

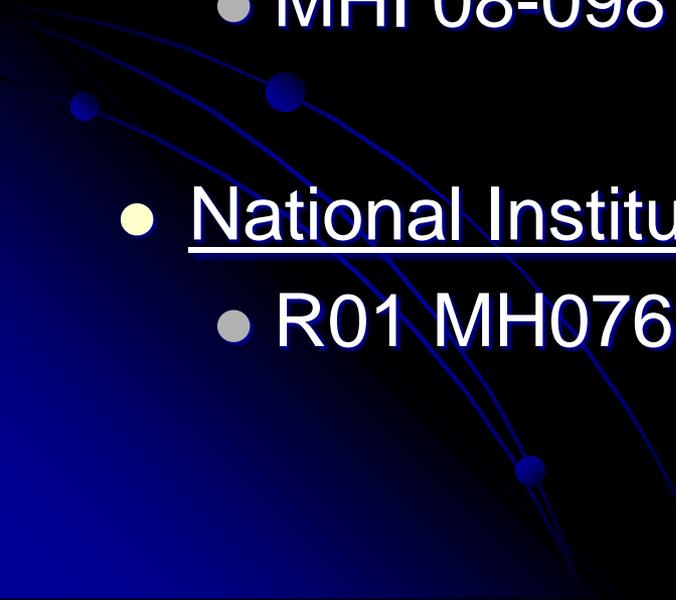
# Telemedicine-Based Collaborative Care Models

John Fortney, PhD

Jeff Pyne, PhD

VA HSR&D Center for Mental Healthcare and Outcomes Research  
VISN 16 Mental Illness Research, Education and Clinical Center  
Department of Psychiatry, University of Arkansas for Medical Sciences

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# Collaborative Care

- 75% of patients treated for depression receive care in primary care settings
- 20/28 randomized trials of collaborative care significantly improved outcomes<sup>1</sup>:
  - Median effect for response rate: +18%
  - Median effect for remission rate: +16%

1) Williams J et. al. Systematic review of multifaceted interventions to improve depression care. *General Hospital Psychiatry*, 29, 91-116, 2007

# Barriers to Implementing Practice-Based Collaborative Care in Rural Primary Care

- On-site mental health specialists are typically unavailable.
- Collaborative care interventions are more effective if they include MHS<sup>1</sup>.
- Collaborative care is effective in urban practices, but **NOT** rural practices.<sup>2</sup>

- 1) Gilbody S, Bower P, Fletcher J, Richards D, Sutton AJ. Collaborative care for depression: a cumulative meta-analysis and review of longer-term outcomes. *Archives of Internal Medicine* 2006;166:2314-21.
- 2) Adams S, Xu S, Dong F, Fortney J, Rost K. Differential Effectiveness of Depression Disease Management for Rural and Urban Primary Care Patients, *Journal of Rural Health*, 2006 22(4):343-50.

# Telemedicine-Based Collaborative Care for Small Rural PC Clinics

- Offsite depression care team
  - Nurse care manager
  - Psychiatrist
  - Other mental health specialists (pharmacist, psychologist)
- Telephones
  - Care manager encounters with patients at home
- Interactive Video
  - Psychiatric evaluations with patients at PC clinic
- Electronic Medical Records
  - Communication among on-site PCPs and offsite depression care team

# VA Telemedicine Enhanced Antidepressant Management (TEAM) Effectiveness Study

- **Objective:** Compare quality and outcomes of telemedicine-based collaborative care to usual depression care.
- **Study Design**
  - Seven CBOCs lacking on-site psychiatrists
  - Screened 18,000 patients
  - Enrolled 395 patients (excluded specialty MH patients)
  - 6 and 12 month follow-ups (88% FU rates)
  - Intent to treat analysis

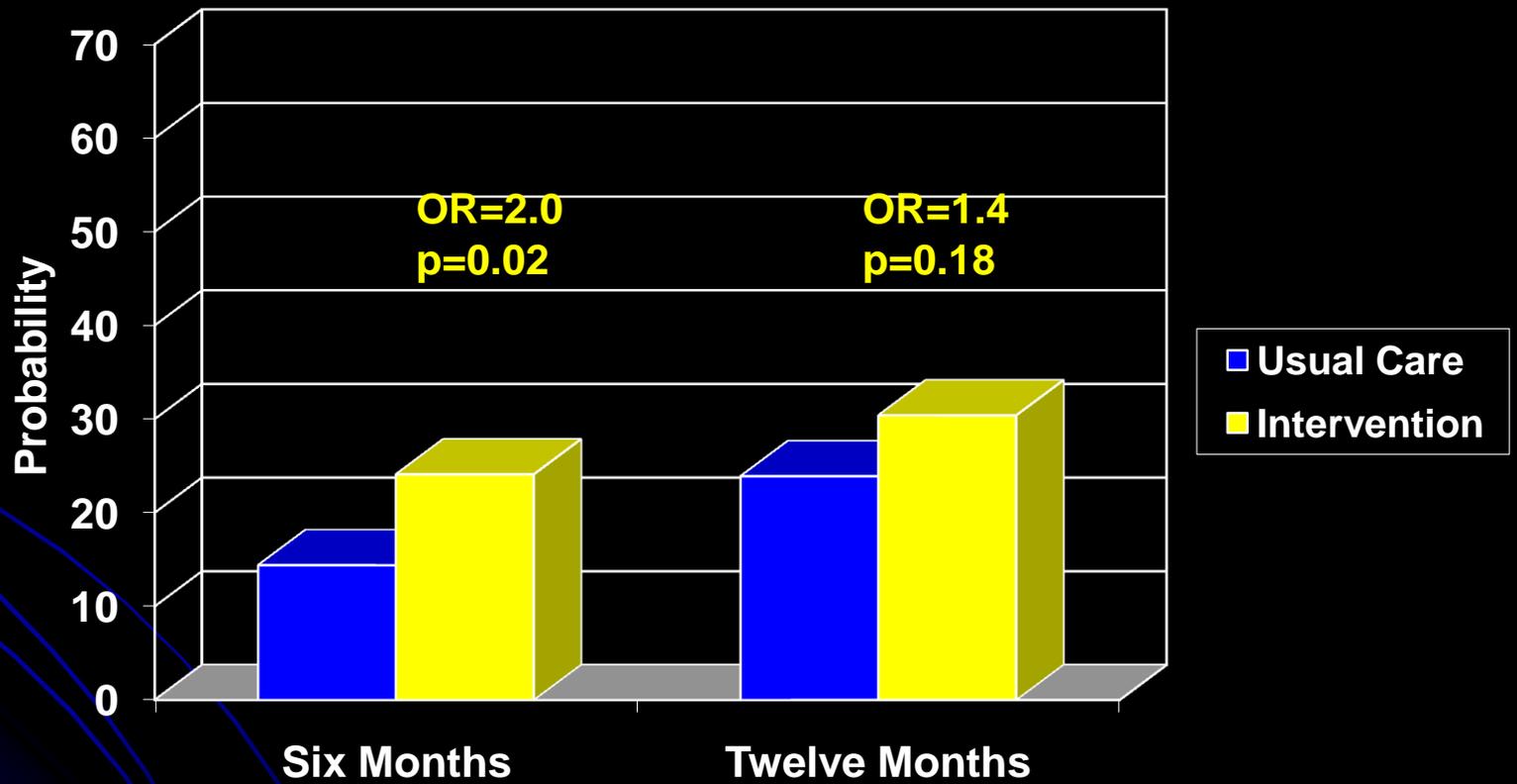
# TEAM Intervention Components

Component	Enhanced Usual Care	Telemedicine-Based
Provider Education	Yes	Yes
Screening	Yes	Yes
Patient Education	No	Yes
Self-Management	No	Yes
Monitoring	No	Yes
TX Recommendations	No	Yes
PharmD Management	No	Yes
Psychiatric Consult	No	Yes

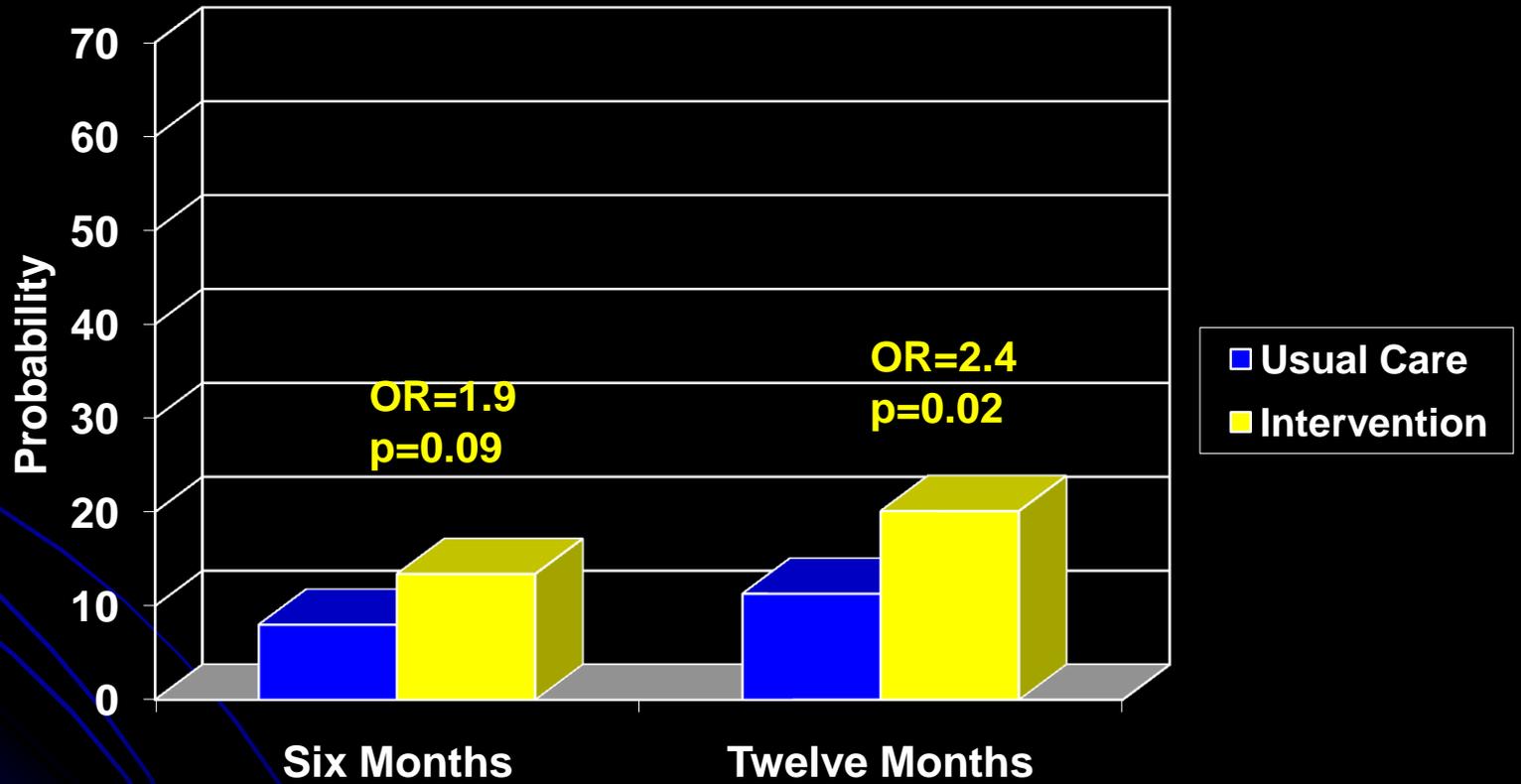
# Clinical Characteristics of Sample

Clinical Casemix	Mean/Percent
Current Major Depressive Disorder	82.0%
Prior Depressive Episodes	2.7
Prior Depression Treatment	66.6%
Current Depression Treatment	41.0%
SF12 Physical Component Summary	30.0
SF12 Mental Component Summary	36.5
Chronic Physical Health Conditions	5.5
Current Panic Disorder	9.6%
Current Generalized Anxiety Disorder	45.8%
Current PTSD	23.8%

# Response



# Remission



# NIMH OUTREACH Comparative Effectiveness Study

- **Objective:** Compare quality and outcomes of telemedicine-based collaborative care to practice-based collaborative care.
- **Study Design**
  - Eight Community Health Centers lacking on-site mental health specialists
  - Screened 19,000+ patients
  - Enrolled 364 patients (excluded specialty MH patients)
  - 6, 12 and 18 month follow-ups (86% FU rates)
  - Intent to treat analysis

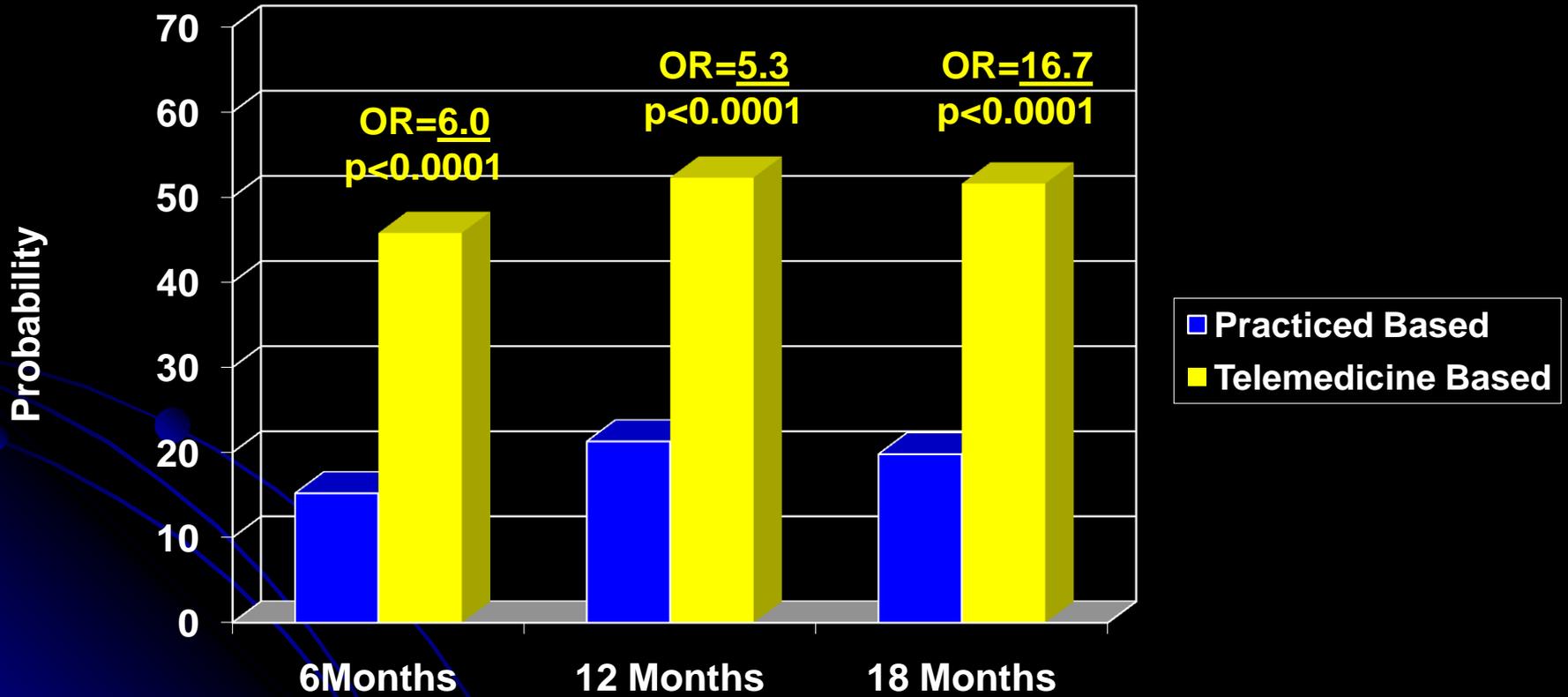
# Outreach Intervention Components

Component	Practice-Based	Telemedicine-Based
Provider Education	Yes	Yes
Screening	Yes	Yes
Patient Education	Yes	Yes
Self-Management	Yes	Yes
Medication Assistance	Yes	Yes
Monitoring	Yes	Yes
TX recommendations	No	Yes
PharmD Management	No	Yes
Psychotherapy	No	Yes
Psychiatric Consult	No	Yes

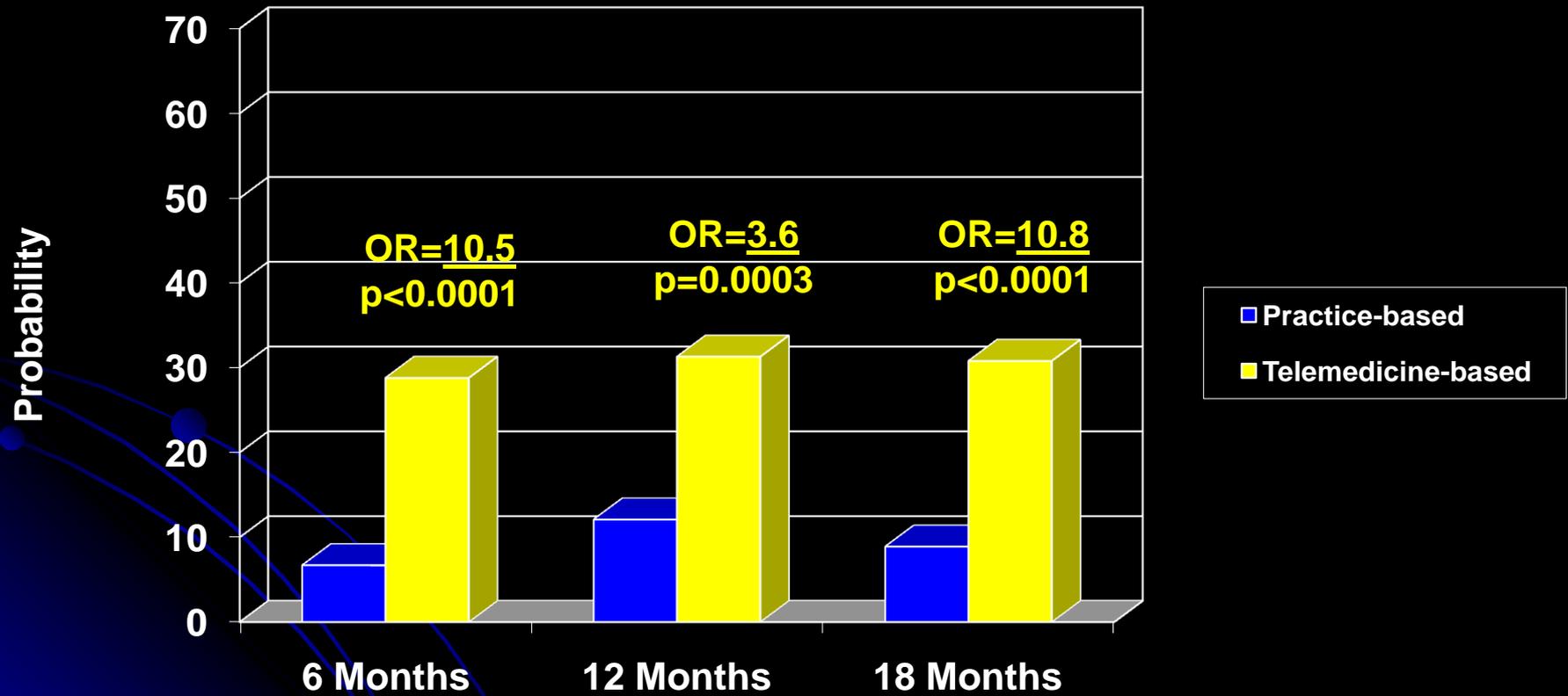
# Clinical Characteristics of Sample

<b>Clinical Casemix</b>	<b>Mean/Percent</b>
Current Major Depressive Disorder	83.2%
Prior Depressive Episodes	3.2
Prior Depression Treatment	75.8%
Current Depression Treatment	48.4%
SF12 Physical Component Summary	37.4
SF12 Mental Component Summary	31.4
Chronic Physical Health Conditions	4.6
Current Panic Disorder	8.8%
Current Generalized Anxiety Disorder	62.1%
Current PTSD	15.9%

# Response



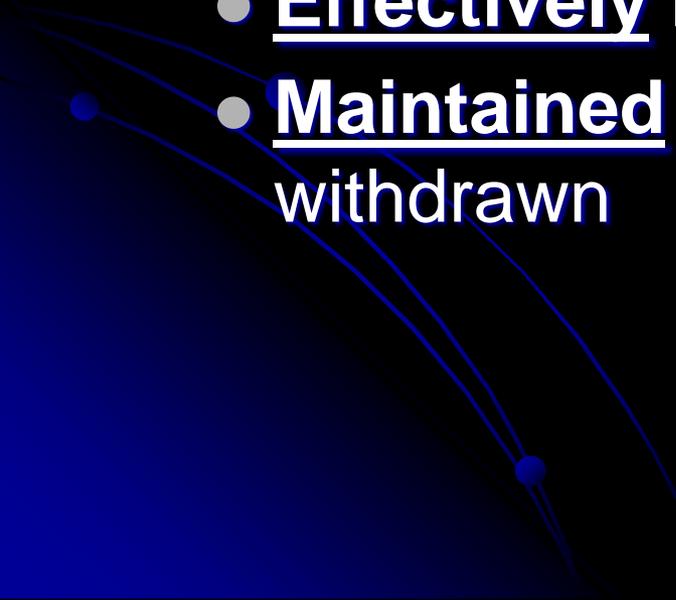
# Remission



# VA Telemedicine Based Collaborative Care Implementation Study

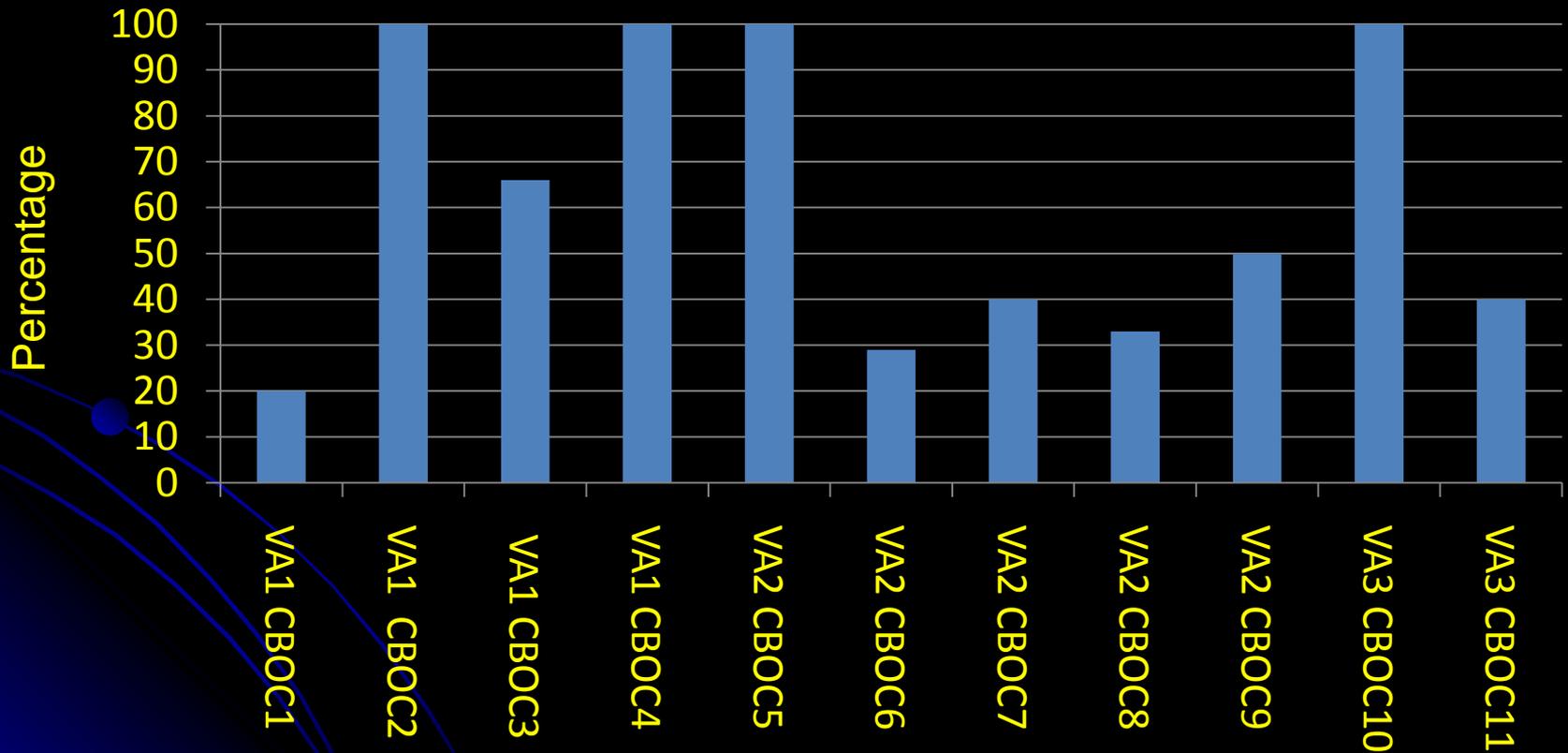
- **Objective:** Test the effectiveness of Evidence-Based Quality Improvement as an implementation strategy to disseminate telemedicine-based collaborative care.
- **Study Design**
  - Twenty five CBOCs lacking on site-psychiatrists (11 received implementation intervention)
  - Evidence Based Quality Improvement intervention strategy which embeds outside experts (with knowledge of the evidence-base) into local Continuous Quality Improvement efforts.

# RE-AIM Evaluation

- **RE-AIM Framework**
    - Adopted by providers
    - Reach targeted patient population
    - Implemented with fidelity
    - Effectively improve outcomes
    - Maintained after research funds are withdrawn
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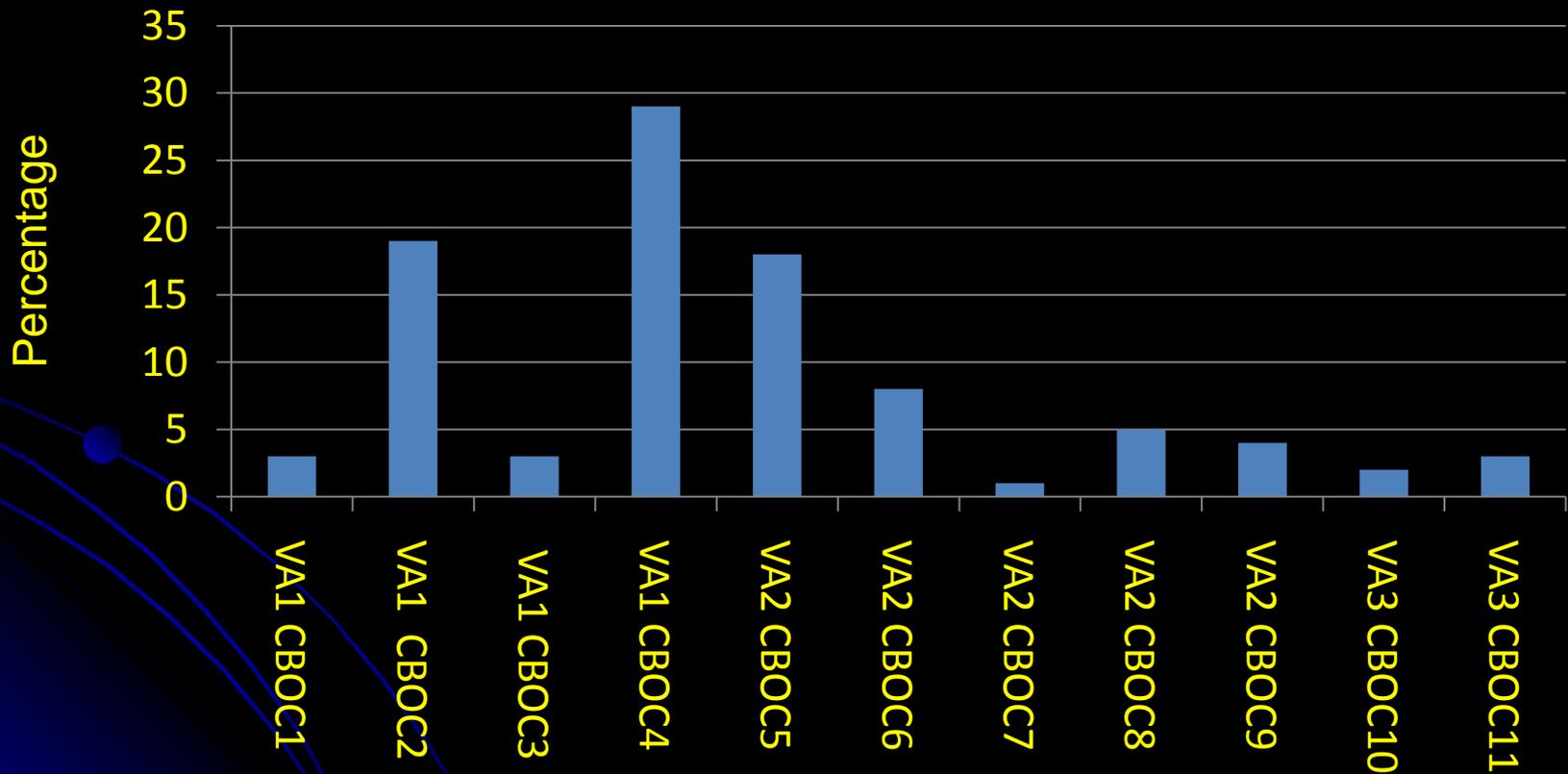
# Provider Adoption

## First Twelve Months (n=58)



# Patient Reach

## First Twelve Months (n=298)



# Fidelity (n=298)

## ● Initial Encounters

- Depression severity assessed with PHQ9 100.0%
- Education provided 100.0%
- Barriers assessed/addressed 82.6%

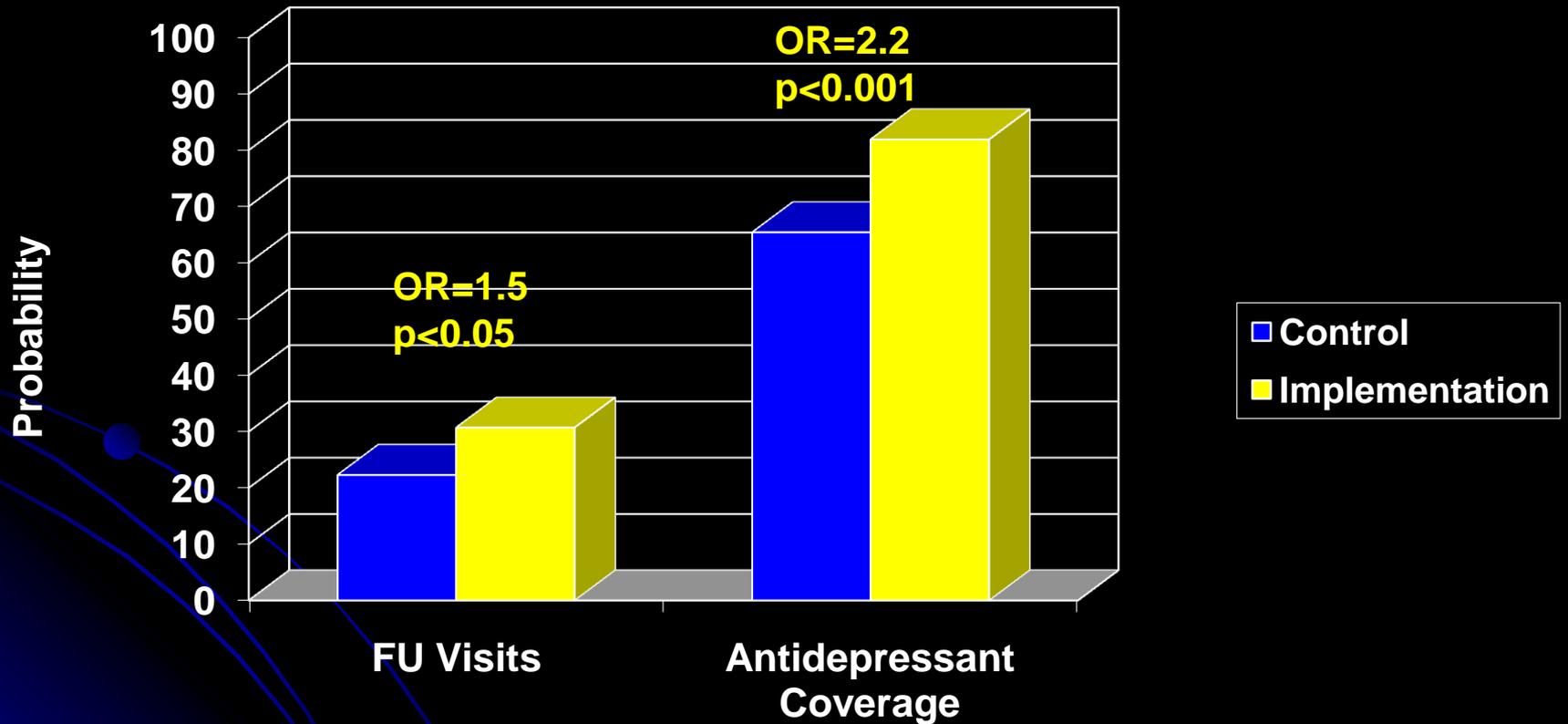
## ● Follow-up Encounters (acute phase)

- Follow-ups completed on time 42.5%
- Depression severity assessed with PHQ9 100.0%
- Medication adherence assessed 99.1%
- Side-effects assessed 92.4%
- Psychotherapy attendance assessed 83.3%
- Self-management 15.3%

# Effectiveness (n=298)

- Outcomes
  - Lost to follow-up 16.1%
  - Remitted and completed 18.8%
  - Responded and completed 22.1%
  - Referred to MH 24.2%
  - Disenrolled at PCP's request 9.7%
  - Disenrolled at Patients request 0.6%
  - No longer eligible 7.7%
  - Unknown 0.8%

# VA Performance Measures



# Implementation Summary

- **Provider Adoption** was high, but **Reach** into the target patient population was low.
- **Implementation Fidelity** was high (facilitated by web-based decision support system).
- **Effectiveness** was the same as in a controlled randomized trial and antidepressant possession ratios were higher at implementation sites than control sites.
- Performance Measures were improved and the telemedicine-based collaborative care program was **Maintained** after research funding ended.

# VA Telemedicine Outreach for PTSD (TOP) Effectiveness Study

- **Objective:** Compare quality and outcomes of telemedicine-based collaborative care to usual PTSD care.
- **Study Design**
  - Eleven CBOCs lacking on-site psychiatrists
  - Patients recruited through provider/self referral and opt-out letters
  - Enrolled 100 patients to date
  - Intent to treat analysis

# TOP Intervention Components

Component	Usual Care	Telemedicine-Based
Provider Education	Yes	Yes
Screening	Yes	Yes
Patient Education	No	Yes
Self-Management	No	Yes
Monitoring	No	Yes
TX recommendations	No	Yes
PharmD Management	No	Yes
Psychotherapy	No	Yes
Psychiatric Consult	No	Yes

# Questions and Comments

