Warnings for Cigarettes

Dan Romer
Annenberg Public Policy Center
University of Pennsylvania

Presentation to the Philadelphia Board of Health
October 20, 2011
Outline

• How do warnings for cigarettes work?

• Evidence from research

• Implications for point of sale warnings
Naïve Model of Warning Effects

Warning → Risk Perception → Avoid Product
Warnings in Context

• Warnings for cigarettes are never delivered in a vacuum
• Advertising and promotion compete with warnings
• Over 50 years of heavy use in US has left a large proportion of smokers who continue to influence others to smoke
• Naïve model therefore not adequate
Risk Perceptions

• Our research in collaboration with Paul Slovic shows that risk perceptions for cigarettes influence likelihood of trial, subsequent progression, and quitting

• However, their influence is only effective if they arouse emotional reaction to the prospect of smoking
Modified Model

- Risk Perceptions
- Negative Feelings
- Less Smoking Trial
- Less Smoking Progression
How to Communicate Risk?

• Focus has thus been on how best to communicate risk so that warning is effective
• Canadians introduced pictorial warning labels for cigarettes in 2000
• Research surrounding this form of warning has been a focus
Pictorial Warnings

• Research has consistently shown that pictures that reinforce or emphasize the text in warnings are more effective than text alone

• In addition, explanatory text is helpful for communicating the risk and educating consumers about smoking effects
Canadian warning

WARNING
CIGARETTES CAUSE LUNG CANCER
Every cigarette you smoke increases your chance of getting lung cancer.

Health Canada
WARNING

CIGARETTES ARE HIGHLY ADDICTIVE

Studies have shown that tobacco can be harder to quit than heroin or cocaine.

Health Canada
WARNING
CHILDREN SEE CHILDREN DO

Your children are twice as likely to smoke if you do. Half of all premature deaths among life-long smokers result from tobacco use.

Health Canada
WARNING

CIGARETTES HURT BABIES

Tobacco use during pregnancy reduces the growth of babies during pregnancy. These smaller babies may not catch up in growth after birth and the risks of infant illness, disability and death are increased.

Health Canada
WARNING

CIGARETTES CAUSE STROKES

Tobacco smoke can cause the arteries in your brain to clog. This can block the blood vessels and cause a stroke. A stroke can cause disability and death.

Health Canada
WARNING

TOBACCO USE CAN MAKE YOU IMPOTENT

Cigarettes may cause sexual impotence due to decreased blood flow to the penis. This can prevent you from having an erection.

Health Canada
SURGEON GENERAL'S WARNING:
Smoking Causes Lung Cancer,
Heart Disease, Emphysema, and
May Complicate Pregnancy
Canadian Warning Study

• Conducted an experiment randomly exposing 86 smokers and 83 nonsmokers ages 18+ to either all 16 Canadian labels or all 4 US labels (4 times)

• Examined viewing time, reactions to the warnings, reactions to smoking cues following exposure, and images of smokers

• Peters, et al., 2007
US vs. Canadian Labels

Emotional Reaction to Labels

![Graph showing the emotional reaction to labels for US and Canadian products, with mean values for each category.](image)
Reactions to Smoking Cues

Affect towards smoking cues (range = -1 to +1)

- Exposed to U.S. labels
  - Nonsmokers (n=81)
  - Smokers (n=88)
  - Affect towards smoking cues:
    - Nonsmokers: -0.9
    - Smokers: -0.6

- Exposed to Canadian labels
  - Affect towards smoking cues:
    - Nonsmokers: -1.0
    - Smokers: -1.0
Smoker Image

• In relation to point of purchase, we asked for impression of someone who bought a pack of cigarettes at the store along with other purchases
Image of Smoker

-0.45
-0.4
-0.35
-0.3
-0.25
-0.2
-0.15
-0.1
-0.05
0

US Smoker
US NonSmoker
CA Smoker
CA NonSmoker
Experience in Other Countries

- Research conducted elsewhere shows that warnings increase knowledge of risks
- Are helpful to smokers trying to quit
- Help to promote quit lines when they are included with warning

- Hammond et al., 2003, 2004; Borland et al. 2009
FDA Labels

• FDA proposed a set of nine images to go along with text warnings mandated by Congress
• But they did not include explanatory text in the warnings
• So, we tested the effects of adding that information in addition to picture
• Results on FDA comment site

http://www.regulations.gov/#!documentDetail;D=FDA-2010-N-0568-0638
FDA Study

- Randomly assigned 150 smokers ages 18-24 and 150 smokers ages 25+ to each of 16 warning conditions (~5000 participants)
- Used same panel and procedure as FDA
- Contrasted (a) simple warning on side of pack with (b) pictorial warning on front and (c) elaborative text
- Assessed emotional reaction to smoking following exposure
WARNING: Smoking during pregnancy can harm your baby
WARNING! SMOKING DURING PREGNANCY CAN HARM YOUR BABY.

WARNING: SMOKING DURING PREGNANCY CAN HARM YOUR BABY
Tobacco use during pregnancy increases the risk of preterm birth. Babies born preterm are at an increased risk of infant death, illness, and disability.
WARNING: Cigarettes are addictive
WARNING!

CIGARETTES
ARE ADDICTIVE.

Cigarettes are addictive
Studies have shown that tobacco
can be harder to quit than heroin
or cocaine.
Elaboration also makes the warning more credible.
• Do pictures have to be gruesome?

• Apparently not. They just have to be consistent with the text and draw viewer’s attention
• Time to begin scanning the warning was faster in the pictorial condition

• Recall of the text was greater in the pictorial condition
WARNING
SMOKING DURING PREGNANCY CAN HARM YOUR BABY
Tobacco use during pregnancy reduces the growth of babies during pregnancy. These smaller babies may not catch up in growth after birth and the risks of infant illness, disability and death are increased.

WARNING! SMOKING DURING PREGNANCY CAN HARM YOUR BABY.

WARNING: SMOKING DURING PREGNANCY CAN HARM YOUR BABY
Tobacco use during pregnancy increases the risk of preterm birth. Babies born preterm are at an increased risk of infant death, illness, and disability.
Proportion feel bad about smoking

Condition

Canada Mother, Canada NICU, FDA Baby Canada Message, FDA Baby, Harm Baby Control

Error bars: 95% CI
Point of Sale vs. Package Warnings

• Point of Sale may have ability to reach persons who don’t currently use cigarettes and may discourage first purchase
• FDA warnings on cigarette advertising may not be visible at cash register
• So, point of sale can complement on-pack and advertising warnings to strengthen the message if done correctly
Conclusions

• Pictorial warnings more effective than text
• Elaboration can enhance the impact and make the message more credible
• Adding quit information can promote those services
• Point of sale warnings may be another way to reach consumers prior to purchase