

The impact of health information overload on attention to information and cancer risk reduction behavior

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NY Times headlines

- Aspirin Is Seen As Preventing Breast Tumors
- PERSONAL HEALTH; Another Study Finds a Link Between Excess Weight and Cancer
- Vitamin E Found to Cut Cancer Risk For Prostate
- Lean Diet in Childhood May Cut Risk of Cancer
- Studies Confirm Relationship Of Alcohol to Breast Cancer

Increase in health information in media

- Google search of “cancer risk” yielded 12.8 million links
- In the past 3 yrs, CNN, ABC, NBC and CBS have done 472 stories on cancer (does not include local news stories or morning/afternoon newscasts)
- Lexis Nexis search for “cancer risk” in last month in NY news sources generated articles on association between cancer and:
 - Folate
 - Family history
 - Nicotine
 - Alcohol
 - PCBs (polychlorinated biphenyls)
 - Hormone therapy
 - Vaccine for HPV
 - Exposure to asbestos
 - Onions and shallots (phenolics and flavonoids)

Benefit of increased health information in media



The problem: potential for information overload and confusion

- Information presented on **many** causes of cancer and potential cancer risk reduction behaviors
- Evidence is **inconclusive** for many causes and preventive behaviors
- **Contradictory** recommendations:
 - Pro apples: recommendation for 5 a day (now 9?)
Anti apples: pesticides
 - Anti fat: causes heart disease
Pro fat: red meat (despite the fat) is better than carbs
- *Overwhelming: amount and demand on layperson to make sense of it all*

Information overload

“The public is now suffering from a serious case of information overload... The changes in health communications [every minor development being broadcast] have added up to massive public confusion about the causes of cancer and how cancer might be prevented or treated.”

– Jane Brody from NY Times in JNCI Monographs 1999

Today's Random Medical News

from the New England
Journal of
Panic-Inducing
Gobbledygook



CAN CAUSE



IN

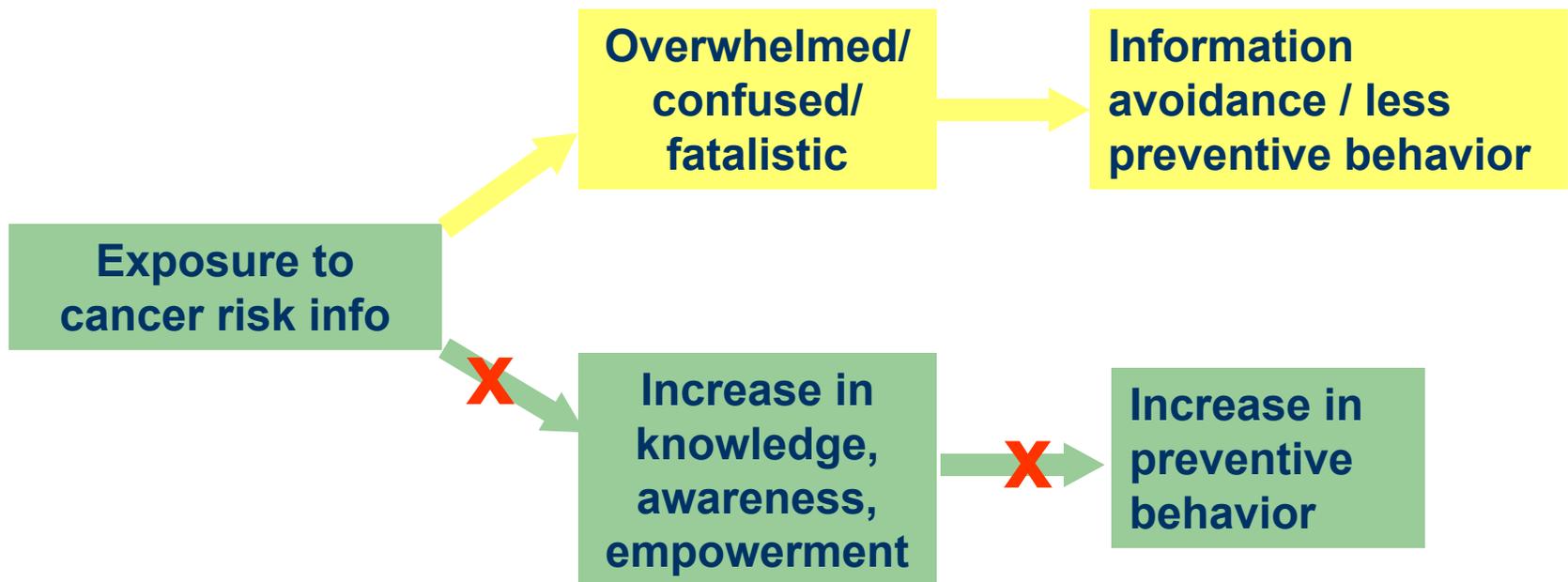


ACCORDING TO A
REPORT RELEASED
TODAY...

NEWS

Jim Borgman
The Cincinnati Enquirer
King Features Syndicate

Possible unintended consequence



May differentially impact certain groups

- How much attention is paid?
- What is the person's ability to process the information?
 - If have difficulty processing:
 - may ignore and be shielded from becoming overwhelmed
 - or may become even more overwhelmed
- What is personal experience?
 - May override media effects
 - E.g. “My dad smoked for 50 years and never got cancer.”
 - E.g. “My grandmother did everything right and still got cancer.”

What do we know?

- Majority of Latinas expressed feeling lack of control over cancer prevention (Carpenter & Colwell 1995)
- Minorities (Latinas, African-Americans) more fatalistic about risk than Caucasians (Powe 1995)
- Latinas (but not Anglo) women who believed that “there’s nothing one can do to prevent cervical cancer” were less likely to have had Pap smear (Chavez et al 1997)
- Fatalistic beliefs significantly increase with nonadherence to colorectal screening (Powe 1995)

Objectives

- To examine information overload and fatalistic beliefs about cancer risk in the general public
 - Individual differences (selectivity in media effects)
 - Whether endorsement of these beliefs is associated with
 - Greater health information avoidance
 - Decreased trust of health information in media
 - Less healthy behavior
 - Less cancer screening

Analyses

- HINTS I data
- All subjects (N=6,369) included in analyses of
 - attention to health news
 - trust in cancer risk information in media
 - preventive health behaviors (e.g., exercise)
- Subjects aged ≥ 50 yrs (N=2,760) included in analyses of cancer screening behavior
 - Gender appropriate (e.g., only males for PSA test)

Predictor measures (1-5 agreement scale)

- *“It seems like almost everything causes cancer”*
- *“There’s not much people can do to lower their chances of getting cancer”*
- *“There are so many different recommendations about preventing cancer, it’s hard to know which ones to follow.”*

Outcome measures

- Attention to health news
 - Average of attention to health news in media sources
- Trust in cancer risk information
 - Average of trust in cancer risk information in media sources
- Health behaviors (yes/no)
 - Smoker
 - Plan to quit smoking
 - Exercise in past month
 - Work up a sweat exercising at least once a week
- Cancer screening (ever had / never had)
 - Colon screening (FOBT, colonoscopy or sigmoidoscopy)
 - Pap smear
 - Mammogram
 - PSA test

Prevalence of these beliefs

	% strongly agreed or agreed
<i>“It seems like almost everything causes cancer”</i>	46
<i>“There’s not much people can do to lower their chances of getting cancer”</i>	27
<i>“There are so many different recommendations about preventing cancer, it’s hard to know which ones to follow.”</i>	71

Individual differences

	Agreement with...		
	<i>“Everything causes cancer”</i>	<i>“Not much can do to lower chances”</i>	<i>“Too many recommendations”</i>
Education	↑ with less edu	↑ with less edu	↑ with less edu
Gender	Females > males	NS	NS
Race	Blacks > Whites Spanish speaking Hispanics > Whites	Blacks > Whites Spanish speaking Hispanics > Blacks, Whites English speaking Hispanics > Whites	NS

Association with behavior

- “*It seems like almost everything causes cancer*” stronger in those who:
 - did not exercise in past month ($p < .0001$)
 - do not work up a sweat exercising at least once/week ($p = .003$)
 - never got screened for colon cancer ($p = .050$)

Association with behavior

- “*Not much can do to lower chances*” stronger in those who:
 - Pay less attention to health news ($p < .0001$)
 - Less trusting of health news ($p < .0001$)
 - Smoke ($p = .034$)
 - Smokers who do not plan to quit ($p < .0001$)
 - Did not exercise in past month ($p < .0001$)
 - Do not work up a sweat exercising at least once/week ($p < .0001$)
 - Never had a pap smear ($p < .0001$)
 - Never had a mammogram ($p = .027$)

Association with behavior

- “*Too many recommendations*” stronger in those who:
 - Pay less attention to health news (p=.040)
 - Less trusting of health news (p.008)
 - Smoke (p<.0001)
 - Did not exercise in past month (p<.0001)
 - Do not work up a sweat exercising at least once/week (p<.0001)
 - Never had colon cancer screening (p=.039)

Conclusion

- Feelings of information overload/fatalism regarding cancer risk are prevalent
- Individual differences in beliefs:
 - Stronger in minorities with less education
- Those who more strongly endorse these beliefs:
 - Pay less attention to health news
 - May miss important new information
 - Less trusting of health news
 - May not believe important, credible information
 - Less likely to engage in cancer risk reduction and screening behaviors
 - Places them at higher cancer risk (and other risks)

**Exposure to cancer
risk information**

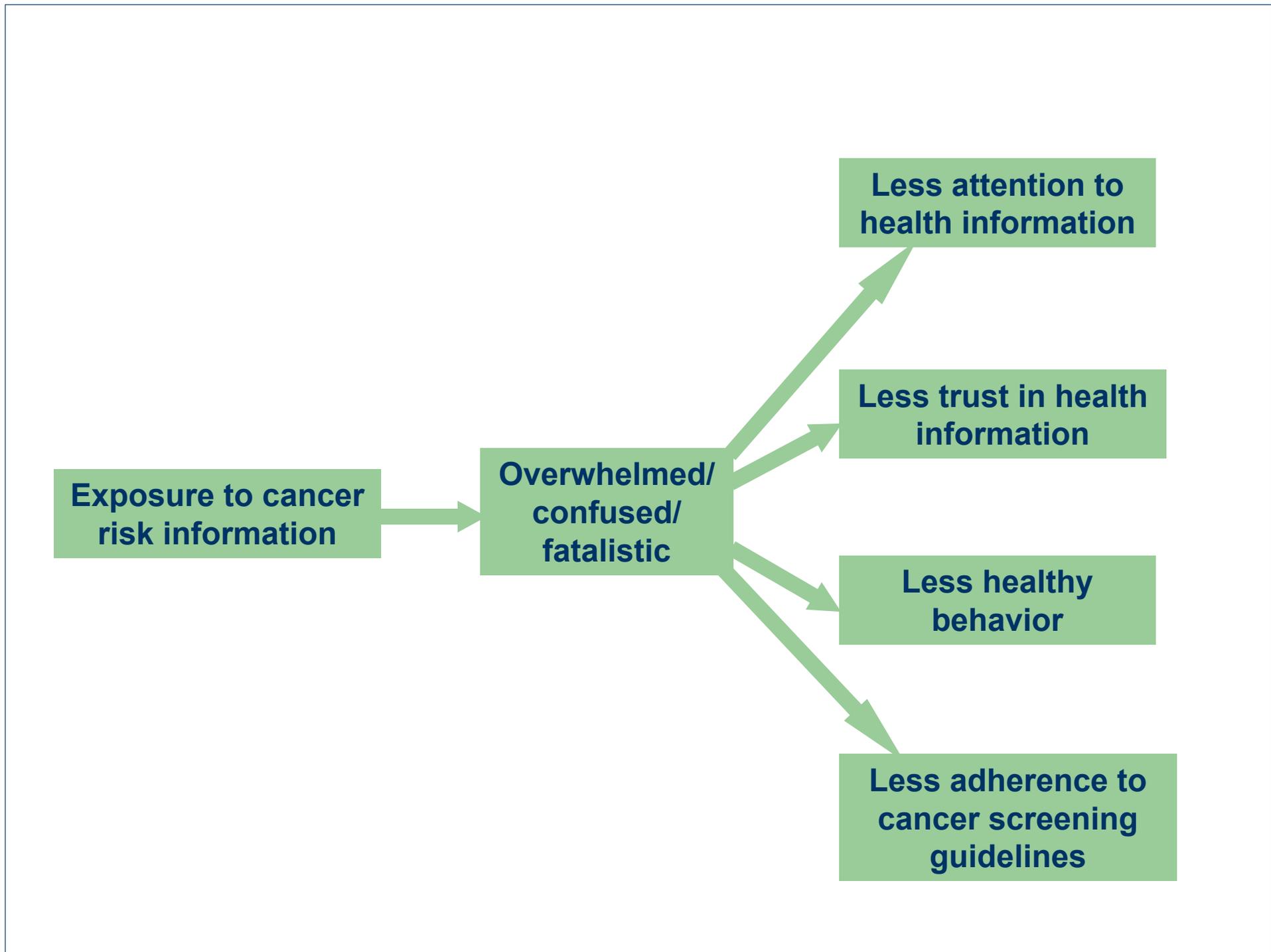
**Overwhelmed/
confused/
fatalistic**

**Less attention to
health information**

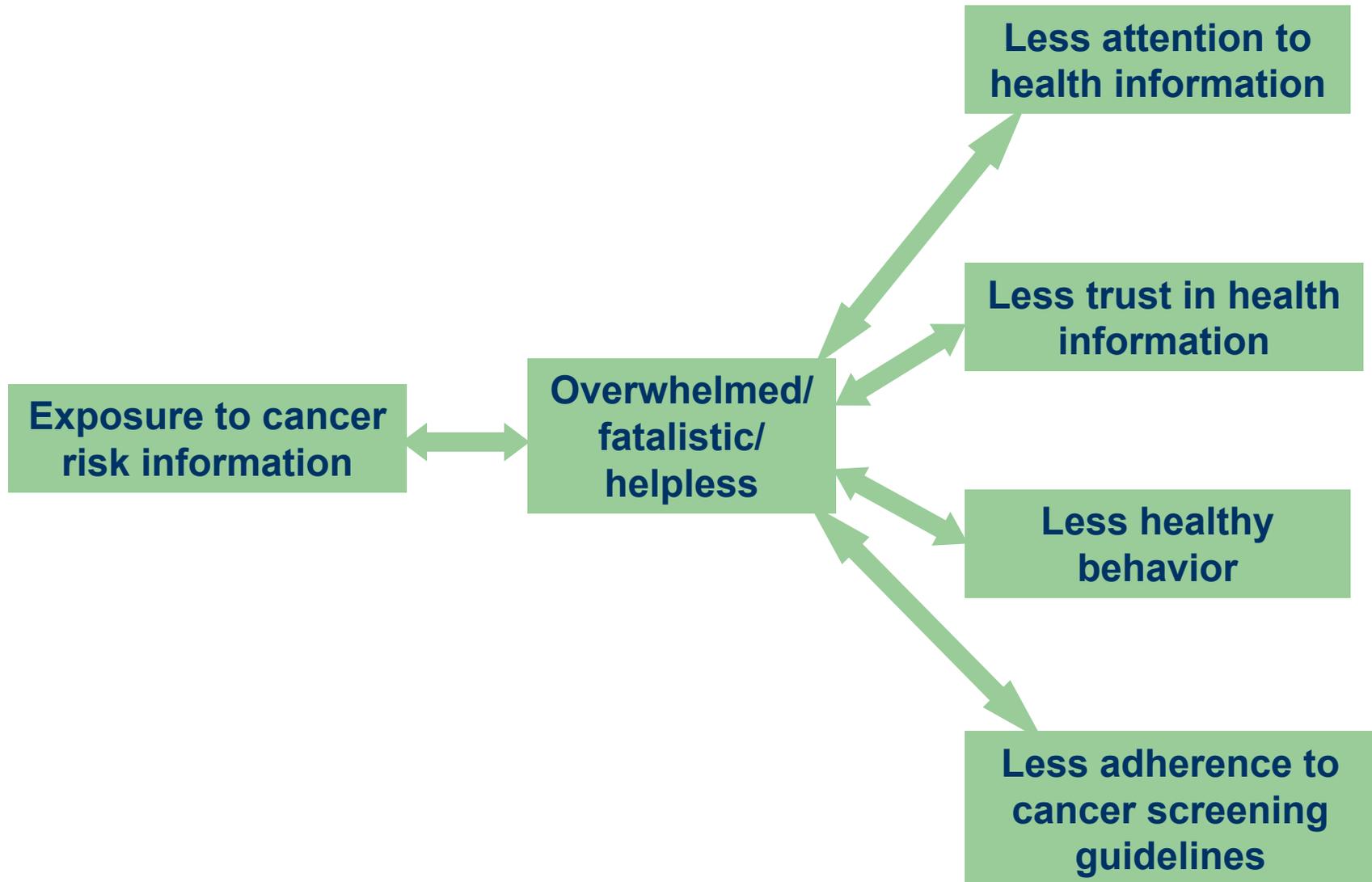
**Less trust in health
information**

**Less healthy
behavior**

**Less adherence to
cancer screening
guidelines**



Reverse pathway is possible



Recommendations

- Suggests need for regular summaries and updates released by professional organizations to media for dissemination to the public
 - To consolidate and organize cancer risk information for the public
 - Resolve inconsistencies
 - Facilitate appropriate conclusions from data
 - To update public on what is known