THE DIABETES PRIORITY PROGRAM: RESULTS FROM A RANDOMIZED EFFECTIVENESS STUDY TO IMPROVE QUALITY OF CARE

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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 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

SIX-MONTH OUTCOMES: CARE IMPROVEMENTS AND PATIENT OUTCOMES USING RE-AIM CRITERIA

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A PLANNING AND EVALUATION MODEL TO "RE-AIM" PLANS AND STRATEGIES

- To broaden the criteria used to evaluate health promotion programs to include external validity
- To evaluate issues relevant to program adoption, implementation, and maintenance
- To help close the gap between research studies and practice by:
  - Informing design of interventions
  - Providing guides for decision makers

RE-AIM DIMENSIONS AND DEFINITIONS

	DIMENSION	DEFINITION
Individual Level	REACH	1. Participation rate among eligible individuals 2. Representativeness of participants
	EFFICACY / EFFECTIVENESS	1. Effects on primary outcome of interest 2. Impact on quality of life and negative outcomes

RE-AIM DIMENSIONS AND DEFINITIONS (cont.)

	DIMENSION	DEFINITION
Setting Level	ADOPTION	1. Participation rate among possible settings 2. Representativeness of settings participating
Setting Level	IMPLEMENTATION	1. Extent to which intervention delivered as intended 2. Time and costs of intervention
Both	MAINTENANCE	1. (Individual) Long-term effects of intervention (≥ 6 months) 2. (Individual) Impact of attrition on outcomes 3. (Setting) Extent of continuation or modification of treatment

www.re-aim.org

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

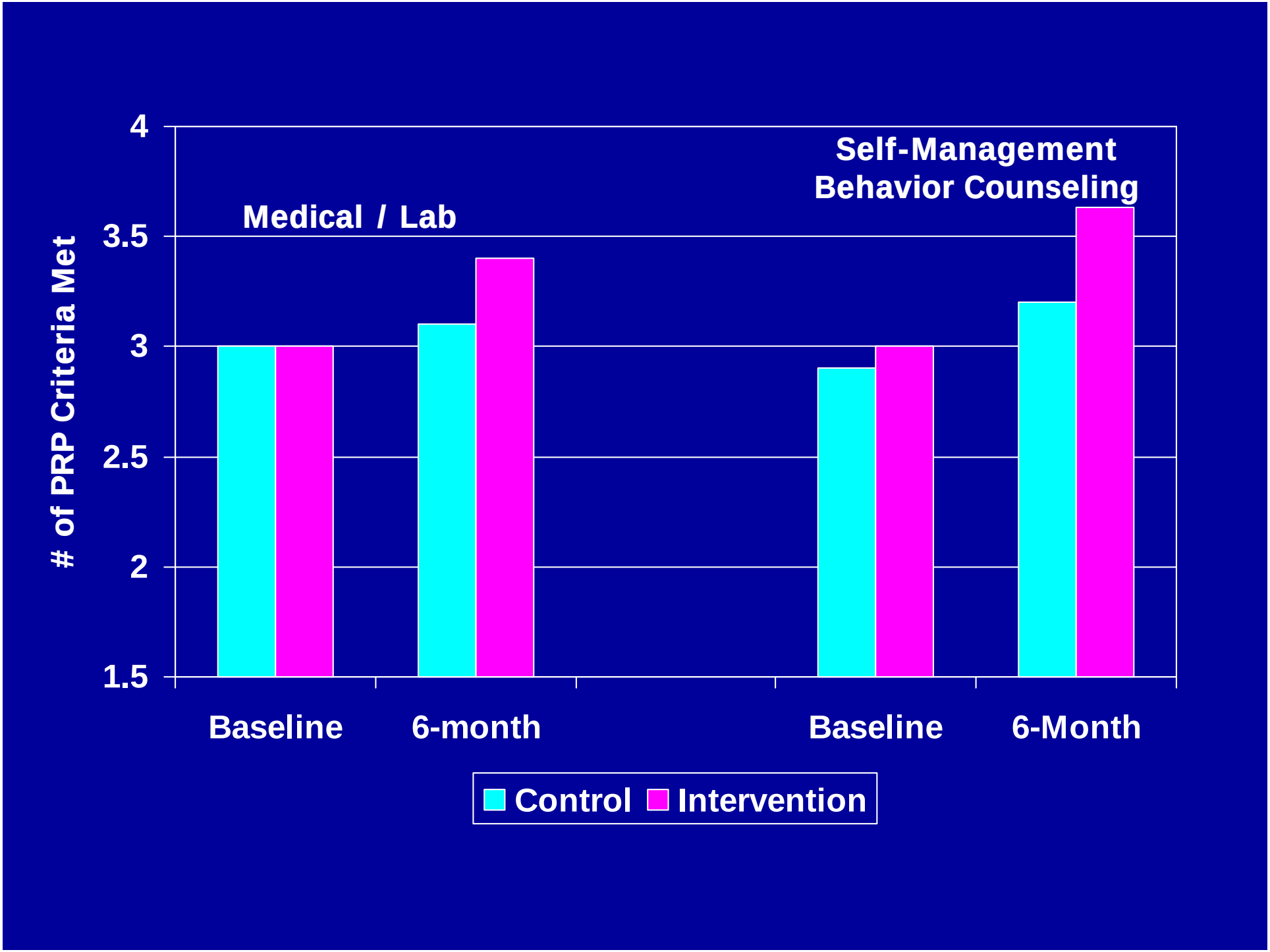
Participants, compared to non-participants were: younger (63 vs. 64 years), higher income (41% vs 57% < $30,000), and more educated

6-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)

* Based on patient self-report of receipt


# of PRP Criteria Met
4
3.5
3
2.5
2
1.5
Medical / Lab
Self-Management
Behavior Counseling
Baseline
6-month
Baseline
6-Month
Control
Intervention

EFFECTIVENESS AMONG PATIENTS NOT MEETING RECOMMENDATIONS AT BASELINE

	N*	Intervention	Control	*p*-value
Lab Composite Scale				
Dilated Eye Exam	N=230	57.7%	47.7%	.135
Foot Exam	N=141	80.0%	51.5%	.003
Microalbumin	N=95	78.3%	65.3%	.122
Behavioral Composite Scale				
Self-management: Goal Setting	N=221	88.7%	67.9%	< .001
Medical Nutrition Treatment	N=266	75.5%	52.0%	< .001
Self-Monitoring Blood Glucose	N=99	38.6%	29.1%	.399

*Patients can appear in more than one row

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 composite

CORRELATIONAL FINDING

- Practice reported use of components of the Chronic Care Model at <u>baseline</u> was significantly associated with level of care (ADA PRP measures; rho = .41 - .48) and HgA_{1C} (rho = -.52)

Nutting, Glasgow, King, et al. Relationship between physician reported use of Chronic Care strategies and outcomes. 2003, American Diabetes Association

ADOPTION

- 5% of primary care physicians from throughout Colorado participated, despite insurance cost reduction and computer incentives
- They were similar to 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 AND MAINTENANCE

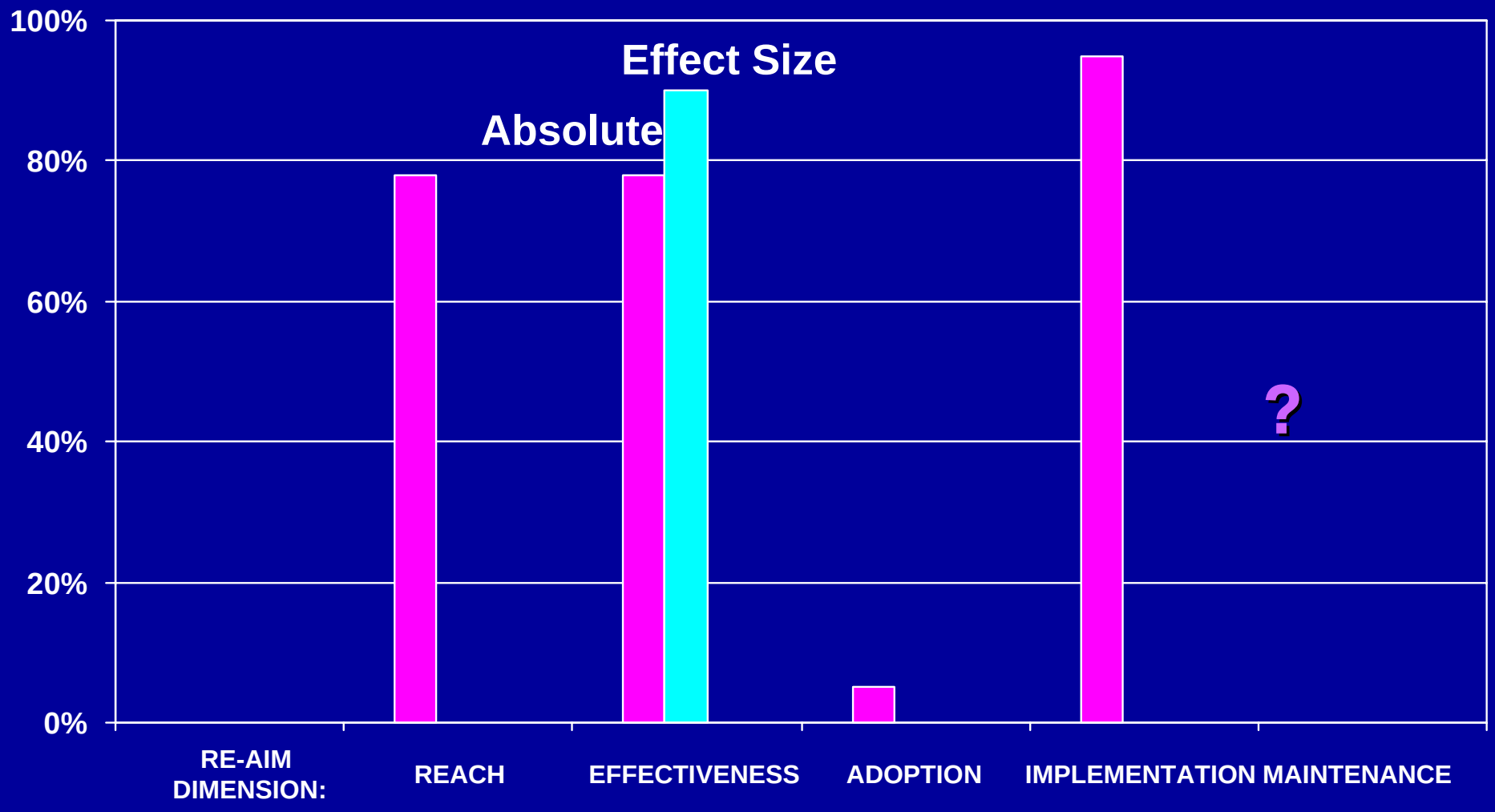
IMPLEMENTATION:

Good for effectiveness study:

- **99% received touchscreen computer session**
- **92% discussed print-out with physician and 99% met with care manager**
- **86% received at least one follow-up call**

MAINTENANCE: **To be determined**

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 practices feel overwhelmed**

Effectiveness: **Good for both lab checks and behavioral care at 6 months**

Roger's Theory of Innovations apropo: Flexibility

Implementation: **Good; Chronic Care Model 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 relative appeal of non-disease specific intervention

"It's not the patient's fault;

it's not the doctor's fault;

it may be the system."