Designing and Implementing Behavior Change Programs for Dissemination Across a Variety of Delivery Channels

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April 29, 2011
• Pro-Change Mission = Dissemination
  • Received 19 SBIRs across seven NIH institutes and the CDC
  • LifeStyle Management Suite of programs won the 2009 URAC Gold Award in Health Management
  • Disseminate programs through various channels
  • Dissemination is our focus from the start
- **Healthy Pregnancy: Step by Step**
  - Supported by Phase I and II grants #R44 DP001115 from the Centers for Disease Control and Prevention (PI: Mauriello, LM; Project Manager: Van Marter, DF)

- **Responsible Drinking**
  - Supported by Phase I grant #R43 AA017333 01A2 from the National Institute on Alcohol Abuse and Alcoholism (PI: Mauriello, LM; Project Manager: Van Marter, DF)

- **Health in Motion: Healthy Teens, Healthy for Life**
  - Supported by Phase I and II grants #R43 HL074482 from the National Heart, Lung, and Blood Institute (PI: Mauriello, LM)
Healthy Pregnancy: Step by Step

- Multiple behavior intervention
  - Smoking cessation and relapse prevention
  - Stress management
  - Fruit and vegetable consumption (Healthy Eating)
- Focus on healthy behaviors during pregnancy and into postpartum
- Computer tailored guidance (individualized)
- Optimally tailored
- Targeted for underserved, multi-ethnic pregnant women
- Designed to complement prenatal care
In 2007-2008, a preliminary draft of the program was developed with much input from expert consultants, underserved pregnant women, purchasers of the intervention and providers.

Program was designed for dissemination:

- Conducted focus groups and individual interviews with 53 women from community health centers
- Guidance from an advisory council of 5 consultants
- Interviews with potential buyers (representatives from March of Dimes and WIC, as well as a health care marketing consultant)

Pilot test conducted during summer 2008 at three community health centers in Connecticut.
About This Program

Welcome to the Healthy Pregnancy Program.

- This program can guide you step by step to be healthy during pregnancy and after your baby is born.
- We have worked for 30 years helping people to make changes to have healthier lives.
- This program can be useful for all women. You don’t have to be ready to make changes now. All that we ask is that you keep an open mind.
Healthy Pregnancy: Step by Step

Managing Stress

Do you effectively manage stress each day?

- No, and I do not plan to in the next 6 months.
- No, but I plan to in the next 6 months.
- No, but I plan to in the next 30 days.
- Yes, I have been, but for less than 8 months.
- Yes, I have been for more than 8 months.

Your Progress

Your Stage of Change

You told us that you've been using healthy activities to manage stress for more than six months. Congratulations! You're in Stage 6: Keeping Up the Action.

Keep dealing with stress in healthy ways during and after your pregnancy.

Stage 1: Not Ready
Stage 2: Getting Ready
Stage 3: Ready
Stage 4: Taking Action
Stage 5: Keeping Up the Action
Healthy Pregnancy: Step by Step

Benefits & Drawbacks

How important is the following in your decision about whether or not to quit smoking?

- If I quit, I would reduce my chances of chronic diseases, like cancer and heart disease.
- Quitting might make me irritable.
- I would set a good example for others if I quit.
- I might be more stressed if I quit.

Your Progress

Focus on the Benefits

Your answers show that you need to think more about the benefits of quitting for you and your baby.

Check-off the benefits that are most important to you:

- You will:
  - have more energy
  - be healthier
  - have more money
  - set a good example for your child
  - have a safer and easier pregnancy

- Your baby will:
  - get more oxygen
  - have stronger lungs
  - get more vitamins
  - have a lower chance of learning problems
  - have a lower chance of being born too small or too early
87 women completed the program in the office, before or after prenatal care (32% White, non-Hispanic, 46% Hispanic, 9% Black, 12% Other race or multiracial; mean age = 24 years; 32% married; 39% pregnant for first time; 54% high school education or GED)

Participants rated the program very positively with a mean response of 4.45 across all questions (1 = disagree to 5 = strongly agree)

The overwhelming majority (95%) of participants reported that the program:
- could help them be healthier
- taught them new information about having a healthy pregnancy
- was designed for pregnant women like them

92% of the participants reported that they “would recommend this program to a friend”
Preliminary behavior change was indicated by an increase in reported advantages of making a behavior change by the end of the session and reported intention to make behavior changes.

Participants reported planning to:
- smoke on average 3.07 fewer cigarettes
- practice 33 more minutes of stress management each day
- eat 1.7 more servings of fruits and vegetables each day


Responsible Drinking

- Single behavior intervention
- Computer tailored guidance (individualized), including a stage-matched e-Workbook
- Focus on responsible drinking, defined as staying within the recommended NIAAA guidelines:
  - Women – less than 3 drinks a day and no more than 7 drinks a week
  - Men – less than 4 drinks a day and no more than 14 drinks a week
In 2010, a preliminary draft of the program was developed with much input from expert consultants and adults who reported drinking above the recommended guidelines.

- Program was designed for dissemination
  - Conducted focus groups and individual interviews with 64 adults (age 21+)
  - Guidance from 7 experts across clinical, research, and medical settings

- Pilot test conducted during summer 2010 with participants recruited from 7 employers (a state university, research firm, an accounting firm, a wellness center & several restaurants) across 4 states.
166 employed adults completed the program in varied locations (e.g., home) at their convenience

- 68% female
- 90% White, 2.4% Asian, 4.8% Other race or multiracial
- 90% full-time employee
- Mean age = 38.78
Responsible Drinking

Questions About You
During the past 30 days, on how many days did you have 4 or more drinks containing alcohol?

During the past 30 days, on how many days did you have 4 or more drinks containing alcohol in a row, that is, within a couple of hours?

About the Responsible Drinking Program
Based on your answers, you're eligible to participate in the Responsible Drinking Program. We're glad to have you here. This program is not about asking you to stop drinking alcohol. It's about helping you make the best choices about alcohol use in your life.

This program is designed for you whether you:
- Are male or female
- Drink alcohol every day, every week, or once a month
- Are thinking about cutting back on alcohol or not.
Stage of Change

Are you planning to limit your drinking to 7 or less drinks per week and no more than 3 drinks in one day?

☐ No, I am not planning to limit my drinking in the next 6 months.
☐ Yes, I am planning to limit my drinking in the next 6 months.
☐ Yes, I am planning to limit my drinking in the next 30 days.
☐ I have been limiting my drinking for less than 6 months.

Your Stage of Change

You're in the **Contemplation** stage.

This means you're planning to limit your drinking to the low-risk guidelines in the next six months. This program can help you as you consider changing your drinking habits.

By receiving personalized guidance you can learn what it means to drink responsibly, and how doing this can help you improve your health and well-being.
Responsible Drinking

Overview

These are the activities for all stages. Your stage is highlighted in the list below.

<table>
<thead>
<tr>
<th>Precontemplation</th>
<th>Contemplation</th>
<th>Preparation</th>
<th>Action</th>
<th>Maintenance</th>
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</thead>
<tbody>
<tr>
<td>• Test Your Knowledge</td>
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<td>• What's In It For You?</td>
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<td>• Getting Past The Roadblocks</td>
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<td>• How Much Of Your Money Is Spent On Alcohol?</td>
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<td>• A New You?</td>
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<td>• Getting Support</td>
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<td>• Change Your Surroundings</td>
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<td>• Reward Yourself</td>
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<td>• Planning Ahead for Tempting Situations</td>
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<td>• Get Back On Track</td>
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How to Receive your Incentive

Thank you for participating in this study. To finish your session and receive your $25 gift card you first need to complete at least two activities in this e-Workbook.

Then, you will need to complete the Program Evaluation Survey listed below.

The link to the Program Evaluation Survey will only become available once you have completed at least two activities.

Click here for the Program Evaluation Survey

We appreciate your participation in this pilot study. Your feedback will help us to complete and improve the program, and then test it in a randomized clinical trial. This study was funded by the National Institutes of Health (Grant #1R43AA017333-01A2 ) and was developed by Pro-Change Behavior Systems, Inc. If you have any questions you can contact the Principal Investigator, Dr. Leanne Mauriello, at 1-866-879-7794 or lmauriello@prochange.com.

Resources

If you or someone you know might be drinking too much, click here for more information.
Participants rated the program very positively with a mean response of 3.15 (SD = .08) across all questions (1 = strongly disagree to 4 = strongly agree).

The majority of participants reported that the program:

- could help them be healthier (90.6%)
- gave sound advice (95.6%)
- was useful (89.9%)

94.3% of the participants reported that they “would feel comfortable recommending this program to others”
Preliminary behavior change was indicated by an increase in reported advantages of making a behavior change by the end of the session and reported intention to make behavior changes.

Participants reported planning to:
- drink 2.9 fewer drinks per week
- reduce the number of days in the next month that they exceed the daily limit by 2.5 days

Positive changes in the expected direction were found for both the pros of changing and intention to make behavioral changes.


Multiple behavior obesity prevention intervention

- Physical activity
- Fruit and vegetable consumption
- Limiting TV time

Combination of full and optimal tailoring

Computer tailored guidance (individualized), including adjunct components such as staff and family guides


In 2003-2004, a preliminary draft of the program was developed with much input from expert consultants and high school students.

Program was designed for dissemination:

- Conducted 7 focus groups and individual interviews with 70 high school students.
- Guidance from 14 experts and key informants, such as school administrators and teachers and specialists in cultural diversity, pediatric wellness and primary care.

Pilot test conducted during May 2004 with 4 classes of 11th and 12th grade students (n = 45) attending a technical high school in Rhode Island.
During 2006-2007, a school-based effectiveness trial was conducted in 8 high schools in RI, MA, NY, and TN (N = 1800)

- 50.8% female
- 71.5% White, 10.5% Black, 5.5% Hispanic, 12.4% Other/Combination
- 21.5% 9th, 24.7% 10th, 51.8% 11th, 2.1% 12th
- 2.2% underweight, 74.7% normal, 7.6% at risk, 15.5% overweight
- Mean age = 15.97

Treatment group received three intervention sessions (BL, 1 month, and 2 months) and two follow-up assessments (6 and 12 months)

Control group received four assessment-only sessions (BL, 2 months, 6 months, and 12 months)
Health in Motion: Healthy Teens, Healthy for Life

Your own Experiences

- How often did you have this experience in the last month?
  - You spent time with friends who are physically active.
  - You found that you enjoyed physical activity.
  - Getting enough physical activity made you feel more confident.
  - When you were tempted to skip it, you told yourself that you'd do a physical activity for at least a little while.

Get Support

Your answers show that you can turn to others for support to get enough physical activity. This is great! When you're ready to get more exercise, know that friends and family members could help you meet your goals. For example, they could:

- Congratulate you when you get enough exercise
- Exercise with you
- Tell you how they fit exercise into their days
- Drive you or go with you to parks, recreation facilities, fitness classes, or team practices and games.
What is Health in Motion?

Health in Motion is a science-based, computer-delivered program to help students adopt three specific healthy behaviors. Doing physical activity, eating fruits and vegetables, and limiting TV time are all important for leading a healthy lifestyle and preventing overweight and obesity.

*Health in Motion encourages the adoption of three specific healthy behaviors according to national recommendations:*

- Doing at least 60 minutes of physical activity on 5 or more days of the week
- Eating at least 5 servings of fruits and vegetables each day
- Limiting TV viewing to 2 hours or less per day.

Why Do We Need Health in Motion?

The Epidemic of Unhealthy Teens

- Adolescent overweight is on the rise. Approximately 17% of adolescents are overweight—that’s triple the prevalence in 1980.
- Among adolescents, overweight is associated with:
  - Type 2 Diabetes
  - Teasing by others
  - Asthma
  - Lower self-esteem
  - High Blood Pressure
  - Sleep apnea
### Co-Action of Behavior Change

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<tr>
<th>Behaviors</th>
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<tbody>
<tr>
<td><strong>Physical Activity (PA)</strong></td>
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<tr>
<td>Fruit/Vegetable (FV)</td>
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<td>2 months</td>
<td>4.20***</td>
<td>1.02</td>
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<td>6 months</td>
<td>3.36***</td>
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<td>12 months</td>
<td>2.66*</td>
<td>0.80</td>
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<tr>
<td><strong>TV Viewing (TV)</strong></td>
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<tr>
<td>2 months</td>
<td>2.60***</td>
<td>0.51</td>
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<tr>
<td>6 months</td>
<td>2.08**</td>
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<td><strong>Fruit/Vegetable (FV)</strong></td>
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<tr>
<td>2 months</td>
<td>2.13**</td>
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<td>6 months</td>
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<td>0.91</td>
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<tr>
<td>12 months</td>
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<td>0.88</td>
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</tbody>
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Best Practices

- Formative or Participatory Research
  - Interviews/focus groups with participants
  - Consultant reviews
  - Key informant involvement
Best Practices

Tailoring

- Theoretical constructs
- Optimal tailoring
- Multiple contacts
Best Practices

- Addressing Multiple Risks
  - Co-action: taking action on one treated behavior significantly increases the odds of taking effective action on a second treated behavior
  - Similar results have been found across studies
Best Practices


Delivery Channels: Health Centers

- Health Centers
  - Brief intervention
  - Complementing prenatal care
  - Designed to be implemented in health center (e.g., printed manual, personal reports distributed in health centers)
  - Literacy and language considerations
  - Input from key informants to ensure feasibility beyond health centers
Delivery Channels: Employers

- Employers
  - Privacy concerns
  - Meeting needs of employers
  - Behavioral guidance for employees
  - Support from stakeholders (e.g., executives, human resources, managers)
Delivery Channels: Schools

- Schools
  - Range of technology capabilities
  - Student time constraints
  - Computer access
  - Meeting needs of students
    - Engagement
    - Interactivity
  - Support from stakeholders (e.g., students, teachers, administrators, parents)
  - Budget issues and link to curriculum
Visit our website at:
www.prochange.com

Program demonstrations:
Healthy Pregnancy: www.prochange.com\pregnancydemo
Responsible Drinking: www.prochange.com\alcoholdemo
Health in Motion: www.prochange.com\obesitydemo

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