

# **DIABETES CARE IMPROVEMENTS USING RE-AIM CRITERIA**

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# DIABETES PRIORITY PROGRAM: A Randomized Effectiveness Trial

**OBJECTIVE:** Work with both primary care offices and patients to improve the quality of diabetes care

**SETTINGS:** Family practice and internal medicine physicians across the state of Colorado conducted the study in their offices

# DIABETES PRIORITY PROGRAM

**KEY OUTCOMES:** Accomplishment of NCQA/ADA Provider Recognition Program criteria on:

- a) medical / lab checks and activities
- b) patient self-management / behavior change counseling

**DESIGN:** Nested design with practices matched and randomized to 1) Computer-assisted Quality Improvement Intervention or 2) Touchscreen Computer Assessment Control

# DIABETES PRIORITY PROGRAM SCOPE AND PARTICIPANTS

- 886 type 2 diabetes patients (average age 63; 13% Latino; M = just over 2 comorbid illnesses)
- From patient lists of 52 participating family practice and internal medicine physicians in 30 clinics across Colorado
- All intervention aspects implemented by usual office staff

- Compared 2 interactive computer programs installed in primary care clinics :

Diabetes Priority Program (DPP):

- Self-management model
- Print-outs
- Follow-up call

Health Risk Appraisal Program (HRA):

- Print-outs

# Diabetes Care Activities



turn audio

Please press the yellow button below the answer that best describes when you last had the following:

When was your last **Hemoglobin A1c test** (sometime called a glyco-hemoglobin test)?

Less than  
6 months ago



Between  
6 and 12  
months ago



Between  
1 and 2  
years ago



More than  
2 years ago



Never Had  
this Test



Don't Know



Ok, we'll let your  
doctor know.

EXIT

HELP

BACK

More Info.

ENTER

# Eating Habits



turn audio

Think about your eating habits over the past few months. About how often do you eat each of the following foods? Remember breakfast, lunch, dinner, snacks and eating out. Press one answer for each group of foods listed.

Hamburgers, ground beef, meat burritos, tacos

Once a MONTH  
Or Less



2-3 Times  
a MONTH



1-2 Times  
a WEEK



3-4 Times  
a WEEK



5+ Times  
a WEEK



Block Dietary Systems 97a

EXIT

HELP

BACK

ENTER

# IMPLEMENTATION: VISIT FLOW

**Reception:** Check-in 30-45 min early




**Intervention:** Complete computer program & receive printout of *action plan*



**Physician:** Usual care + endorse *plan*



**Care Manager:** (10-15 min)  
Discuss *plan*, goals, barriers, strategies  
Sets Follow-up call appointment.  
Documents visits on tracking form



Follow-up Call Between Visits

# REACH

**75% of contacted eligible type 2 DM patients participated.**

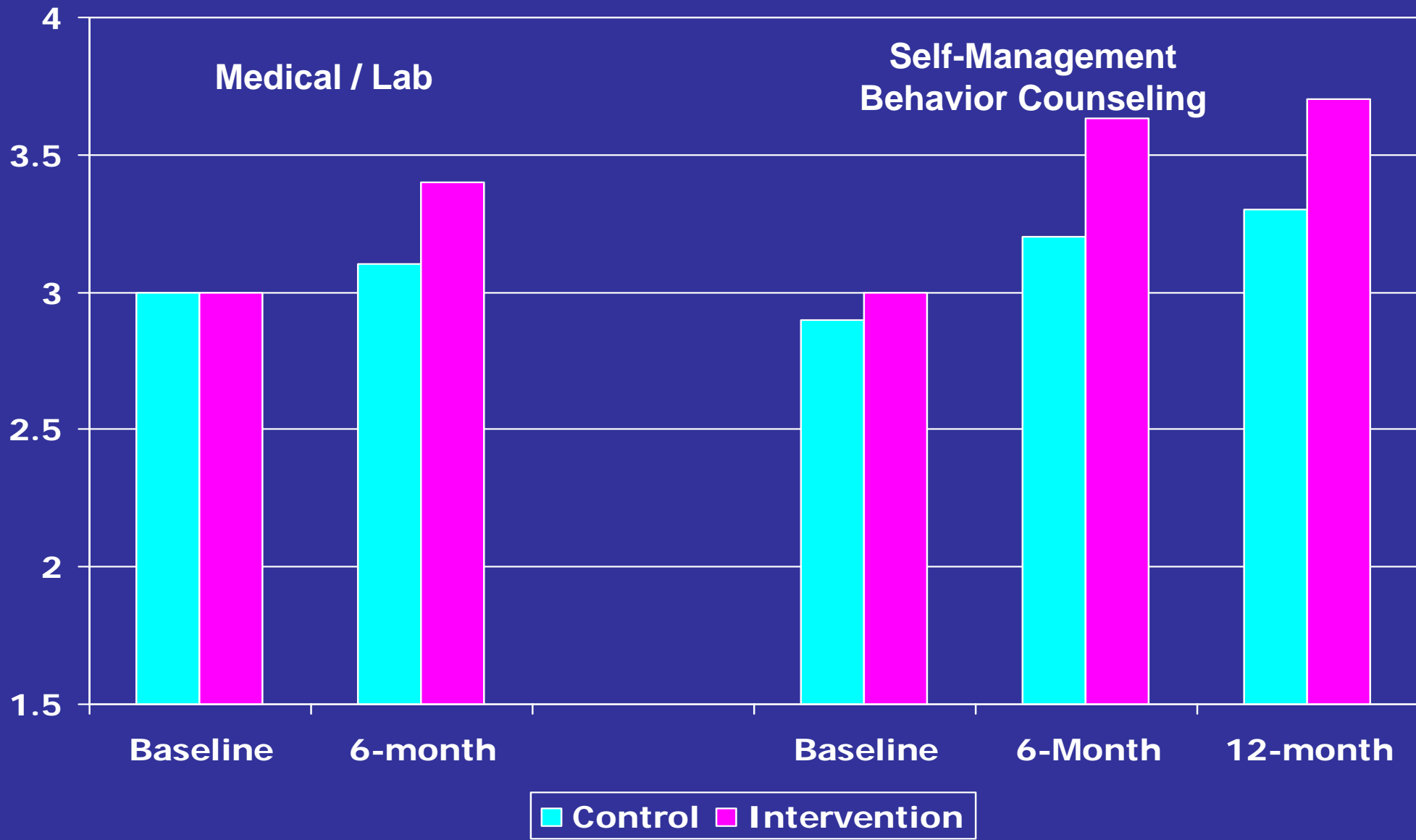
**Participants similar to non-participants on:  
gender, # comorbid conditions, and matched  
state of Colorado BRFSS diabetes sample**

**Participants, compared to non-participants were:  
higher income (57% vs 41% < \$30,000) and  
more educated**

# 6- AND 12-MONTH EFFECTIVENESS

Intervention significantly more improved than control (mixed model analyses) on both:

- Medical Laboratory Checks Composite (e.g., blood pressure, eye exams, foot checks)
- Self-Management / Behavior Change Counseling Composite (e.g., medical nutrition counseling, self-management goal setting, patient satisfaction)



# EFFECTIVENESS AMONG PATIENTS NOT MEETING RECOMMENDATIONS AT BASELINE

PRP Measure	N	Intervention	Control
<b>Lab Composite Scale</b>			
Dilated Eye Exam	N = 230	57.7%	47.7%
Foot Exam	N = 141	80.0%	51.5%
Microalbumin	N = 95	78.3%	65.3%
<b>Behavioral Composite Scale</b>			
Self-management: Goal Setting	N = 221	88.7%	67.9%
Medical Nutrition Treatment	N = 266	75.5%	52.0%
Self-Monitoring Blood Glucose	N = 99	38.6%	29.1%

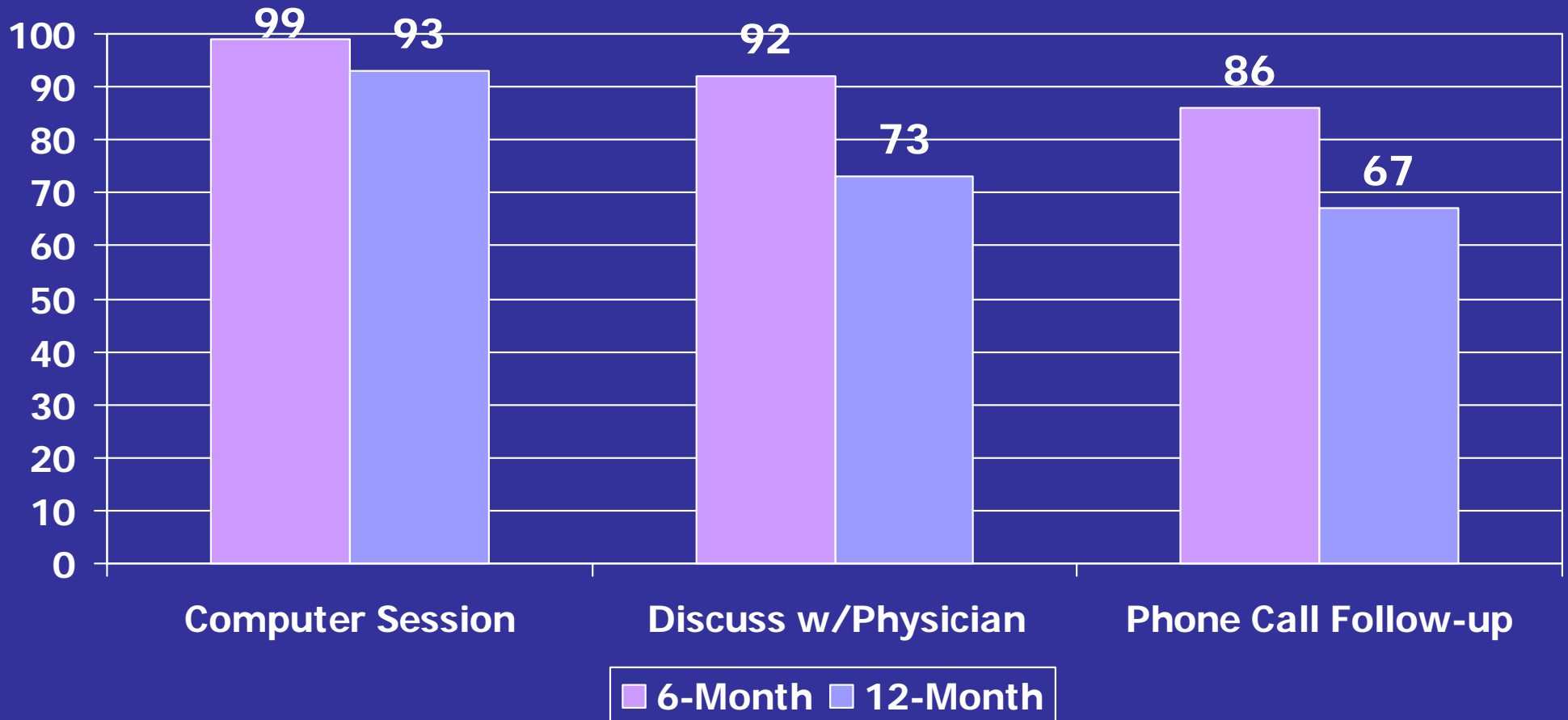
# **ROBUSTNESS OF INTERVENTION EFFECTS: MODERATOR ANALYSES**

- **Analyses conducted to identify patient characteristics associated with outcomes**
- **Of 12 demographic and medical characteristics, only 1 interacted with intervention**
- **Less educated patients in intervention condition improved more than those in usual care on behavioral counseling composite**

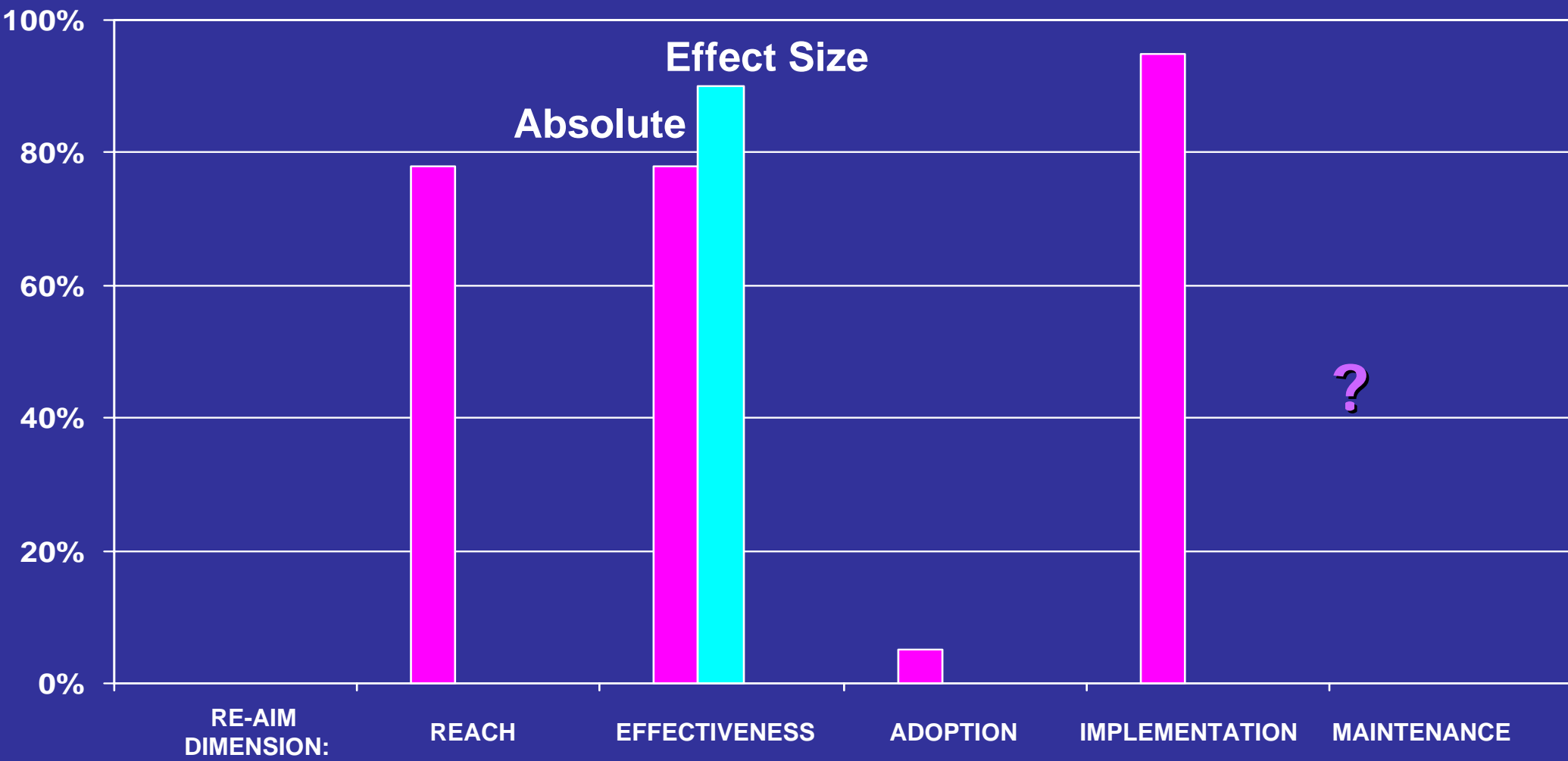
# ADOPTION

- 5% of primary care physicians from non-managed care programs throughout Colorado participated, despite insurance cost reduction and computer incentives
- They were representative of non-participants on all measures we had (size of practice, % of diabetes patients, use of diabetes care QI strategies, gender, specialty, years in practice)

# IMPLEMENTATION



# RE-AIM SUMMARY



\* Absolute Effectiveness = Percent intervention patients not meeting PRP criterion at baseline who did at follow-up

\* Effect Size: Average between conditions effect size on adjusted PRP follow-up summary measure (with E.S. of 1.0 = 100%)

# DIABETES GUIDELINES LESSONS LEARNED

***Reach:*** Good -- need organizational support

***Adoption:*** Poor -- Small rural, mixed payer practices feel overwhelmed

***Effectiveness:*** Good for both lab checks and behavioral care

Roger's Theory of Innovations apropos: Flexibility

***Implementation:*** Good; Chronic Care Model assessment associated with better care and better glycemic control

# FUTURE DIRECTIONS

- Evaluate longer term and biologic outcomes; compare to chart review data
- Investigate practice and physician characteristics associated with implementation, outcomes, and sustainability
- Consider impact of Chronic Care Model activities on outcomes and non-disease specific intervention

***"It's not the patient's fault; it's  
not the doctor's fault;  
it may be the system."***