The last one!
Designing, Implementing, and Evaluating a Diabetes Awareness Activity

Rachel Millstein, PHASE Intern
Preceptors: Patricia Boehm & Daria Rovinski
DHMH/Chronic Disease Prevention Division
Diabetes Prevention and Control Program
Diabetes Introduction and Background

- Classified into two main sub-types: type 1 and type 2 (ADA 2006).
- Type 2 diabetes accounts for ~90-95% of all diagnosed diabetes cases in the US (ADA 2006).
- Type 2 diabetes (formerly known as adult onset diabetes and non-insulin dependent diabetes (NIDDM)), is characterized by insufficient insulin production or peripheral insulin resistance in which the cells can not use the insulin in circulation (ADA 2006).
- Since the Diabetes Prevention Program (DPP) showed that the onset of type 2 diabetes can be delayed or prevented via lifestyle modifications, treatment focuses on weight loss, proper nutrition, increased physical activity, and medication (Knowler et al. 2002).
Burden of Diabetes and Public Health Significance

- **US estimates:**
  - prevalence of type 2 diabetes among adults: 7.0% (CDC 2005).
  - two-thirds of U.S. adults are overweight (BMI $\geq 25.0$ kg/m$^2$) and almost one-third are obese (BMI $\geq 30$ kg/m$^2$) (Ogden et al. 2006, Flegal 2005).

- **Maryland estimates:**
  - over 297,000 adults (7.2%) in Maryland have type 2 diabetes and 146,000 more are undiagnosed (MD DPCP 2006, MD DHMH 2006).
  - About 58% of adults are overweight or obese

- Given the high prevalence of type 2 diabetes, the fact that many of its risk factors are modifiable, and that symptoms can often go unnoticed, it is logical to target early awareness as a preventive measure.
Project Background, Purpose, and Aims

- One of the work plan goals of the DPCP is to increase awareness about type 2 diabetes.
- My primary project involved working to develop, implement, and evaluate a type 2 diabetes awareness activity.
- March awareness activity takes place surrounding the American Diabetes Association (ADA)-sponsored “Diabetes Alert Day.”
ADA’s Diabetes Alert Day

- **Goals:** increase awareness of the risk factors for type 2 diabetes, assist adults in determining their own level of risk, guide people to reduce those risk factors that are modifiable, and refer people at risk to sources for care and diagnosis.

- **Tool:** short risk test assesses peoples’ risk factors for developing type 2 diabetes (or of currently having the disease unknowingly).
Project Goals

- ADA risk test has been widely used in many settings, so we were confident of its usefulness as a short screening instrument.
- Had not been used to gathering longitudinal/follow-up data in this target audience.
- So, this project aimed to allow us to evaluate whether the modes of delivery of such diabetes information were effective and how we might improve this activity so that it can benefit more people in the future.
- The objectives of this project were to carry out the DPCP’s goals of raising awareness about type 2 diabetes and its risk factors, as well as assessing the impact of these activities.
- Allowed the DPCP to gather preliminary data on the impact of this awareness activity in the state government community.
- By knowing more about the activity’s usefulness and the communities’ perceptions of diabetes, the DPCP can move forward in targeting further intervention and awareness strategies, with the goal of improving health and preventing diabetes morbidity.
Based on our partnership with the American Diabetes Association, we used their Diabetes Alert Day risk test as the basis of the survey.

A web-based interactive survey was created using SurveyMonkey software.

Study population was DHMH/state employees.
Risk Test: Calculate your score

1. My weight is equal to or above that listed in the chart below?  5pts 0pts
2. I am under 65 years of age and I get little or no exercise during a usual day?  5pts 0pts
3. I am between 45 and 64 years of age?  5pts 0pts
4. I am 65 years old or older?  9pts 0pts
5. I am a woman who has had a baby weighing more than nine pounds at birth?  1pts 0pts
6. I have a sister or brother with diabetes?  1pts 0pts
7. I have a parent with diabetes?  1pts 0pts

Total Points: 

At-Risk Weight Chart Body Mass Index

<table>
<thead>
<tr>
<th>Height in feet and inches without shoes</th>
<th>Weight in pounds without clothing</th>
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<tbody>
<tr>
<td>4'10&quot;</td>
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</tr>
<tr>
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<tr>
<td>6'4&quot;</td>
<td>221</td>
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</tbody>
</table>

If you weigh the same or more than the amount listed for your height, you may be at risk for diabetes.

very low risk (0 to 2 points), low to medium risk (3 to 9 points), high risk (10 or more points).
Follow-up questions

1. Before you took the risk test, did you suspect that you were at risk for diabetes?
2. Did you share the result of the risk test with your health care provider?
3. What actions are you taking to lower your risk for diabetes for the future?
4. Can we provide you with additional information or referral for health care providers or risk reduction programs?
5. Do you have any questions for the DPCP staff?

Respondents were informed of their rights as participants and asked for consent to be contacted one to two months in the future. If consent was provided, we asked that they provide contact information.
Methods: Implementation

- Set up and staffed an informational table and display boards in a high-traffic area of the 201 W. Preston St. state office building on the ADA’s Diabetes Alert Day and in the week surrounding it.
- At table, placed fliers with information about diabetes, the Diabetes Alert Day, and the link to our online survey. We encouraged those who stopped by our table to take informational materials, and we pointed out our survey link and explained our goals, hoping they would participate.
- Also placed fliers on tables of the state office complex’s main cafeteria in the 301 building for the week surrounding the activity.
Three people took the online survey
Two people reported a risk score in the “low or moderate risk” category, and one person reported a risk score in the “high risk” category
All three participants were under age 65
One was at-risk based on the height and weight chart
Two participants indicated that they would be available to participate in our follow-up study
Results (2)

- Of the two people available for follow-up, one was reached.
- This person’s risk score placed her in the “low or moderate risk” category.
- Did not suspect that she was at risk for diabetes before she took the risk test.
- Has not shared the result of the risk test with health care provider.
- Actions taken to lower risk:
  - has changed her diet to be healthier, tried to exercise more
- Had no additional questions, did not request referral or risk reduction information: responded that she did not really think she was at risk.
The goals of this activity and study were to increase awareness about diabetes and to ultimately decrease disease burden in the state government community.

Among the state government workers, the assessment arm of this project aimed to improve performance of diabetes awareness activities for future interventions and to gain more information on the community’s risk and behaviors.

This study’s limitations can now be used to design more effective practices for the future.
Limitation: Time

- ADA’s designated Diabetes Alert Day is during the last week of March.
- Given our low initial response rate, we extended the survey’s online availability until the third week of April to allow more people to respond.
- In mid-April, we sought to get IRB approval to broadcast our survey information to all DHMH employees via e-mail. However, this required extra time, and by the time this would have been available, the PHASE projects had to be completed.
- Future programs such as this one could benefit from consulting with the local ADA office to move their Diabetes Alert Day several weeks earlier or encouraging potential participants to respond to the survey more quickly.
Based on previous work of the department, we thought that an online survey would be the most effective and user-friendly way to generate a high response rate.

Many steps to take to get to our survey

Also, issues related to learning this type of information at the worksite and concern of an employer becoming aware of individuals’ high risk for disease.
People who stopped by our display table were self-selecting group, not a random sample, with those interested in diabetes more likely to take a flier with the survey link.

From there, those people had to take the initiative to go to the website and take the survey, also not a random sample and subject to self-selection and possible bias.

Barrier: attrition from the number of people stopping by the table or taking fliers from the cafeteria tables, to the number who took the survey.

No data on the number of people who took the fliers on the cafeteria tables.
For future studies, include a more wide-spread media campaign:
- fliers posted in elevators and hallway boards
- broadcast e-mail messages containing the survey link and awareness information
- emphasize that diabetes affects many different types of people

Proper health communication strategies appear to be critical for successful intervention and assessment projects (Glanz, Rimer, Lewis 2002).

Such tactics could prove useful in increasing awareness, interest, and survey responses among the target audience.
For the future

- A high response rate would have allowed us to adequately assess the impact of this awareness activity, which would have been useful for the DPCP’s work and future planning.
- While this study was mainly based on information dissemination and risk awareness, these are important first steps in creating meaningful behavior changes which can ultimately reduce the burden of diabetes.
- The hope of this experience is that future studies can be effectively carried out using lessons learned in the process of conducting this study.
Thanks to...

- Daria Rovinski for her vision, time, and guidance on this project!
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