



DEPARTMENT OF HEALTH AND HUMAN SERVICES
CENTERS FOR DISEASE CONTROL AND PREVENTION



Rolling Out the National Diabetes Prevention Program

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The findings and conclusions in this presentation are those of the author and do not necessarily represent the views of the CDC.

SAFER • HEALTHIER • PEOPLE™



**26 million
with Diabetes**



**79 million
with Prediabetes**

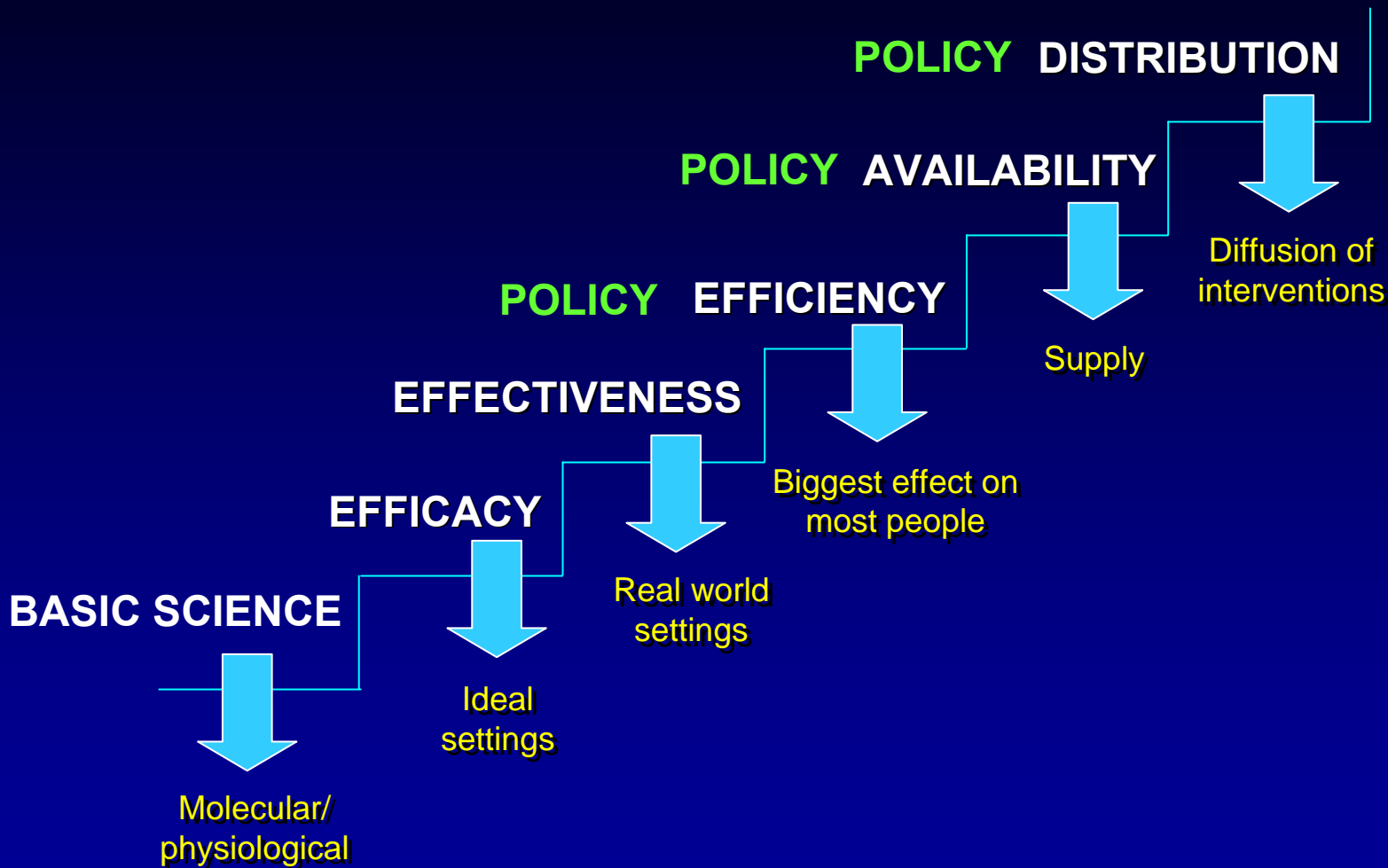
1 in 3 U.S. Adults Will Have Diabetes in 2050 ...

□ If current trends continue

- Americans are living longer
- People with diabetes also are living longer
- Increases in minority groups at high risk for type 2 diabetes
- New cases of diabetes

□ 1 in 10 U.S. adults have diabetes now

Boyle, Thompson, Gregg, Barker, Williamson. Population Health Metrics 2010: 8:29 (22 October 2010)



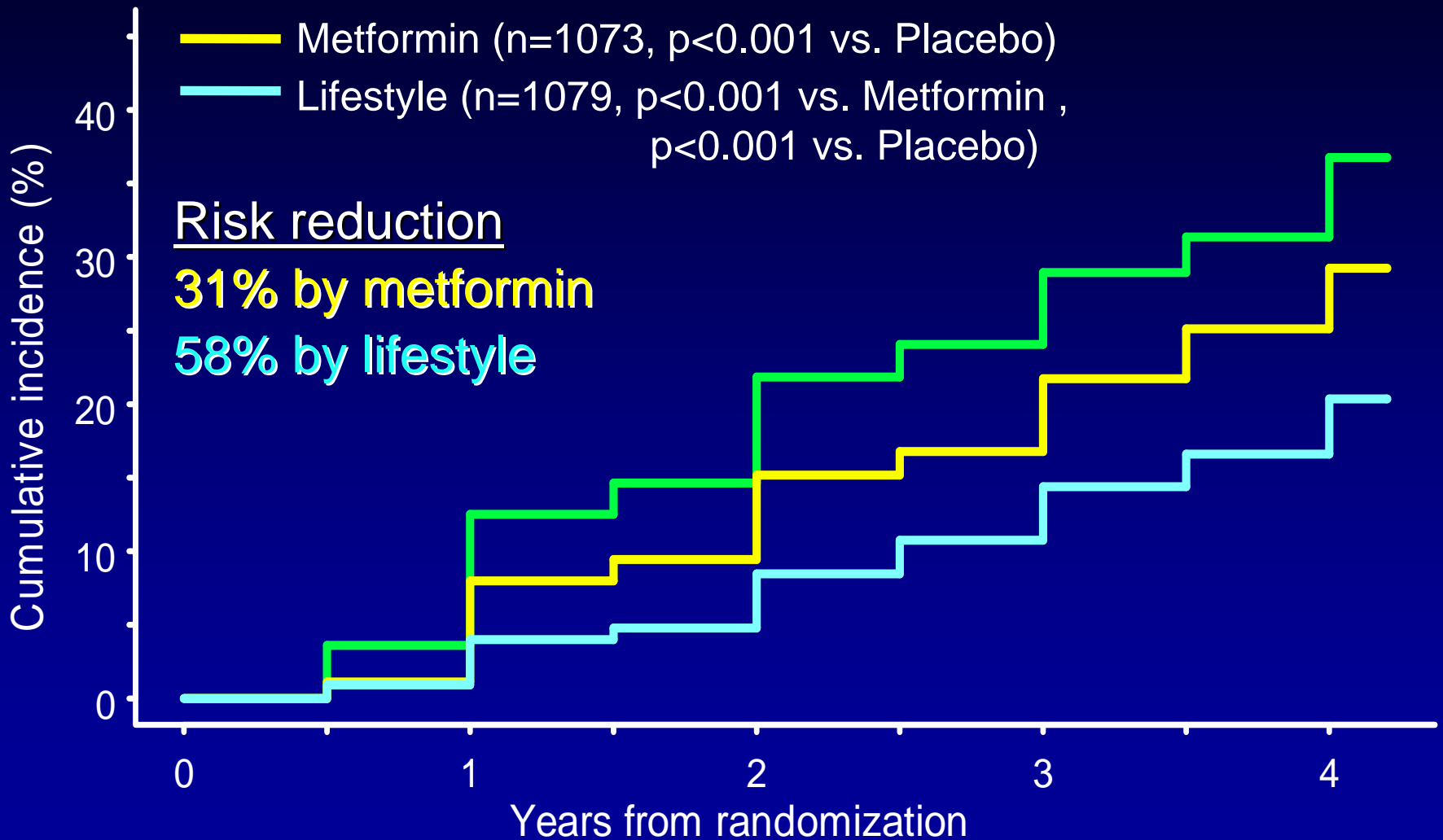
DPP Incidence of Diabetes

- Placebo (n=1082)
- Metformin (n=1073, $p < 0.001$ vs. Placebo)
- Lifestyle (n=1079, $p < 0.001$ vs. Metformin, $p < 0.001$ vs. Placebo)

Risk reduction

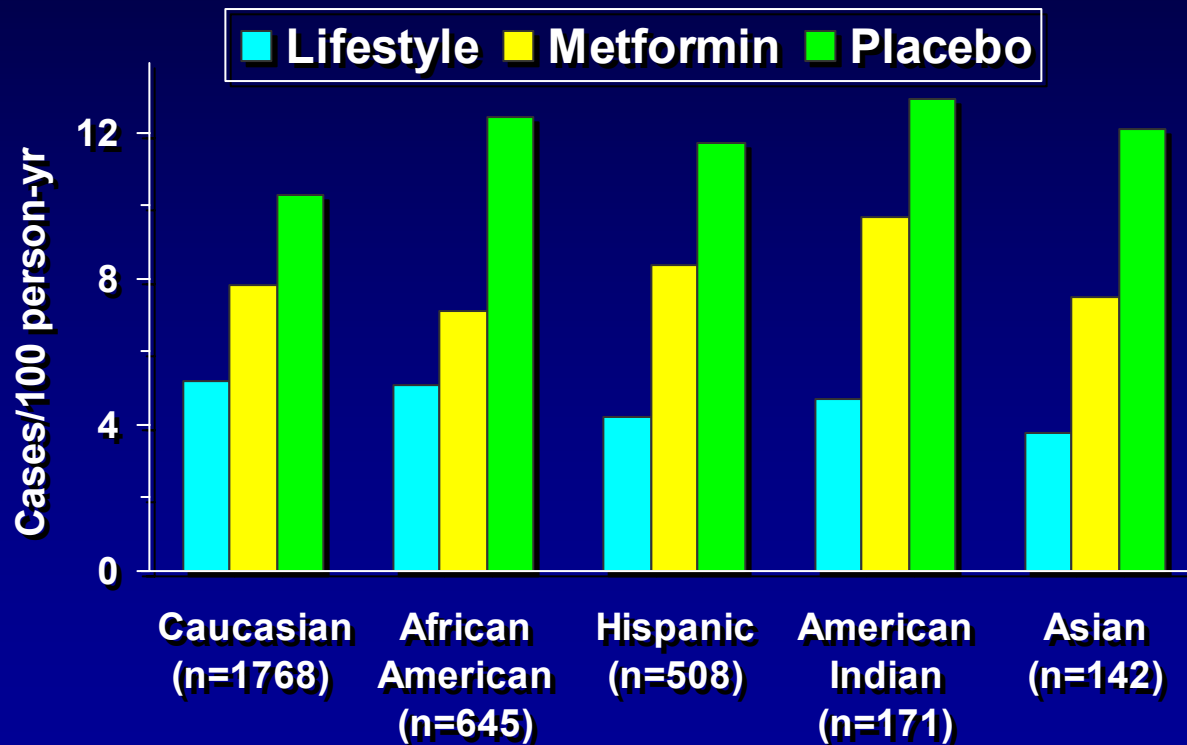
31% by metformin

58% by lifestyle



The DPP Research Group, *NEJM* 346:393-403, 2002

DPP Intervention Impact by Ethnicity



The DPP Research Group, *NEJM* 346:393-403, 2002

Summary of Benefits of DPP Lifestyle Program

- Treating 100 high risk adults (age 50) for 3 years...
 - Prevents 15 new cases of type 2 diabetes¹
 - Prevents 162 missed work days²
 - Avoids the need for BP/Chol pills in 11 people³
 - Adds the equivalent of 20 perfect years of health⁴
 - Avoids **\$91,400** in healthcare costs⁵

¹ DPP Research Group. N Engl J Med. 2002 Feb 7;346(6):393-403

² DPP Research Group. Diabetes Care. 2003 Sep;26(9):2693-4

³ Ratner, et al. 2005 Diabetes Care 28 (4), pp. 888-894

⁴ Herman, et al. 2005 Ann Intern Med 142 (5), pp. 323-32

⁵ Ackermann, et al. 2008 Am J Prev Med 35 (4), pp. 357-363; estimates scaled to 2008 \$US

Cost of DPP 1-1 Format

- First 12 months cost = \$1,400 per participant
- Total 3 year cost = \$2,780 per participant
- With inflation, three year costs of this program in 2010 exceed \$3,500 per participant

Selected US Research Studies That Have Translated the DPP Trial Lifestyle Intervention

First author	N* (% pre-diabetes)	Age	Mean BMI	# Core Sessions (wks)	During “Core” Intervention				
					Mean Sessions Attended (%)	Wt loss (kg)	Wt loss (%)	≥ 7% loss (%)	≥ 5% loss (%)
DPP	1079 (100)	50.6	33.9	16 (24)	15 (95%)	6.5	7	50	nr
Ackermann	46 (100)	56.5	32.0	16 (20)	9 (57)	5.5	6	36	59†
Amundson	295 (52)	53.6	35.9	16 (16)	14 (91)	6.7	6.7	45	67
Aldana	35 (89)	nr	32.0	16 (24)	11 (67)	2.9	3.3	nr	nr
Boltri	8 (100)	nr	31.6	16 (24)	10 (65)	3.4	3.6	nr	nr
Seidel	88 (42)	54	nr	12 (14)	9 (75)	nr	nr	26	46
Kramer	93 (46)	54.8	35.7	12 (14)	8 (67)	3.4	3.5	24	52
McBride	40 (70)	51.9	37.4	12 (12)	nr	5.0	4.6	nr	nr
Davis-Smith	10 (100)	nr	35.7	6 (6)	5 (78)	4.0	3.8	nr	nr

*In lifestyle arm of study nr = not reported †Personal communication with Dr. Ronald Ackermann

Cost of Group-Based Format

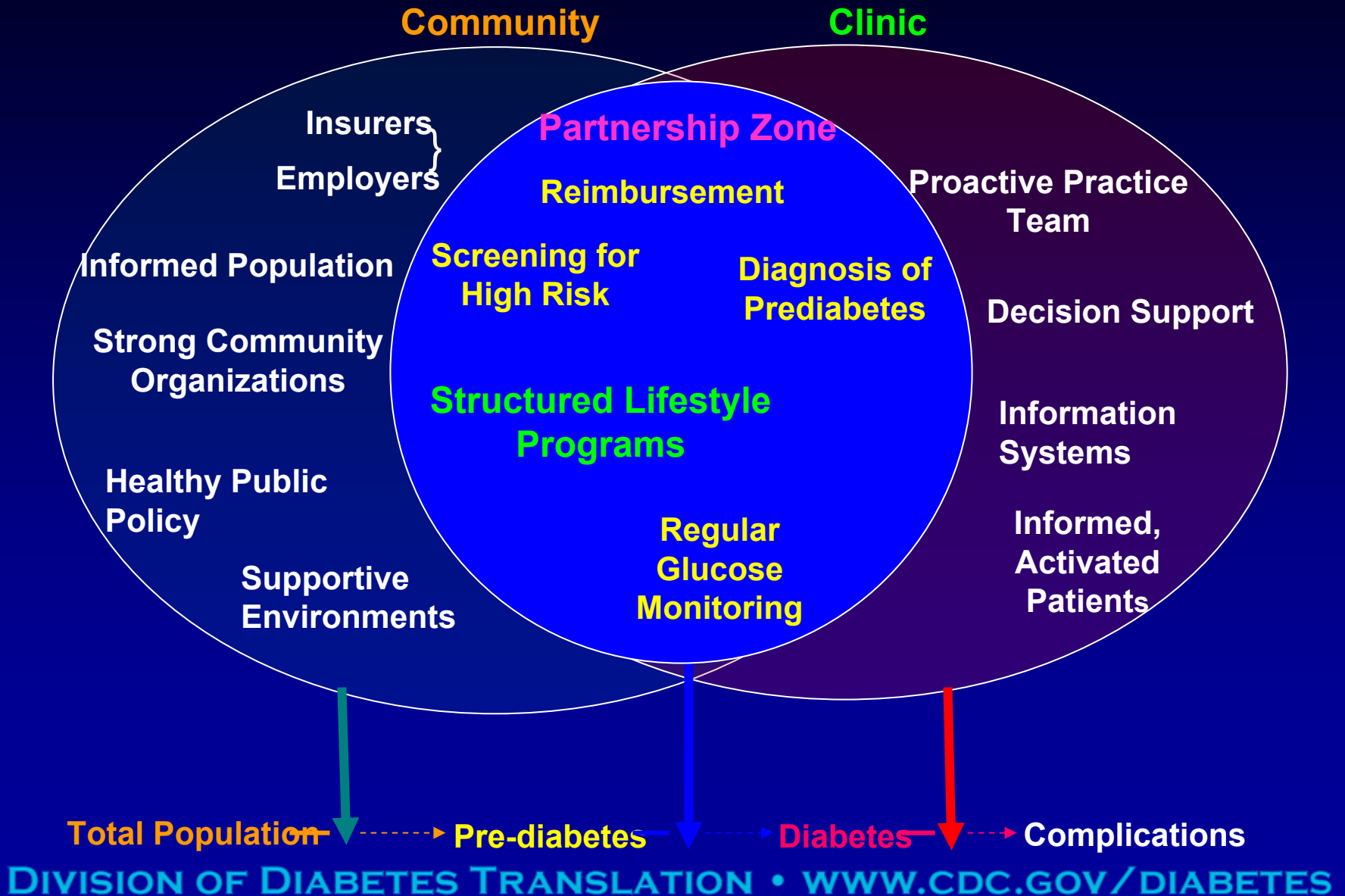
- \$275 - \$325 per participant when using trained Y staff (Ackermann, et al)
- \$550 per participant when using CDEs (Amundsen, et al)
- About \$500 per person when implementing to scale since it includes engaging participants, enrollment, managing eligibility, etc.

National Diabetes Prevention Program

Goal:

- Systematically scale the translated model of the Diabetes Prevention Program (DPP) for high risk persons in collaboration with community-based organizations that have necessary infrastructure, health payers, health care professionals, public health, academia, and others to reduce the incidence of type 2 diabetes in the United States.

Prevention of Type 2 Diabetes The Community – Clinic Partnership Model



NATIONAL DIABETES PREVENTION PROGRAM

Components

Training: Increase Workforce

Train the workforce that can implement the program cost effectively

Recognition Program: Quality

Implement a recognition program that will:

- Assure quality
- Lead to reimbursement
- Allow CDC to develop a program registry

Intervention Sites: Deliver Program

Develop intervention sites that will build infrastructure and provide the program

Health Marketing: Support Program Uptake

Increase referrals to and use of the prevention program

Conclusions

- Strategies to prevent type 2 diabetes need to use a “tiered” approach that provides proven structured programs for high-risk adults in concert with more general, population-wide initiatives/policies to support healthy eating and physical activity
- There is sufficient evidence to implement proven, cost-effective type 2 diabetes prevention program