

Childhood Obesity and Diabetes Toolkit

A Peer Education Curriculum

Introduction

In 2007, a collaborative comprised of the US Mexico Border Health Commission, University of Arizona (UA) Mel & Enid Zuckerman College of Public Health (MEZCOPH) and the UA Medical Center (Pediatric Diabetes Program), The Arizona Department of Health Services, and Girl Scout Troop 509 launched an innovative process of adapting community resources into a curriculum designed to provide age and culturally appropriate diabetes and obesity education to youth. The toolkit developed in 2007 is titled *Don't Monkey Around with Diabetes*¹ (Fenne, Rosales, Logue, 2007). The educational and interactive program serves to engage children of school-age using an active learning process about diabetes and obesity. We found that the best method for presenting information to youth (and adults) about diabetes and obesity is through school or community-based



venues. The peer education approach creates and peaks interest among youth.

The College of Public Health-Phoenix Campus proposes to update and upgrade this “Toolkit” in collaboration with the Arizona Department of Health Services. The image to the left is a picture of the toolkit, 2007 version, which we are proposing to update and upgrade.

Background

According to the American Diabetes Association, 8.3% of the population in the United States has been diagnosed with diabetes (25.8 million children and adults). The prevalence of

diagnosed type 2 diabetes increased six-fold in the latter half of the last century (Arizona Health Matters 2009). Diabetes risk factors such as obesity and physical inactivity have played a major role in this dramatic increase (CDC 2011).

It is well known that childhood obesity is a public health crisis affecting children of all ages, racial and ethnic backgrounds in the United States (Wang 2007). The increase in obesity in general has been striking in the past several years (Anderson 2006). According to 2008 data, the state of Colorado has had a prevalence rate of less than 20% while the prevalence in thirty-two other states has rates at 25% or greater (CDC 2011). A few states have rates that are greater than 30% (Alabama, Mississippi, Oklahoma, South Carolina, Tennessee, and West Virginia) (<http://www.cdc.gov/obesity/data/trends.html>). Childhood rates for all children in the US is approximately 17% between the ages of 2-19 years of age are obese. The racial and ethnic differences in prevalence of obesity are very significant; increasing from 5.0% to 10.4% between 1976 – 1980 in 2-5 year olds and 6.5% to 19.6% among children between 6 – 11 years of age (Ogden, Carroll 2010). While the health effects, such as development of diabetes and hypertension, among other chronic conditions, takes its toll on our children’s health, the economic costs are substantial and estimated at \$3 billion each year due to excessive weight.

In Arizona in 2008, the counties with obese rates greater than 30% include Apache, Graham, Greenlee, and La Paz County. Coconino County has the lowest levels at 20.5% obese adults. Diabetes rates are highest with rates over 12% in Apache County and Navajo County and below 6% in Santa Cruz County. Physical activity is highest in Santa Cruz County and lowest in La Paz County. In Arizona, childhood obesity is a major problem. According to the Kaiser Family Foundation, the prevalence of childhood obesity and overweight in Arizona is

30.6%; very similar to the national average of 31.6%. Arizona must take a multi-level approach to the prevention of childhood obesity, through the education of children, family members and caregivers on the importance of healthy lifestyles as well as health promotion of physical education, healthy food options in the school and at home.

The MEZCOPH

The mission of the Mel & Enid Zuckerman College of Public Health (MEZCOPH) at the University of Arizona is “dedicated to promoting the health of communities in the southwest and globally with an emphasis on achieving health equity through excellence in education, research & service” (COPH website 2010). The MEZCOPH ranks among the top five in American Indian and Hispanic graduates and students enrolled among 47 accredited schools of public health, according to recent data from the Association of Schools of Public Health (ASPH).

MEZCOPH-Phoenix Campus

The MEZCOPH presence at the Phoenix Biomedical Campus (PBC) has been strategically planned to complement the College’s resources in Tucson; to strengthen the existing programs at the PBC; and to support the public health services in the State and particularly in the Phoenix metropolitan area. The College will provide a complete set of scholarly programs at the PBC. These programs will be housed within a newly created Level One Academic Center, a public health policy and research institute, that will carry out the teaching, research and service roles of our land grant university. This institute will be the bridge that directly translates discoveries by the Institute and others at the PBC to improve the health of communities within Phoenix, the state, and nation.

Program Goal

Ultimately, the proposed project will produce a newly improved and updated Toolkit for dissemination and distribution in a short period of time (3 months).

Project Objectives

1. Identify and recruit two public health undergraduate students and assign as their internship project;
2. Correct, update and send to print all materials, bookmarks and brochures, food plate, etc.
3. Translate material to Spanish from English
4. Present changes to printing and publication department, prepare materials for final publication.
5. Performance of play and presentation of information by undergraduate students at various school and community-based venues.
6. Videotape play
7. Finalize toolkit and content for mass production.

Key Personnel

Jill de Zapien, will oversee the overall project through production and assure intervention and curriculum materials are evidence-based. In-kind support will be provided.

Consultant

Andrea Logue, BS. Andrea Logue is one of the five original creators of the Diabetes and Obesity Toolkit. She is the author of the play and holds the copyright, which is part of the toolkit titled *Sir Insulin Monk and the Evil Diana Betes*. Andrea has presented this presentation to various audiences, including the American Diabetes Association and the Center for Disease Control. Andrea was intimately involved in the creation, the research of the scholarly literature and performed in the play as the Evil Diana Betes. Andrea has experience with the development of health and wellness programming. She worked through the CDC and with the Atlanta Public

School system to write, produce, develop and present a student wellness program. This program was implemented across the city of Atlanta and was used in the majority of the elementary schools. Andrea has worked with the graphic designer and video departments in the past, and is aware of the communication and development that is necessary to develop this kit. She has prepared all of the original documents that have been used in the previous tool kits and will work to update this material for the use in the 2012 kit. She will recruit public health students to be involved with the play by consulting with professors in the College of Public Health as well as the Student Ambassadors. Andrea will organize meetings, consult with students, oversee and approve the development of the tool kit, use past experience with the material to elevate and explain current trends of type 2 diabetes and work to ensure that the tool kit represents the College of Public Health and its mission. She will supervise the two student interns' research efforts and all of the logistical activities to assure a final newly improved and upgraded toolkit. She is a recent graduate of Gonzaga University (May 2010) and spent one year as a Jesuit Volunteer Corps member, coordinating a youth at risk program in Juneau, Alaska (August 2010-September 2011).

Methodology and Timeline

March 2012:

1. Update materials (activity workbook [English and Spanish], play script, bookmarks, and brochures), send to print.
2. Translate materials to Spanish
3. Work with video staff to update video.
4. Consult with students and ensure research and informative materials are reflective of the goal of the presentation
5. Contact local school and arrange to bring in students to participate in the program and presentation
6. Contact Public Health officials to participate in the tool kit and program

April 2012:

1. Present changes to printing and publication department, prepare materials for final publication.
2. Will prepare and coach public health undergraduate students to perform the play and presentation information.
3. Prepare for filming of new video
4. Contact professionals and forward invitations to attend the presentation and request interviews following the viewing for taping purposes
5. Send reminders about interviews and present formal invitations
6. Date, time and location will be secured for presentation
7. Materials, rentals and equipment will be acquired for the performance of the play
8. Final program will be presented and recorded at the end of the month

May 2012:

1. Collect all finalized kit materials
2. Assemble tool kits
3. Continue preparations for play and kit distribution
4. Present completed product to MEZCOPH

Evaluation and Sustainability

Evaluation methods will be used to measure this project's impact with community members during community activities and services coordinated and/or assisted by the public health undergraduate interns. The toolkit will eventually be developed into an application that a broader audience can have access to through an online or phone application.

Budget

Item	Sub-item	Description	Amount (USD)
Direct Cost	Consultant (subcontract)	Compensation for time spent, preparing, training, facilitating and coordinating activities. (@ \$30/10 hours a week for 21 weeks=\$19,000)	\$19,000.00
	Video Taping	This is an estimate ONLY based on April 26 th from 8am-3pm editing and recording times may change	\$2,293.25
	Other materials	Food plate 100 @ \$6.25/plate (tax and shipping \$49.37)	\$674.37
		Food pyramid 2 packs of 50 (cost includes tax and shipping)	\$26.40
Reproduction of Toolkit	TOTAL PRICE FOR KITS- 100 = \$2,075 (\$20.75 each)	\$2,075.00	
Total			\$24,069.02

Budget Justification

Consultant will prepare, train interns; supervise and lead the scholarly research; facilitate and coordinate the activities related to updating the materials, the play, the videotaping.

Videotaping-recording and editing of taping of play and interviews with public health professionals and students.

Other materials-The toolkit contents includes a newly updated food plate and food pyramid.

Reproduction of Toolkit-The total cost of reproducing the toolkit itself will require the initial mock up and replication. Materials include frisbee, bookmarks, evaluation survey, scripts, activity book, toolkit box printing, toolkit box die cut and cardboard, toolkit box assembly and handle/locks.

References

American Diabetes Association (2011) <http://www.diabetes.org/diabetes-basics/diabetes-statistics>. Retrieved 12/19/2011.

Anderson PM, Butcher KE. *Childhood obesity: trends and potential causes. Future Child. 2006;16(1):19–45.* [CrossRefMedline](#)

Arizona Department of Health Services. (2009). Differences in the health status among race/ethnic groups, Arizona Risk Profile for Hispanics or Latinos.

<http://www.azdhs.gov/plan/report/dhsag/dhsag09/pdf/hispanics.pdf> Retrieved August 21, 2011.

Arizona Health Matters-Maricopa County. (2009). Age-Adjusted Death Rate due to Diabetes.

<http://www.arizonahealthmatters.org/modules.php?op=modload&name=NS-Indicator&file=indicator&iid=8283>
Retrieved August 21, 2011.

Centers for Disease Control and Prevention website. Overweight and Obesity.

<http://www.cdc.gov/obesity/data/trends.html>. Retrieved 11/29/2011

Fenne J, **Rosales C**, Logue C. Sir Insulin Monk vs. The Evil Diana Betes: A Program Addressing Diabetes Education and Prevention in Youth, *The Diabetes Educator* 2007; 33; 455.

<http://tde.sagepub.com/cgi/content/abstract/33/3/455>

Kaiser State Health Facts. Web. 10 Dec. 2011. <<http://www.statehealthfacts.org/>>.

Ogden **C and** Carroll **M**. Prevalence of Obesity Among Children and Adolescents: United States, Trends 1963-1965 Through 2007-2008

Surveys http://www.cdc.gov/nchs/data/hestat/obesity_child_07_08/obesity_child_07_08.htm

University of Arizona, Mel & Enid Zuckerman College of Public Health website (2011).

<http://www.publichealth.arizona.edu/about>. Retrieved 12/19/2011.

Wang Y, Zhang Q. Are American children and adolescents of low socioeconomic status at increased risk of obesity? Changes in the association between overweight and family income between 1971 and 2002. *Am J Clin Nutr* 2006;84: 707–716. | [PubMed](#) | [ChemPort](#)