Translating The Diabetes Prevention Program

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DPP Goals

- To determine whether lifestyle intervention or medication would prevent or delay the development of type 2 diabetes in persons with impaired glucose tolerance (IGT)
- The lifestyle participants were asked to lose 7% of their starting weight by following a diet with 25% of calories from fat and being moderately active a minimum of 150 minutes per week
- Medication participants were asked to take 850 mg (metformin or placebo twice daily)

DPP Results

- Metformin reduced the development of diabetes by 31%
- Lifestyle intervention reduced the development of diabetes by 58%

Three Main Translation Questions

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

Strategies for Identifying Persons At Risk

- Activate the public
  - Educate about risk factors and encourage follow-up with health care providers
- Activate health care providers
  - Educate about modifiable risk factors
  - Describe methods for identifying persons at increased risk
  - Provide support for assisting high risk persons to initiate risk reducing behaviors

Ann Example of Activating Public & Providers

- National Diabetes Education Program (NDEP) developed the *Small Steps Big Rewards, Prevent Type 2 Diabetes* program
  - Multimedia Campaign
  - Implementation toolkit for use by health care providers.
- The program was launched at a groundbreaking partnership meeting in February, 2003. The U.S. Surgeon General, Dr. Richard Carmona, urged the assembled group to "take action now".

Strategies for Identifying Persons at Risk

- Screening by PCPs
- Screening at worksites
- Screening at community centers

Methods for Identifying Persons At Risk

- **New Category of "pre-diabetes" was introduced**
- **This category targets fasting plasma glucose levels of 100-125 mg/dl *or* a 2 hour value of 140-199 mg/dl during an oral glucose tolerance test (OGTT)**
- **OGTT is emphasized because it is more sensitive and specific for diagnosing pre-diabetes**
  - **Used by DPP to define high risk status**
  - **Potential barrier due to difficulty**

Identifying Persons at Risk: Using Healthcare settings

- **Healthcare settings are uniquely suited to screen for IGT, especially using OGTT**
  - **Restricts availability of risk screening to persons with access to a healthcare system**
  - **If it is necessary for a healthcare setting to provide interventions, the numbers identified and referred may be too small to justify costs associated the modification programs**

Identifying Persons at Risk: Using Worksite settings

- Worksites can take advantage of a "captive" audience
  - Capitalize on internal communication channels
  - Provide access to medical screening and follow-up
  - Limited to employees
    - The "working well"

Identifying Persons at Risk: Using Community Settings

- Greater access by a broader segment of the at-risk population
  - Potentially limited access to laboratory based assessments
  - May be more difficult to arrange follow-up testing or care after an "abnormal" screen

Where Do We Send Persons Identified as High Risk?

- Currently there are few programs available specifically to modify diabetes risk
- A "new" risk reduction program based on the DPP intervention will have to prove that it will provide similar outcomes
- Healthcare vs. community settings

Adapting The DPP Intervention To Enhance Dissemination and Sustainability

- Shifting core curriculum delivery format from one-on-one to group-based
- Shortening duration of curriculum period to decrease participant time burden
- Eliminating costly incentives
- Providing programs in community settings

Where Should We Implement A Lifestyle Modification Program?

- Healthcare vs. Community settings revisited
- Partnership models
- An ideal community partner would be:
  - Committed to improving community health
  - Have extensive resources for delivering health, wellness, and fitness programs
  - Experience with implementing scientifically-based programs in a feasible and sustainable real-world fashion.

The IUMC-YMCA Example

- IUMC conducts screening at Y sites with the Lifestyle modification program being provided at the YMCA facility
- 2,400 YMCA facilities with 18 million members serving over 10,000 communities
- Services provided for persons from diverse social and economic positions
- History of promoting healthy lifestyles through a combination of education and physical activity
- Experience with translation of clinical programs into community facilities on a national scale
- Policy of not turning anyone away from a program offering due to their ability to pay

Translation Issues Inherent in A YMCA Community-style Model

- Can a DPP-style program be adapted to a YMCA setting?
- How will it be paid for?
  - Since the YMCA is a non-for-profit organization, program fees are generally set to achieve recovery of direct and indirect program costs, with no added profit margin
  - YMCA policy of "equal Access:" programs should be available for all who might benefit, regardless of income
  - A sliding fee scale to provide programs at a discounted charge that is based on "ability to pay"

Implications of Equal Access Policy

- In urban areas with higher numbers of aging and minority populations at greater risk for diabetes, more enrollees may qualify for greater fee reductions because of lower incomes
- Without a long-term solution for cash recovery, the YMCA's ability to provide the program will be short-lived
- Although the YMCA routinely seeks out commercial sponsorship to "underwrite" needed programs, the duration and extent to which the YMCA can maintain these arrangements are limited.

Translation Issues: Impact of Cost Recovery

- To what extent does program fee setting present a barrier to enrollment in a lifestyle modification diabetes prevention program offered in community settings?

Impact of Cost Recovery: Is Translation A Business Model Issue?

- If motivated individuals at high-risk for diabetes are unwilling to enroll in a community-based YMCA program without major cost subsidization, there may be no "real-world" vehicle for delivering a lifestyle-focused diabetes prevention program to those most in need without significant external sponsorship or third-party reimbursement