THE PROCESS AND BENEFITS OF A UNIVERSITY AND STATE HEALTH AGENCY COLLABORATION FOR ALCOHOL- FREE PREGNANCIES IN OREGON

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ABSTRACT

Background
A significant number of college women are at risk for alcohol-exposed pregnancies because the ages of the heaviest alcohol consumption is typically 18 through 21 years, and contraception may be used ineffectively or not at all. These risks call for greater prevention efforts.

Objective
Collaboration between a higher education institution and a government health agency to reduce alcohol-exposed pregnancies in Oregon.

Methods
Health professionals from the Fetal Alcohol Syndrome (FAS) Prevention Program of the Oregon Public Health Division presented current research and explained the mission of a Center for Disease Control (CDC) cooperative agreement to university students in a Health Communication course. The students then developed social marketing messages that targeted alcohol use and/or contraception behavior.

Results
At the end of the course, the students presented their campaigns campus-wide, and to the state agency. Four of the theory-based messages are illustrated in this article.

Conclusion
The students brought to the state FAS Program a specific range of knowledge, vocabulary and creative skills to create messages for young adults. University students reported benefits of becoming familiar with government agencies and working on "real-life" projects that had the potential to be used in community settings.

Key Words: *Public health collaboration, community collaboration, social marketing, alcohol-exposed pregnancy*

Alcohol is a well-established teratogen, which is an agent that interferes with the normal development of an embryo or fetus. When a pregnant female drinks alcohol, the unborn child is put at risk for birth defects, learning impairments and neurological disorders. In fact, prenatal exposure to alcohol is responsible for causing more lifelong physical, mental and behavioral disabilities than other drugs, including crack cocaine, heroin and methamphetamines.[1]

Prenatal exposure to alcohol can cause a wide range of detrimental effects to the fetus, depending on the timing and amount of alcohol exposure. Fetal alcohol syndrome (FAS) is the most severe outcome, which includes facial malformations, growth deficiencies, and central nervous system disorders. FAS is the leading preventable cause of intellectual disability and birth defects in the western world.[2] Children and adults with prenatal exposure to alcohol who have

cognitive or behavioral abnormalities but do not meet the diagnostic criteria for FAS are described as having fetal alcohol effects (FAE), which can cause problems in school and work, and behavioral, emotional and social challenges.

FAS and FAE are significant public health issues. An estimated 40,000 newborns in the U.S. are diagnosed with FAS each year; furthermore, it is believed that five times as many are born with FAE.[3] The U.S. cost for each person diagnosed with FAS is estimated to be $2 million over his/her lifetime.[4] The financial costs for FAS include healthcare, social and justice systems, and are estimated to be $4-6 billion per year.[4,5] The human costs—to the children, their parents and society are immeasurable.

The good news is that FAS and FAE are entirely preventable with alcohol-free pregnancies. Prevention has become a national priority, as evidenced by the U.S. Surgeon General's advisory on alcohol abstinence during pregnancy[6] and the formation of the National Task Force on Fetal Alcohol Syndrome and Fetal Alcohol Effects.[7] Public health involvement in FAS/FAE prevention includes promoting awareness of the dangers of alcohol-exposed pregnancies, and conducting community-level and individual-level interventions for those at risk.

Women are at risk for having a child with FAS/FAE when they drink anytime during pregnancy. There is no known safe level of alcohol consumption during pregnancy. Overall, almost 13% of women in the U.S. reported drinking alcohol during pregnancy, and 3.3% reported binge drinking during pregnancy.[8] Furthermore, the time between conception and pregnancy recognition may be the most critical time for fetal development damage with alcohol consumption. This is particularly concerning since over half of pregnancies in the U.S. are unplanned, which increases the likelihood that the mother may drink alcohol without pregnancy knowledge.[5] That means women at risk are also those who drink alcohol and are sexually active but do not practice adequate contraception.

A significant number of college women are at risk for alcohol-exposed pregnancies, for several reasons. One reason is that the time of the heaviest alcohol consumption is ages 18 through 21—particularly binge drinking - defined as four or more drinks on one occasion.[9] Binge drinking has been found to be the most damaging to fetal development.[10] A national survey found that 40% of female college students had at least one binge drinking episode in the previous two weeks.[11] In addition, women under 25 years of age are less likely than older women to reduce alcohol consumption during pregnancy.[12,13]

Binge drinking may be paired with inconsistent use of contraception or failure to use contraception, thereby resulting in unintended pregnancy.[14,15] At-risk behaviors are more likely to occur because the woman may not realize she is pregnant - but yet this is the time period that alcohol consumption could potentially do the most damage to the fetus. Therefore, "interventions to reduce alcohol-exposed pregnancy risk among college women should include an emphasis on improving contraception and/or reducing risky drinking."[16]

The Oregon Public Health Division, Office of Family Health was awarded a cooperative agreement with the Centers for Disease Control and Prevention (CDC) to develop statewide community and individual-level interventions to prevent FAS.[17] The goal of the FAS Prevention Program was to reduce alcohol-exposed pregnancies in Oregon. The social marketing component focused on reduction of alcohol use and increased use of contraceptive messages to targeted groups, including college students.

Collaboration between the FAS Prevention Program and academia was initiated in response to the mutual recognition that college students could inform the development of this program and make specific contributions in the creation of social marketing messages. This paper illustrates the student-generated messages and describes the benefits of the collaboration to the public health agency, the university, and the students.

METHODS

The FAS Prevention Program worked in partnership with higher education to create social marketing messages through a Health Communication course offered at Western Oregon University as part of a broad curriculum of health promotion. Both graduate and undergraduate-level students in two sections of the course participated, for a total of 52 female and male students.

The Coordinator of the FAS Prevention Program gave a formal presentation to the students at the beginning of the course. She described the aims of the project and the overall strategy for the intervention, research findings of FAS concerns in Oregon, and social marketing campaigns used in other states. Specific target groups were identified. College females were included as a target group because of their high prevalence of alcohol abuse and unprotected sexual intercourse. College males were included as a target group because males influence alcohol consumption and unprotected sexual intercourse by female college students.[18]

Mutual expectations were established in that the students' messages would not only serve as the course project, but had potential "real-life" application in that they may be used statewide if selected. A date was set at the end of the course for the students to give professional presentations of their messages to the public health officials. Students signed release forms giving the State permission for future use of their messages and concepts. The State provided no funding to the university.

During the course, students were taught by the university professor the principles of social marketing and the health communication process.[19] Students worked in groups and met twice weekly for 10 weeks. They applied behavior change theories and the social marketing framework to design messages regarding contraception and/or binge drinking. Based on pre-testing with the target audience for feedback and relevance, they modified the messages. Eight weeks after the formal presentation by the Coordinator of the FAS Prevention Program, state public health officials and a post-doctoral fellow in epidemiology from the Council of State and Territorial Epidemiologists returned to the classroom to view the students' presentations of their final messages.

RESULTS

Students produced 13 social marketing messages about contraception and/or alcohol use that held promise for preventing alcohol-exposed pregnancies. Four of the messages are described below.

Figure 1
Slogan: *Strap Up*

Target Audience: College males
Goal: Increase condom use among college males.
Copy: One half of pregnancies are unintentional.
Formative evaluation results: Students confirmed that college males understood the *"strap up"* phrase meaning. Condoms and/or language were not offensive. Twin males as spokespersons (star basketball players) had promotional appeal as they were well-known across campus.
Basis for message: Stages of Change—reach males during the pre-contemplation stage to motivate them to use contraception. Theory of Reasoned Action—decision to engage in behavior is a function of attitude.

FIG. 1

Figure 2
Slogan: *Protect your Future Family*

Target Audience: College females
Goal: Increase use of contraception among college women who drink alcohol.
Copy: *Safe drink…it's the right mix. It's not too late.* 50% of Oregon pregnancies are unintended. Some women don't realize they are pregnant until weeks into their pregnancy. They could put their child at risk without knowing it. Find a way that works best for you at your campus health center. Information about contraception at: www.plannedparenthood.org; information about fetal alcohol syndrome at www.cdc.gov.
Formative evaluation results: Interviews with college women found that they understood the message. The style and tone was "an interesting and different way to look at drinks." Target audience thought there was too much text, so the text was made more concise for the ad.
Basis for message: Health Belief Model—perceived barriers to obtaining contraception (where to go to get it) and perceived susceptibility (50% of pregnancies are unintentional). Social Norm Theory—people will do what is perceived as normal (86% of women use contraception).

FIG. 2

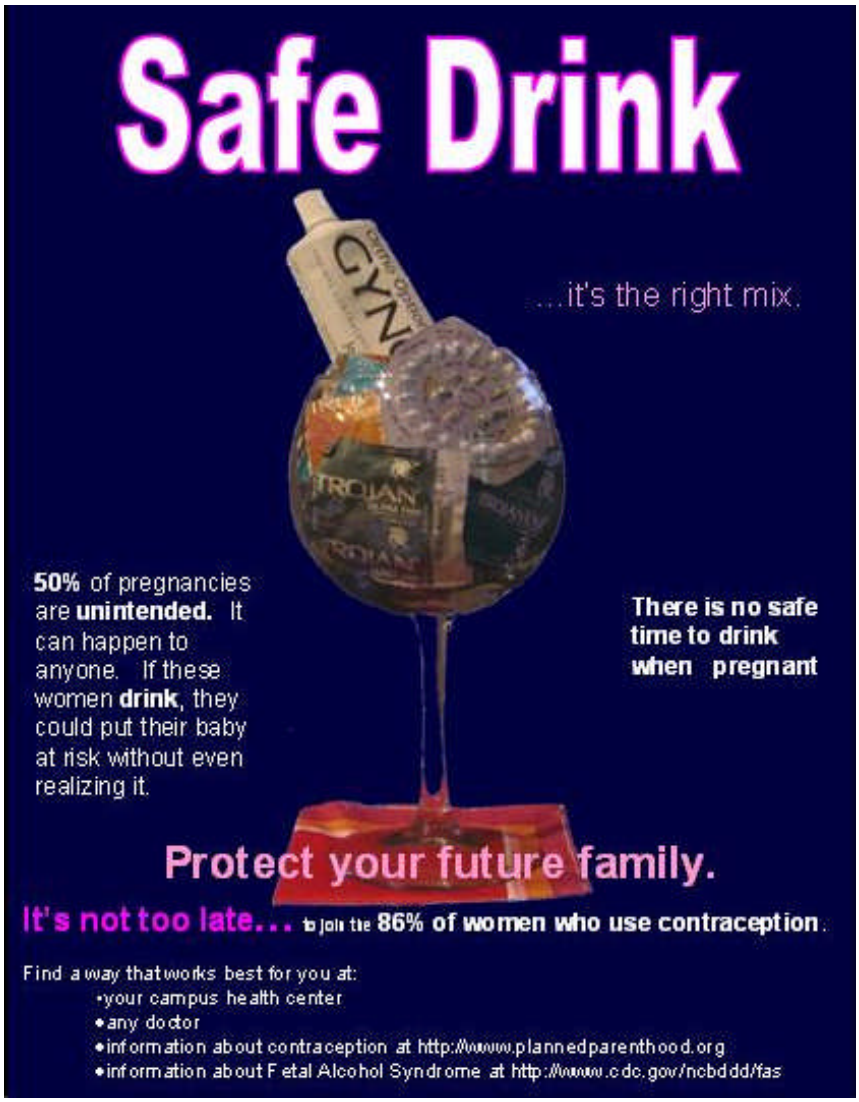


Figure 3
Slogan: *Coach, I'm Pregnant*

Target Audience: Female athletes
Goal: Increase use of contraception among female athletes in college.
Copy: *Track: It takes 12 seconds to run 100 meters; an instant to become pregnant. How long to choose a contraceptive?*
For information on contraceptives visit http://www.plannedparenthood.org.

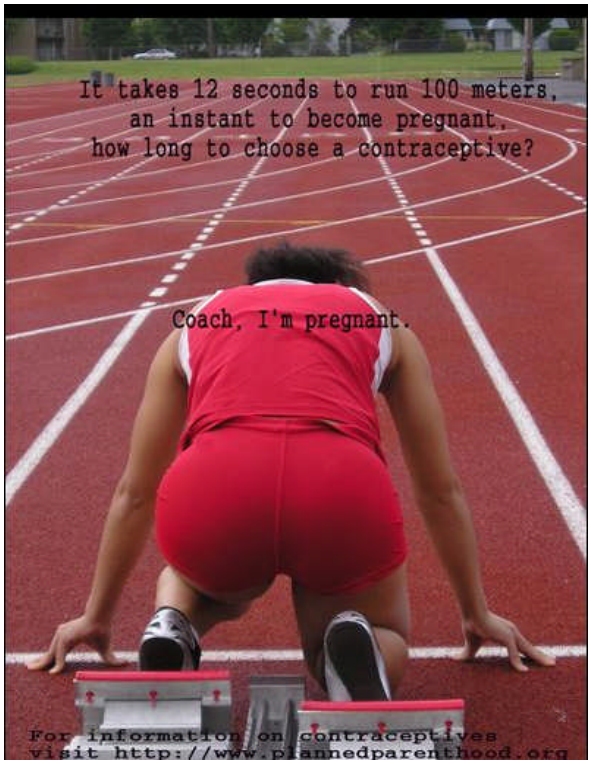


Figure 4
Slogan: *Coach, I'm Pregnant*

Target Audience: Female athletes
Softball: [stats at top, showing sudden fall in numbers]
Copy: *Dedication. Motivation. Contraception. We are female athletes. We know what it takes to win. Make the stats. Don't be one*.

Formative evaluation results: Interviews with 12 female athletes from several universities found that the athletes "felt the message was talking to them." Four athletes worried that the ad may offend someone who had to quit due to pregnancy, or that it suggested that female athletes were more sexually active than other women. The majority of athletes did not feel the messages were offensive.
Basis for message: Theory of Reasoned Action—behavior decisions are influenced by perceived control ("I can easily avoid pregnancy by using contraception.")

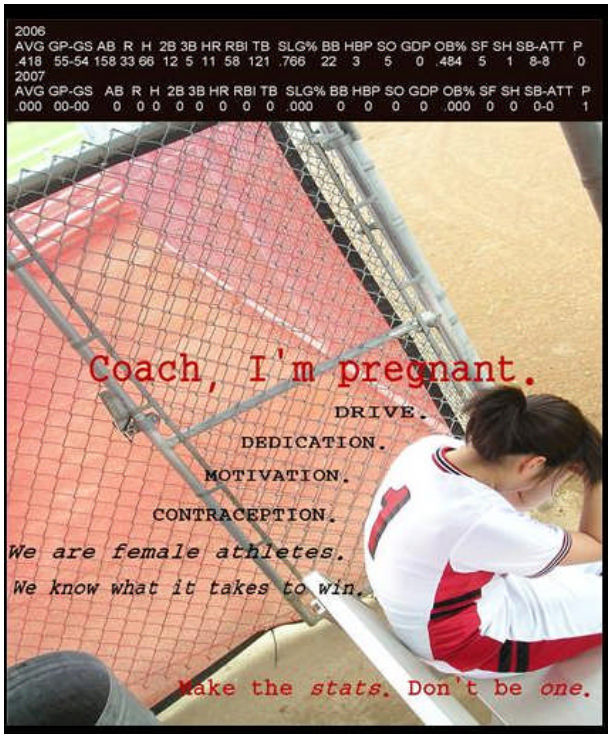
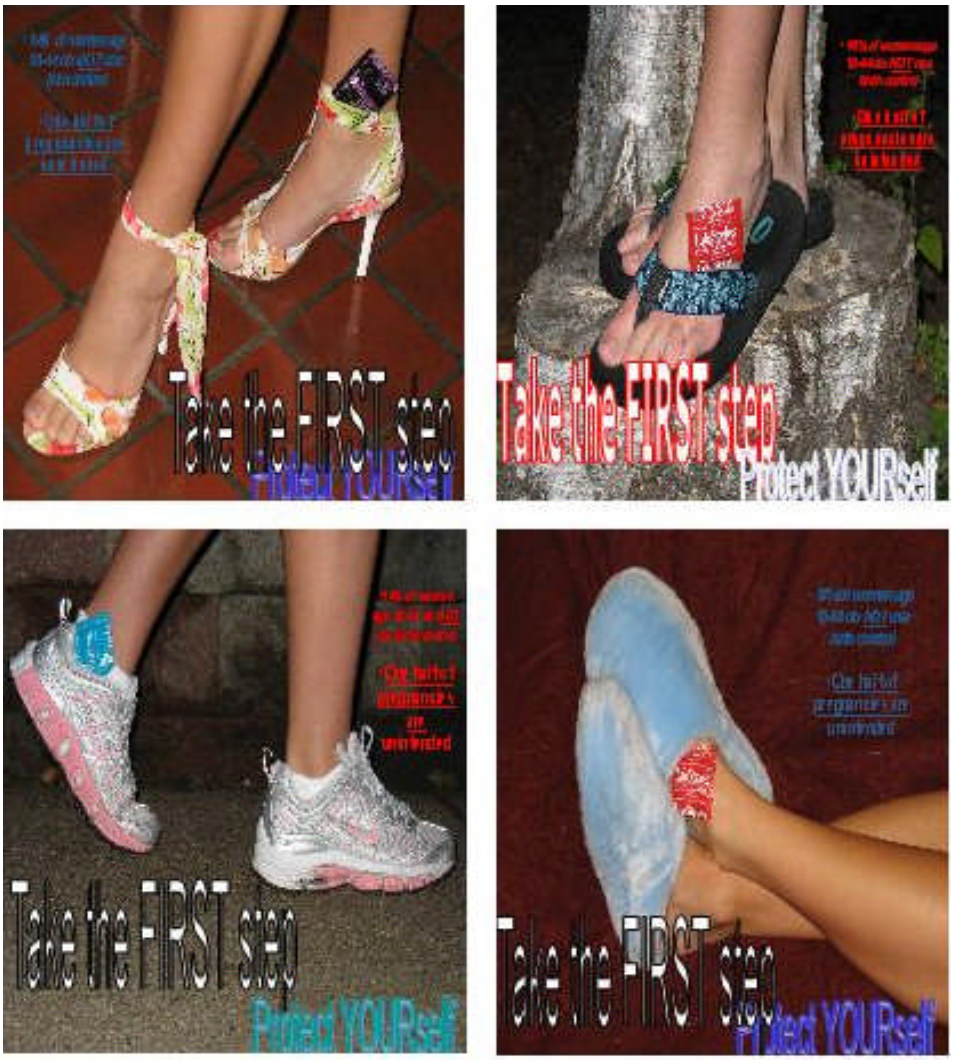


Figure 5
Slogan: *Take the First Step—Protect Yourself*

Target Audience: College Females
Goals: Women don't have to rely on someone else for protection (attitude goal). Women will carry protection for themselves (behavior goal). Women who drink alcohol will protect themselves during intercourse to reduce the risk of unintended pregnancy and alcohol-exposed pregnancy.
Copy*:* 14% of women age 18-44 do not use birth control; one half of pregnancies are unintentional.
Formative evaluation results: College women understood that the message was asking for women "to be responsible and not rely on the guy." The females in the messages were perceived as "someone like me." Feedback confirmed that condom messages were not offensive. The variety of shoes had promotional appeal, and they liked the "sex in the city" appeal. One message with a male in it (*don't dance around the issue*) was omitted because the target group found it confusing.
Basis for Message: Social Norm Theory—women will adopt behaviors (carrying a condom) that match their perception of the group they identify with or want to identify with. Learning Theory—repetition of message with different photos.



DISCUSSION

The CDC initiated a project in Oregon to reduce alcohol-exposed pregnancies. One component of that project was a community-level intervention that involved social marketing. The partnership between the state agency and the university described in this paper provided a unique avenue to create messages for and by the target audience. This three-way collaboration between a university professor, university students and public health professionals in the state of Oregon was beneficial to all involved.

Benefits to the State Agency

Benefits to the Oregon Public Health Division were many, including:

1) The agency got well-researched, creative marketing campaigns, appropriately targeted to the desired audience. It was better than could have been done otherwise. The Public Health Division learned about social norms on campus and slang vocabulary used by students that, while important in a social marketing campaign, the health division would not otherwise have been privy.

2) Effective communication between public health agencies and external stakeholders—in this instance, academia—is central for success of public health interventions. By working towards the same goal, rapport was established rapidly and inter-communication increased.

3) The exchange of information was useful to the project since the target audience was involved both as the affected population and as interventionists. Moreover, the agency had the opportunity to present in-depth information about FAS prevention to the target audience (college students) in the university setting. 4) The collaboration enabled the promotion of the FAS Prevention Program at the university and enhanced the visibility of the Office of Family Health. Students saw this public health agency as being relevant to their lives.

5) Students had a vested interest in the dissemination of the FAS prevention messages. For example, the *Strap Up* campaign was posted on the "MySpace" website and was viewed nationwide.

6) Dissemination of the messages were further enhanced, at no cost to the agency, through the Academic Excellence Program" at the university where four of the social marketing student projects were presented campus-wide and was heavily attended.

7) The collaboration spurred interest in public health employment. One student completed a summer internship with the agency, and another student was appointed as the official liaison between the social marketing contractor and the university.

8) Positive relations between the state program and the university and the success of the project served as an entry gateway into the Student Health Center for the individual-level intervention component of the program (provided by the agency on-site), where the state interventionist provided service to college women at high risk on campus.

9) Prior to this project, college students had not been considered a primary targeted population for State and County public health professionals. The liaison provided a gateway for other State and County agencies to consider the public health risks of college students and to design subsequent interventions for this population.

Benefits to the University

Benefits to the university included:

1) Students had the opportunity to meet public health professionals outside of the university and receive up-to-date information from health officials with a specific range of knowledge and skills external to academia.

2) Students obtained "hands-on" experience in community collaboration. They were able to see the complementary nature of their roles in FAS prevention and the joint benefit of developing social marketing messages for their peers and for the public health agency.

3) Routine course-based work became non-routine as it was viewed as a "real-life" project with potential use outside of class. Moreover, for many students the concept of health marketing based on the target audience and the experience of pre-testing messages were new and added another "realness" perspective.

4) There was significant improvement in college males' involvement in contraception issues and they became more comfortable working with this topic in a creative way rather than in the academic tradition.
5) For most students, the formal presentation of their work to public health officials was the first "professional" presentation that they had given. The presence of the state agency personnel was an incentive for the Division Chair and the Dean from the university to also attend some of the presentations. Students had a remarkably positive response to the opportunity to display their message and demonstrate the health communication process to external public health specialists.
6) Several students received "Academic Excellence" awards for their social marketing projects, and were given the opportunity to showcase their work to a wider audience. This in itself is another FAS-prevention strategy since presentations led by peers have been shown to increase knowledge and retention of the risks of alcohol-exposed pregnancies.[20]
7) The finished social marketing project and the Academic Excellence Award added to the student's portfolio as they entered the job market in public health.
8) Positive news spread fast, and the course professor was soon contacted by the medical director of a county health department to ask if the next class of students could develop social marketing messages to encourage childhood immunizations (after two outbreaks of pertussis). Shortly afterwards a State Fair official inquired about the availability of the students to develop messages regarding their health and fitness activities. A well-known reputation benefits both the community and the university. It is also an advantage for students when they graduate and seek positions in public health.

The success of this collaborative project supported the recommendation by the National Task Force on Fetal Alcohol Syndrome and Fetal Alcohol Effects for collaborations among community partners to develop and implement successful efforts related to FAS and FAE.[21] This project demonstrated that college students in a health communication course could successfully generate high-quality social marketing messages aimed at preventing alcohol-exposed pregnancies for public health education and intervention at the community-level. These results should prove helpful to universities and public health agencies planning similar community-level interventions that seek to influence behavior through social marketing messages.

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