

# **The National Diabetes Prevention Program: *An Update on Efforts in Michigan***

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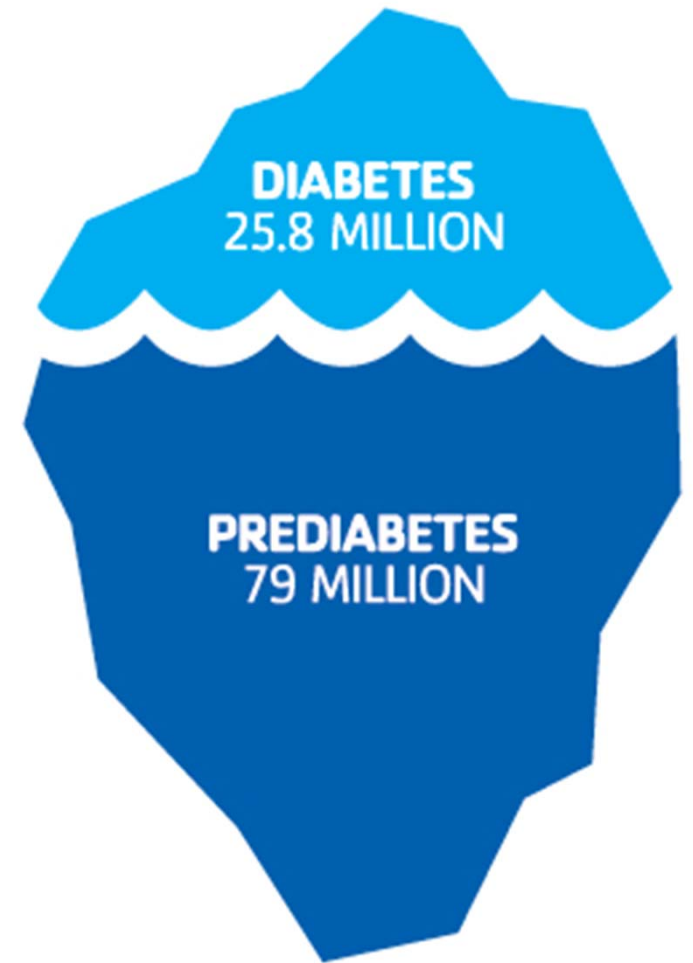
University of Michigan

10/11/12



# WHY PREVENT DIABETES?

- ▶ Obesity epidemic in adults and youth
- ▶ Type 2 diabetes epidemic in adults
- ▶ High prevalence of undiagnosed diabetes (about 1/3)
- ▶ Frequent diabetes related complications at diagnosis in adults and in youth
- ▶ Evidence that diabetes can be delayed through lifestyle modification or medication
- ▶ Cost effective interventions (3 year and lifetime)

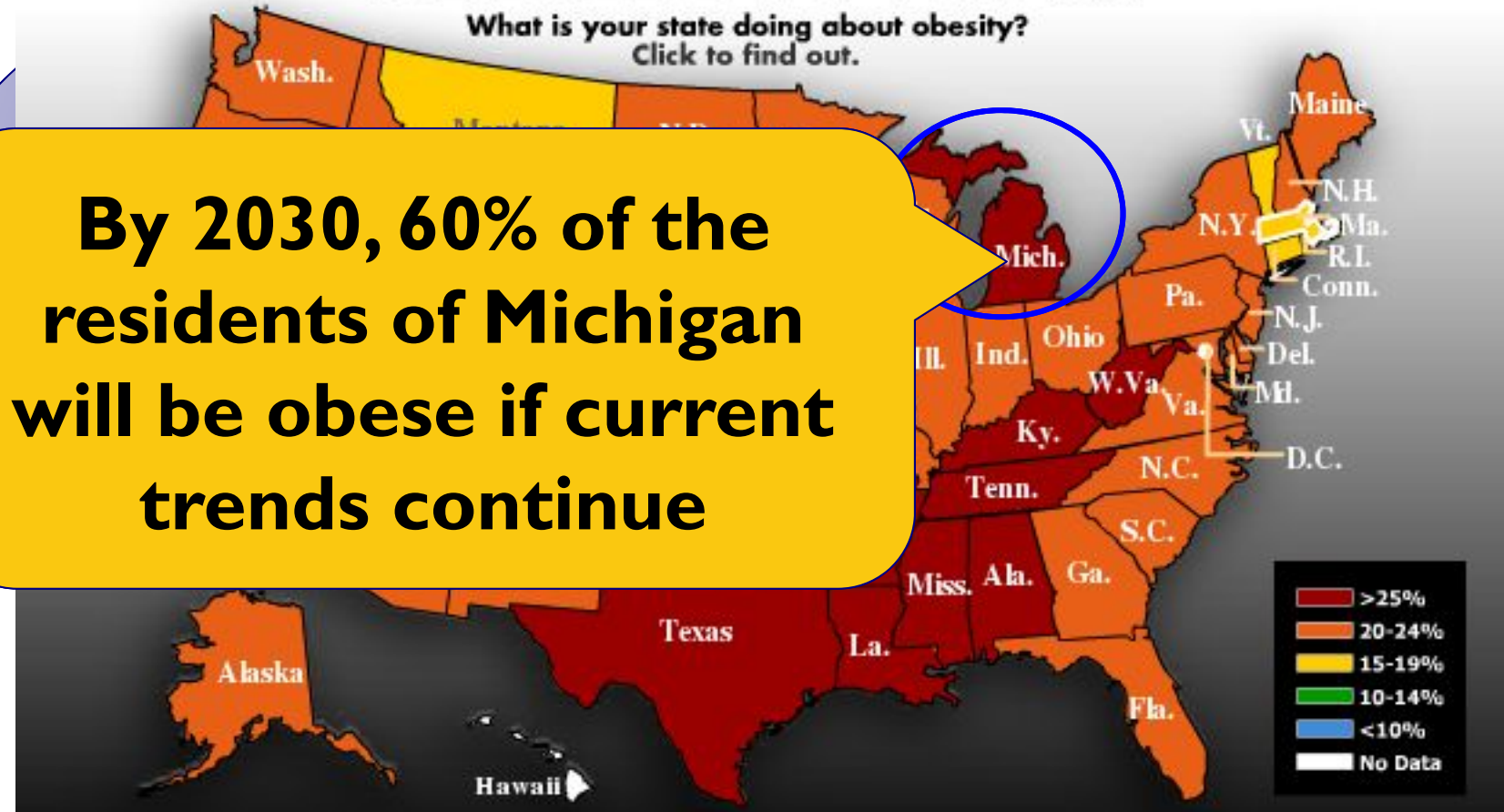


Obesity in Michigan

# HEAVY BURDEN

## OBESITY in America

What is your state doing about obesity?  
Click to find out.



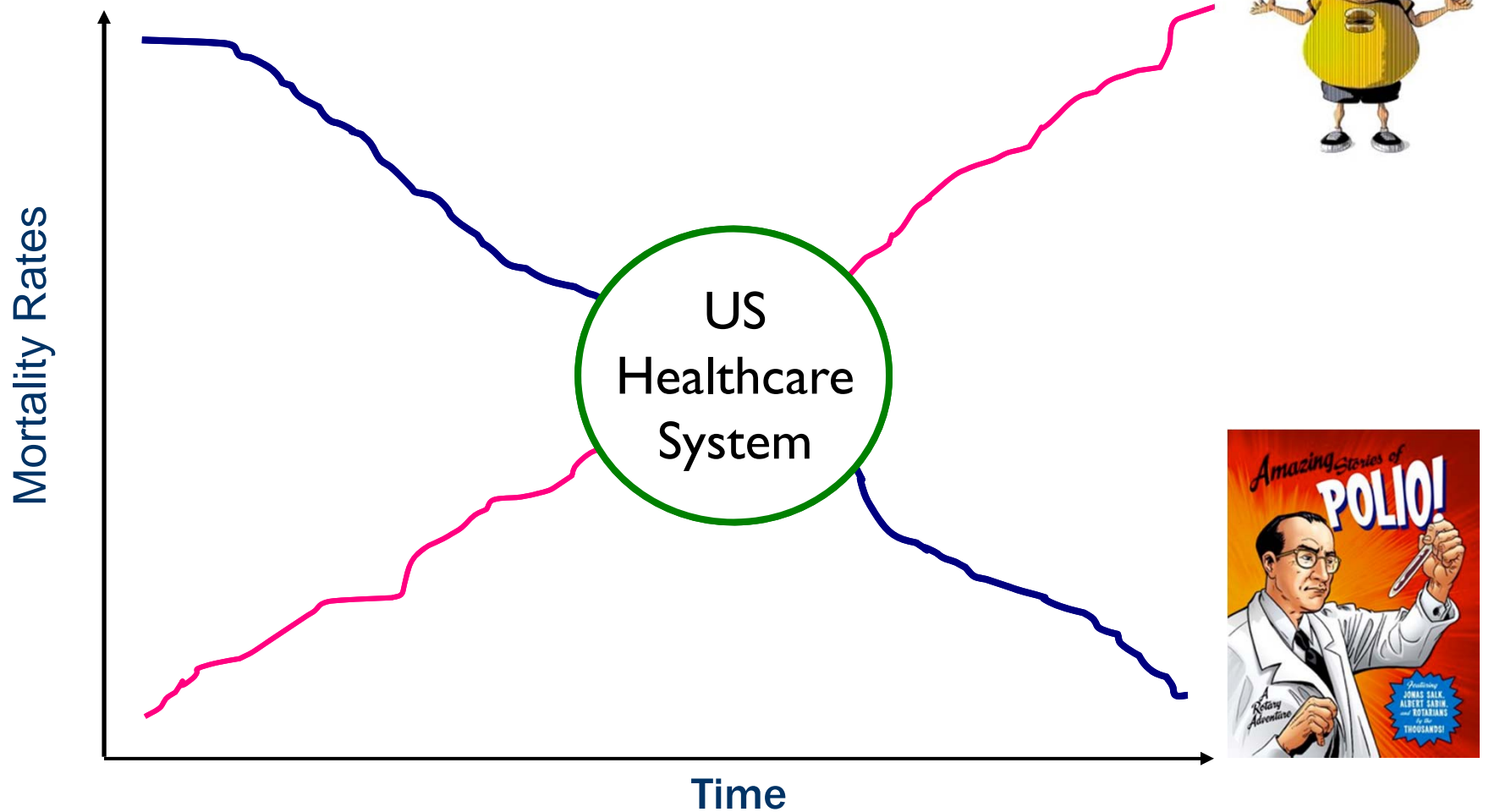
**By 2030, 60% of the residents of Michigan will be obese if current trends continue**

ce  
is  
National average of 17.2%

# WHERE ARE THE GAPS?

- Dissemination of research findings produce only a vague awareness that new science exists.
  - Late adoption in the community
- Research often does not address the conditions and circumstances of numerous target populations
- Research may not address the setting in which the intervention may take place outside of the research setting (e.g., physician office, community, family).

# EPIDEMIOLOGIC TRANSITION



Omran, A. The Epidemiologic Transition: A theory of the epidemiology of a population change. *Milbank Q.* 1971;49:509-538.

## Acute Care Model

- Care is fragmented
- Focus is on illness



## Chronic Care Model

- Care is coordinated
- Focus is on prevention

# OBJECTIVES

1. Review the Diabetes Prevention Program (DPP) randomized controlled trial
2. Understand how and why the DPP curriculum was adapted
3. Review examples of translational research studies that successfully demonstrated the effectiveness of the adapted DPP curriculum
4. Review the CDC's efforts at taking the results of translational studies and working with insurers to implement the National Diabetes Prevention Program nationwide
5. Review ongoing and future efforts of implementing the National Diabetes Prevention Program in Michigan

# OBJECTIVE I: REVIEW OF THE DIABETES PREVENTION PROGRAM

## The Diabetes Prevention Program

A U.S. Randomized Clinical Trial  
to Prevent Type 2 Diabetes  
in Persons at High Risk

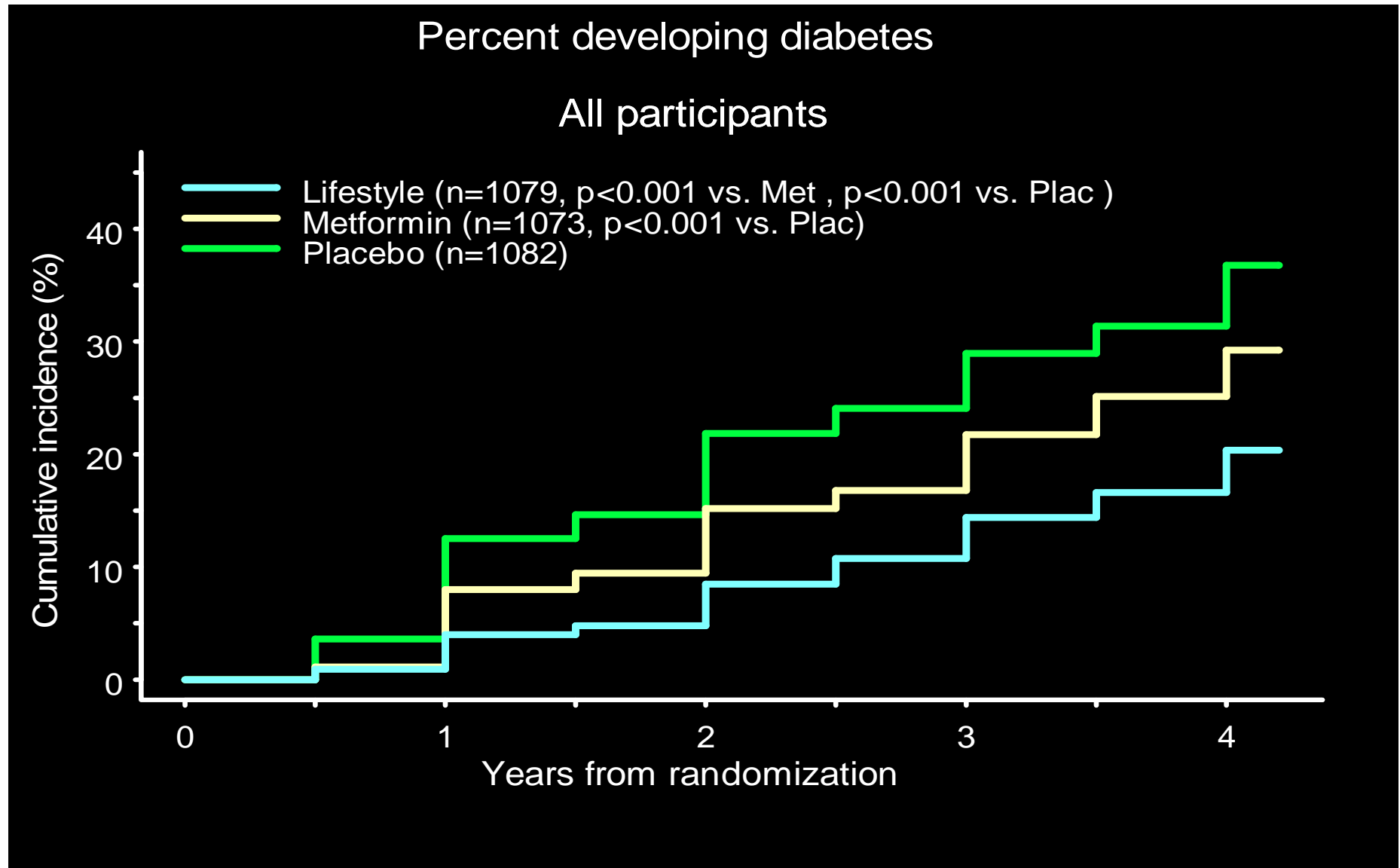




# DPP GOAL

1. To determine whether lifestyle intervention or medication would prevent or delay the development of type 2 diabetes in persons with impaired glucose tolerance
  - ▶ 7% weight loss using a diet with 25% of calories from fat and 150 minutes of physical activity per week
  - ▶ Medication participants were asked to take 850 mg (metformin or placebo twice daily)

# INCIDENCE OF DIABETES



# THREE MAIN TRANSLATION QUESTIONS

1. How do we identify persons who should receive a DPP-style intervention?
2. Where do we send persons identified as being at risk for a lifestyle intervention?
3. How do we sustain an intervention program?

*AND.....How do we take it from here...*

# UNIVERSITY IVORY TOWERS



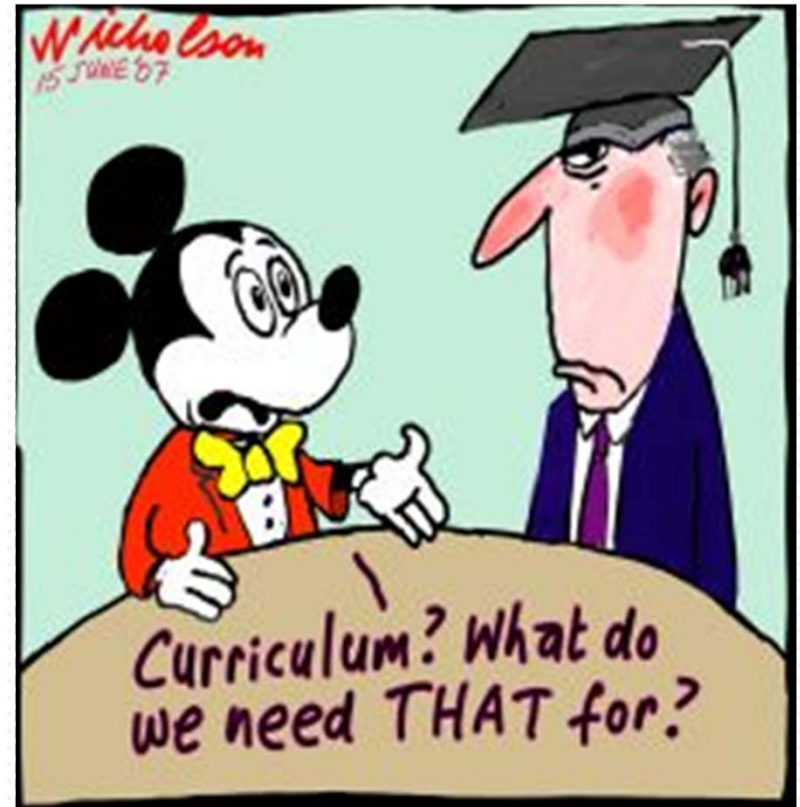
# TO HERE...THE COMMUNITY



Vendors on the festival midway served a broad variety of treats, ranging from Asian to Cuban to Eastern European food.



**OBJECTIVE 2:  
UNDERSTAND HOW  
AND WHY THE DPP  
CURRICULUM WAS  
ADAPTED**



# ADAPTATION OF THE DPP CURRICULUM

<b>Individual Intensive Lifestyle Intervention (original DPP)</b>	<b>Group Lifestyle Balance (adapted DPP)</b>
Delivered individually	Delivered in groups
Food pyramid	Healthy food choices
Fat intake	Focus on fat intake and calories
Brief introduction to pedometer	More focus on pedometer

## **Group Lifestyle Balance (GLB)**

- ▶ Members from the original DPP lifestyle team adapted and updated the individual intervention to a group-based program
- ▶ Trained community nurses, dietitians, etc to function as preventionists to facilitate the GLB intervention in community settings





**OBJECTIVE 3: REVIEW  
EXAMPLES OF  
TRANSLATIONAL  
RESEARCH STUDIES  
THAT SUCCESSFULLY  
DEMONSTRATED  
THE EFFECTIVENESS  
OF THE ADAPTED  
DPP CURRICULUM**

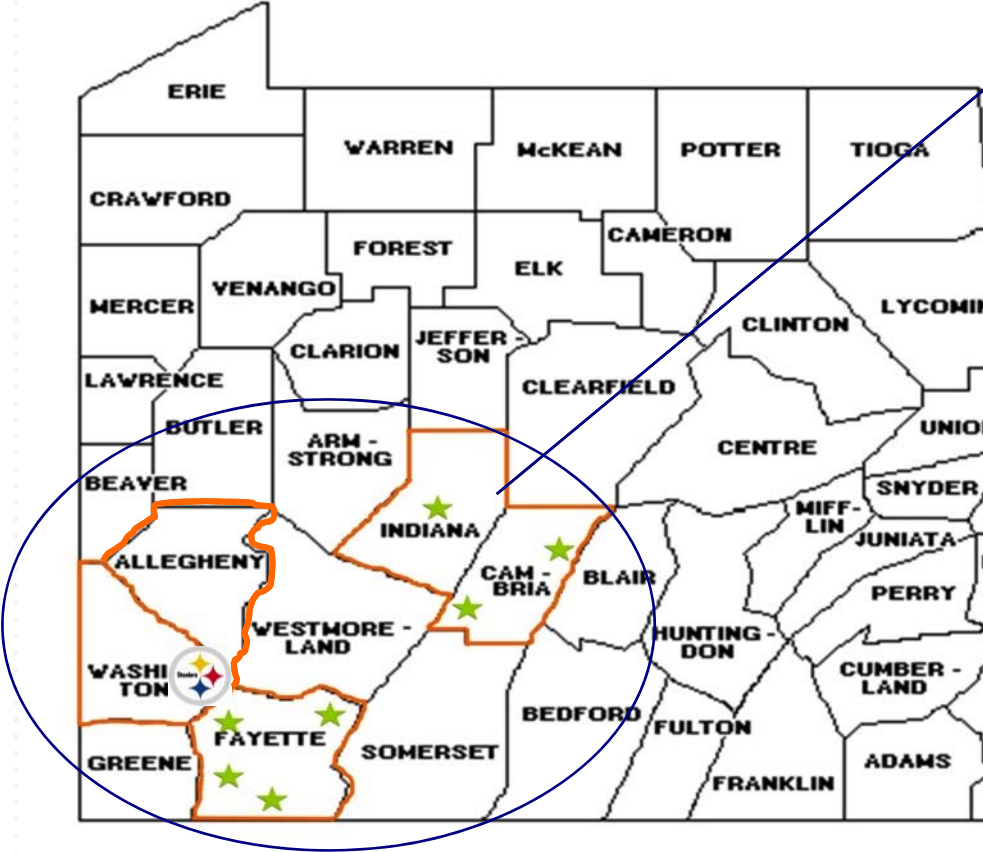


# DEMONSTRATED EFFECTIVENESS OF THE DPP IN COMMUNITY SETTINGS

- ▶ Indiana University
- ▶ University of Pittsburgh
- ▶ Montana
- ▶ Wake Forest University +
- ▶ Several others

# STUDY SETTING

- Underserved rural and urban communities near Pittsburgh



# Translating the Diabetes Prevention Program Into an Urban Medically Underserved Community

A nonrandomized prospective intervention study

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interact multiplicatively in the development of the disease. Substantial evidence demonstrates that intensive lifestyle inter-

**Table 2—Change in the proportion of subjects meeting the criteria for components of the metabolic syndrome over time after the GLB intervention (baseline, 3-month, and 6-month reassessment)**

	Baseline	3-month reassessment	6-month reassessment	Unadjusted P for trend	Adjusted P*
Abdominal obesity ( $\geq 102$ cm in males, $\geq 88$ cm in females)	90.0 (45)	82.0 (41)	68.0 (34)	0.006	0.009
Abnormal HDL cholesterol ( $< 40$ mg/dl in males, $< 50$ mg/dl in females)	86.0 (43)	87.8 (43)	65.3 (32)	0.001	0.63
Hypertension (blood pressure $\geq 130/85$ mmHg)	68.0 (34)	58.0 (29)	48.0 (24)	0.04	0.04
Triglycerides $\geq 150$ mg/dl (% yes)	58.0 (29)	32.7 (16)	36.7 (18)	0.006	0.6
Glucose $\geq 100$ mg/dl (% yes)	42.0 (21)	51.0 (25)	61.2 (30)	0.06	0.01

\*Data presented are % (n) unless otherwise indicated. n = 50. All analyses are adjusted for age, sex, race, mean number of GLB classes attended, and time.

# Two-Year Results of Translating the Diabetes Prevention Program Into an Urban, Underserved Community

## Purpose

The purpose of the study was to examine the long-term effect of a Group Lifestyle Balance (GLB) program on weight, impaired fasting glucose, hypertension, and hyperlipidemia in an urban, medically underserved community.

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Hsiang-Yu Chen, MPH

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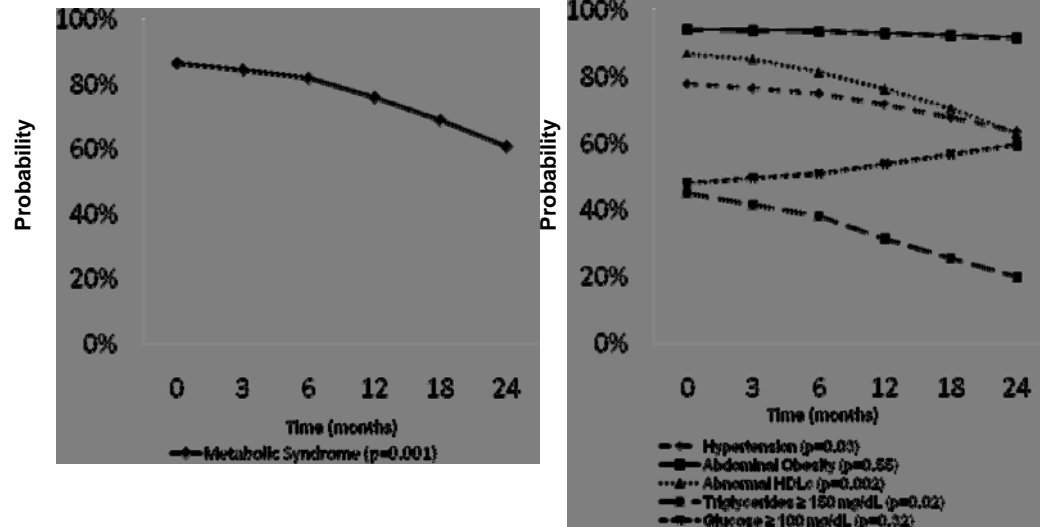


Figure 2: Probability of Diabetes and Cardiovascular Disease Risk Reduction at 24-Month Follow-Up Following a Group Lifestyle Balance Intervention

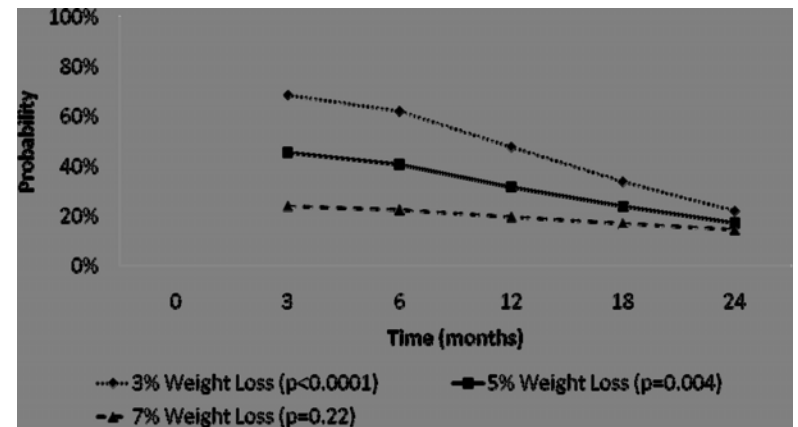


Figure 3: Probability of Achieving Weight Loss Goals at 24 Month Follow-Up Following a Group Lifestyle Balance Intervention

# Comparative Effectiveness of Lifestyle Intervention Efforts in the Community

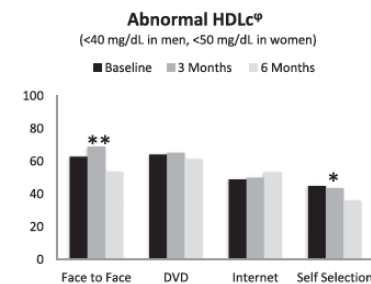
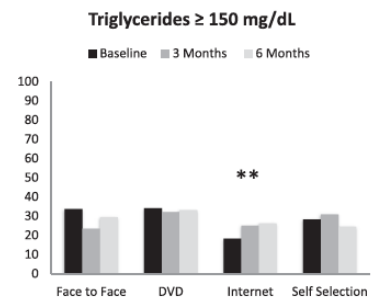
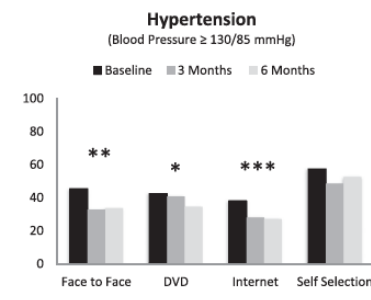
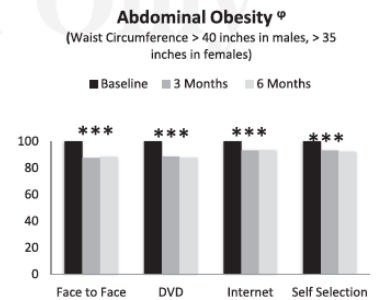
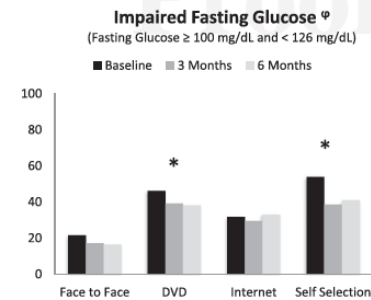
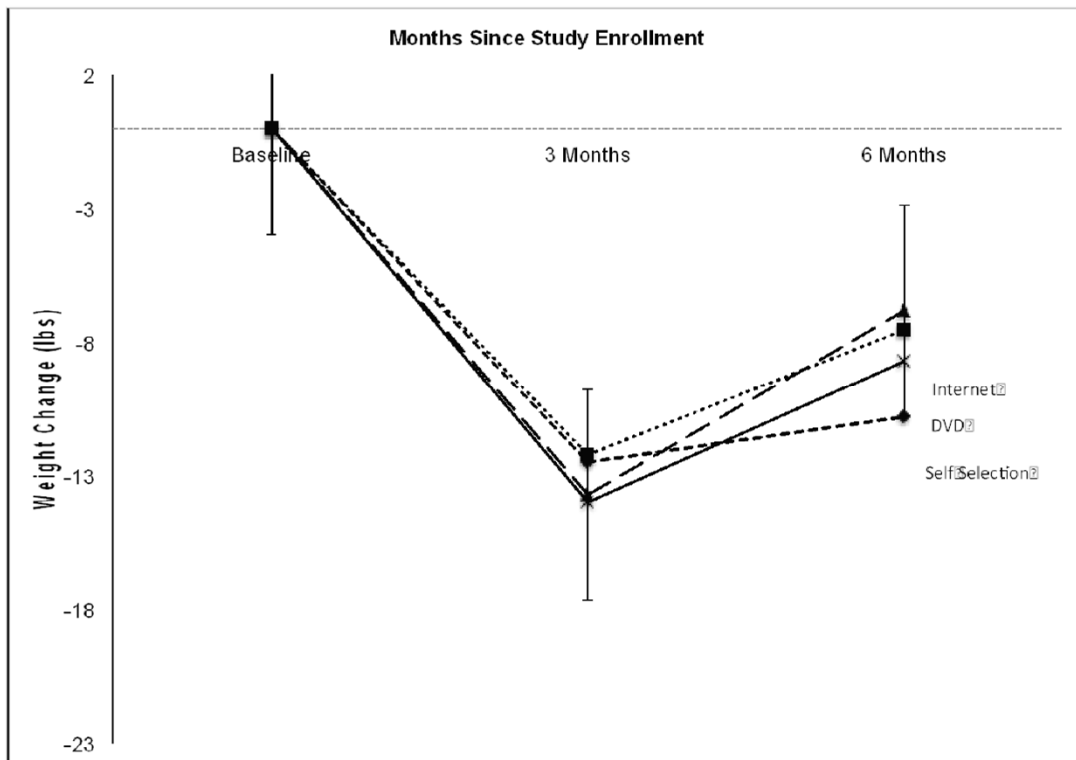
Results of the Rethinking Eating and ACTivity (REACT) study

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used individual behavior-change counseling in a highly selected group of participants

PIATT and Associates

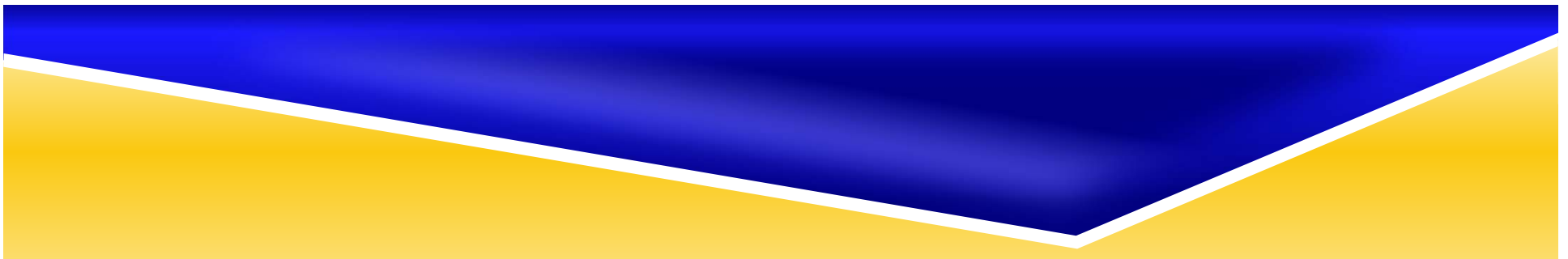


# SUMMARY

- What do all of these studies have in common???
- All delivered in the community
- All resulted in diabetes risk reduction, including weight loss and improvements in clinical parameters
- All were successful
- NONE had a sustainability plan

## Sustainability????

**OBJECTIVE 4: REVIEW  
CDC'S EFFORTS AT  
TAKING THE RESULTS  
OF TRANSLATIONAL  
STUDIES AND  
WORKING WITH  
INSURERS TO  
IMPLEMENT THE NDPP**









- ▶ Designed to bring communities evidence-based lifestyle change programs for preventing type 2 diabetes.
- ▶ Group based, one-year lifestyle change program that includes 16 core sessions (usually 1 per week) and 6 post-core sessions (1 per month).
- ▶ Encourages collaboration among federal agencies, community-based organizations, employers, insurers, health care professionals, academia, and other stakeholders
- ▶ Inaugural partners of the National Diabetes Prevention Program were the YMCA and UnitedHealth Group



# National Diabetes Prevention Program

## COMPONENTS



### **Training: Increase Workforce**

Train the workforce that can implement the program cost effectively.



### **Recognition Program: Assure 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.

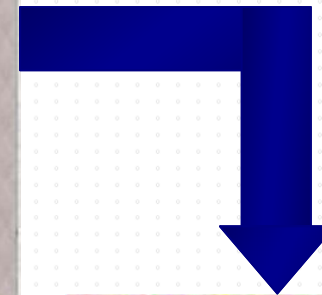
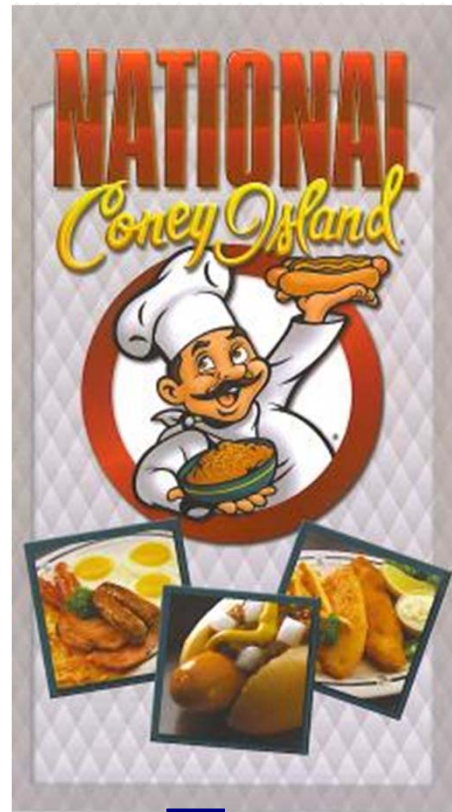


### **Health Marketing: Support Program Uptake**

Increase referrals to and use of the prevention program.



**OBJECTIVE 5: REVIEW  
ONGOING AND  
FUTURE EFFORTS OF  
IMPLEMENTING THE  
NDPP IN MICHIGAN**



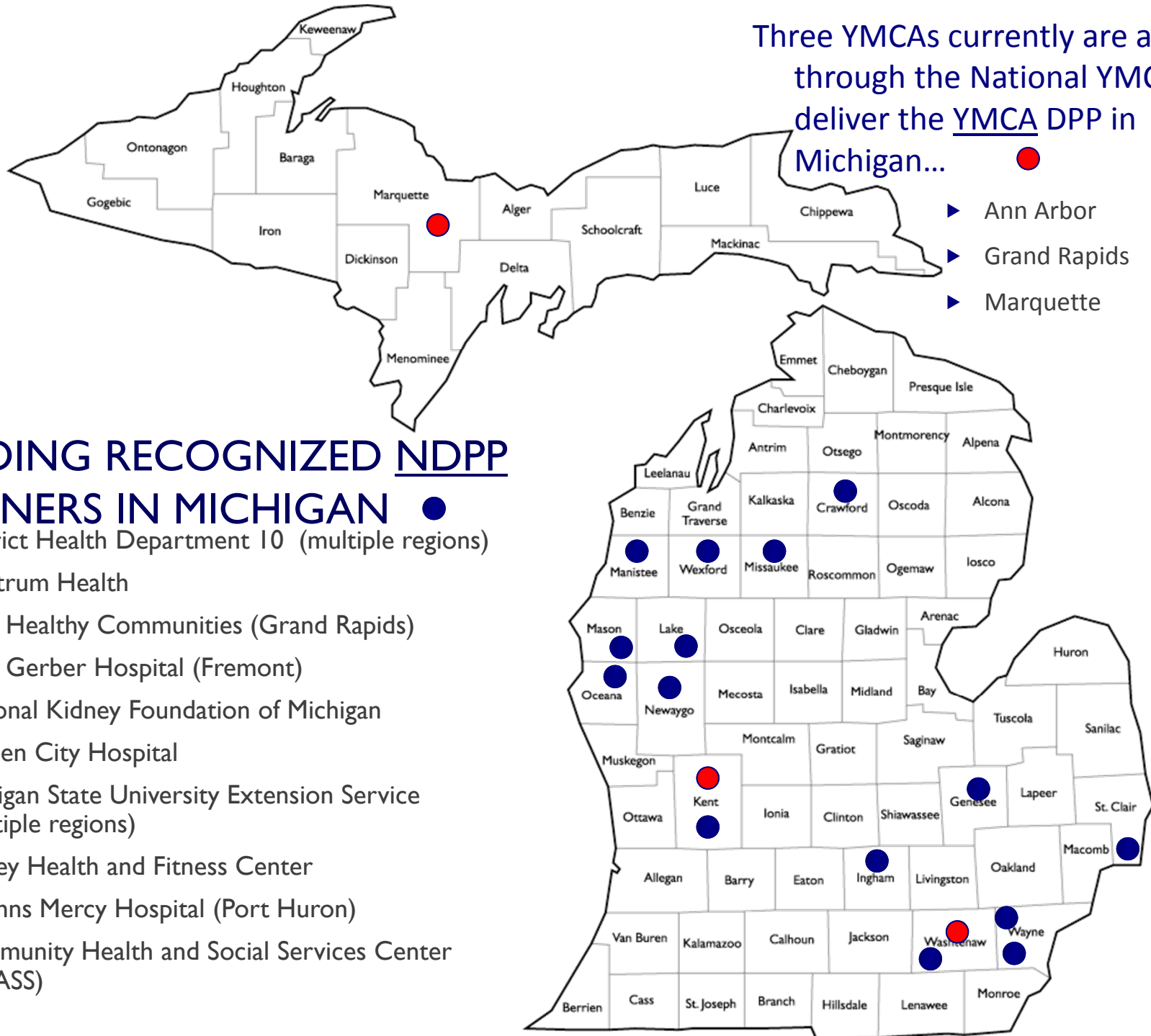
# THE NATIONAL DIABETES PREVENTION PROGRAM (NDPP) IS IN MICHIGAN!

- ▶ Recommended activities were identified by partners at a collaborative meeting in June to support the rollout of the NDPP in Michigan.
- ▶ Activities were identified in partner categories—the Diabetes Prevention and Control Program (DPCP), DPAC and Pending Recognized Partners
  - ▶ Educate and sustain lifestyle coach workforce
  - ▶ Work to assure funding through third party and employer payment
  - ▶ Develop standardized tools as needed for delivery of program
  - ▶ Translate NDPP components and CDC requirements

# NATIONAL DIABETES PREVENTION PROGRAM

- Spread of the NDPP through two main agencies:
  1. CDC
  2. YMCA
- CDC recognition program established
  - Apply to implement the program
  - Agree to meet program standards and criteria
  - Report data back to CDC
- DTTAC provided lifestyle coach training in Michigan in May and in September, 2012.





## PENDING RECOGNIZED NDPP PARTNERS IN MICHIGAN ●

- District Health Department 10 (multiple regions)
- Spectrum Health
  - Healthy Communities (Grand Rapids)
  - Gerber Hospital (Fremont)
- National Kidney Foundation of Michigan
- Garden City Hospital
- Michigan State University Extension Service (multiple regions)
- Hurley Health and Fitness Center
- St Johns Mercy Hospital (Port Huron)
- Community Health and Social Services Center (CHASS)

# NDPP IN MICHIGAN

## ▶ Who?

- Overweight (BMI  $\geq 25$  kg/m<sup>2</sup>) **and** at least half of participants must have prediabetes (fasting glucose  $\geq 126$  mg/dL OR A1c  $\geq 5.7 < 6.4\%$ )

## ▶ What?

- 5-7% weight loss goal and 150 minutes per week of at least moderate physical activity
- Year-long program
- Taught by trained Lifestyle Coach (**can be either a health professional or a community health worker**)

## ▶ When?

- 16 weekly sessions (core); 6-8 monthly sessions (post-core)
  - Sessions 1-6: healthy eating and physical activity
  - Sessions 7 and 8: understanding why/what influences nutrition and activity choices
  - Sessions 9-16: Long term changes, problem solving and maintenance

## • Where?

- Variety of community settings, including YMCAs, health departments, community organizations



# DPP PARTICIPANT ROLE

- ▶ Participants will be expected to:
  - ▶ Attend all sessions (make-up missed sessions)
  - ▶ Set short and long term goals
  - ▶ Weigh-in at sessions
  - ▶ Log physical activity and nutrition



# MAXIMIZE THE DPP

- ▶ Key to success: understanding the difference between actual behavior change and the notion of long term goal setting
- ▶ Setting realistic short term goals that address specific behaviors—such as reducing calorie intake
- ▶ Importance of journal/logging behaviors
- ▶ Support system and network
- ▶ Extended time period reinforces notion of changing behaviors for a lifetime



# SUMMARY

- ▶ The NDPP works and is effective for weight loss and risk reduction
- ▶ The NDPP is either available or will be shortly available across the state of Michigan
- ▶ Lifestyle coach training is available through DTTAC
- ▶ Insurers are involved and are beginning to recognize the importance of primary prevention
- ▶ Policy efforts are underway on a national level to make primary prevention a billable service

# THANK YOU

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