

# **Paving the Way for Progress:**

## **Before and After the Diabetes Prevention Program (DPP)**

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# Impaired Glucose Tolerance

- 79 million Americans have impaired fasting glucose or prediabetes; these individuals are at very high risk of developing diabetes
- The Diabetes Prevention Program (DPP) examined whether their chance of developing diabetes could be reduced by:
  - ◆ Intensive lifestyle intervention
  - ◆ Metformin (Drug used to treat diabetes)
  - ◆ Placebo
- Recruited 3000 participants, randomly assigned them to one of the three conditions, and followed annually for over 3 years

# Intensive Lifestyle Intervention

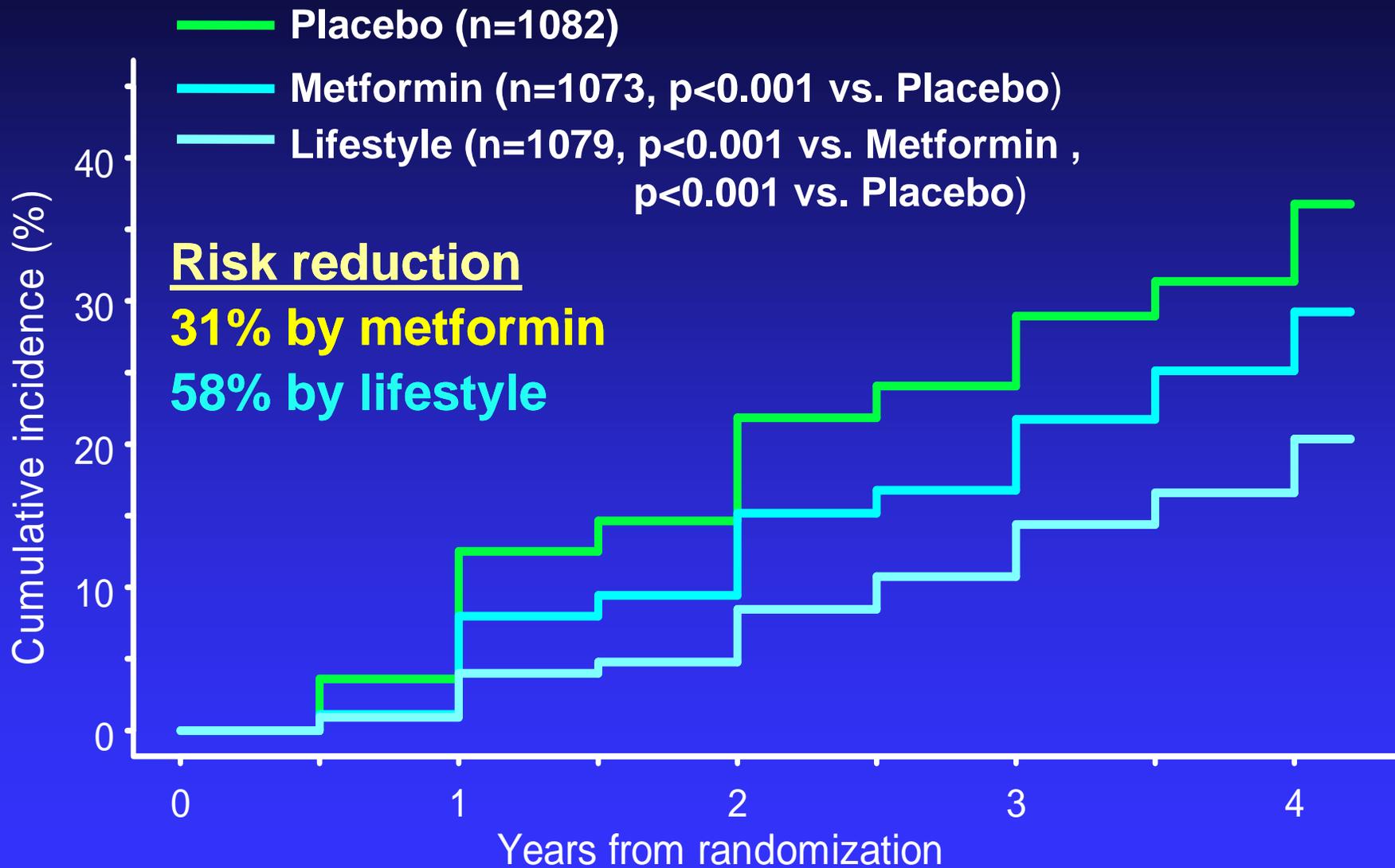
- Weight Loss

7% loss of body weight (14 pounds)

- Physical Activity

150 minutes/week of moderate intensity physical activity

# Incidence of Diabetes



**Past  
Behavioral  
Research**



**The Diabetes Prevention Program (DPP) could not  
have been done successfully without  
many years of prior intervention research**



Diet

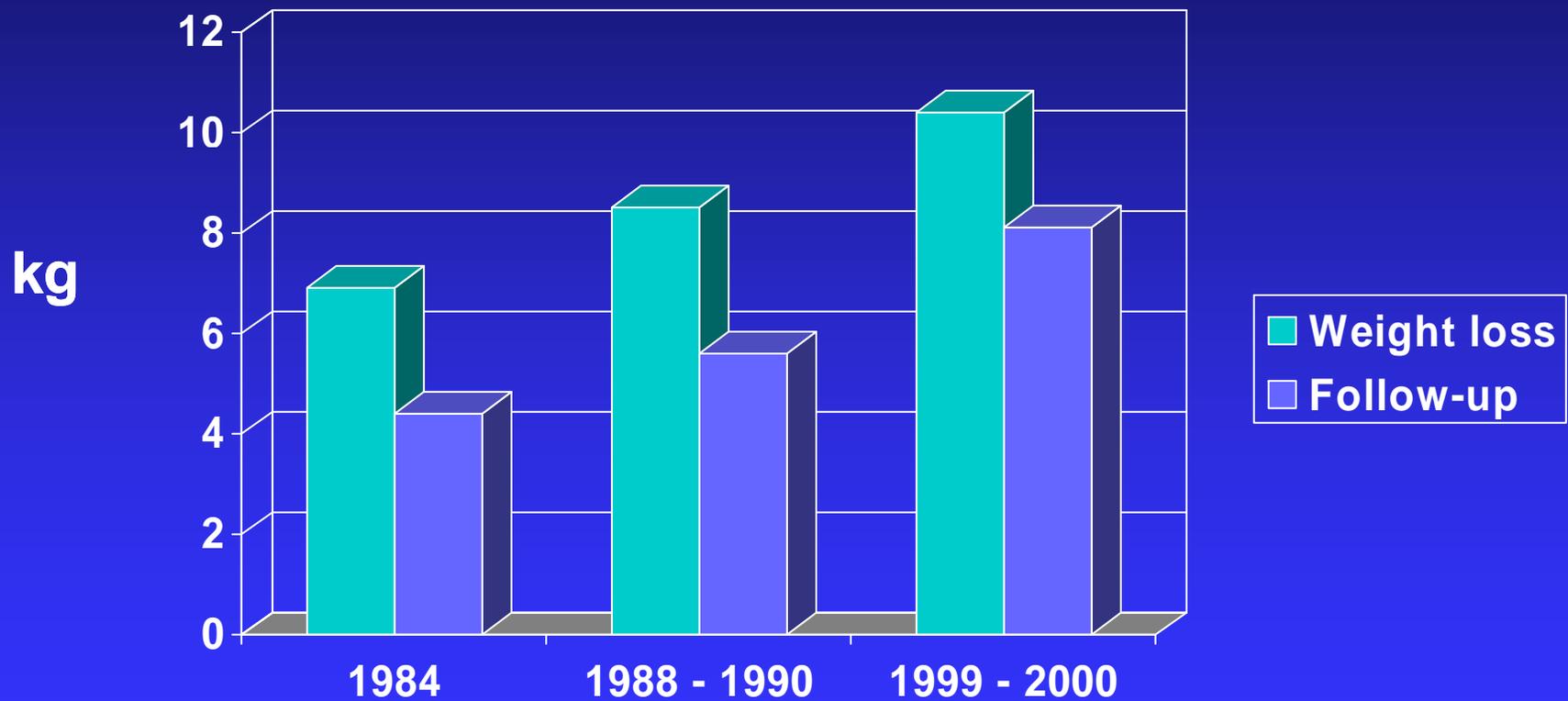


Physical Activity



Behavior Modification

# History of Behavioral Treatment





**Future  
Behavioral  
Research**

The Diabetes Prevention Program (DPP) led to a new generation of research studies

# Long-Term Health Outcomes of Weight Loss in Individuals with Type 2 Diabetes

- Weight loss in individuals with type 2 diabetes has positive short-term effects
- No randomized trials have examined the long term consequences of weight loss
- Does weight loss reduce cardiovascular morbidity and mortality?



Multicenter trial funded by NIDDK, with support from other institutes and CDC

5000 individuals age 45-76 with type 2 diabetes

Randomly assigned to Intensive Lifestyle Intervention or Diabetes Support and Education

Followed an average of 13.5 years for a variety of health outcomes

# Improving Maintenance of Weight Loss



# Key Characteristics of NWCR members

Low calorie/low fat diet

High levels of physical activity

Limited television viewing

Daily self-weighing

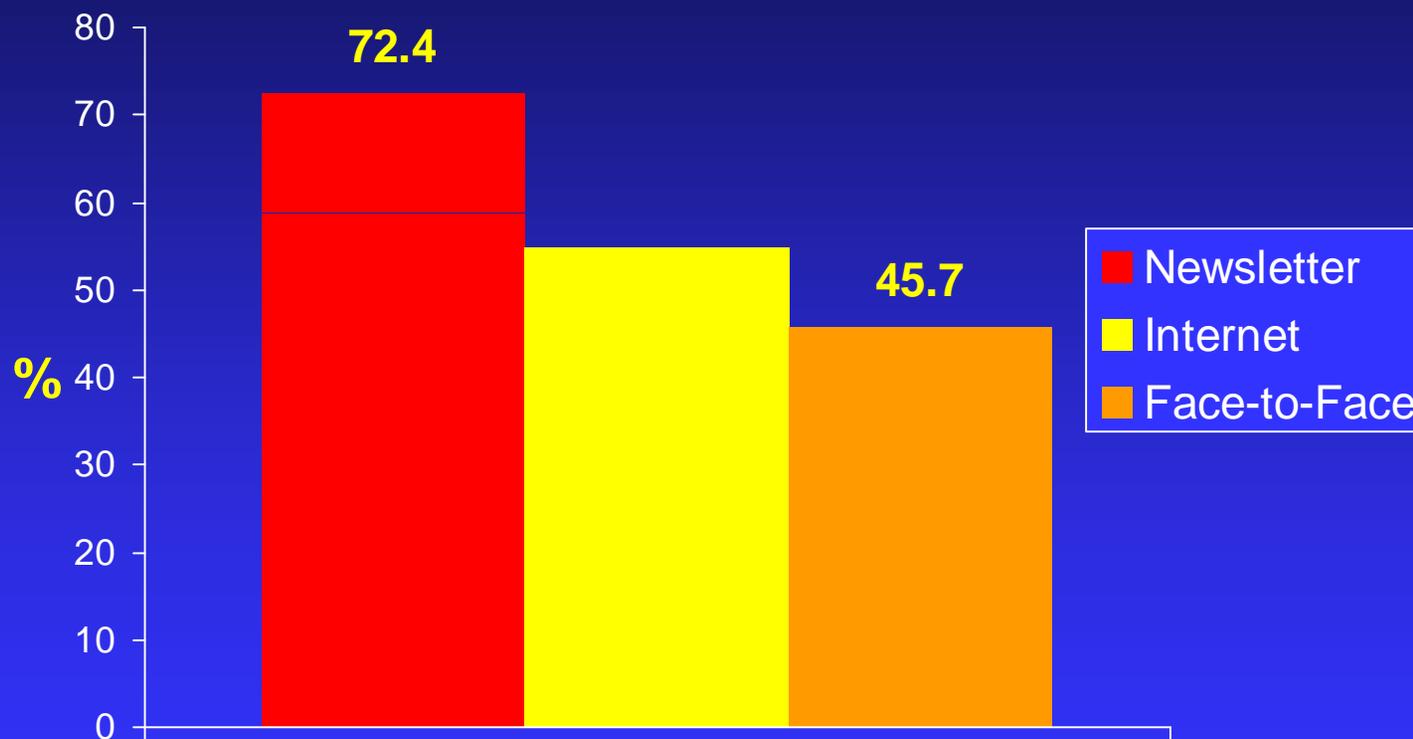




- Could we teach these strategies to others who have recently lost weight
- NIH/NIDDK funded study
- Test the efficacy of a face-to-face and an internet intervention vs. a newsletter control group in preventing weight regain over 18-months

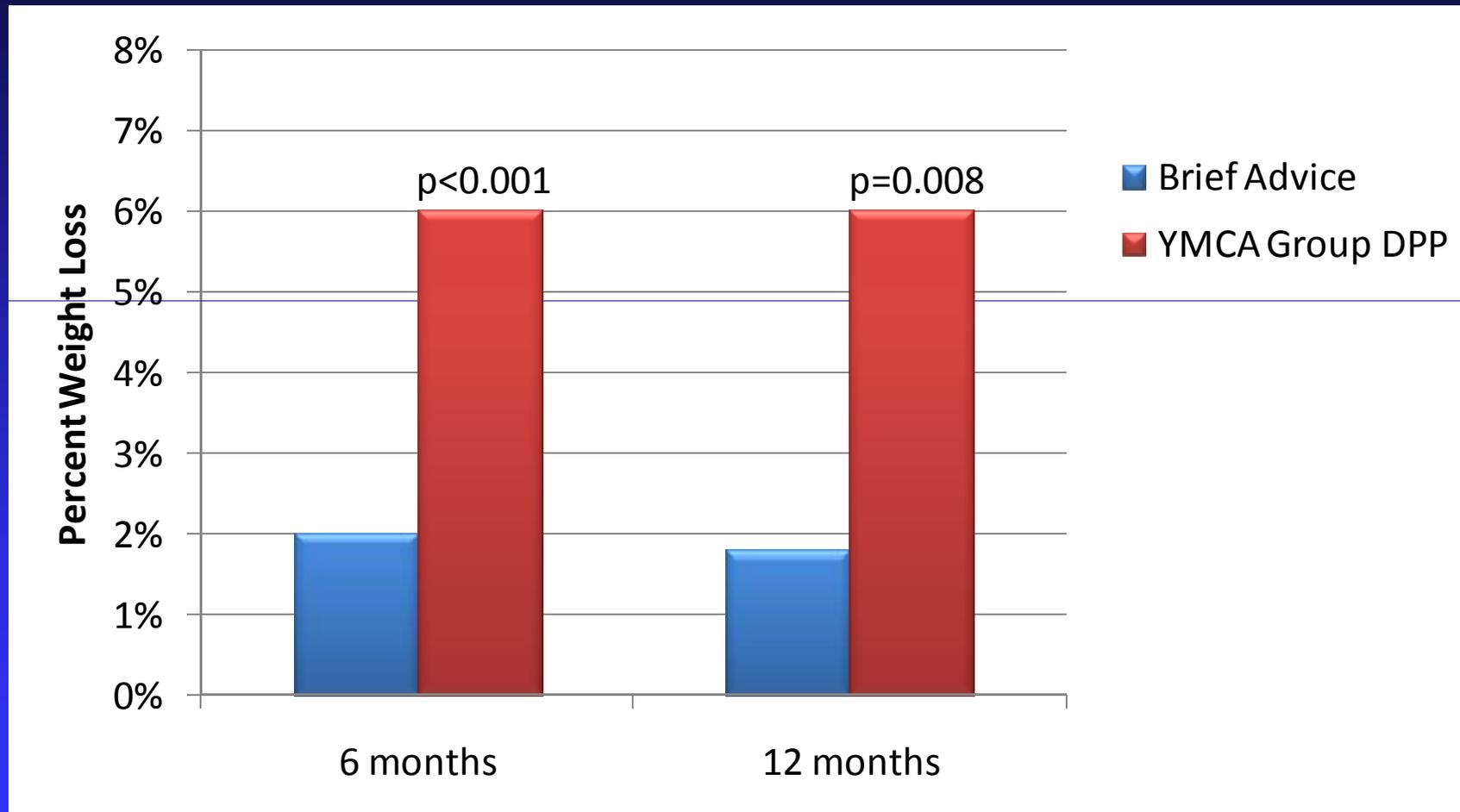
# Percent Regaining > 5 lbs at 18 months (ITT)

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# Disseminating The DPP Treatment

## Community-based Group DPP Delivered at a YMCA

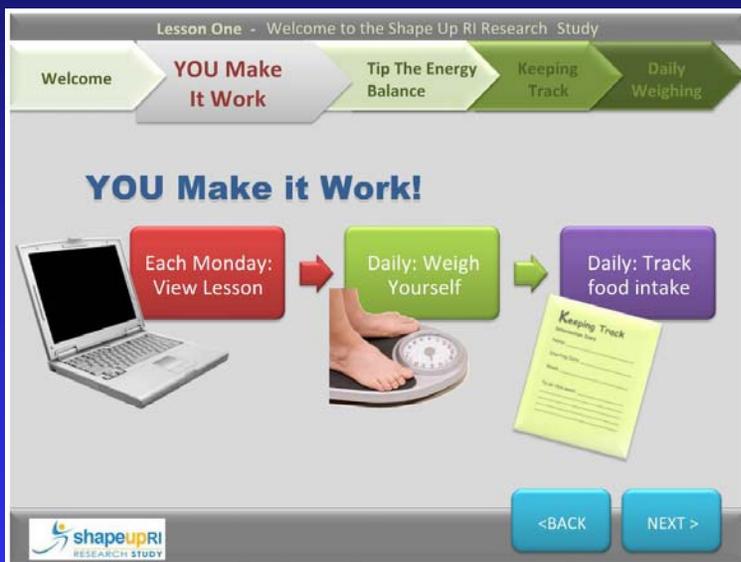


Supported by NIDDK/NIH.

*Am J Prev Med* 35: 357-363, 2008

# Disseminating Treatment via the Internet

## Video Lessons + Automated Feedback



You are doing a fantastic job in the program –you met your weight loss goal last week and you’ve lost over 6-pounds. Good for you!

It's great to see that you recorded your food intake and met your calorie goal –these are 2 behaviors that are very important for continued weight loss success.

Your weight loss is going very well and you have a lot to feel good about. Be sure to watch this week’s lesson – it provides important information on how to cope with negative thoughts and emotions that could otherwise derail your weight loss efforts. Have a good week!

## 6-Month Weight Loss

Treatment Group: 6.7 kg  
(14.8 pounds)

Control Group: 1.1 kg  
(2.4 pounds)

# Impact on Clinical Practice

CMS recently proposed reimbursing primary care practitioners for behavior modification and weight-loss counseling among older, highly obese Medicare patients

# Conclusions

- NIDDK research funding has clearly had an important impact on lifestyle interventions for treatment of obesity and prevention of type 2 diabetes
- However, given the epidemic of obesity/diabetes and the associated health care costs, it is critical to maintain adequate funding for basic, clinical and translational research on these issues
- It is particularly important to adequately support the next generation of researchers so they can continue the process of discovery and implementation