What to Say: Effectiveness of Food Irradiation Messages

Dr. Christine M. Bruhn
Retired Director, Center for Consumer Research, Department Food Science and Technology
University of California, Davis
People make food handling errors

- Hygiene recommendations are not always followed
  - 64% don’t wash hands before meal preparation
  - 33% don’t use soap when washing
  - 38% don’t wash after handling raw chicken

- Cooking is not always adequately
  - 25% of burgers don’t reach 160
  - 40% undercook their chicken

Phang and Bruhn, 2011, Bruhn, 2014
Who We Contacted

Internet survey based upon 765 food preparers over age 18 from San Francisco and Chicago

What We Asked

Food safety concerns
Awareness of irradiation
Response to messages describing irradiation
Initial Response To Irradiation

Heard of irradiation 41%

Would buy products labeled
  Irradiated gd beef 21%
  Gd. Beef, cook to 160F 65%
  Gd. Beef 84%

Feng, Bruhn, Marx, 2016
Basic Description

Irradiation makes food safer by reducing harmful bacteria that could cause illness.
Response After Description

• 55% Willing to buy irradiated meat if it were the same price as non-irradiated

• 68% Among those who would buy (n=418), would buy irradiated if 10% more expensive

• 55% Among those who would buy (n=284) would still buy irradiated if it was 20% more expensive

Feng, Bruhn, Marx, 2016
Authority Messages

Who says irradiation is safe?

• Food irradiation has been approved in over 40 countries including …

• The US Food and Drug Admin determined that irradiated food is safe

• The World Health Organization, Centers for Disease Control and Prevention and the US Department of Agriculture have also endorsed the safety of irradiated food
Nutrition Messages

What does irradiation do to food?

• Irradiation is currently used for some spices, food packages, medical and hospital supplies …

• Irradiation does not make foods radioactive, compromise the food’s nutritional quality, or produce noticeable changes to taste, texture, or appearance

• Changes made by irradiation are so minimal that you have to read the label to know if it has been irradiated
Benefits Messages

What are the benefits of irradiation?

• Irradiation can prevent foodborne illness (stomach flu) because it greatly reduces harmful bacteria like *Salmonella, E coli*, and *Listeria*. It also replaces toxic chemicals used to destroy bacteria on spices.

• Food stays fresh longer because irradiation reduces the number of bacteria that cause spoilage.

• Irradiation can even replace toxic chemicals currently used to destroy insects that hitch hike on fresh fruits.
Volunteers were divided into 7 groups to examine their response to messages about irradiation.

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Interest in buying irradiated meat after reading messages

- *Authority* resulted in the lowest increased interest in buying *61% would buy*
- *Benefits* was the most effective single message *72% would buy*
- *Benefits plus Nutrition* was the most effective combination message *74% would buy* and *68% would pay a 10% premium*
Reasons for not selecting irradiated ground beef or poultry (N=205)

- Healthy to eat some harmful bacteria: 4
- Irrad is not safe: 6
- Irrad is not necessary: 14
- Irrad is not natural: 38
- Already cook properly: 60
- Need more information: 78

Multiple answers accepted

Feng, Bruhn, and Marx 2016
Trustworthy Information Sources

- **Very Trustworthy**
  - Food manufacturers: 7
  - Friends or family: 16
  - Government (USDA, FDA, WHO): 18
  - Health profes. (doctor nurse dietitian): 58

- **Somewhat trustworthy**
  - Food manufacturers: 28
  - Friends or family: 46
  - Government (USDA, FDA, WHO): 44
  - Health profes. (doctor nurse dietitian): 25

Feng, Bruhn, Marx, 2016
Summary

- Consumer have little knowledge about irradiation
- Basic information increases interest in buying
- Few consider irradiation unsafe
- People respond positively to potential benefits
- Convey messages through trusted sources
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• Yaohua (Betty) Feng, PhD