What information do people want and need to change behavior

Larry Wissow
Professor
Health, Behavior and Society
Johns Hopkins School of Public Health
Goals for today

- What happens when try to highlight an individual’s risk/vulnerability
  - Biases
  - Emotional and personality influences
- Tailoring and framing effects
- Alternative approaches with youth
- The need for market testing
Perceived vulnerability

- Key factor in nearly all health behavior theories
- Seem to be good examples of applications to behavior change campaigns
  - Smoke detectors
  - Seat belts
Perceived vulnerability

- Presentation of risk information seems to help with relatively simple precautionary behaviors
- Less effective for serious, socially complicated, repetitious acts
Optimistic bias

- Acknowledge that risk is elevated but see oneself as less likely than others to suffer consequence
  - Acknowledge relative risk but distort absolute risk to self
Aside about optimism

- Some studies find that among chronically ill “unfounded optimism” linked to longevity and quality of life (Taylor reading)
Teens and smoking

- Increasing prevalence of teen smoking with age *paralleled by* increase in awareness of risks
- Teens “cope” by:
  - Normalizing behavior (increase estimates of proportion of others who smoke)
  - Avoid thinking about negative consequences
Personality and risk information

- "High monitors" – on the lookout for information about risk
  - May become more avoidant and anxious
- High self-esteem
  - Defensive if current risk-management strategies shown to be ineffective
Familiarity and risk information

- Novel information has most impact
  - About a novel risk (radon versus fire detector)
  - About a novel marker (C-reactive protein for heart disease)
- Much harder to get attention about risks that are commonly cited/discussed
Readiness to change

- Risk information not that useful to individuals who have decided to act but not yet done so
- Risk information useful to those still deciding about action
  - Radon detector example
Tailoring versus individualizing

- Use terms interchangeably?
  - Tailoring
    - For stage of decision-making
    - Prior awareness of risk/novelty
    - Personality issues
    - Complexity of task
  - Individualizing
    - Risk information about you in particular
Example of individualizing

- Risk of heart disease
  - Smoking
  - Family history
  - Hypertension
  - Cholesterol
  - Weight/body mass index
Individualized risk profiles

- Overall associated with only slightly increased uptake in willingness to screen
- Better results with those at high risk
- Providing actual numbers seems less effective than simply listing risk factors
Concerns about individualizing

- Greater amounts of detail seem counter-productive in two studies of mammography
  - Reduced uptake of screening

- Reasons?
  - Wary of being oversold?
  - Mistrust of quantitative data?
  - Too much anxiety?
Problems with framing

T and K: decisional frame is "decision-maker's conception of the acts, outcomes, and contingencies associated with a particular choice"

Any given decision problem can be framed in more than one way. They compare it to a visual image: for example, height of two mountains -- relative height varies with the direction you look from, but we know that the mountains aren't changing despite the illusion
Framing from a sociolinguistic perspective (Lakoff)

- Frames often occur as metaphors that serve as shorthand for complicated ideas
  - The country as a family: “Our founding fathers…”
Problems attributable to framing

- Attempts to refute frames can re-enforce them
  - To argue that intelligent design is not science is to admit that it might be (science frame)
  - To argue that intelligent design is a religious belief frames the discussion as theological
- Facts discrepant with frame often discarded or reconsidered (see following slides)
Frames and probabilities - Risk aversion

Apparent rule people follow:

- In a situation where there is a presumption for gain (saving lives), *avoid risks* of loss
- In a situation where there will be losses (people will die), *take risks* in favor of gain
Example of risk aversion

- You have an 80% chance of being cured
  - I suggest that you accept the standard, proven therapy
- You have a 20% chance of not living from this illness
  - I suggest that you try a new therapy to improve your chances
Certainty valued more than chance

- Say that there are two strains of virus, A and B
- They cause disease X with equal prevalence in the environment
- Would you rather have:
  - A vaccine that is 100% effective against virus A?
  - A vaccine that is 50% effective in preventing disease X?
Violations of utility models

Decision-making under risk: expected utility model:

a. look at the choices, the events that will happen if you take each choice.
b. each event has some inherent utility to you (plus or minus), and a probability that it will happen if you take that course
c. to decide which is preferred choice, just add up the "utility x probability" of the various outcomes and see which maximizes -- rational decision-maker will pick that one.
Violations of utility model

a. Values don't necessarily exist as fixed things before the decision; they are often created in the decision-making process ("wouldn't you really rather have a...")
b. Positive & negative utilities get different weights: losses weighted relatively more strongly than gains (displeasure of losing 100 > pleasure of getting 100)
c. Relative versus absolute differences: 10-20 seen as bigger difference than 100-120 (maybe it is?!)  
d. Focus more on low than high probability events:
   - low probabilities associated with bad outcomes are over-weighted
   - high probabilities are under-weighted even more so than low are over-weighted
   - Example: pick plan with best cancer care rather than the one that offers best health maintenance
Long-term Pattern of Decline in Tobacco Consumption in California
(Lost Sales, $2 Billion; Packs Worth $3 Billion)

Tobacco consumption
Historical trend

Proposition 99
Media campaign suspended
Media campaign focused on youth industry attacks muted

Packs Smoked in California (Billions)

Fiscal Year

'81 '83 '85 '87 '89 '91 '93 '95 '97

Evidence from focus groups - possible themes for anti-smoking campaigns

- Addiction
  - Not effective as a theme on its own
  - Works along with manipulation theme
- Benefits of cessation
  - Similar to addiction
- Youth access
  - Adults: not effective – doubted interventions would help
  - Youth: appeal to altruism – stop children from smoking
Possible themes (2)

- Long term health consequences
  - Adults: somewhat effective
  - Youth: already heard it, seems far off, likely to be exception
- Short term consequences (cosmetic)
  - Youth: funny, not realistic portrayals, seen as trivial
Possible themes (3)

- Industry manipulation
  - Adults: redirects guilt to anger
  - Youth: undermines value of smoking as rebellious and self-assertive
    - Gives youth new enemy, new interest to familiar topic
- Secondhand smoke
  - Adults and youth: appeals to altruism, counters idea that smoking is sign of freedom and independence
Evidence from drug PSA’s (Fishbein “boomerang”)

- Thirty anti-drug public service announcements for TV
- Adolescent audiences rated emotional responses, perceived effectiveness, knowledge gain
- 6/30 rated as increasing interest in drugs
  - Global admonishments (just say no)
  - Messages about familiar threats
- 8/30 no different than control video
Factors associated with perceived effect

- Realism
- New knowledge about negative consequences
- Negative emotional response
- Specificity to serious drug
The Whole Truth

Florida program aimed at reducing teen smoking

- billboards
- mobile “truth van” drop-in center
- web site: www.wholetruth.com
- associated with 25-50% declines in reported smoking among middle and high-school students (year-to-year change in state survey of students)
The Whole Truth

Key concepts:

- peers are the spokespersons in print and in person
- harm of smoking emphasized but is only partial focus
- main message is extent to which teens have been manipulated by tobacco industry
- promotes empowerment, revenge! “Stick it to the Marlboro Man”
The “truth” campaign

- Campaign included very high density advertisements ($26 million dollars in first year), billboards, "truth" van and drop-in center at youth events, “gear”
- Young people featured prominently as staff, presenters, involved in design.
The “truth” campaign

- "We are not trying to tell you how to live your life; you have enough people telling you that. What we do here is give you a lot of information about how the tobacco industry works and what they will to do get the money out of your pocket."