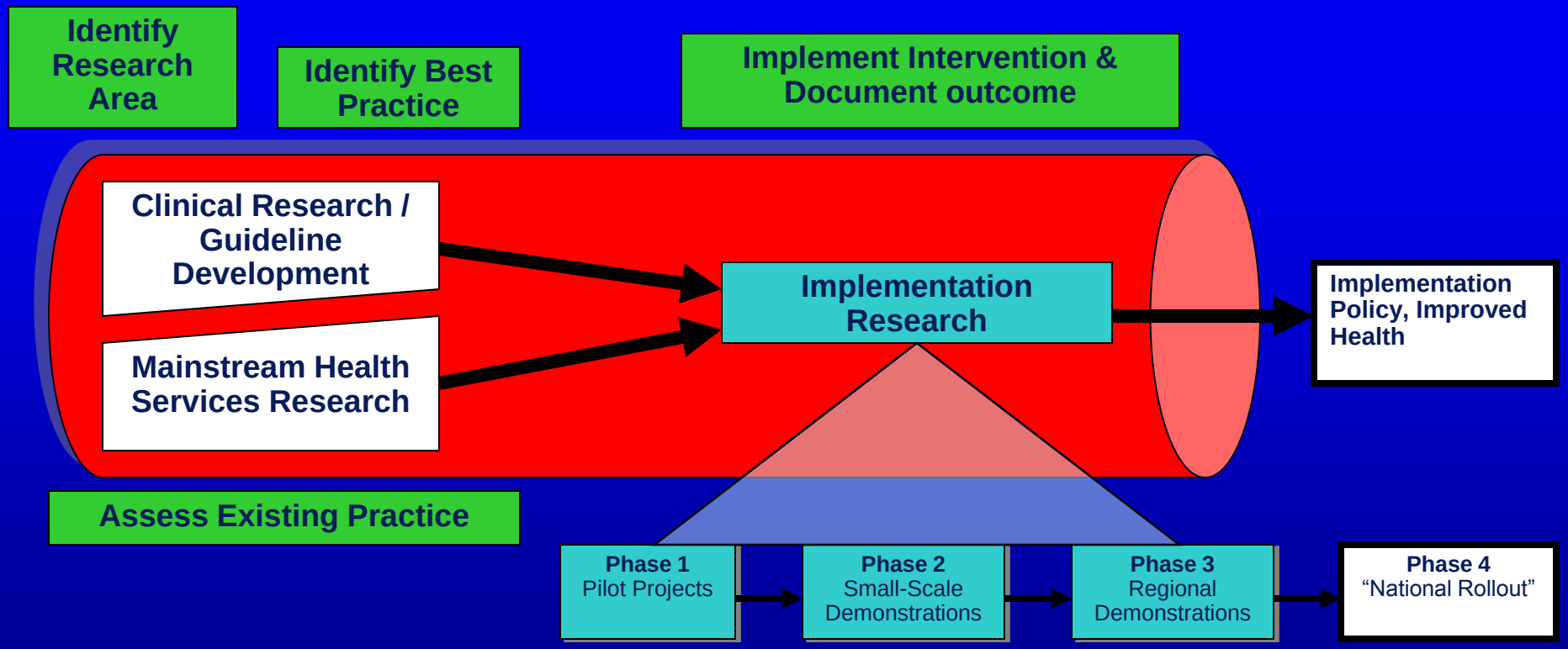
E = evidence

F = facilitation

C = context

Kitson 1998, Rycroft-Malone 2002

Research/Implementation Pipeline



VA QUERI

Examples of Interventional Implementation Research

- Checklists reducing nosocomial infection in academic hospitals (Pronovost Critical Care 2004)
- Order sets reduce ICU mortality (Micek Critical Care 2006)
- Speicialist/generalist teleconferences improve outpatient HCV treatment in rural New Mexico (Arora NEJM 2011)

Outline for this Talk

- Why partner with delivery systems?
  - VA QUERI – HIV/Hepatitis C as a model of partner-based research
- Projects to promote HIV testing as an example of successful partnership

VA Implementation Research Environment

- Large integrated health care delivery system involvement and support
- Electronic medical record
- National databases
- Outstanding group of clinical researchers
- Strong academic affiliations
- Intramural health services research funding programs encourage partnered research (CREATE, COIN, QUERI)

VA QUERI

Ten QUERI Coordinating Centers

- Ischemic Heart Disease
- Chronic Heart Failure
- Diabetes
- Stroke
- HIV/Hepatitis C
- Polytrauma and Blast-Related Injuries
- Spinal Cord Injury
- Mental Health
- Substance Use Disorders
- E Health

VA QUERI

HIV/Hepatitis QUERI Mission

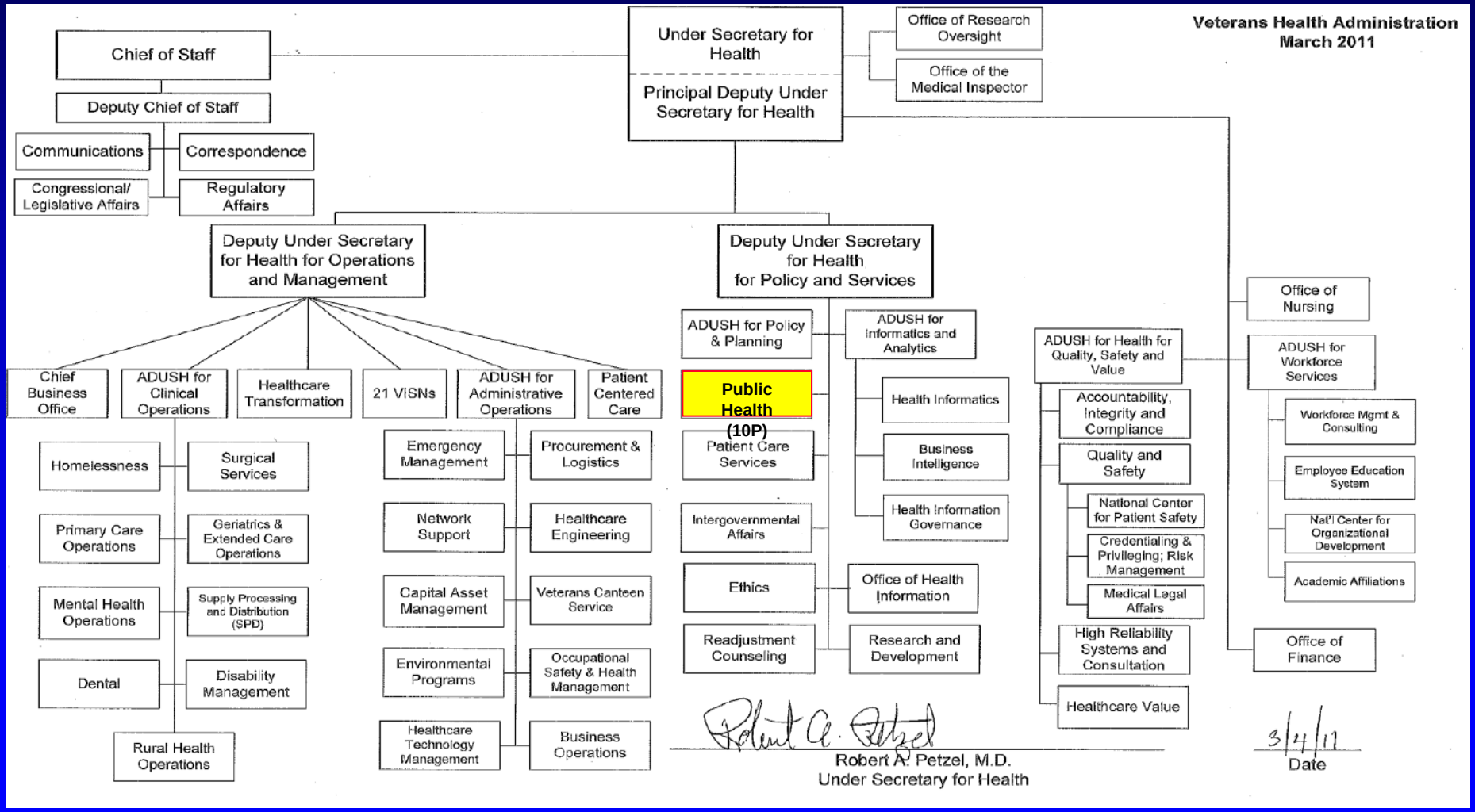
Partner with VA Clinical Public Health to improve the identification and care of Veterans infected with the Human Immunodeficiency (HIV) and Hepatitis C (HCV) viruses

QUERI-HIV/HEP
Quality Enhancement Research Initiative

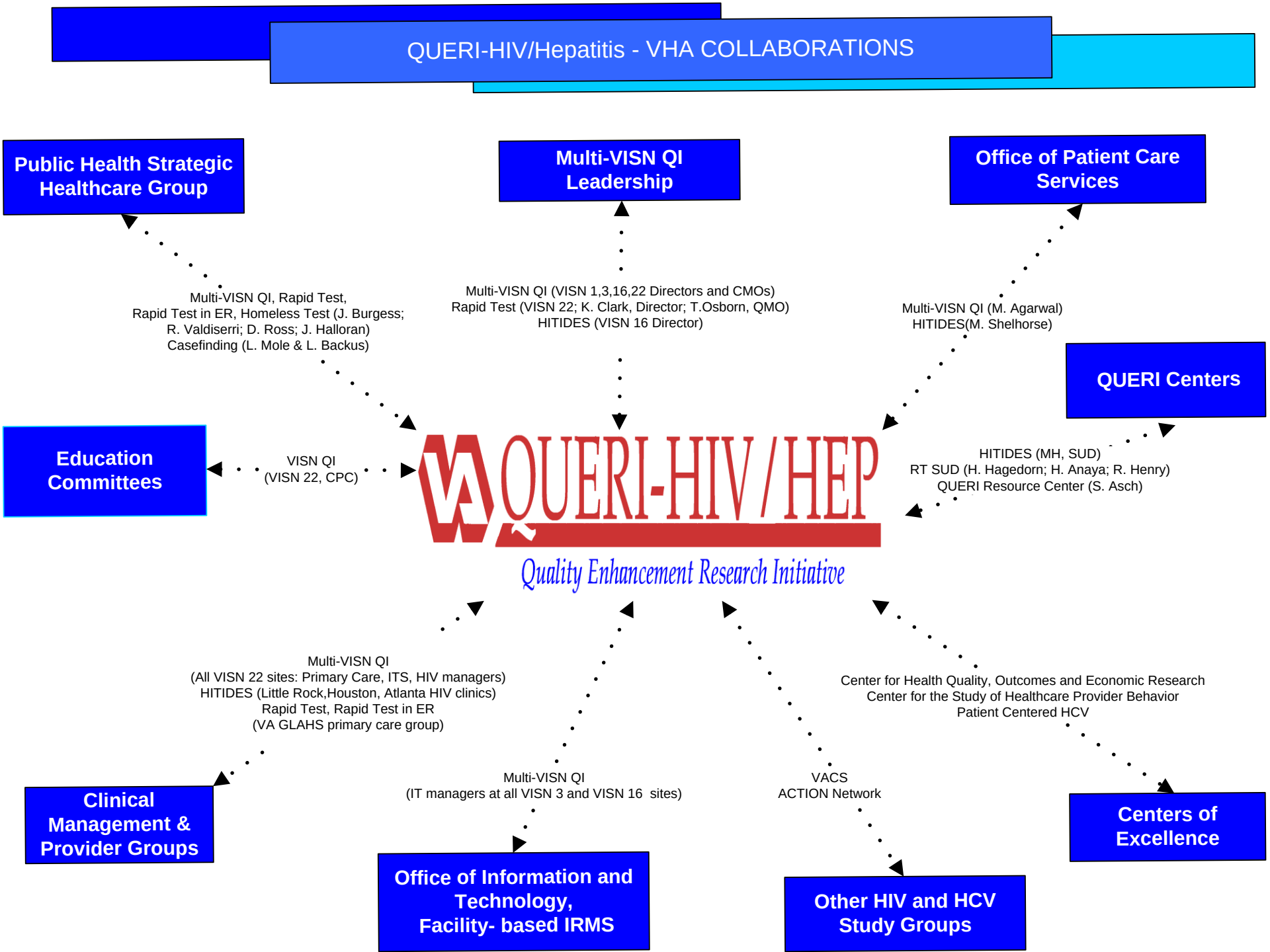
CPH Clinical Public Health

- **Mission of CPH (10P3B): Protect Veterans' health through public health strategies**
  - **Surveillance and epidemiology**
  - **Underserved populations**
  - **Disease prevention, risk reduction, and health promotion**
  - **Public health policy**
- **Not just HIV -> HCV, other conditions.**

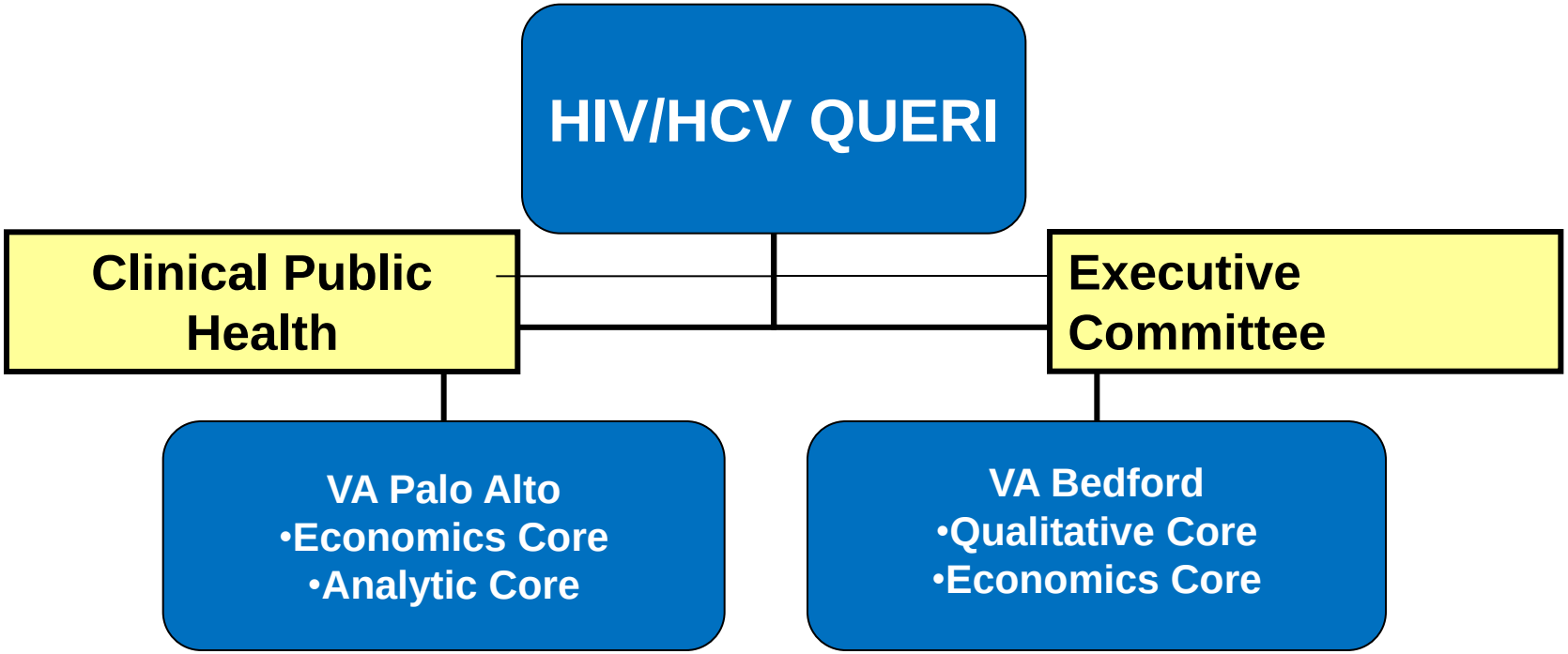
Know your partner



QUERI-HIV/Hepatitis - VHA COLLABORATIONS



HIV/HCV QUERI Structure



QUERI-HIV/HEP
Quality Enhancement Research Initiative

QUERI-HIV/HEP Goals

- Goal 1: Better Disease Identification
- Goal 2: Better Chronic Disease Management
- Goal 3: Improve Access and Equity

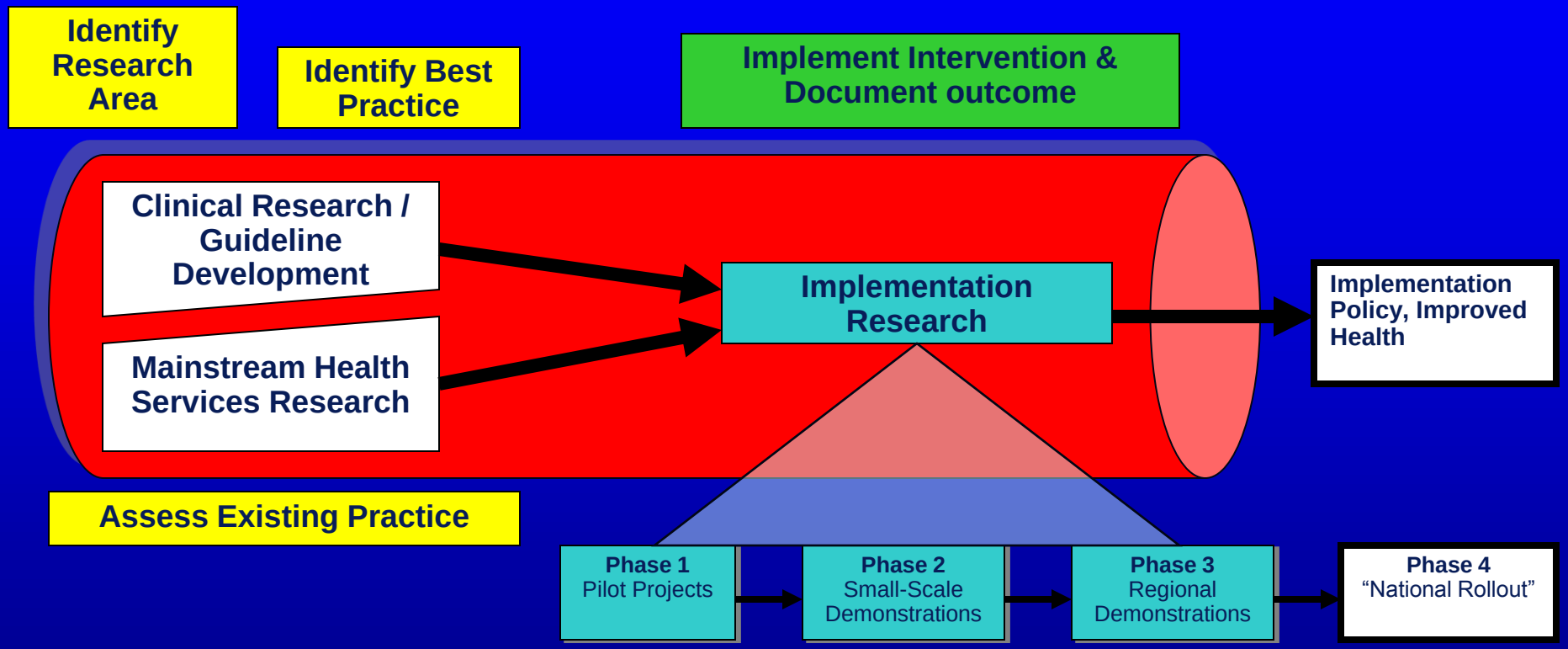
Key elements of collaboration

- Communication
- Sharing agenda setting / staff
- Shift to intervention and cost studies
- Expansion of QUERI scope to match Clinical Public Health

Outline for this Talk

- Why partner with delivery systems?
- VA QUERI – HIV/Hepatitis C as a model of partner-based research
- Projects to promote HIV testing as an example of successful partnership

Research/Implementation Pipeline

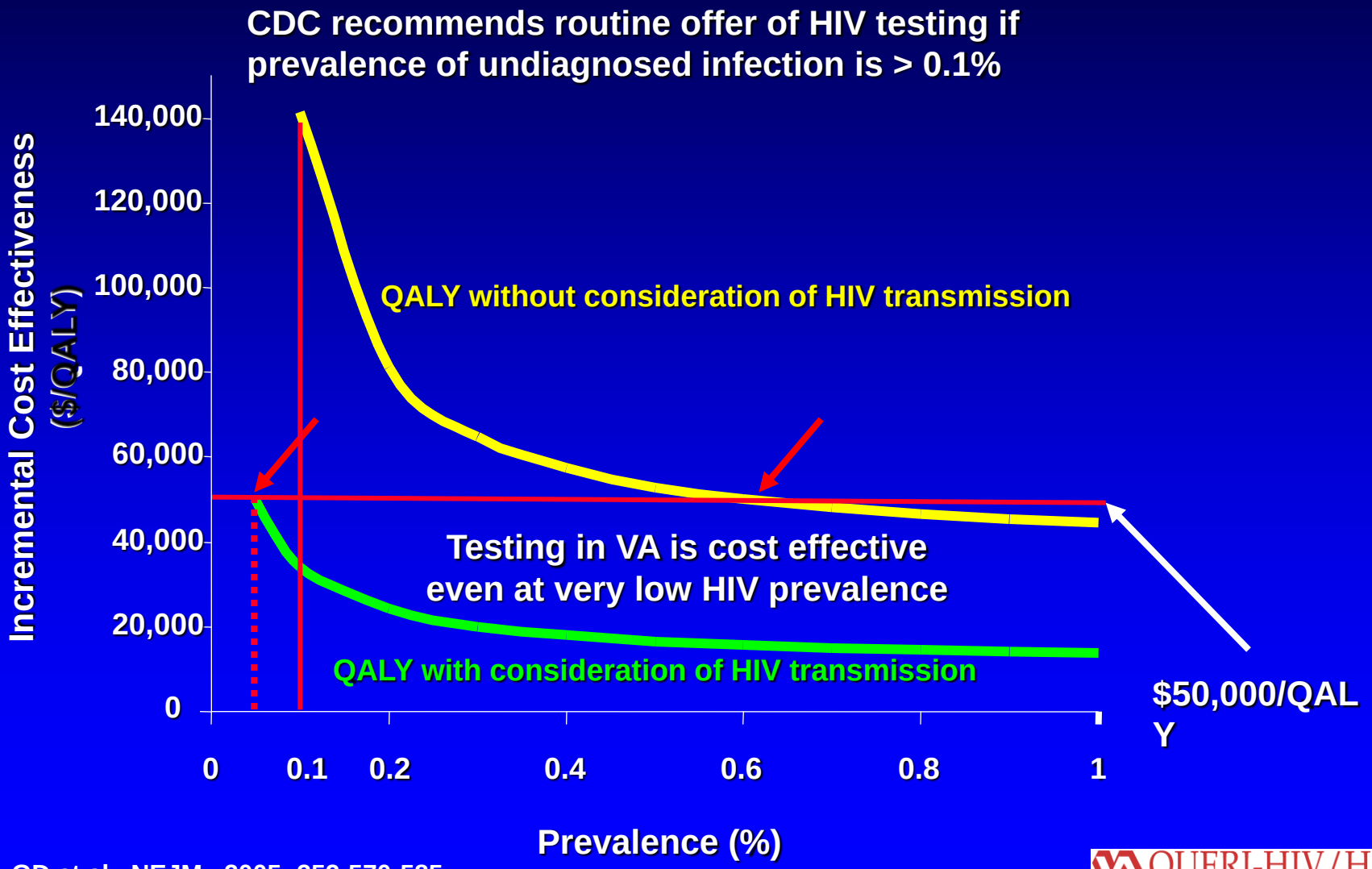


VA QUERI

HIV Case Identification – The Problem in 2005

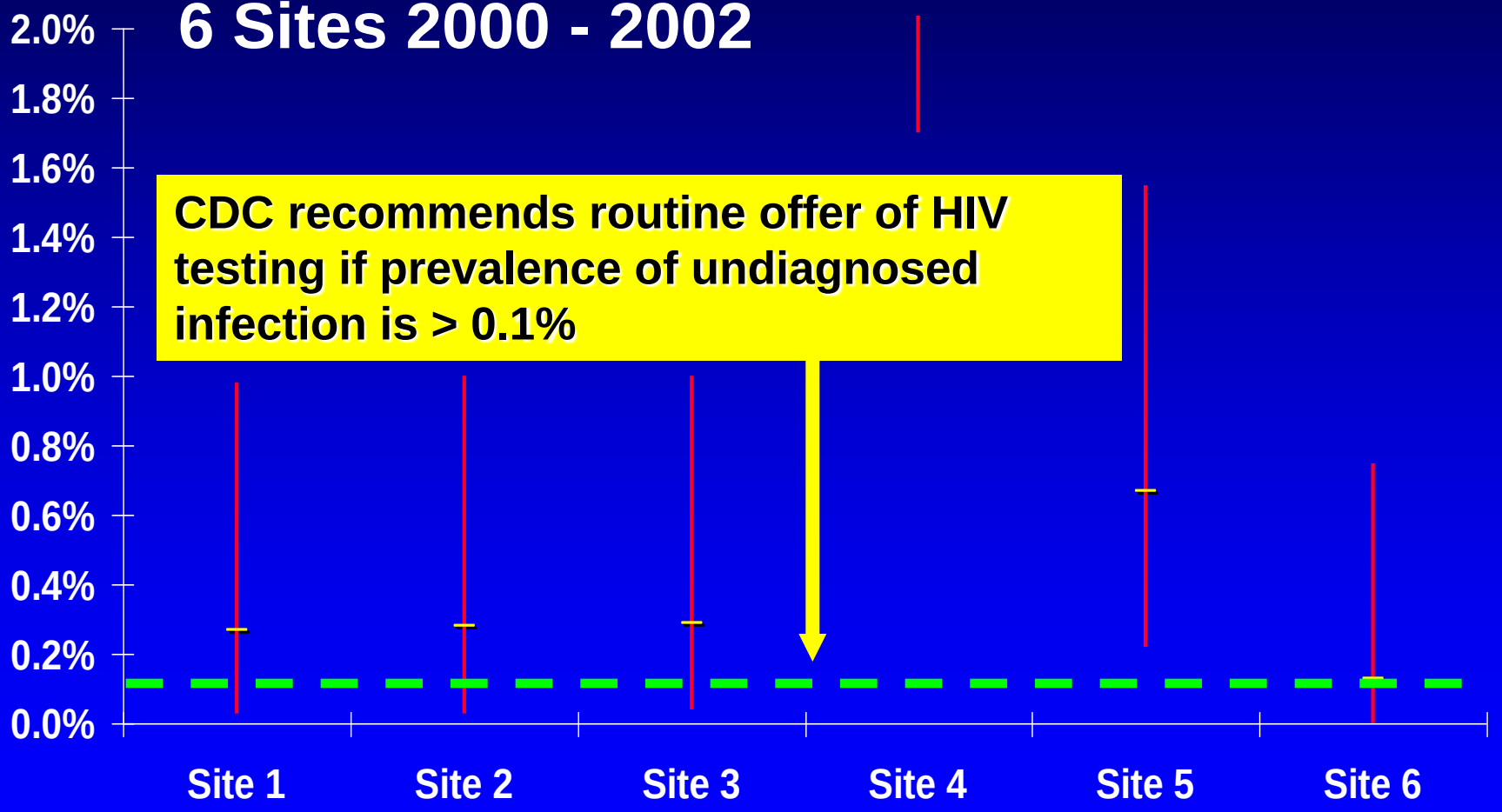
- Benefits of earlier diagnosis of HIV infection
  - ⬇ mortality, ⬇ hospitalizations, ⬇ transmission
- Many HIV patients do not know their status
  - CDC: 25% of the 1.1 million US HIV+ unaware
  - VA: no testing in 50 – 70% with known risk factors
  - 50% of newly diagnosed at late stage (< 200 CD4)

Screening and Testing for HIV is Cost Effective



Sanders GD et al. NEJM. 2005; 352:570-585

Prevalence of Undiagnosed HIV Infection in VA Outpts



Owens DK, et al. Am J Public Health. 2007; 97:2173-8

QUERI-HIV/HEP
Quality Enhancement Research Initiative

Promoting Action on Research Implementation in Health Services (PARIHS)

Successful implementation

= f (E, F, C)

E = evidence

F = facilitation

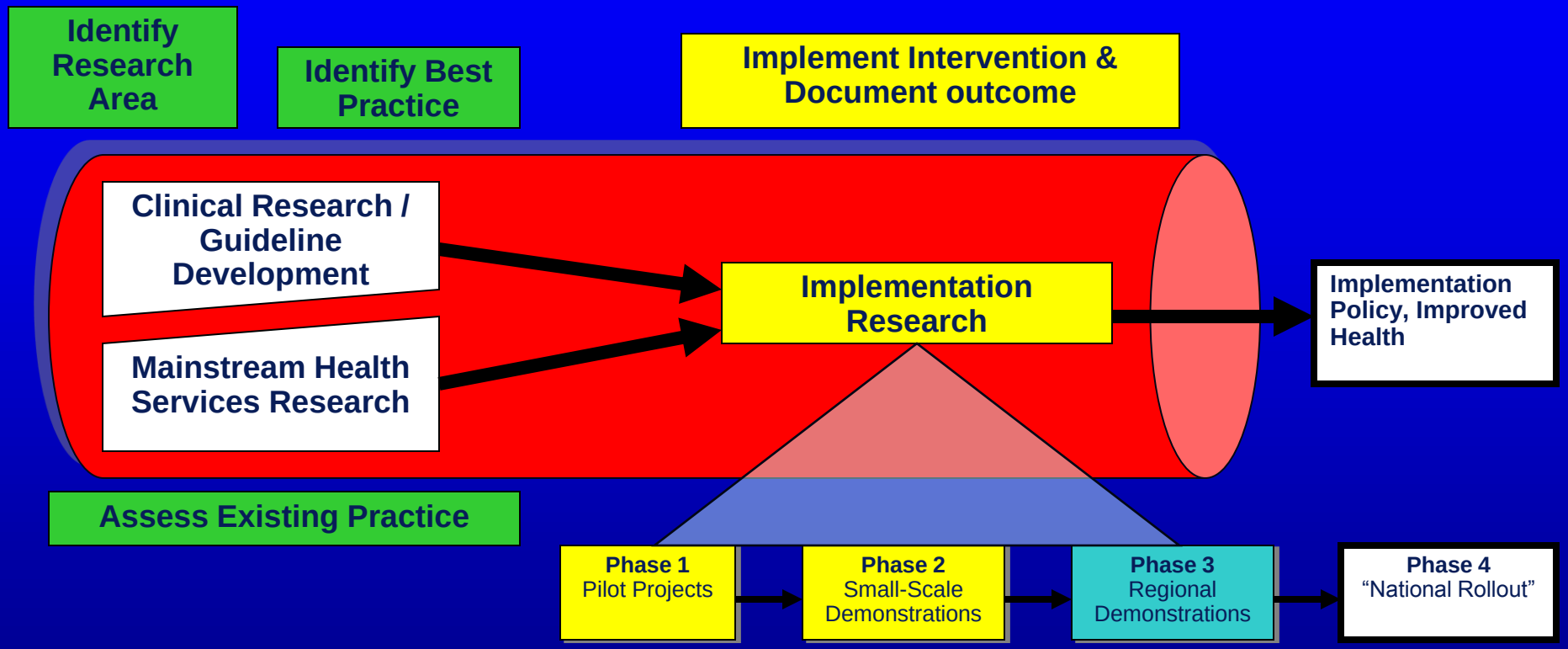
C = context

Kitson 1998, Rycroft-Malone 2002

2005: Impediments to HIV Testing in the VA

- Organizational barriers
  - Written informed consent & pre-test counseling requirements
  - Constraints on provider time
  - Limited opportunity for timely, in-person post-test notification
  - Uncertain capacity to manage newly diagnosed patients
- Provider behaviors
  - Incomplete recognition of HIV risk factors
  - Reliance on trained counselors to order HIV tests
  - Discomfort with HIV counseling
  - Lack of prioritization of HIV testing

Research/Implementation Pipeline

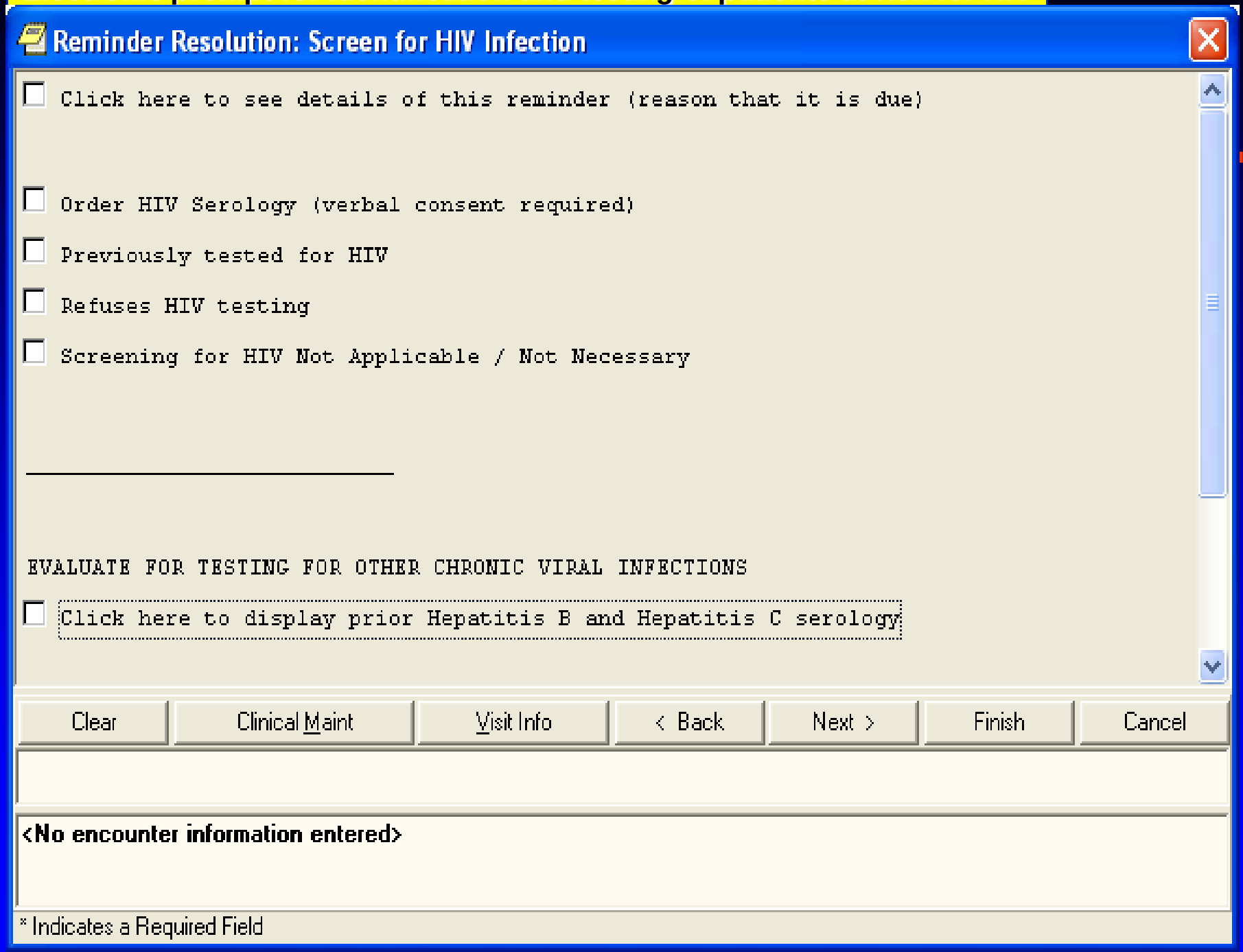


VA QUERI

Methods - Interventions

- Organizational changes
  - Digitized written consent
  - Streamlined, scripted counseling
  - Telephonic notification of negative test results
  - Assured assistance in counseling & HIV clinic f/u for new HIV+ pts
- Provider activation
  - Academic detailing & social marketing: promote desired behaviors
- Audit-feedback
  - clinic level HIV testing rates
- Decision support
  - electronic clinical reminder for at-risk patients

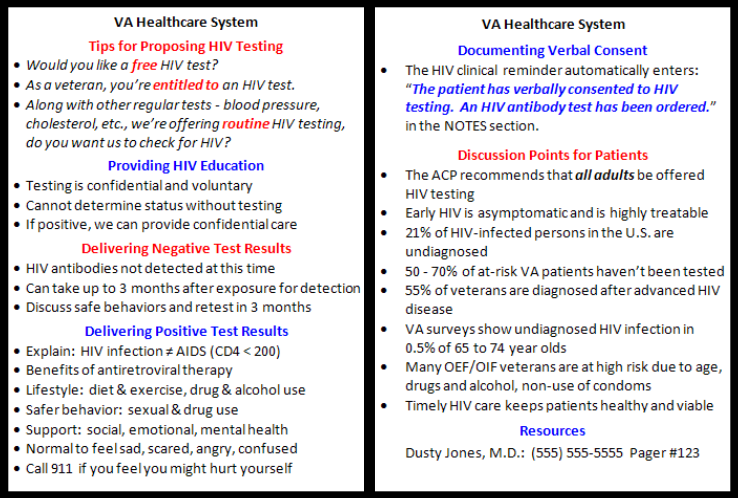
Electronic prompt for identification and testing of patients at-risk for HIV



Engaged Clinical Partners

- Presentations to leadership: done by QUERI-HIV
- Installation of clinical reminder: coordinated by QUERI-HIV
- Acquisition of leadership support: assistance provided by QUERI-HIV
- Identification of local champion
- IRB submission: prepared by QUERI-HIV
- Audit feedback reports: generated by QUERI-HIV
- Provider activation: tools developed and supported by QUERI HIV
- Removal of organizational barriers: assistance provided by QUERI-HIV

Handout package



VA Healthcare System

Tips for Proposing HIV Testing

- *Would you like a free HIV test?*
- *As a veteran, you're entitled to an HIV test.*
- *Along with other regular tests - blood pressure, cholesterol, etc., we're offering routine HIV testing, do you want us to check for HIV?*

Providing HIV Education

- Testing is confidential and voluntary
- Cannot determine status without testing
- If positive, we can provide confidential care

Delivering Negative Test Results

- HIV antibodies not detected at this time
- Can take up to 3 months after exposure for detection
- Discuss safe behaviors and retest in 3 months

Delivering Positive Test Results

- Explain: HIV infection ≠ AIDS (CD4 < 200)
- Benefits of antiretroviral therapy
- Lifestyle: diet & exercise, drug & alcohol use
- Safer behavior: sexual & drug use
- Support: social, emotional, mental health
- Normal to feel sad, scared, angry, confused
- Call 911 if you feel you might hurt yourself

VA Healthcare System

Documenting Verbal Consent

- The HIV clinical reminder automatically enters: *"The patient has verbally consented to HIV testing. An HIV antibody test has been ordered."* in the NOTES section.

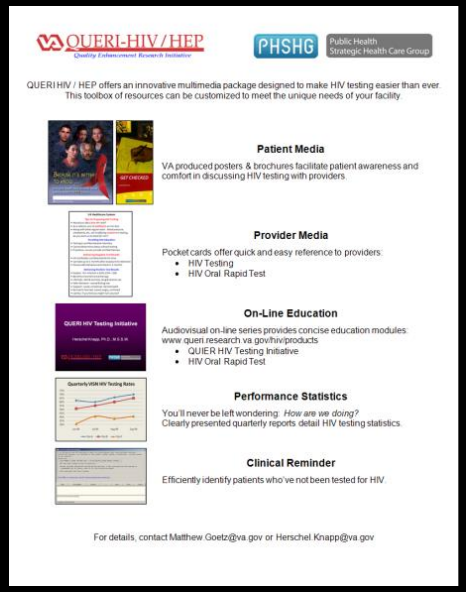
Discussion Points for Patients

- The ACP recommends that ***all adults*** be offered HIV testing
- Early HIV is asymptomatic and is highly treatable
- 21% of HIV-infected persons in the U.S. are undiagnosed
- 50 - 70% of at-risk VA patients haven't been tested
- 55% of veterans are diagnosed after advanced HIV disease
- VA surveys show undiagnosed HIV infection in 0.5% of 65 to 74 year olds
- Many OEF/OIF veterans are at high risk due to age, drugs and alcohol, non-use of condoms
- Timely HIV care keeps patients healthy and viable

Resources

Dusty Jones, M.D.: (555) 555-5555 Pager #123

Pocket card



QUERI-HIV/HEP

Quality Enhancement Research Initiative

PHSHG Public Health Strategic Health Care Group

QUERI HIV / HEP offers an innovative multimedia package designed to make HIV testing easier than ever. This toolbox of resources can be customized to meet the unique needs of your facility.

Patient Media

VA produced posters & brochures facilitate patient awareness and comfort in discussing HIV testing with providers.

Provider Media

Pocket cards offer quick and easy reference to providers:

- HIV Testing
- HIV Oral Rapid Test

On-Line Education

Audiovisual on-line series provides concise education modules: www.queri.research.va.gov/hiv/products

- QUER HIV Testing Initiative
- HIV Oral Rapid Test

Performance Statistics

You'll never be left wondering: *How are we doing?* Clearly presented quarterly reports detail HIV testing statistics.

Clinical Reminder

Efficiently identify patients who've not been tested for HIV.

For details, contact Matthew.Goetz@va.gov or Herschel.Knapp@va.gov

Overview Sheet

Poster & Pamphlet

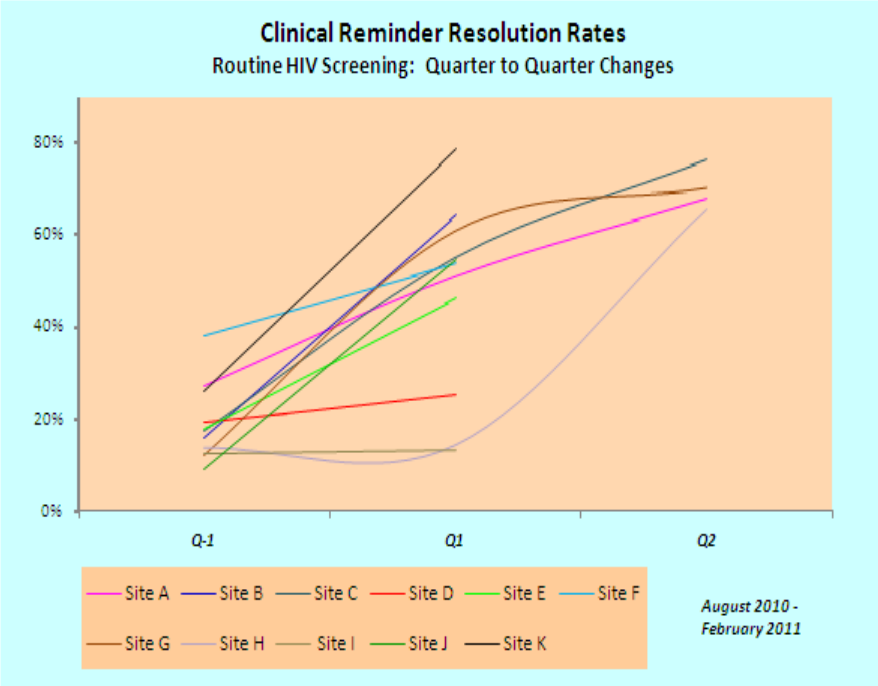
March 2011

VAMC and Associated Clinics

Dear Primary Care Providers and Staff:

The VA is evaluating the effectiveness of a clinical reminder-based intervention for increasing HIV testing rates in 11 facilities in VISNs 1, 3 and 16. Originally, a risk based clinical reminder was used to identify patients who warranted HIV testing. More recently all sites, including 3 new sites, substituted a non-risk based reminder which prompts providers to offer testing to all untested patients. During the first 3 months, 45,000 routine testing reminders were resolved at active sites; nearly a 5 times increase in the rate of resolution.

The graphic below depicts the quarter-to quarter changes in screening for all primary care patients following the change-over to the non-risk HIV testing clinical reminder.



On behalf of the QUERI-HIV team, thank you for your continued efforts in making HIV testing a priority among your patients. The success of this intervention is only possible with your continued contributions to this important health issue.

Please contact me if you have any questions or concerns about this project.

Herschel Knapp, Ph.D.

QUERI-HIV/HEP
Quality Enhancement Research Initiative

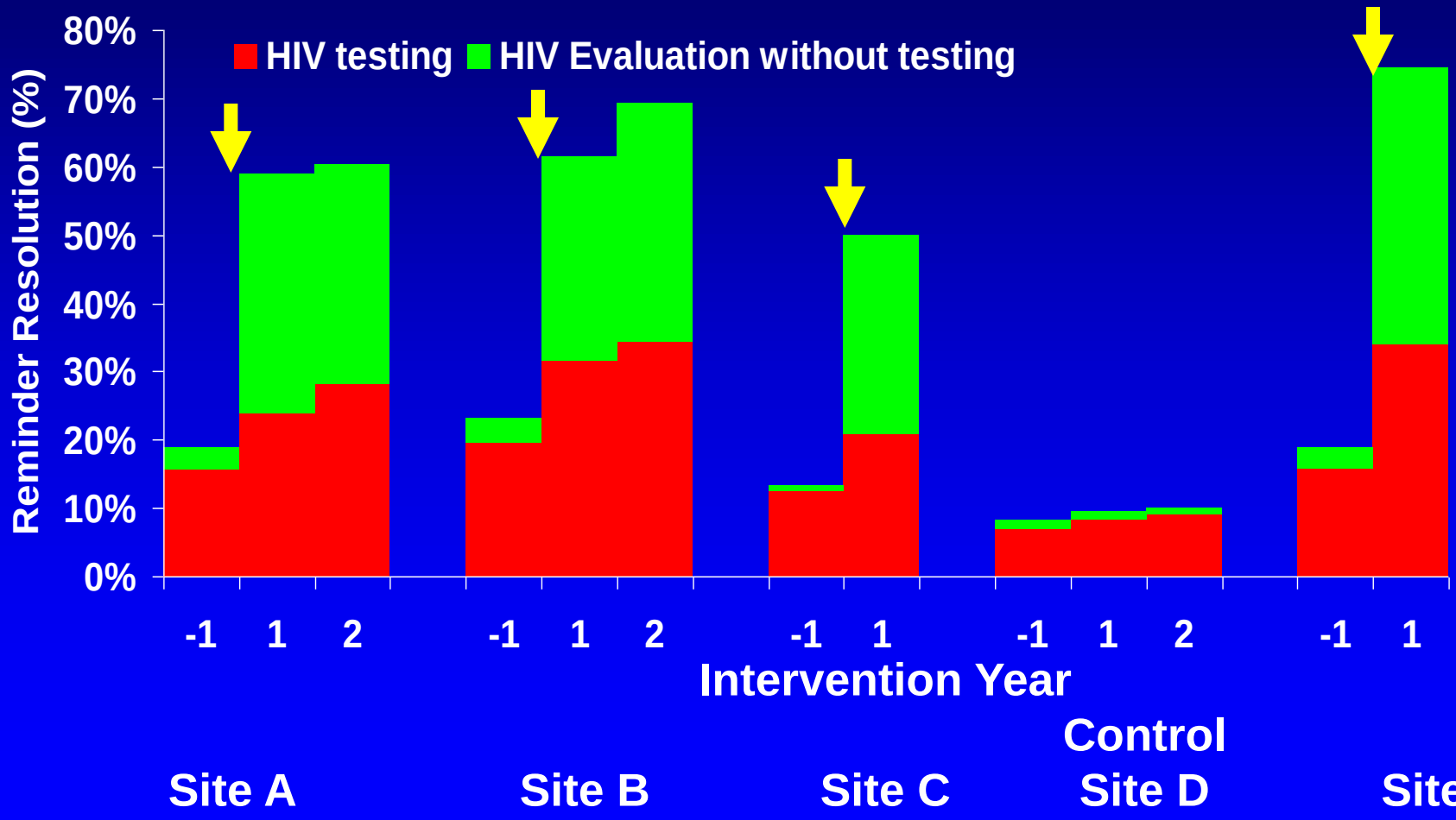
- **Quarterly feedback**
  - **HIV testing rate**
  - **Rate of clinical reminder resolution**

Implementation Plan
In-Person Launch Meeting

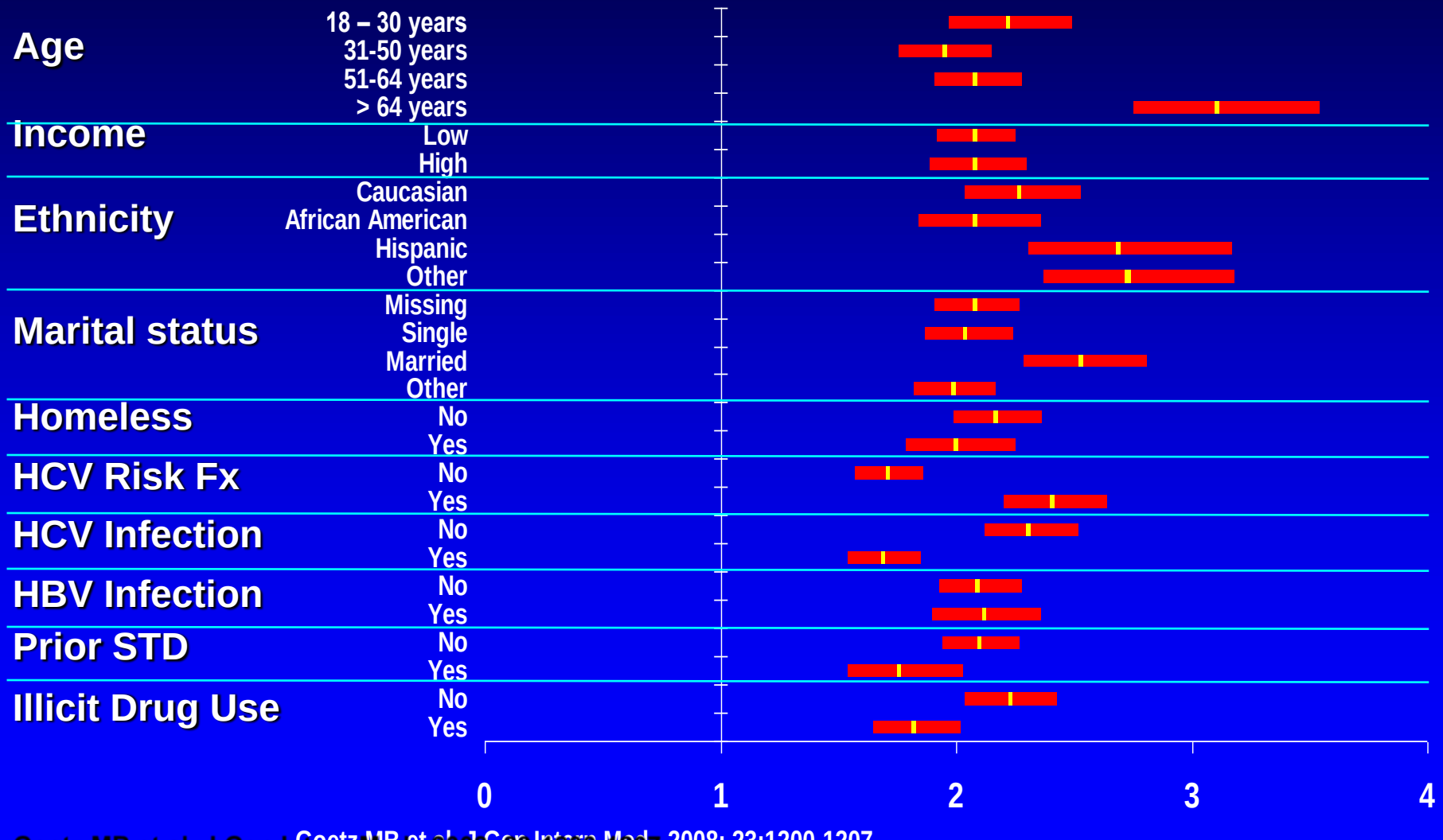
- Met with facility leadership, e.g., COS and leadership of nursing, laboratory service, ambulatory care and primary care programs
- Promoted program at primary care team meetings
  - Consent process
  - Emphasize that HIV testing is not a performance measure
  - Tips for proposing HIV testing
- Provide educational materials
- Emphasized use of site-wide rather than provider-specific feedback

VISN22: Pre- vs Post-Intervention Prevalent HIV Testing Rate

Program implementation yields ~2-fold increase in aggregate HIV testing rate



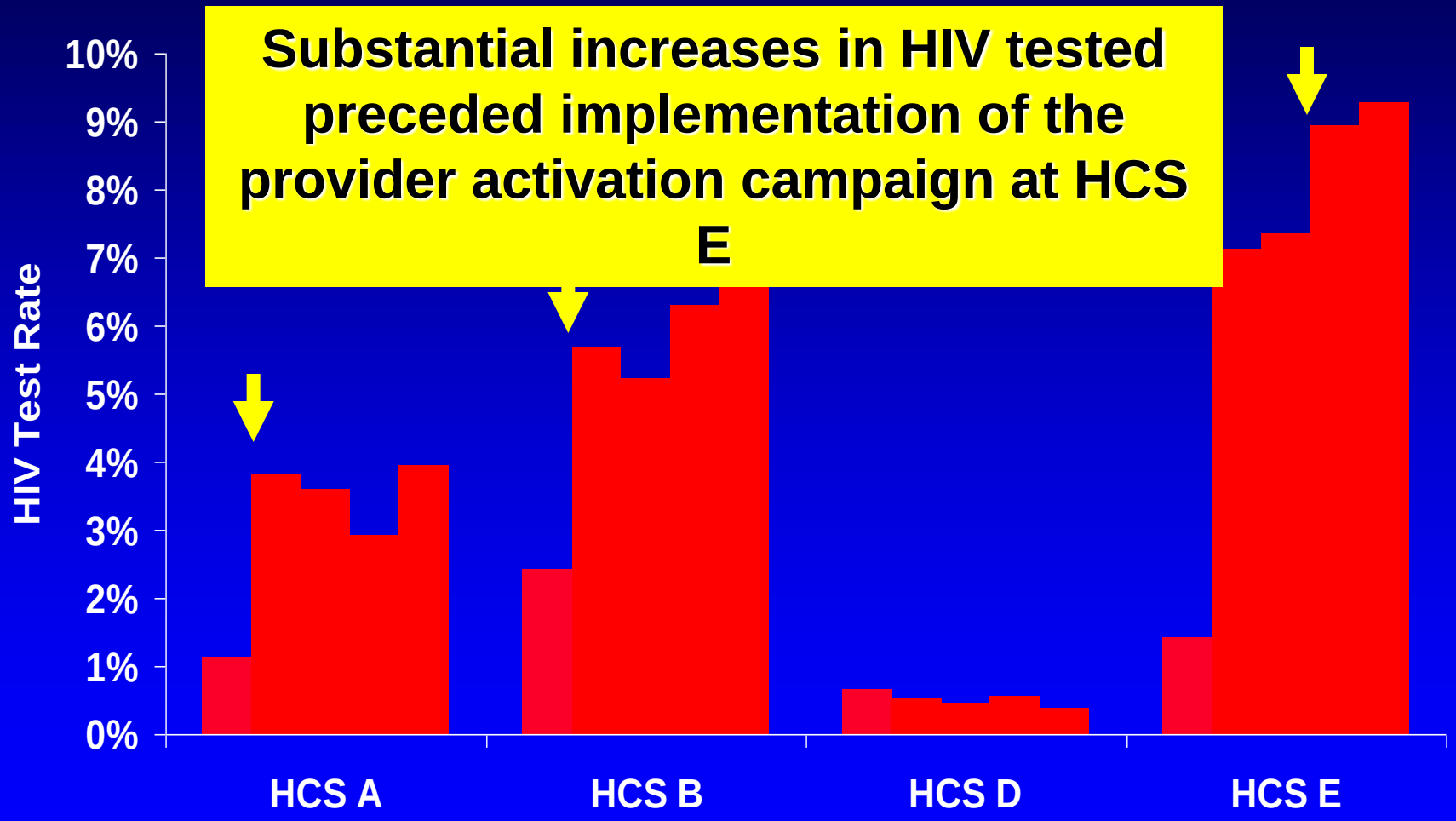
Post vs Pre Odds Ratio of HIV Testing Analysis of Patient Level Factors



Goetz MB et al. J Gen Intern Med. 2008; 23:1200-1207.

Goetz MB et al. J Gen Intern Med. 2008; 23:1200-1207.

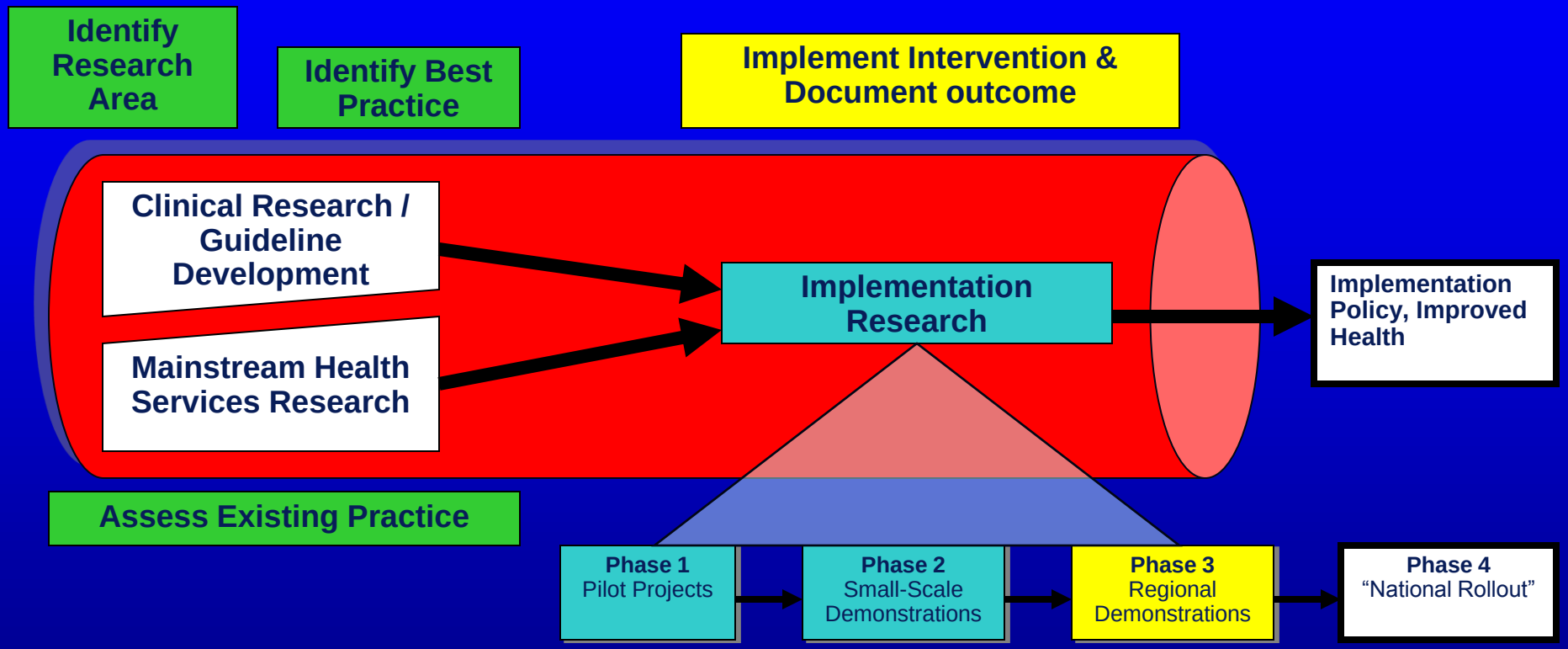
Incident Rate of HIV Testing (Month -1 to 5) vs Timing of Provider Activation Program



Summary of Phase I-II Intervention Results

- Implementation of this multi-modal intervention more than doubled HIV testing rates in 4 facilities
- Increases in testing were accompanied by increases in HIV case identification (data not shown)
- At the two original sites, the increase in HIV testing rates were sustained over a two year period of time
- Marginal costs = $40,000 - $70,000 per quarter
- ?Modest additional contribution of provider activation program

Research/Implementation Pipeline



VA QUERI

Phase III Implementation Trial

- Assess generalizability of intervention to VA facilities with differing structural characteristics
- Evaluate the added value of "provider activation" (academic detailing, social marketing) campaigns
  - Facilities randomized to receive extensive vs modest support for conduct of "provider activation" program

Testing of Central vs. Local Activation

Central Activation

- National project staff to provide extensive support the provider activation campaign

Local Activation

- Local staff to be encouraged to conduct their own provider education activities

Matched facilities in 3 VA regions by breadth and depth of subspecialty services, size, academic affiliations and randomly assigned

Life Takes Detours

A Memoir

The Real World Intervenes

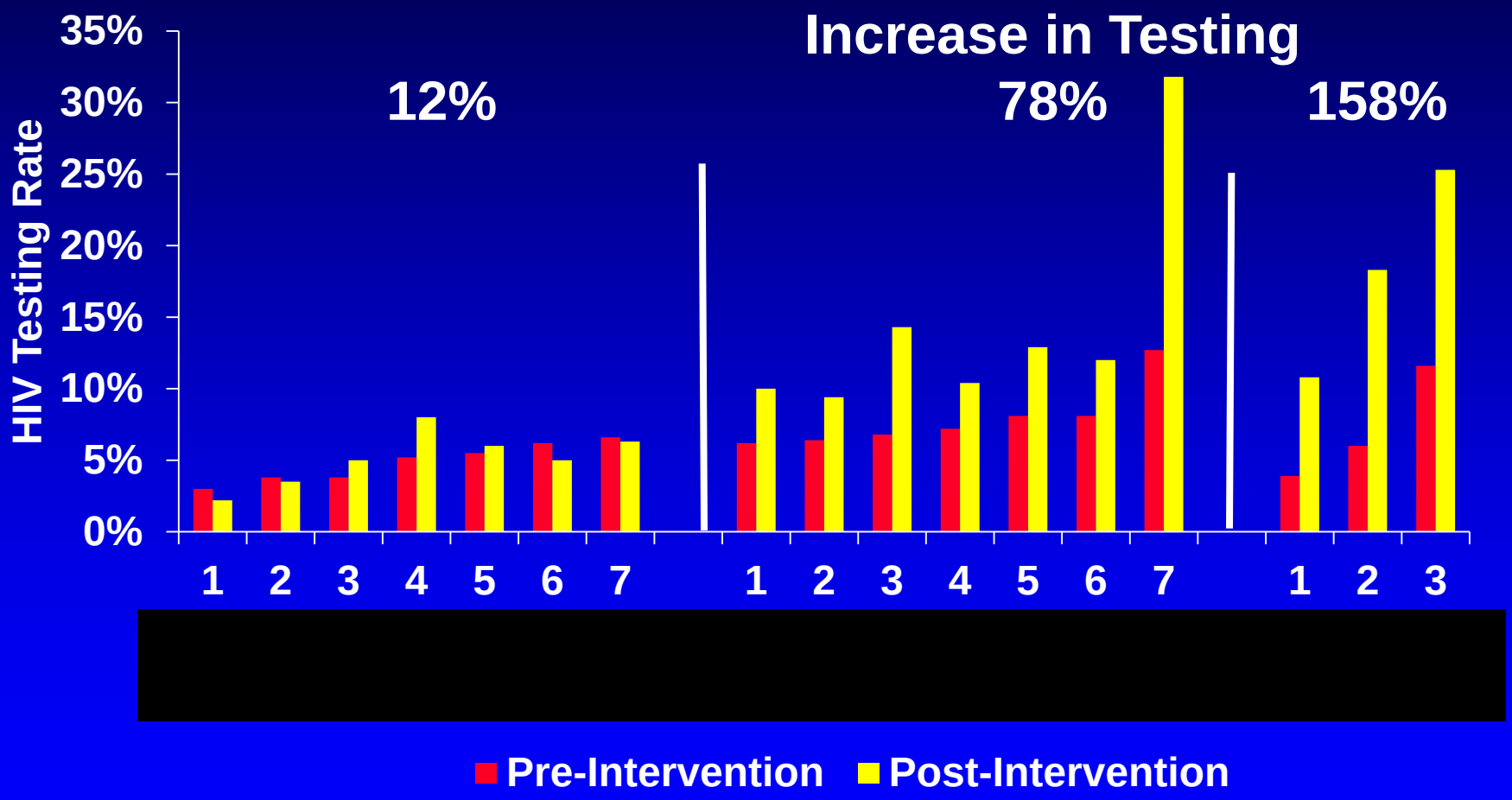
- October 2008 : Project funded
- June 2009: Project launched at 3 sites
- August 2009: VA HIV testing policy changes
  - Verbal agreement replaces written informed consent
  - Pre- and Post-Test counseling requirements removed
  - Routine, once per lifetime testing of all patients, not just those at risk

Impediments to HIV Testing in the VA

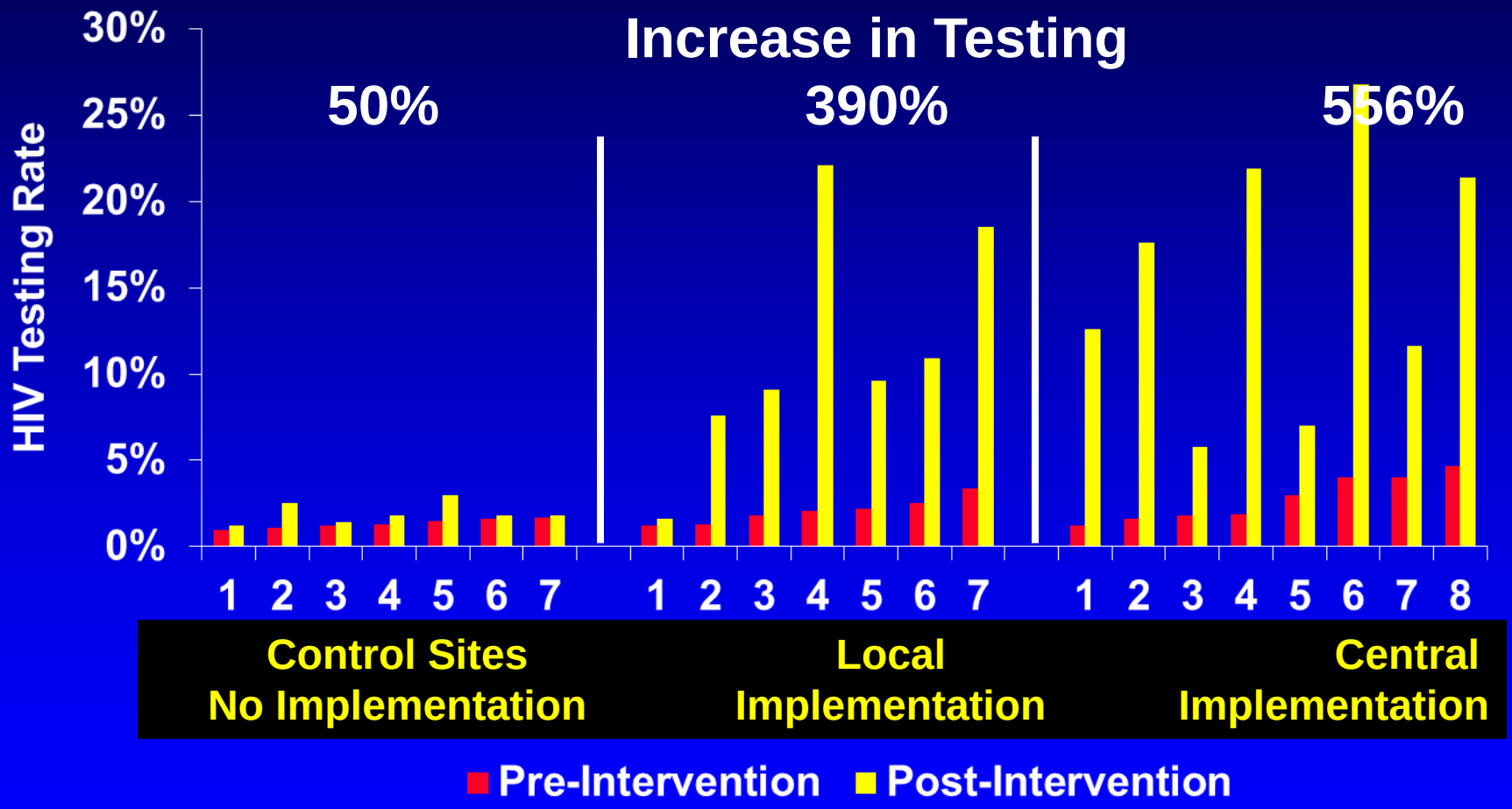
- Organizational barriers
  - ~~Informed consent & pre-test counseling requirements~~
  - Constraints on provider time
  - Limited opportunity for timely, in-person post-test notification
  - Uncertain capacity to manage newly diagnosed patients
- Provider behaviors
  - ~~Incomplete recognition of HIV risk factors~~
  - Reliance on trained counselors to order HIV tests
  - Discomfort with HIV counseling
  - Lack of prioritization of HIV testing

Verbal consent and routine testing removes 2 barriers

Pre- vs Post-Intervention Risk-Based HIV Testing
Phase III Project



Pre- vs Post-Intervention Routine HIV Testing Phase III Project



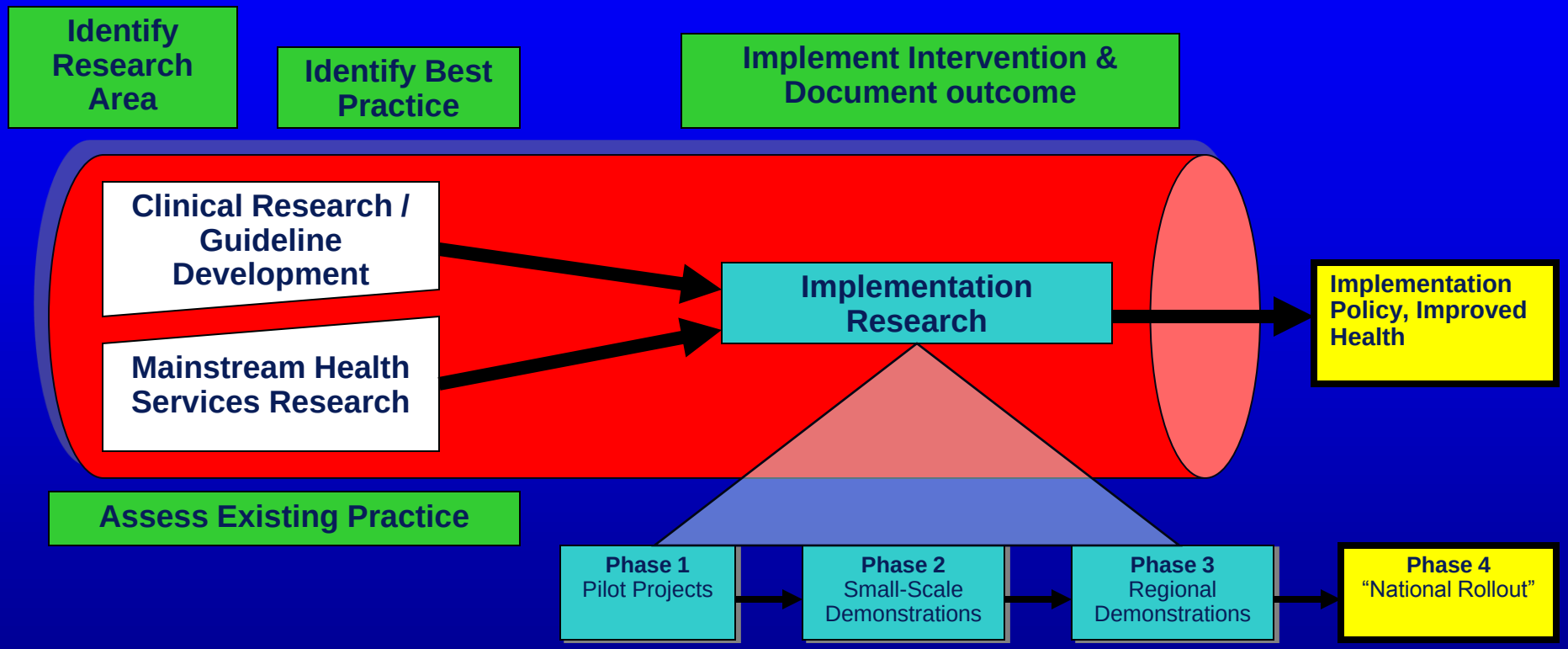
Summary of Phase III Results

- Results replicated in NE and South Central facilities
  - Risk-based testing increased by 78 – 158%
  - Routine testing increased by 390 – 556%
- Programs with central support perform better
- Largest, wide-scale analysis of a structured program to promote routine HIV testing in primary care

Limitations and Remaining Work

- Sustainability remains to be determined
- Relationship between program effectiveness and facility structure and culture
- Economic analysis
- Rate of new case finding remains to be determined

Research/Implementation Pipeline



VA QUERI

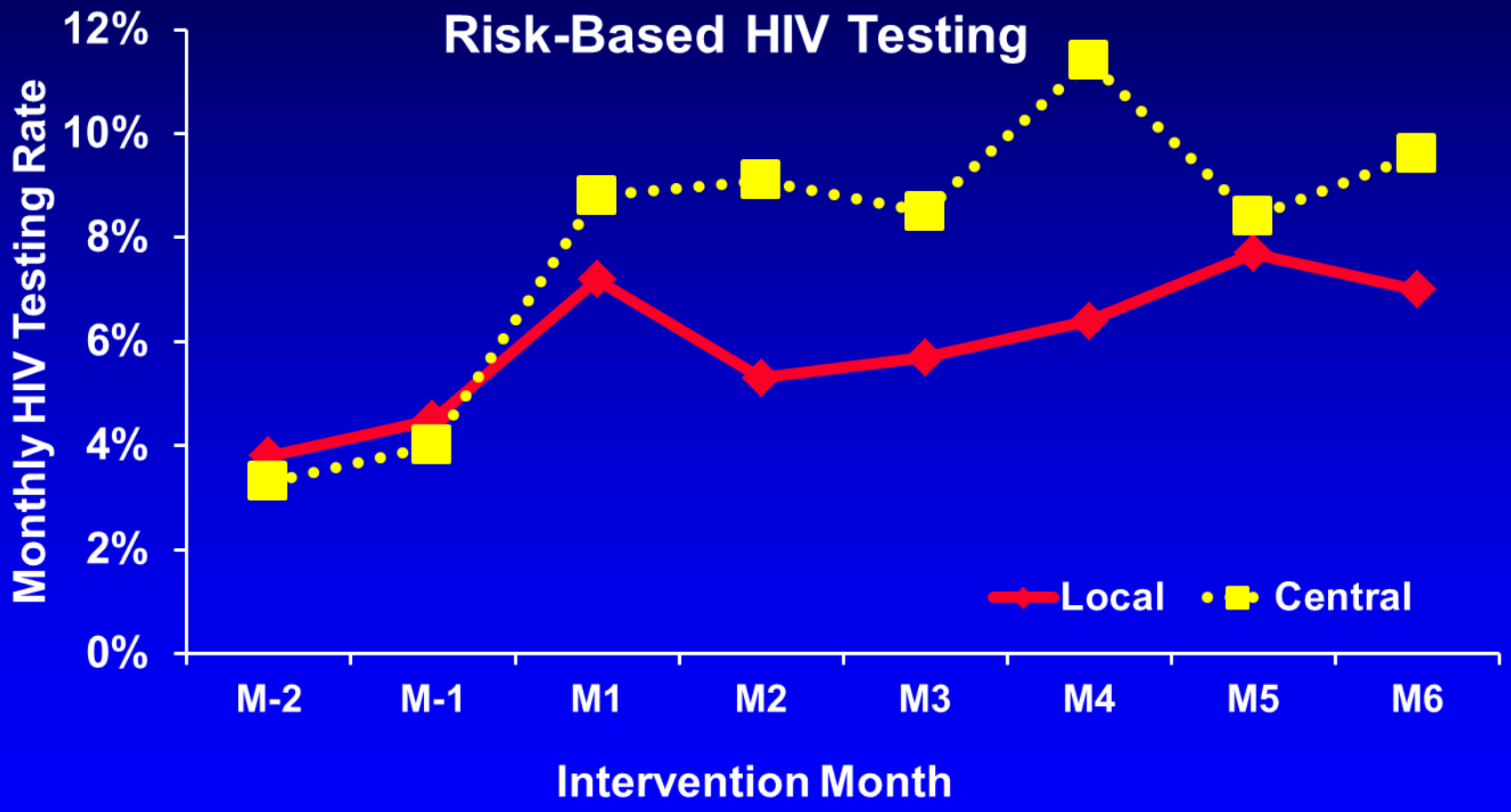
Lessons from Dancing with the Devil You Know

- Building research enterprise for partner eased by relationship planning, programmatic funding
- Partnership improves research and makes “dead mouse research” less likely
- Researchers can serve two masters
  - Project produced generalizable conclusions about implementation in addition to serving institutional aims

Acknowledgements

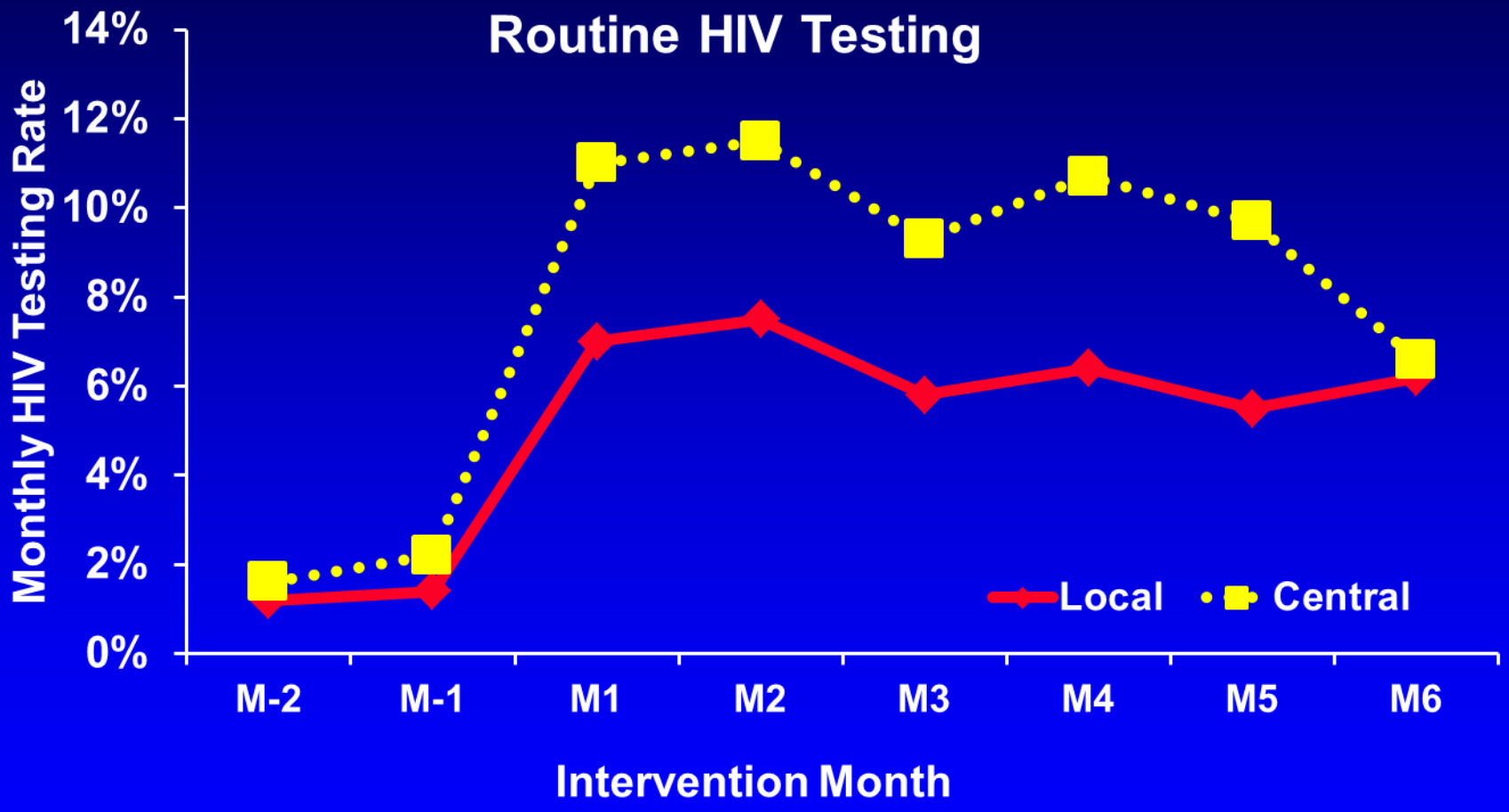
- VA HSR&D funding: QUERI core funds, SDP 06-001., SDP 08-002
- VA Office of Public Health: moral, financial and logistical support
- Local leaders, clinical champions, primary care providers, facility leadership in VISNs 1, 3, 16 and 22
- QUERI-HIV/HEP colleagues: Matt Goetz, Allen Gifford, Jane Burgess, Tuyen Hoang, Hersch Knapp, Henry Anaya and many, many others

Pre- vs Post-Intervention Monthly Risk Based Testing



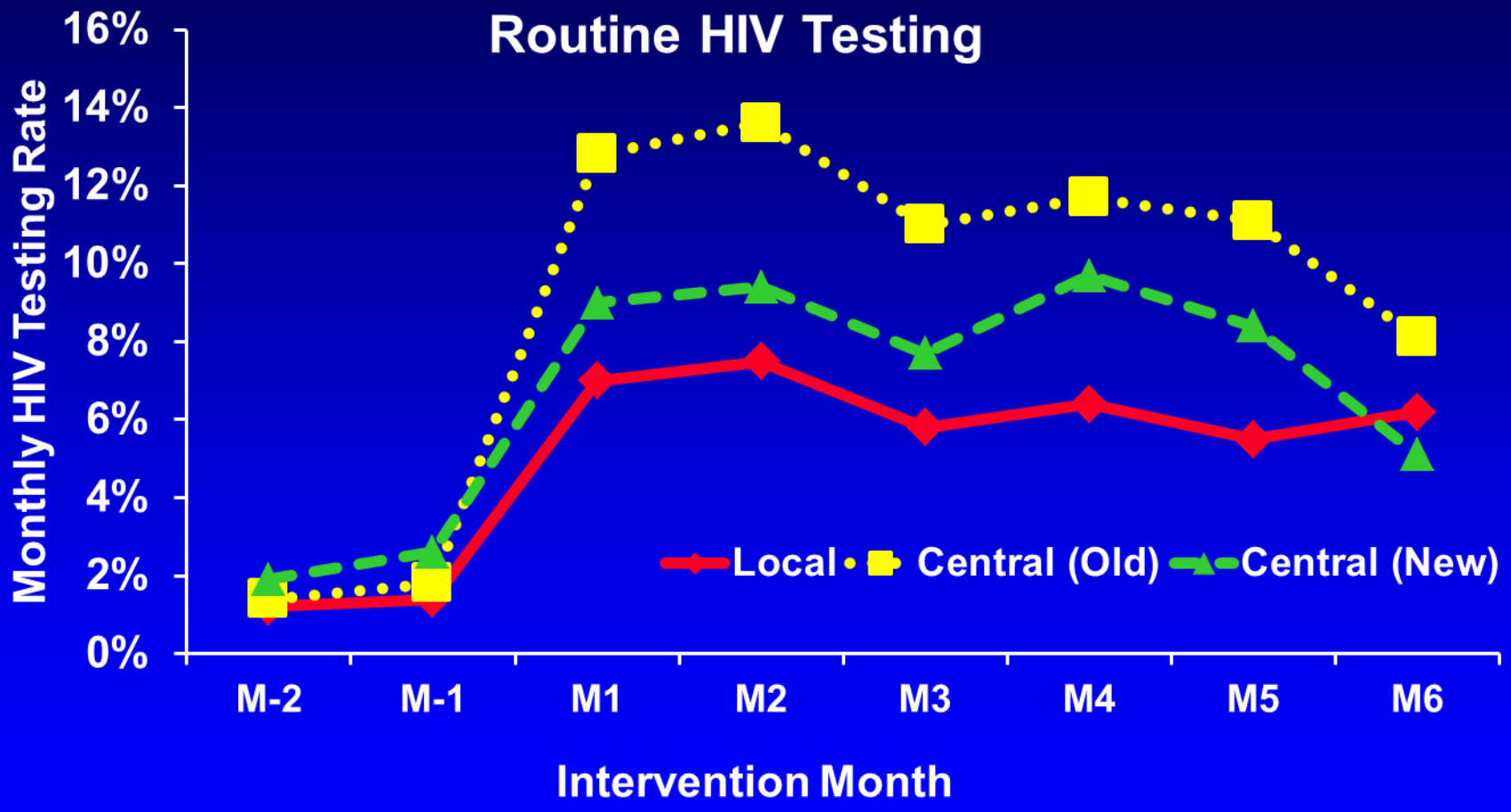
1/26/12 data revision

Pre- vs Post-Intervention Monthly Routine Testing



1/26/12 data revision

Pre- vs Post-Intervention Monthly Routine Testing



1/26/12 data revision

Questions/Comments?

Steven M. Asch
Steven.asch@va.gov