Effectiveness of Health Communication Campaigns That Include Mass Media and Health-Related Product Distribution

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Social Marketing in Public Health
Translation – Dissemination – Change
June 17, 2011

Disclaimer

The findings and conclusions in this presentation have not been formally disseminated by the Centers for Disease Control and Prevention and should not be construed to represent any agency determination or policy.
General Steps in a Community Guide (Topic and) Review

- Topic is identified for review work
- Recruit a multidisciplinary team
- Develop a conceptual approach to the topic [Logic Model]
- Establish a priority set of interventions to review
- Determine our research questions
- Develop an Analytic Framework
- Search for evidence
- Abstract and evaluate the identified studies
- Summarize the findings
- Present findings to the Task Force
- Task Force adopts consensus conclusions

- Insufficient Evidence
- Draft review results and research gaps
  - TFFRS
  - Papers for publication
  - Website summaries
  - Presentations

Recommended for / against
Task Force on Community Preventive Services

- An independent, nonfederal, volunteer body of public health and prevention experts, whose members are appointed by the Director of CDC. The Task Force members:
  - Oversee systematic review prioritization
  - Participate in the development and refinement of review methods
  - Serve as members on reviews teams
  - Consider findings of reviews, and issue recommendations

- Categories of Task Force Recommendation and Findings:
  - Recommended for
  - Recommended Against
  - Insufficient Evidence

The Community Guide can be

- Informational
  - Education programs when used alone for increasing use of child safety seats
  - Mass media campaigns for reducing alcohol impaired driving

- Behavioral, Social
  - Behavioral interventions to reduce risky sexual behavior and HIV, other sexually transmitted infections, and pregnancy among youth
  - Cognitive behavior therapy in reducing psychological harm among children and adolescents following traumatic events
The Community Guide can be

- Environmental, Policy
  - Street scale urban design (lighting, improved safety, ease of walking) in increasing physical activity
  - Smoking bans and restrictions in reducing exposure to environmental tobacco smoke

- Health System
  - Disease management programs for diabetes control
  - Client reminder and recall systems in increasing vaccination coverage

Community Guide: How is it Used?

- To inform decision making around:
  - Practice (initiatives, programs)
  - Policy
  - Research
  - Funding for research and programs
Community Guide: Intended Users

- Public Health Practitioners, Health Departments, Boards of Health
  - Program planning, grant guidance, focus for research funding goals
- Healthcare Providers and Systems
  - System-level interventions for clinical services delivery
- Employers, Purchasers
  - Healthy worksite interventions, benefit plan design/selection
- Community-based Organizations
  - Program planning, grant guidance, focus for research funding goals

Community Guide: Intended users (cont’d)

- Legislators & Policy Makers
  - Broad Policies, targeted laws, educational system requirements, community-wide interventions
- Researchers
  - Conduct research on “insufficient evidence” findings, other research gaps
- Government Agencies, Funders
  - Develop requests for proposals, fund studies of identified research gaps
- The General Public (A secondary audience)
Coordination Team

Task Force Representative

Lawrence Green         UCSF

Liaison to Task Force

Tess Miller         AHRQ

Other CDC Participants

Katherine Lyon-Daniel OADC/OD
Cynthia Baur OADC/OD
Dogan Eroglu OADC/OD
Fred Fridinger OADC/DCS/SPCB
Diane Beistle NCCDPHP/OSH
Lynn Sokler OADC

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Robin Soler Scientist
Shawna Mercer Branch Chief
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Kristin Tansil ORISE Fellow
Maggie Labre ORISE Fellow

External Partners

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Jay Bernhardt University of Florida
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Doug Evans George Washington
Deborah Glik UCLA School of PH
Lenora Johnson National Cancer Institute
Charles Salmon Michigan State University
Leslie Snyder University of Connecticut
K. (Vish) Viswanath Harvard School PH

Agenda

- Background
- Intervention Definition
- Analytic Framework
- Research Questions
- Results
- Incremental Effectiveness
- Intervention Benefits, Harms, & Barriers
- Summary
- Questions & Answers
Review Background

- Review Goals
  - To identify gaps in the fields
  - To evaluate the potential effectiveness of social marketing concepts in both improving and enhancing health-related programs and campaigns.
  - To evaluate the effectiveness of the process, rather than the assess the effectiveness of a single specific behavior.

- Review Obstacles
  - Limited reporting on use of social marketing concepts
  - Health communication campaigns and health education overlap

- Review Solutions
  - Conduct a health communication review integrating social marketing concepts, specifically promotion and product
  - Require a mass media component

Key Social Marketing Concepts in Public Health

- The use of strategic marketing practices “...to influence social behaviors not to benefit the marketer, but to benefit the target audience.”

Four Ps of marketing:
- Place
- Price
- Product
- Promotion

Eight benchmark criteria:
- Consumer orientation
- Behavioral objectives
- Marketing Mix
- Segmentation
- Insight
- Exchange
- Theory
- Competition

Conceptual Basis

- Health communication campaigns apply integrated strategies to deliver messages designed, directly or indirectly, to influence health behaviors of target audiences. Messages are communicated through various channels that can be categorized as mass media (e.g., television, radio, billboards); small media (e.g., brochures, posters); social media (e.g., Facebook®, Twitter®, weblogs); or interpersonal communication (e.g., one-on-one or group education). Drawing on concepts from social marketing, a health communication campaign can be combined with other activities such as distribution of products to further influence health behaviors.

Intervention Definition

This review evaluates the effectiveness of interventions that combine two components to increase the appropriate, repeated use of evidence-based, health-related products:

1. A health communication campaign that uses messages to increase awareness of, demand for, and appropriate use of the product. The messages must be delivered through multiple channels, one of which must be mass media, to provide multiple opportunities for exposure; and

2. Distribution of a health-related product, free of charge or at a reduced price (e.g., discount coupons), to reduce cost, access, and convenience-related barriers among targeted users.
**Communication Channels**

- **Mass media**
  - Television
  - Print media (e.g., newspapers, magazines)
  - Radio
  - Outdoor media (e.g., billboards, transit ads)

- **Internet & Social media**
  - E-mail or websites (e.g., Facebook®, Twitter®, blogs, video sharing)
  - Point-of-purchase materials (e.g., signs)
  - Posters and fliers
  - DVDs, videos at a given setting (e.g., doctor’s office)

- **Small media**
  - Print-materials (e.g., brochures, fact sheets, newsletters)

- **Interpersonal**
  - One-on-one education
  - Group education

- **Community events**
  - Health fairs, art exhibitions, booster seat fitting station

* Required for inclusion in this review

**Product Inclusion Criteria**

Health-related products eligible for this review:

- Have been shown through an evidence-based process ¹ to improve health-related outcomes (e.g., increased physical activity, smoking cessation, reductions in disease, injury, or death)
- Are tangible; are not a service (e.g., mammogram)
- Are not exclusively available through prescription or administration by a health professional (e.g., vaccination or prescribed medication)
- Require repeated use for desired health promotion and/or disease and injury prevention effects (e.g., using condoms, wearing helmets) rather than a one-time behavior (e.g., installing smoke alarms)
- Cannot be a specific food product (e.g., oatmeal) marketed as being “healthful”

¹ To be considered evidence-based, the product had to be shown to improve health or health behaviors in a peer-reviewed systematic review or in multiple rigorous studies.
**Intervention Example: Alstead et al 1999***

**Setting:**
- Community, School

**Communications Campaign**
- Mass media channel
- Multiple channels
- Product-use message promoted through media channel

**Health–related Product Distribution**
- Condoms (free or low-cost)
- Distributed from bins and vending machines


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**Intervention Example**

**Communications Campaign**
- Mass media channel – TV PSA
- Product-use message promoted through media channel
- Campaign message is increasing awareness and demand for the product and the targeted behavior change
- PSA demonstrates the appropriate use of the product and the targeted behavior change

**Health–Related Product Distribution**
- Recreational safety helmet
- Improves health outcomes (e.g., reduces injury and death)

Safe Kids PSA
Issues Considered in Community Guide Reviews

Intervention

Effective across the body of evidence?

Intended Outcomes

Are there Other Benefits?

Are there Potential Harms?

Reduced Morbidity and Mortality

Are there Barriers to Intervention Implementation?

Are there economic evaluations?

- Costs?
- Cost-Benefit?
- Cost-effectiveness?

Is the evidence Applicable to “my population”?

Health Communication Campaigns That Include Mass Media and Health-Related Product Distribution

Individual-level changes

Increased knowledge, awareness, self-efficacy

More favorable social norms, and organizational practices

Improved access to products that directly protect and facilitate the promoted behavior

Improved attitudes, motivations, intentions regarding promoted behavior

Increased use of health-related product

Long-term increase in desired behavior

Reduced morbidity and mortality

Ecological-level changes

Societal trends (e.g., policy initiatives, major historical events)

Campaign-inspired activities (e.g., earned media)
Research Questions

- Is the intervention effective in:
  - Increasing the use of a health-related product that is promoted and distributed?
  - Producing sustained increase in desired behavior?
  - Reducing morbidity and mortality?

- Does effectiveness vary by:
  - Type of product?
  - Number of channels?
  - Duration of overall campaign?

- Does the distribution of a health-related product increase the effectiveness of a health communication campaign promoting its use?

Results
Search Yield: 1980 - 2009

- Potentially relevant articles from electronic databases and review of reference lists: 15,491
- Titles or abstracts excluded because did not fulfill inclusion criteria: 14,327
- Ordered full text for detailed review: 958
- Articles excluded after full review: 904
- Product promotion only: 31
- Product distribution studies that met inclusion criteria: 23

Body of Evidence

(n= 23 studies, 26 study arms)

<table>
<thead>
<tr>
<th>Quality of Execution</th>
<th>Suitability of Study Design</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Greatest</td>
</tr>
<tr>
<td>Good (0–1 limitations)</td>
<td>3</td>
</tr>
<tr>
<td>Fair (2–4 limitations)</td>
<td>8 (9)</td>
</tr>
<tr>
<td>Limited (&gt;5 limitations)</td>
<td>1</td>
</tr>
</tbody>
</table>

Qualifying Evidence: 22 studies with 25 study arms
Excluded: 1 study
Locations of Included Studies

- Washington (3)
- Oregon (1)
- Colorado (3)
- California (4)
- Texas (1)
- Illinois (1)
- Michigan (2)
- Ohio (1)
- Georgia (1)
- New York (1)
- New Jersey (1)
- Australia (2)
- Belgium (1)
- Israel (1)

Included Studies: Product Type

<table>
<thead>
<tr>
<th>Product</th>
<th># of Study Arms (of 25)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Child Safety Seats</td>
<td>3</td>
</tr>
<tr>
<td>Condoms</td>
<td>6</td>
</tr>
<tr>
<td>Pedometers</td>
<td>2</td>
</tr>
<tr>
<td>Recreational Safety Helmets</td>
<td>10</td>
</tr>
<tr>
<td>Smoking Cessation Aides</td>
<td>3</td>
</tr>
<tr>
<td>Sun-Protection Products</td>
<td>1</td>
</tr>
</tbody>
</table>
Change in Health Behaviors Related to Product Use
(By Product)

Favors Intervention

Absolute Percentage Point Change

Author (baseline %)

CHILD SAFETY SEATS
St. Louis Li (19.0)
St. Louis H (9.7)
Ebel (13.3)
CONDOMS
Alstead (75.0)
Kennedy (68.6)
Martinez, Donate (39.0)
Kegeles (38.3)
HELMETS
Levy (15.9)
Rouzier (8.9)
Pendergrast Hi (7.4)
Pendergrast Li (6.5)
Wood (5.8)
Morris (4.6)
Smith Hi (2.3)
Smith Li (2.0)
SMOKING CESSATION
Tinkelman (13.5)
Bauer (12.0)
Burns (9.6)

N= 17 studies, 20 study arms

Absolute Percentage Point Change
Change in Health Behaviors Related to Product Use
(By Product)

Author (baseline %)

Child Safety Seats
- St. Louis Li (19.0)
- Ebel (13.3)
- St. Louis H (9.7)

Condoms
- Alsted (75.0)
- Kennedy (68.8)
- Martinez, Donate (39.0)
- Kegeles (38.3)

Helmets
- Levy (15.9)
- Rouzier (8.9)
- Pendergrast Hi (7.4)
- Resller (7.0)
- D’Guiseppi (6.8)
- Pendergrast Li (6.5)
- Wood (5.8)
- Morris (4.6)
- Smith Hi (2.5)
- Smith Li (2.0)

Smoking Cessation
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- Pendergrast Li (6.5)
- Wood (5.8)
- Morris (4.6)
- Smith Hi (2.5)
- Smith Li (2.0)

Smoking Cessation
- Tinkelman (13.5)
- Bauer (12.0)
- Burns (9.6)

Median Absolute Change: 8.4 pct pts
IQI: 2.7, 14.5
N= 17 studies, 20 study arms
Change in Health Behaviors Related to Product Use
(By Product)

Author (baseline %)
- St. Louis Li (19.0)
- Ebel (13.3)
- St. Louis H (9.7)
- Alstead (75.0)
- Kennedy (68.6)
- Martinez, Donate (38.0)
- Kegelges (38.3)

CHILD SAFETY SEATS
8.6 (IQI: -9.2, 9.6)

CONDOMS
4.0 (IQI: -4.0, 10.8)

HELMETS
8.4 (IQI: 2.1, 18.5)

SMOKING CESSATION
33

Median Absolute Change: 8.4 pct pts
IQI: 2.7, 14.5
N= 17 studies, 20 study arms
Change in Health Behaviors Related to Product Use
(By Product)

Author (baseline %)
- St. Louis Li (19.0)
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- Smith LI (2.0)
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- Bauer (12.0)
- Burns (8.6)

Median Absolute Change: 8.4 pct pts
IQI: 2.7, 14.5
N= 17 studies, 20 study arms

- CHILD SAFETY SEATS
  8.6 (IQI: -9.2, 9.5)
- CONDOMS
  4.0 (IQI: -4.0, 10.8)
- HELMETS
  8.4 (IQI: 2.1, 18.5)
- SMOKING CESSATION
  10.0 (IQI: 3.1, 16.9)

Change in Health Behaviors Related to Product Use
(By Design Suitability)

Author (baseline %)
- Kegeles (38.3)
- St. Louis Li (19.0)
- Tinkelman (13.5)
- Ebel (13.3)
- St. Louis H (9.7)
- Burns (8.6)
- DiGuiseppi (6.8)
- Alstead (75.0)
- Kennedy (68.6)
- Martinez-Donate (39.0)
- Levy (15.9)
- Bauer (12.0)
- Pendergrast HI (7.4)
- Ressler (7.0)
- Pendergrast LI (6.5)
- Wood (5.8)
- Morris (4.6)
- Smith HI (2.5)
- Smith LI (2.0)

Median Absolute Change: 8.4 pct pts
IQI: 2.7, 14.5
N= 17 studies, 20 study arms

- Greatest Suitable Design
  7.7 (IQI: 3.2, 9.9)
- Least Suitable Design
  8.4 (IQI: 1.2, 16.7)
Additional Evidence on Effectiveness

- Eight other studies also evaluated interventions but reported outcomes that could not be plotted on the previous graph.
- These studies evaluated promotion and distribution campaigns for pedometers (2 studies), sunscreen (1 study), and condoms (2 studies).
- Overall, these studies also observed increases in the use of the health-related product.

Applicability: Evidence and Team Assessments

Population
- Overall demographics were similar to those of the United States.
- Results for specific demographic groups:
  - White only (1 study, favorable results)
  - Predominantly Hispanic (3 studies, 12.9 pct pts)
  - Predominantly male (3 studies, 8.2 pct pts)
- Team assessment:
  - Limited information
  - Likely to be generally applicable with appropriate targeting.
**Applicability: Evidence and Team Assessments**

<table>
<thead>
<tr>
<th>Applicability Category</th>
<th>Variable(s)</th>
<th># of Studies (Arms)</th>
<th>Evidence (Median &amp; IQI)</th>
<th>Team Assessment</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Intervention Characteristics</strong></td>
<td>No. of Categories of Channels (e.g., mass media, small media)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>One or two</td>
<td>4</td>
<td>6.6 pct pts (1.3, 15.2)</td>
<td>Applicable</td>
<td></td>
</tr>
<tr>
<td>Three or four</td>
<td>13</td>
<td>8.2 pct pts (-0.3, 14.0)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Five or more</td>
<td>3</td>
<td>9.6 pct pts (6.8, 28.2)</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Duration</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>0-6 months</td>
<td>5</td>
<td>10 pct pts (5.5, 14.9)</td>
<td>Explained in Rationale Statement on Website</td>
<td></td>
</tr>
<tr>
<td>7-13 months</td>
<td>5</td>
<td>0.7 pct pts (-4.8, 3.4)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>14-20 months</td>
<td>6</td>
<td>8.4 pct pts (2.8, 11.0)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>21+ months</td>
<td>4</td>
<td>19.7 pct pts (7.6, 26.7)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Not reported</td>
<td>n/a</td>
<td>n/a</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Applicability: Evidence and Team Assessments**

<table>
<thead>
<tr>
<th>Applicability Category</th>
<th>Variable(s)</th>
<th># of Studies (Arms)</th>
<th>Evidence (Median &amp; IQI)</th>
<th>Team Assessment</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Intervention Characteristics (cont’d)</strong></td>
<td>Location</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>United States</td>
<td>17</td>
<td>6.8 pct pts (1.6, 11.5)</td>
<td>Applicable</td>
<td></td>
</tr>
<tr>
<td>Outside United States</td>
<td>3</td>
<td>15.0 pct pts (1, 15.2)</td>
<td></td>
<td></td>
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<tr>
<td><strong>Applied social marketing concepts</strong></td>
<td>Self-identified as SM</td>
<td>7</td>
<td>9.6 pct pts (4.3, 15.0)</td>
<td>Explained in Rationale Statement on Website</td>
</tr>
<tr>
<td>Not Self-identified as SM</td>
<td>13</td>
<td>6.8 pct pts (1.6, 13.5)</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Product</strong></td>
<td>Price</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Free</td>
<td>7</td>
<td>10.0 pct pts (3.6, 16.9)</td>
<td>Applicable</td>
<td></td>
</tr>
<tr>
<td>Discount</td>
<td>8</td>
<td>8.9 pct pts (1.2, 15.2)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Free and/or discount</td>
<td>5</td>
<td>6.8 pct pts (-7.9, 8.6)</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
### Applicability: Evidence and Team Assessments

<table>
<thead>
<tr>
<th>Applicability Category</th>
<th>Variable(s)</th>
<th># of Studies (Arms)</th>
<th>Evidence (Median &amp; IQR)</th>
<th>Team Assessment</th>
</tr>
</thead>
<tbody>
<tr>
<td>Product</td>
<td>Distribution site</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Multiple Sites</td>
<td>7</td>
<td>6.8 pct pts (2.5,8.6)</td>
<td>Applicable</td>
</tr>
<tr>
<td></td>
<td>Community (e.g., bins, centers, parks)</td>
<td>3</td>
<td>3.6 pct pts (-6.5,15.0)</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Healthcare facility*</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Mail</td>
<td>3</td>
<td>10.0 pct pts (3.1,16.9)</td>
<td></td>
</tr>
<tr>
<td></td>
<td>School*</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Store</td>
<td>4</td>
<td>16.2 pct pts (10.0,25.5)</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Not Reported</td>
<td>3</td>
<td>0.7 pct pts (-3.0,12.9)</td>
<td></td>
</tr>
</tbody>
</table>

*Healthcare facility and school were accounted for in multiple distribution sites.

### Incremental Effects of Product Promotion and Distribution
Sources of Evidence

- Examine evidence for a broad range of products
- Examine evidence for a specific product (condoms)
- Examine results from a direct comparison study (smoking cessation)

### Broad Product Assessment

#### Health Communication Campaigns including Mass Media

<table>
<thead>
<tr>
<th>Promotion-Only (Snyder, 2001)</th>
<th>Promotion &amp; Distribution (CG Review)</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Promoted Behaviors</strong></td>
<td></td>
</tr>
<tr>
<td>Condoms, binge drinking, dental care, exercise, fruit &amp; vegetable consumption, health status screening, hypertension control, mammography, seat belt use, sex with risky partners, sleeping with milk bottle, smoking, supportive interpersonal behaviors</td>
<td>Child safety seats, condoms, pedometers, recreational safety helmets, smoking cessation aids, sun protective products</td>
</tr>
<tr>
<td><strong># of studies</strong></td>
<td></td>
</tr>
<tr>
<td>48-study meta-analysis</td>
<td>17 studies, 20 study arms</td>
</tr>
<tr>
<td><strong>Summary Effect Estimates</strong></td>
<td></td>
</tr>
<tr>
<td>Overall: 7-10% increase</td>
<td>Overall: 77.8% increase</td>
</tr>
<tr>
<td>New behaviors: 12%</td>
<td>New behaviors: 102.4%</td>
</tr>
<tr>
<td>Cessation behaviors: 5%</td>
<td>Cessation behaviors: 84.0%</td>
</tr>
<tr>
<td>Enforcement messages: 17%</td>
<td>Enforcement messages: n/a</td>
</tr>
<tr>
<td>Non-enforcement messages: 5%</td>
<td>Non-enforcement messages: 77.8%</td>
</tr>
</tbody>
</table>
Specific Product Assessment

Condom Promotion and Distribution vs. Condom Promotion-Only

<table>
<thead>
<tr>
<th>Author</th>
<th>Campaign</th>
</tr>
</thead>
<tbody>
<tr>
<td>DeVroome 1989</td>
<td>Excuses Campaign</td>
</tr>
<tr>
<td>Gold 2008</td>
<td>“You’ll Never Know Who You’ll Meet” Youth STI Campaign</td>
</tr>
<tr>
<td>Romer 2009</td>
<td>Project iMPPACS (Project in Macon, Providence, Philadelphia, Atlanta, Columbia and Syracuse)</td>
</tr>
<tr>
<td>Rosser 1991</td>
<td>The Australian Grim Reaper Campaign</td>
</tr>
<tr>
<td>Traeen 1992</td>
<td>The Beat It Campaign (Youth Culture Campaign Against AIDS)</td>
</tr>
</tbody>
</table>
Specific Product Assessment Examples: Condom Promotion-Only

The Australian Grim Reaper Campaign

Project IMPPACS

Specific Product Assessment Change in Condom Use (Design Suitability)

Author (baseline %)

PROMOTION-ONLY

de Vroome (41.7)
Traen (30.9)
Rosser (23.0)
Gold (22.0)
PROMOTION & DISTRIBUTION

Alstead (75.0)
Kennedy (68.6)
Martinez-Donate (39.0)
Kegeles (38.3)

Absolute Median Change: 1.5 pct pts IQI: -16.1, 7.3 N=4

Design Suitability

Greatest suitability: -21.4 pct pts (n=1)
Least suitable: 3.0 pct pts (IQI: 5.0, 5.7)

Absolute Median Change: 4.0 pct pts IQI: -4.0, 10.8 N=4

Design Suitability

Greatest suitability: 3.6 pct pts (n=1)
Least suitable: 4.3 pct pts (IQI: -0.07, 12.9)

Absolute Percent Change in Product Use
Additional Evidence: Condom Promotion-Only

<table>
<thead>
<tr>
<th>Study &amp; Design</th>
<th>Outcome measure</th>
<th>Summary Result</th>
</tr>
</thead>
<tbody>
<tr>
<td>Romer 2009</td>
<td>Frequency of condom use in the past 3 months</td>
<td>Non-significant 2% relative increase in frequency of condom use</td>
</tr>
<tr>
<td>Group non-randomized</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Direct Comparison Study
Smoking Cessation

Control Advertisement

Experimental Advertisement

No product

With product
Direct Comparison Study: Smoking Cessation

<table>
<thead>
<tr>
<th>Promotion (Control Ad)</th>
<th>Baseline (Avg. quitline call per day prior to ad)</th>
<th>Outcome (Avg. quitline call per day following ad)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Promotion and Distribution (Intervention Ad)</td>
<td>7</td>
<td>14</td>
</tr>
<tr>
<td>Promotion and Distribution (Intervention Ad)</td>
<td>7</td>
<td>27.5</td>
</tr>
</tbody>
</table>

Summary of Broad and Specific Assessments of Incremental Effectiveness

All levels of analyses = evidence of substantial incremental effectiveness of product distribution

- Broad Assessment:
  - 77.8% relative increase in target behaviors compared to a 7-10% relative increase
- Specific Assessment (condom use):
  - 2.5 pct pt difference in effect estimates between promotion and distribution and promotion-only
- Direct Assessment (NRT comparison):
  - Approximately 100% increase in call volume associated with the added distribution component
### Additional Information

- **Other benefits**
  - May create an opportunity for discussion with teenagers around risky behaviors (e.g., teen sexuality and condom use)
  - Retailers may respond to a campaign by making products more accessible
  - May increase related behaviors, such as shade-use in sun campaigns
  - May affect populations not originally targeted by campaign

- **Potential harms**
  - No harms were identified in this review


### Barriers to Intervention Implementation

- Businesses abused product distribution protocols (e.g., retailers selling products, which were intended to be free)
- Lack of community buy-in (e.g., when community members did not support the campaign approach)


**Summary and Conclusions**

- Overall body of evidence demonstrates that incorporating the marketing mix in a health promotion campaign by distributing products:
  - Can be effective for changing target behaviors
  - Adds value to health communication campaigns
- Reasonably consistent effects were found across different health-related products

**Summary and Conclusions (cont.)**

- Evidence is applicable to a range of settings, populations, and for different intervention characteristics
- Subsets of the evidence suggest
  - Better results from mass media campaigns using a combination of channels compared to information only campaigns
  - Somewhat better results from interventions that were self-identified by authors as social marketing campaigns
**Translation Table Guidance for this Intervention Review**

<table>
<thead>
<tr>
<th>Evidence of Effectiveness</th>
<th>Quality of Execution</th>
<th>Suitability of Design</th>
<th>Number of Studies</th>
<th>Consistent Effect Size</th>
<th>Expert Opinion</th>
</tr>
</thead>
<tbody>
<tr>
<td>STRONG</td>
<td>Good</td>
<td>Greatest</td>
<td>2 or more</td>
<td>Yes</td>
<td>Meaningful</td>
</tr>
<tr>
<td></td>
<td>Good</td>
<td>Greatest or Moderate</td>
<td>5 or more</td>
<td>Yes</td>
<td>Meaningful</td>
</tr>
<tr>
<td></td>
<td>Good or Fair</td>
<td>Greatest</td>
<td>5 or more</td>
<td>Yes</td>
<td>Meaningful</td>
</tr>
<tr>
<td></td>
<td>Good or Fair</td>
<td>Greatest or Moderate</td>
<td>5 or more</td>
<td>Yes</td>
<td>Meaningful</td>
</tr>
<tr>
<td></td>
<td>Meet criteria for SUFFICIENT but not STRONG body of evidence</td>
<td>NA</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

| SUFFICIENT                | Good                 | Greatest              | 1                 | NA                     | Meaningful     |
|                           | Good or Fair         | Greatest or Moderate  | 3 or more         | Yes                    | Meaningful     |
|                           | Good or Fair         | Greatest Moderate     | 5 or more         | Yes                    | Meaningful     |
|                           | Meet criteria for STRONG body of evidence, but Task Force opts to downgrade conclusion to SUFFICIENT for one or more reasons | Sort of |

| Expert Opinion            | Varies               | Varies                | Varies            | Varies                | Meaningful     |
|                          | NA                   | NA                    | NA                | NA                    | Option         |

**INSUFFICIENT**

| (one or more)             | Inadequate designs or execution | Too Few | No      | Small    | NA          |

**Task Force Recommendation Statement (2010)**

Based on strong evidence of effectiveness for producing intended behavior changes, the Task Force on Community Preventive Services recommends health communication campaigns that use multiple channels, one of which must be mass media, combined with the distribution of free or reduced-price health-related products.

The specific behaviors promoted in the included studies were the use of products that:

- Facilitate adoption and/or maintenance of health-promoting behaviors (i.e., increased physical activity through pedometer distribution combined with walking campaigns).
- Facilitate and/or help to sustain cessation of harmful behaviors (i.e., smoking cessation through free or reduced cost over-the-counter nicotine replacement therapy [OTC NRT]).
- Protect against behavior-related disease or injury (i.e., condoms, child safety seats, recreational safety helmets, sun-protection products).
Task Force Statement (2010 continued)

Because results were positive across all of the six behaviors evaluated, these findings are likely to apply to a broader range of health-related products that meet the review’s product eligibility criteria in the intervention definition. The effectiveness of interventions promoting the use of health-related products other than those distributed in the reviewed studies should be assessed to ensure applicability.

Research Needs

- **Better Reporting**
  - Methods used to develop campaigns
  - Need for more consistent use of terminology
  - Useful for:
    - Research synthesis
    - Guiding development of future interventions

- **Research gaps**
  - What are long-term duration effects of a campaign?
  - Are there differential effects for age, gender, race/ethnicity, or risk status?
  - Does the level of campaign intensity have an effect on health outcomes?
Thank you

Kristin Tansil, MSW
ORISE Fellow

Maren Robinson, MPH, CHES
ORISE Fellow

Guide to Community Preventive Services
Centers for Disease Control and Prevention
ktansil@cdc.gov

Back Pocket Slides
Task Force Members

- Chair – Director of Public Health, Health Officer, County of Los Angeles
- Vice Chair – Dean, School of Public Health, UNC, Chapel Hill
- Current members include:
  - State Medical Officer
  - Deans, Schools of Public Health, Medicine
  - Associate, full professors
  - Health Policy experts
  - Worksite health experts
  - Health maintenance organization scientists
  - Foundation scientists

The Clinical and Community Guides are Complementary

Delivered:
- At the individual patient level
- By doctors, nurses, other healthcare providers
- Typically in clinical settings

Clinical Guide:
US Preventive Services
Task Force Recommendations

Delivered:
- At the group/population level
- By a wide range of providers
- In a wide range of settings
  - Population-based Community Organization (worksite, school)
  - Health system

Community Guide:
Task Force on Community Preventive Services Recommendations
**Intervention Example: Bauer 2006**

Meets Intervention Definition Criteria
- Two components
- Mass media channel
- Multiple channels
- Product-use message promoted through media channel
- Distribution of product

Meets Product Eligibility Criteria
NRT (Better Quit©):
- Is shown to improve health outcomes
- Is tangible
- Requires continued use
- Is not only prescribed or administered by a health professional

*Bauer et al. Giving Away Free Nicotine Medications and a Cigarette Substitute (Better Quit©) to Promote Calls to a Quitline. J Public Health Management Practice, 2006, 12(1), 60-67*

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**Review Considerations on Applicability**

<table>
<thead>
<tr>
<th>Applicability Category</th>
<th>Variable(s)</th>
<th>Considerations</th>
<th>Preliminary Decision</th>
</tr>
</thead>
</table>
| Population             | - Race/ethnicity
- Sex
- Age
- SES                  | Effectiveness may vary by population characteristic | Examine available evidence where feasible |
| Intervention Characteristics | - Breadth (# of channel categories)
- Intensity
- Duration
- Applied social marketing
- Location            | Effectiveness may vary by intervention characteristic | Examine available evidence where feasible |
| Product                | - Distribution site
- Product use
- Price
- Product type         | Effectiveness may vary by product characteristic | Examine available evidence where feasible |
### Included Condom Promotion-Only Studies: Body of Evidence

<table>
<thead>
<tr>
<th>Quality of Execution</th>
<th>Suitability of Study Design</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Greatest</td>
</tr>
<tr>
<td><strong>Good</strong> (0–1 limitations)</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Fair</strong> (2–4 limitations)</td>
<td></td>
</tr>
<tr>
<td>2</td>
<td>Romer 2009</td>
</tr>
<tr>
<td>3</td>
<td>de Vroome 1989</td>
</tr>
<tr>
<td><strong>Limited</strong> (≥5 limitations)</td>
<td></td>
</tr>
</tbody>
</table>

Qualifying studies: 5
Excluded studies: 0

### Locations of Included Studies

- **Georgia** (1)
- **New York** (1)
- **Australia** (2)
- **Norway** (1)
- **Netherlands** (1)
### Included Condom Promotion-Only Studies: Intervention Characteristics

<table>
<thead>
<tr>
<th>Description</th>
<th>Sample activities</th>
<th># of studies</th>
</tr>
</thead>
<tbody>
<tr>
<td>Categories of Channels</td>
<td>Mass Media</td>
<td>5</td>
</tr>
<tr>
<td></td>
<td>Small Media</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td>Interpersonal Communication</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td>Social Media</td>
<td>1</td>
</tr>
<tr>
<td># of Categories of Channels</td>
<td>1-2</td>
<td>4</td>
</tr>
<tr>
<td></td>
<td>3-4</td>
<td>1</td>
</tr>
<tr>
<td>Social Marketing</td>
<td>Self identified as SM</td>
<td>0</td>
</tr>
<tr>
<td></td>
<td>Not identified as SM</td>
<td>5</td>
</tr>
<tr>
<td>Setting</td>
<td>Community</td>
<td>5</td>
</tr>
<tr>
<td>Duration of Campaign</td>
<td>1-6 months</td>
<td>5</td>
</tr>
</tbody>
</table>

### Included Condom Promotion-Only Studies: Population Characteristics

<table>
<thead>
<tr>
<th>Description</th>
<th># of studies</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sex</td>
<td>% Female</td>
</tr>
<tr>
<td>Target population</td>
<td>African American only</td>
</tr>
<tr>
<td></td>
<td>Sexually active teenagers</td>
</tr>
<tr>
<td></td>
<td>Male only</td>
</tr>
<tr>
<td></td>
<td>At increased risk for HIV</td>
</tr>
<tr>
<td></td>
<td>Youth/Teens</td>
</tr>
<tr>
<td></td>
<td>College students/Apprentices/Young adults</td>
</tr>
<tr>
<td></td>
<td>Adults/Parents</td>
</tr>
</tbody>
</table>
Product Selection: Exhaustive List

- airbags
- anti-lock brakes
- antiseptic hand rub
- aspirin
- bear spray
- breakaway baseball/softball bases
- birth control pills
- blood pressure monitors
- cancer screening tests
- child-proof caps
- child safety choke tubes
- child safety seats
- clean needles
- condoms
- CO alarms
- dog leashes
- disaster preparedness kits
- ear plugs/noise reduction devices
- educational material
- exercise bikes
- exercise videogames
- 4-sided swimming pools
- folic acid
- fruits and vegetables
- grab bars
- gunlock
- heart monitor
- helmets (motorcycle, bike, wheelchair)
- home fire extinguisher
- home pregnancy tests
- insect repellent
- jump rope
- lead paint detector kits
- lockable poison cabinets
- low fat dairy products
- mouth guards for athletes
- oral health products
- outlet covers
- parks
- pedometers
- plan B
- personal flotation devices
- protective eyewear (sports)
- radon detection kits
- reflective materials
- seat belts
- smoke alarms
- smoking cessation aid (gum, lozenge)
- sponge
- stair gates
- sun protection products
- supplies for self-monitoring blood glucose
- telephone hotlines
- tests (HIV, Chlamydia)
- walking paths
- window guard bars
- wrist/elbow pads for rollerblading
- vitamins and supplements (not including folic acid)
- Vaccines (e.g., Gardasil)

Product Selection: Met Product Criteria

- blood pressure monitors
- condoms (female, male)
- child safety seats (booster, infant)
- ear plugs/noise reduction devices
- heart monitor
- helmets (motorcycle, bike, other sports)
- insect repellent
- motorcycle helmets
- mouth guards for athletes
- pedometers
- personal flotation devices
- protective eyewear (sports)
- reflective materials
- smoking cessation aids (gum, patch, lozenge)
- folic acid (supplement, multivitamin)
- oral health (dental floss, tooth brush)
- sun protection products (sun screen, shirts)
- wrist and elbow pads (e.g., rollerblading)
Product Selection:
Met Product & Campaign Criteria

- child safety seats
- condoms
- over-the-counter nicotine replacement therapy
- pedometers
- recreational safety helmets
- sun protection products