



The Media Narrative of Environmental Health

A FRAMEWORKS RESEARCH REPORT: December 2012

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INTRODUCTION

Researchers have analyzed media coverage of environmental health issues as a way to track how contagions spread through populations¹ and to predict public response to particular environmental health concerns.² Research has also examined how media discourse can shape public perception of environmental risks and safety.³ However, few studies have systematically documented patterns in the coverage of a wide range of environmental health issues or analyzed media frames related to the field and practice of environmental health. By documenting media patterns, comparing them to expert views, and predicting their effects on public understanding, the research presented here contributes uniquely to the literature on media and environmental health.

The media analysis presented here was conducted by the FrameWorks Institute for the American Public Health Association (APHA), with funding from the CDC's National Center for Environmental Health (NCEH). It represents a critical component of a larger communications project, which aims to document public understanding of environmental health issues and to give environmental health professionals empirically-tested strategies to increase and expand public support for this field and its work. In this paper, we first identify patterns in the media coverage that form a dominant narrative or story about environmental health. Second, we examine the degree to which these media patterns reflect the messages that environmental health experts and advocates are trying to disseminate. Finally, we analyze how the media coverage compares with and is likely to impact public understanding of environmental health issues.⁴

News media is a key source of the public's information on environmental health and related issues.⁵ Therefore, identifying patterns in media coverage about environmental health is critical to understanding why gaps exist between public and expert thinking and how these gaps might be bridged. Furthermore, this analysis points to the ways current coverage might be leveraged to better align expert and public perspectives on environmental health issues. Media coverage plays a powerful role in shaping and reinforcing how the public 1) defines environmental health, 2) understands how environmental health issues work, and 3) explains the relationship between environmental issues and their personal experiences. At the same time, the media is also fed and reinforced *by* dominant public understandings of environmental health.⁶ The goal of strategic communications then is to understand and interrupt this cycle. In this report, we identify potential reframing efforts that generate new media stories, which will ultimately expand public understanding of and increase support for environmental health programs and policies.

EXECUTIVE SUMMARY

Findings

This research identifies the following dominant features of media stories about environmental health:

- **Environmental Health is not a recognizable field in current media coverage.** Stories rarely use the terms “environmental health” or “environmental public health,” even when discussing issues that fall within the field’s boundaries as defined by experts.
- **Environmental health practitioners are poorly represented.** While coverage often features academic researchers, the professionals who do the daily work of environmental health, such as health inspectors or sanitation workers, are notably absent from the coverage.
- **Contamination dominates.** Media coverage of environmental health focuses overwhelmingly on issues of contamination. In comparison, other issues related to the core concerns of the environmental health field—such as sanitation, built environments, or the availability of healthy food—receive little attention.
- **Coverage focuses on causes rather than solutions, and often fails to identify responsible agents.** The media emphasizes causes and conflict over solutions and cooperative action. When solutions are included, they are often described in vague, simplistic or inconsistent ways.
- **Individual businesses, not business in general, are the culprit of environmental health threats.** Though the media attributes responsibility for particular incidents to specific businesses, the overall tone of the coverage is not critical of business or industry as a whole.
- **Environmental health is a zero sum game.** Despite their generally pro-regulation stance, media stories often promote the idea that regulation comes at the cost of economic prosperity. Regulation is portrayed as a zero sum game or a “war” between business interests and the public’s health.
- **There are no clear heroes in environmental health issues, but there are many villains.** Media stories place various actors in the role of the bad guy. Journalists and commentators portray the government as inept, businesses as focused on maximizing profits even at the expense of public health, scientists as beholden to business interests, and the public as ignorant and dismissive of

scientific evidence. However, there is no clear or consistent “good guy” in many of these stories.

Taken together, these features comprise a dominant media narrative of environmental health summarized below:

Dominant Media Narrative of Environmental Health

Orientation:

1. Environmental health is about threats and dangers.
2. These threats and dangers result from contaminated food, water or radiation.
3. They happen in specific places, but do not differentially impact specific groups of people.
4. Environmental health issues are fundamentally about tradeoffs between regulation and economic growth.
5. Environmental health is the work of academic researchers.

Causality:

1. Environmental health problems result from things becoming contaminated — in other words, contamination is the cause behind environmental health problems.
2. It’s unclear who causes or is responsible for this contamination, but sometimes the government is involved.
3. When government is involved, it is sometimes inefficient in preventing environmental health problems, but at other times it heroically protects Americans.

Solutions:

1. There are few viable solutions to environmental health problems.
2. Where solutions exist, they are typically the responsibility of the government (in the case of greater regulation) or the individual consumer (in the case of making better choices).

IMPLICATIONS

The following are the implications of this media narrative for public understanding of environmental health issues:

- The media narrative is likely to reinforce the public's narrow understanding of environmental health issues as being about contamination at the individual household level.
- The media's reliance on the value of "health," combined with its focus on improving individual decisions as the solution to environmental health problems, does not challenge the public's existing understanding of environmental health as an individual-level issue.
- The media's use of war metaphors to describe tradeoffs between environmental health and economic issues is highly counterproductive. It discourages consideration of multi-sector solutions to environmental health issues, such as proactive measures that will prevent future problems and promote health.
- Without a clear causal actor, the public will likely attribute causal responsibility to the poor choices of individual consumers or to wasteful, inefficient and inept government.
- To the extent that the media narrative fails to discuss solutions to environmental health issues, it will likely further reinforce fatalistic view of the intractability of large scale problems.
- The media's failure to provide a model for an engaged, informed and active public that advocates for environmental health policy is likely to further entrench household level understandings of environmental health issues.

RECOMMENDATIONS

In light of this dominant narrative and its cognitive implications, FrameWorks has identified the following recommendations for practitioners and advocates as they interact with the media.

- Define issues as clearly related to environmental health and lay out how environmental health practitioners can address these issues.
- Be careful to fill the empty slots in the media narrative and especially offer solutions early in the narrative.
- Build on existing media and public conversations around the importance of environmental regulation.
- Emphasize partnerships, cooperation, and citizen engagement to get more actors into the story.
- Avoid using “health” as the lead value. This value has powerful tendency to individualize thinking and constrain programmatic and policy consideration.

BACKGROUND: Theories of Framing and Narrative in Mass Media

This analysis draws on theories of framing and narrative. *Framing* deals with the presentation and selection of perceptual cues that make stories meaningful, while *narrative* is concerned with the structure of frame elements. Taken together, these concepts can be employed to chart the types and relative frequency of media messages within media coverage and to formulate hypotheses as to the effects of media messages on their audiences.

The literature on framing spans the social and cognitive sciences, including disciplines such as communications, political science, sociology, psychology. At FrameWorks, we define framing as “the selection of certain aspects of an issue in order to cue a specific response...the way an issue is framed explains who is responsible, and suggests potential solutions conveyed by images, stereotypes, messengers, and metaphors.”⁷ The conventional belief is that framing effects on public opinion stem from the psychological process known as accessibility. That is, contextual cues in the frame activate or prime particular mental representations, which stay “on top of the mental bin” and become more accessible at the time of judgment.⁸

Over the last three decades researchers in the social sciences have become increasingly interested in how narrative inquiry can be applied to studying various aspects of social life.⁹ Like framing, there are rich and varied literatures on narrative, complete with controversies surrounding definitions and analytic approaches.¹⁰ One useful definition of narrative holds:

*Narrative stories in the human sciences should be defined provisionally as discourses with a clear sequential order that connect events in a meaningful way for a definite audience and thus offer insights about the world and/or people’s experiences of it.*¹¹

In order to distinguish narrative from other forms of discourse and to separate one narrative from another, scholars have sought to define the components that constitute particular narratives. Labov and Waletzky described the following elements of narrative:

- An abstract (a summary of the what the narrative is about).
- The orientation or setting.
- The complicating action (what happened).
- The evaluation (the significance of the event).
- The resolution.
- The coda, which relates the narrative to the present.¹²

They developed their approach to narrative in the context of oral storytelling. However, it has been employed to examine a variety of narrative forms, including film, archival documents, rituals and, most important for our purposes, media texts.¹³ For the purposes of studying socio-political issues in mass media, FrameWorks has simplified Labov and Waletzky's scheme to include orientation, cause and solution on the assumption that media stories have a less complicated structure than the interpersonal narratives that their typology was developed to chart. Our scheme, in addition, builds off of humans natural tendency to focus on causes and solutions; an impulse that is reinforced in media narratives.¹⁴

Scholars acknowledge that narrative makes information meaningful through recognizable, continually reiterated, and culturally specific representational forms.¹⁵ Furthermore, narratives have the power to channel certain forms of interpretation and prescribe the scope of possible social actions.¹⁶ As narratives are re-told they are continuously re-substantiated and come to dominate public discourse. As dominant narratives, they have an extraordinary effect on how citizens understand the world around them.

The media are arguably the most powerful producers of socio-political narrative in the United States and, in many ways, control the kinds of narratives that we are accustomed to encountering.¹⁷ Conventionally, schools of journalism consider news media a form of objective, impersonal, and unbiased accounts of "what happened."¹⁸ Analyzing news media as narrative, however, looks to the cultural processes by which meanings about social issues circulate and become part of the public's everyday and dominant understandings of those issues. Journalistic modes of story telling can determine whether problems are interpreted as necessitating individual or societal-level action,¹⁹ as well as articulate dominant social values and guidelines for appropriate behavior.²⁰

METHODS

The current analysis identifies the major frame elements and narratives in the media coverage of environmental health issues. These narratives highlight certain aspects of environmental health issues while simultaneously excluding other perspectives. We analyze how the media defines environmental health issues, explains why these issues are important, and advocates for specific solutions.

Three questions guide the research:

1. What is/are the dominant media narrative/s about environmental health issues?
2. How do media narratives compare to expert understandings of these issues?
3. How do the media narratives contribute to existing public understandings of the field and related issues?

Media Analysis

A recent Pew Center study suggests that Americans receive their daily news from a combination of newspapers (both print and online) and broadcast news sources.²¹ Therefore, the sample in the current study included stories taken from national newspapers and television broadcasts, as well as two news blogs representing a span of political perspectives. Using LexisNexis, Factiva and Google News databases, specific news sources were selected based on circulation/viewership statistics as well as their ability to represent geographical and political diversity. The sample of newspapers consisted of the *Wall Street Journal*, *New York Post*, *USA Today*, *New York Times*, *Los Angeles Times*, *San Jose Mercury News*, *Washington Post*, *Chicago Sun Times*, *Dallas Morning News*, *Denver Post* and *Minneapolis Star Tribune*, as well as each of these publications' web-based content, if applicable. The sample also included the following national newscasts: CNN, Fox News, MSNBC, ABC, and CBS. We also sampled the following web-based publications: slate.com, salon.com.

To answer the above research questions, we relied on two comprehensive search strategies:

- We searched sources for at least two mentions of the terms “environmental health” or “environmental public health.” This strategy was designed to ensure that the sample included stories that were explicitly about environmental health issues and the work of the field.
- We also used a combination of search terms (listed in Appendix A) to capture stories that covered the range of issues that experts and advocates identify as relevant to the field. These terms capture content that experts classify as

pertaining to environmental health, but are not explicitly labeled as pertaining to environmental health in the media.²²

Since media coverage of environmental health issues would be heavily dependent on specific events and disasters, we applied these search criteria to a wide temporal swath of coverage—January 1, 2010 to January 1, 2012—from the sources listed above. This search resulted in the identification of 1,788 stories. We assigned each of these stories a unique number and randomly selected a sample of 500 stories from this larger set. Searching over two years of coverage provides sufficient time for multiple environmental health events to have occurred and therefore avoids skewing the sample toward the coverage of any one particular event. Furthermore, randomly selecting a subset of stories from across this time span ensures that the data analyzed include stories from the full two years of coverage. After eliminating duplicates and stories too short for coding, 355 of the 500 randomly-sampled stories were coded and analyzed. Details of the codebook's construction are presented in Appendix B.

Quantitative and Qualitative Analyses

After coding the full sample of 355 stories, we analyzed the frequency of codes in each category as well as the relationships between selected codes. The purpose of this portion of the analysis was to chart the frequency of specific narrative components and frames and to examine the co-occurrence of narrative elements, thereby documenting dominant narratives that run through media coverage of environmental health issues.

Following this quantitative analysis, we examined 100 randomly selected stories qualitatively in order to contextualize and enhance our quantitative findings. The qualitative analysis provided greater description and context for quantitative results by identifying common ways in which the media articulates specific narrative components (e.g., key themes in the media's discussion of government's role as a solutions actor in environmental health issues or ways in which individual consumers were described as the cause of these issues). Because they are complementary, the results section integrates findings from both qualitative and quantitative analyses.

Expert Interviews

As part of the larger communications project on environmental health, FrameWorks researchers interviewed experts and practitioners from this field in order to catalog the narratives and frames that they use in discussing their work.²³ Results from the analysis of these expert interviews were then compared to the media narratives identified in the present study. This process allowed us to understand the similarities and differences between the stories that experts are telling and those that are presented in the media.

Cognitive Analysis

In the final stage of analysis, we compared findings from the media analysis to the cultural models²⁴ — or shared, patterned, and implicit understandings and assumptions — that Americans use to think about environmental health issues. These cultural models were identified through one-on-one, semi-structured interviews in multiple U.S. locations.²⁵

In this analysis, we compare the cultural models that the public employs to make sense of environmental health issues to the media narratives documented in this report. This comparative analysis identifies:

- How media narratives *cue and strengthen* existing cultural models.
- How these narratives *conflict with or challenge* existing cultural models.
- How stories *fail to address* key aspects of environmental health and allow members of the public to “fill in the blanks” with dominant cultural models to in order to make meaning.

With the results, we formulate strategic recommendations that environmental health professionals, experts and advocates can use to more effectively communicate about their issues.

RESULTS

We first review the expert narrative on environmental health issues and then report the results of the media content analysis.

Environmental Health Expert Narrative

Orientation

Environmental health experts conceptualize environmental health as a field of study and practice that examines the relationships between humans and their environments and that assesses the impact of this relationship on human health. Two emphases run through this work. The first is *risk management*, which includes the assessment of potential risks that emerge from contaminants in the natural or modified environment and impact air, food, soil, and water quality. Risk management also includes the establishment of effective interventions to prevent such risks. The second area of emphasis is *health promotion* and *prevention*. This includes attention to public infrastructures, the design of healthy built environments, patterns of energy use, the impacts of economic disparities, local community awareness and engagement, and other social determinants that shape environments and impact human health at both a local and global scale.

Causal Narrative

Experts cite a number of factors behind the emergence of environmental health problems and lament the lack of resources devoted to preventing and solving these problems. Experts talk about contamination and contagions as emerging from the natural and modified environment. However, environmental health experts do not limit their causal narrative to the question of “who contaminates.” Rather, they highlight institutional and contextual factors that (1) complicate the enactment and enforcement of environmental health laws and (2) impede policies designed to promote human health through modifications to the environment.

Experts also explain that environmental health work is diffused through multiple public and private institutions. This dispersion can be beneficial, in that multiple professional fields include training in environmental health. However, it can also result in a “patchwork of responsibilities” and a lack of coordination among the entities charged with addressing environmental health concerns. Experts suggest that the diffusion of environmental health work has important implications for the emergence, containment, and prevention of environmental health problems.

Finally, experts note that commercial interests have the potential to threaten the success of environmental health laws and policies. Experts explain that powerful

commercial interests can obfuscate environmental health science, particularly as it is translated by the U.S. media.

Solutions

Experts stress the need for enhanced coordination among diffuse environmental health institutions and stakeholders, public policy that protects and promotes human health, and strong *public* environmental health agencies. While experts acknowledge that other sectors play a role, including academic institutions, other non-profit entities, and private industry, they emphasize that government on all levels (federal, state, local) must be empowered with the tools it needs to protect human health, prevent environmental health problems, and promote environments that improve health and well-being.

Experts also emphasize the importance of an engaged and informed citizenry in the prevention of environmental health risks. They describe how improved communications about risk management, prevention, and health promotion are needed to meaningfully engage and encourage support among the public for environmental health policies.

Environmental Health Media Narrative

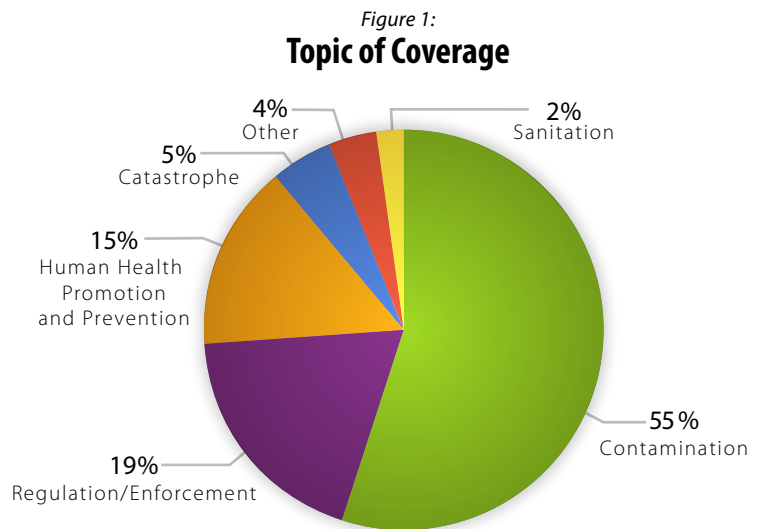
The following section identifies the dominant media narratives related to environmental health. All percentages reported in pie charts are based on the total sample of 355 stories. Additional information can be found in the tables provided in Appendix C.

Orientation

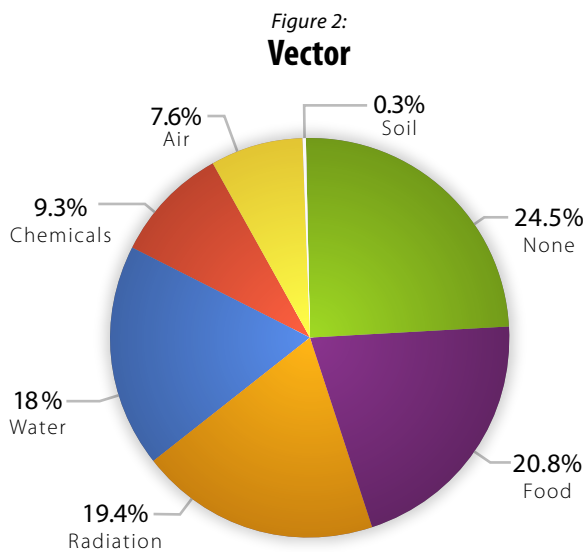
Summary of orientation towards environmental health in media coverage

1. Environmental health is about threats and dangers.
2. These threats and dangers result from contaminated food, water or radiation.
3. They happen in specific places, but do not differentially impact specific groups of people.
4. Environmental health issues are fundamentally about tradeoffs between regulation and economic growth.
5. Environmental health is the work of academic researchers.

Contamination was the foundational topic in the majority (55 percent) of stories in the sample (Figure 1).²⁶ Other issues related to the core concerns of the environmental health field, such as sanitation and human health prevention and promotion were covered in relatively small percentages (two percent and 15 percent, respectively).

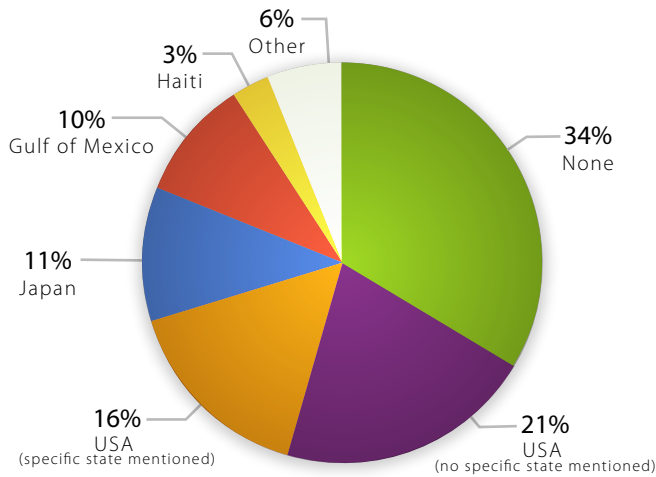


As we would expect, those stories that focused on contamination almost always referenced a vector (94 percent of contamination stories included a vector). However, the majority of stories that dealt with other topics, such as the promotion of human health or the prevention of environmental health problems, tended not to include a particular vector (only 37 percent of promotion of human health stories discussed a specific vector). The top three vectors discussed in the sample were water, food, and radiation. The prevalence of stories that discussed radiation was likely due to media coverage of the Japanese tsunami and the Fukushima nuclear plant crisis. However, the fact that water and food appeared as vectors in roughly 40 percent of the sample shows the strength of the contamination theme in the media narrative.



Stories in this sample tended to locate environmental health issues in specific geographic areas (Figure 3). Though the stories in the sample represented a wide range of locales, both internationally and domestically, large clusters came from the Gulf of Mexico (associated with the BP oil spill) and Japan (associated with the Fukushima nuclear disaster). Each of these locations accounted for roughly 10 percent of stories in the sample, and another 20 percent of stories referred to the United States more generally.

Figure 3:
Geographic Location



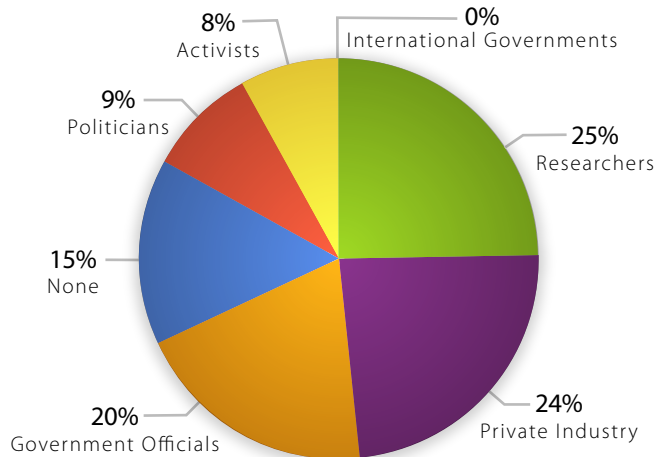
In contrast, less than fifteen percent of the stories referenced a specific population. A small minority of stories mentioned children and infants (eight percent) or pregnant women (three percent).

Only 10 percent of stories in the sample contained the terms “environmental health” or “environmental public health” — even though all dealt with issues that experts define as falling under the purview of this domain. In those instances when these terms were used, they were typically associated with an academic department or government agency.

The individuals who do the daily work of environmental health, such as sanitation workers or health inspectors, were also notably absent from media stories (Figure 4). On the other hand, researchers and spokespeople for private industry, such as CEOs or public relations people from involved individual businesses, were well-represented.²⁷ Government officials constituted twenty percent of the messengers and the most frequently cited were members of Congress followed by people who worked in the Environmental Protection Agency.

Stories in the sample that discussed regulation were distributed roughly equally between those that explicitly advocated for increased regulation and those that promoted no specific position about regulation. Very few stories (approximately 5 percent) were explicitly anti-regulation. In contrast to its relatively consistent acceptance of regulation, the media’s perspective towards business/economic development was less clear. Fifteen percent of all stories took a pro-business stance while twenty-two percent were categorized as anti-business.

Figure 4:
Messengers



Despite its generally pro-regulation stance, stories in the sample nevertheless implied that regulation comes at the cost of economic prosperity, as the following excerpt demonstrates.

The nation's top nuclear regulators are struggling to decide whether the U.S. should spend millions or even billions of dollars to protect its nuclear power plants against an unlikely but devastating earthquake-borne disaster such as the one that struck Japan. The nuclear industry is worried they will skip their traditional cost-benefit approach and order expensive measures for an improbable contingency. Elsewhere in regulation, business groups are stepping up pressure on the Obama administration to stop the EPA from enacting tougher limits on smog-forming ozone, saying a new rule pending White House approval would damp the fragile economic recovery.²⁸

Stories in this sample portrayed environmental health issues as a “war” between business interests and public health, which further instantiated the narrative of conflict between environmental health regulation and economic development. This was the most frequently used metaphor in the sample and was present in almost a quarter of the stories analyzed. The following story, for example, frames the conflict between proponents of the use of BPA and environmental activists as a “war on chemicals.”

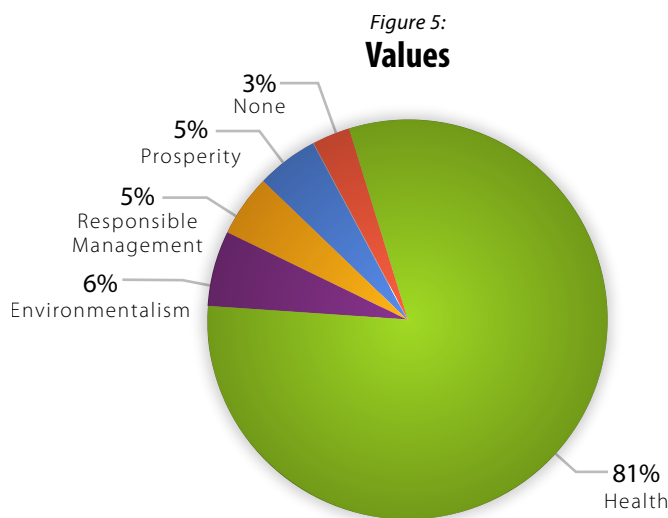
*Nonetheless, BPA has suddenly become ground zero in the endless enviro war against chemicals....In its January update the FDA notes that BPA does not pose a **risk** at low levels of human exposure. Yet it goes on to recommend ways to limit exposure. Antichemical crusaders are likely to drive years of opposition through that crack of suspicion.²⁹*

This story paints environmental activists as dogmatic “crusaders” who oppose any use of chemicals regardless of scientific consensus about their safety. Although less frequent than discussions of conflict between business interests and public health concerns, stories also applied the war metaphor to other groups — such as the “battles” experts experience in trying to communicate environmental health issues to the public or the “feuds” between “warring factions” of the scientific community.

While metaphors about conflict and war were common, the role of the villain was highly inconsistent across the sample, with every major actor taking a turn at playing the “bad guy.” Media stories in the sample portrayed the government as inept, businesses as focused on maximizing profits at the expense of the public’s health, scientists as beholden to business interests, and the public as ignorant and dismissive of scientific evidence. By the same token, no institutional actor was consistently portrayed as the “good guy,” with

government, business and individuals taking on that role in some stories. Still, despite these differences across stories with respect to role, the actors referenced in the sample were consistently framed as fundamentally in opposition.

In addition to the use of metaphor, stories in this sample consistently employed values — or powerful organizing principles that orient readers and help them answer the “what is at stake?” question.³⁰ Over 97 percent of the stories employed a value. The overwhelming majority of stories (81 percent) referred to *health* as the orienting value (Figure 5).



The following excerpt, for example, references the value of health in emphasizing the potential threats of food contamination to vulnerable populations:

Every day, about 200,000 Americans are sickened by contaminated food. Every year, about 325,000 are hospitalized by a food-borne illness. And the number who are killed annually by something they ate is roughly the same as the number of Americans who've been killed in Iraq and Afghanistan since 2003. Those estimates, from the Centers for Disease Control and Prevention, suggest the scale of the

problem. But they fail to convey the human toll. The elderly and people with compromised immune systems face an elevated risk from food-borne pathogens like listeria, campylobacter and salmonella. By far the most vulnerable group, however, are children under the age of 4. Our food will never be perfectly safe — and yet if the Senate fails to pass the food safety legislation now awaiting a vote, tens of thousands of American children will become needlessly and sometimes fatally ill.³¹

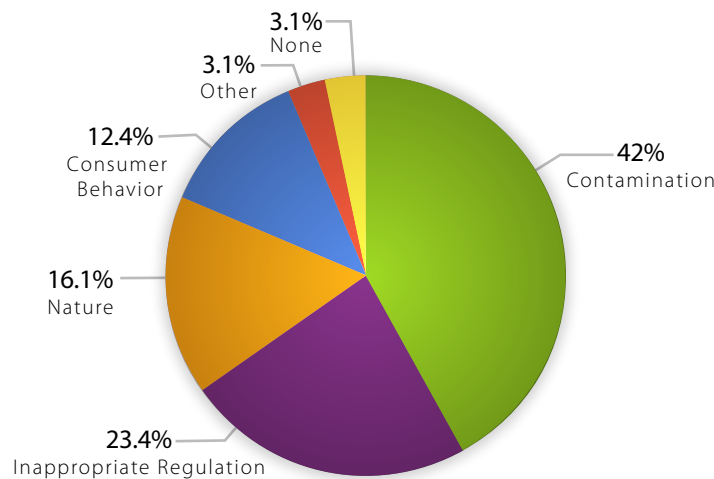
Causality

Summary of causality in media coverage of environmental health

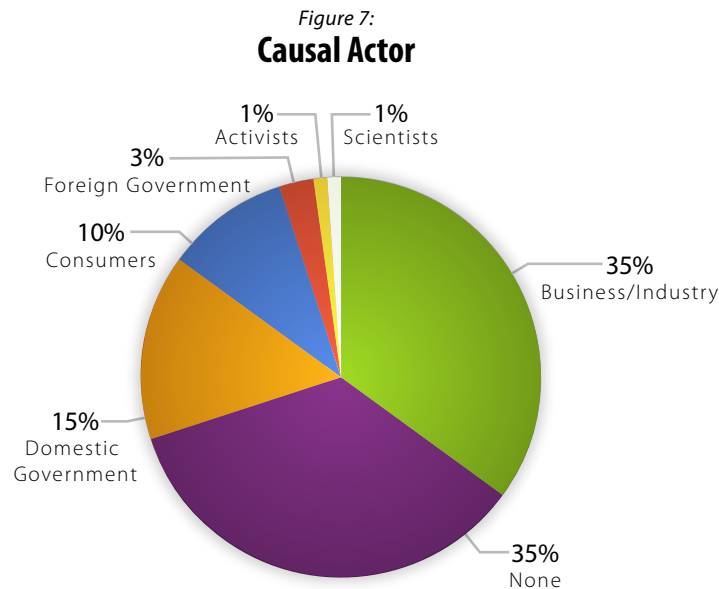
1. Environmental health problems result from things becoming contaminated.
2. It's unclear who causes or is responsible for this contamination, but sometimes the government is involved.
3. When government is involved, it is sometimes ineffective and inefficient in preventing these problems, but at other times its efforts to protect Americans are heroic.

Nearly every story in the sample (97 percent) mentioned a cause (Figure 6), which is congruent with the position that causal reasoning is a central part of narrative structure.³² Nearly half of the stories identified contamination as the causal position in the media’s narrative. An additional 25 percent of the stories in the sample described inappropriate regulation (which includes lack of regulation, lack of enforcement, and too much regulation) as the cause behind the environmental health issue under discussion.³³

Figure 6:
Causal Process Behind the Environmental Health Issue



While cause was a frequent element of the media's narrative on environmental health, only 65 percent of stories in the sample identified a causal actor (Figure 7).



In the 35 percent of stories that did not identify a causal actor, journalists and commentators implied that environmental health problems “simply happen.” The result was that the causes of environmental health issues were frequently divorced from social contexts and actors. The following story, for example, explains the rates and potential dangers to human health of food contamination but does not identify the systems, institutions, or actors that contribute to such instances of contamination.

“By cutting emissions that are linked to developmental disorders and respiratory illnesses like asthma, these standards represent a major victory for clean air and public health - and especially for the health of our children,” Ms. Jackson said in statement. ³⁴

Among those stories that did attribute causal responsibility to a specific actor, business/industry predominated. In the face of the earlier finding that anti-business perspectives were relatively uncommon, this attribution of causal responsibility to business suggests an interesting dissonance in the media narrative. While specific businesses were often cited as causing particular incidents, these assignments of blame did not translate into broader indictments of the role of commercial enterprise and industry as a whole in contributing to environmental health issues.

The most common pairing of cause and causal actor (appearing in 78 stories in the sample) was contamination and business/industry (Table 1). An additional thirty-one stories dealt with environmental health issues in which the cause was inappropriate regulation and the causal actor was business/industry.

Table 1: Cross-tabulation of causal actor and causal process

<u>Causal Process</u>	<u>Causal Actor</u>							Total
	None	Business	U.S. Gov't	Consumers	Foreign Gov't	Activists	Scientists	
Contamination	49	78	10	8	3	0	0	149
Inappropriate Regulation	7	31	37	0	6	1	1	83
Nature	49	3	4	0	1	0	0	57
Consumer Behavior	5	7	0	29	1	1	1	44
None	11	0	0	0	0	0	0	11
<i>Total</i>	125	125	52	37	11	2	2	355

Some stories addressed corporate malfeasance and the concern for profit over public safety as in the following example.

Government officials here vowed to crack down on food-safety violations in the wake of the 2007 and 2008 melamine cases, which damaged the reputation of Chinese food exports worldwide. The government ordered sweeping changes in food inspection last year, writing new rules and placing the existing patchwork of food regulatory bodies under a single authority, the National Ministry of Health. But food safety procedures still need improvement, and corrupt manufacturers and growers still use bribery and corruption to escape scrutiny.³⁵

Descriptions of the motivations of the causal actor were largely inconsistent across stories, even when the pairing of cause and causal actor was the same. For example, some of the 37 stories (Table 1) that listed inappropriate regulation as the causal process and government as the causal actor described heroic actions on the part of the government to protect public safety through increased regulations. Such cases provided a relatively rare representation of government as a specific set of services provided to citizens by agency-level workers.

The Environmental Protection Agency unveiled new standards on Wednesday sharply limiting emissions of mercury and other toxic pollutants from the nation's coal- and oil-burning power plants. The new rule, unless blocked by Congress or the courts, will be the first time the federal

government has enforced limits on mercury, arsenic, acid gases and other poisonous and carcinogenic chemicals emitted by the burning of fossil fuels. Lisa P. Jackson, the E.P.A. administrator, said the regulations, which have taken more than 20 years to formulate, would save thousands of lives and return economic and health benefits many times their estimated \$9.6 billion annual cost.³⁶

Other stories with this same causal process/causal actor pairing focused on government inability to regulate effectively. In these stories, journalists and commentators implied that contamination results from the government's ineptitude with respect to industry regulation. This characterization is very much in line with FrameWorks' previous research on the public's perceptions of government.³⁷ The following excerpts exemplify these descriptions.

Inspectors from the Food and Drug Administration are searching fields in Colorado's Rocky Ford region for clues as to how cantaloupes grown there this summer caused at least 100 illnesses and 18 deaths. But if a new law had been in place, they might have been there before the outbreak.³⁸

Rep. Darrell Issa (R-Vista), the ranking member of a House investigative panel that has looked into the agency, said inefficiency, not lack of authority, is the FDA's basic problem. "FDA seems to have too many people spread over too many areas with too many authorities. ... Inefficiency doesn't get better by getting bigger."³⁹

The third most common combination of causal process and causal actor (Table 1) was consumer behavior as the causal process and individual consumers the causal actor. For example, rather than pointing to poor product labeling about potential side effects, lack of regulation, or inadequate safety standards, the author in the article excerpted below attributes responsibility to herself for *deciding* to use a chemical treatment despite her knowledge of and experience with environmental health issues:

Last winter, despite a low-level warning beacon in my gut, I hired a company to apply a chemical flea treatment in our house. Not wanting to waste time on home remedies that might not work, I thought, "Let's just get it over with." I made this decision even though I'd been a "ban lawn-care pesticides from our campus" activist in college and had spent nearly my entire professional life as a communications consultant to the Environmental Protection Agency, writing materials for the public about environmentally sound behavior. As an environmentalist, I am an organic vegetarian. I avoid processed foods with ingredient names I can't pronounce, use reusable tote bags, avidly recycle and drive a low-emissions

car. Yet, on the eve of my decision, I looked at my poor kitty. Despite applications of topical anti-flea drops, he'd been licking himself raw during the past four months. I had to take some kind of action, and fast.⁴⁰

Solutions:

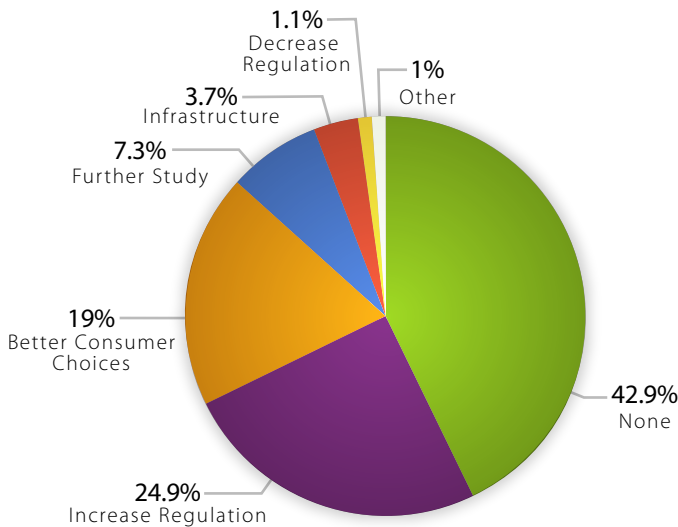
Summary of solutions in media coverage of environmental health

1. There are few viable solutions to environmental health problems.
2. Where solutions do exist, they are typically the responsibility of the government (in the case of greater regulation) or the individual consumer (in the case of making better choices).

While nearly every story in the sample identified a cause of the issue it covered, almost half of the stories in sample failed to offer a solution (Figure 8). In other words, the media’s narrative emphasized problems and failed to present solutions, as the following excerpt illustrates.

But residents worry about the risks posed by 4 million cubic yards of radioactive waste sitting just 1 1/2 miles away. "The attitude we get is that this isn't that dangerous. Well, they don't live here," said Sharyn Cunningham, a Lincoln Park resident. "Everyone, especially the state, just kept making bad decisions over and over again."⁴¹

Figure 8:
Solutions

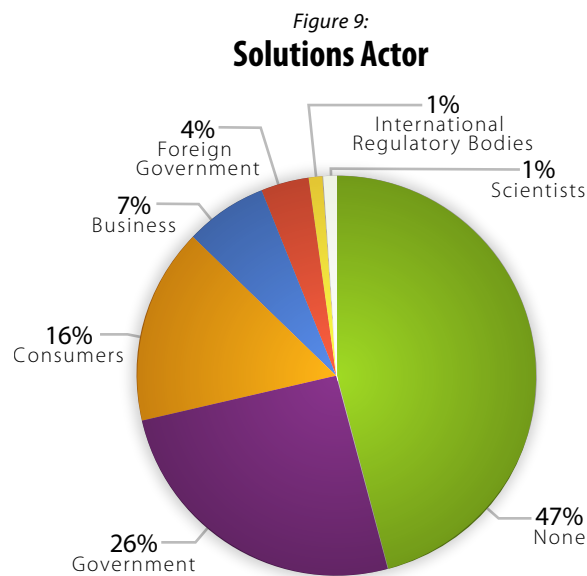


The number of stories that offered the infrastructure-based and preventative solutions that environmental health experts propose was strikingly small—less than 4 percent. Instead, those stories that included solutions to environmental health problems typically advocated for increased regulations or improving consumer decision-making.

Better consumer choices were offered as potential solutions to a wide array of environmental health problems. For example, after an outbreak of salmonella in the egg supply, USA Today ran an article instructing consumers about the safe

handling of eggs. Other stories reinforced the idea that environmental health issues can largely be addressed by the decisions consumers make about their health, rather than through policy-based initiatives:

This thinking cleaves to a popular motif: The natural world is less toxic and more healthful than the industrial one. To avoid cancer, you should buy organic produce, drink unpasteurized milk from specialty dairies, eat more fiber to cleanse the colon of carcinogens, and avoid cheap cosmetics. To protect one's family, in short, become a paranoid consumer of everyday "artificial" products.⁴²



Consistent with the deficit in solutions reporting, only half of the stories in the total sample identified an actor responsible for implementing solutions to environmental health problems (Figure 9).

However, unlike discussions of causation, which were often presented without references to specific actors, the clear majority of stories that presented solutions *did* attribute responsibility for the solution to some actor (Table 2). Almost 80 percent of stories that discussed solutions implicated either government or individual consumers. In most cases, the solution actor fit logically with the solution itself. For example, almost 90 percent of the stories that cited regulation as the solution implicated government as the agent responsible for this remedial action. In addition, more than 75 percent of the stories that recommended better consumer choices implicated consumers as the agent responsible for this action.

Table 2: Cross-tabulation of solution and solution actor

<u>Solution</u>	<u>Solution Actor</u>							<i>Total</i>
	None	Gov't	Consumers	Business	Foreign Gov't	International Regulatory Bodies	Scientists	
<i>None</i>	145	1	0	2	4	0	0	152
Increase Regulation	5	69	1	3	6	3	1	88
Better Consumer Choices	0	3	51	13	0	0	0	67
Further Study	8	12	1	2	1	0	2	26
Infrastructure	5	4	1	1	2	0	0	13
Decrease Regulation	1	3	1	0	0	0	0	5
<i>Total</i>	165	93	55	23	13	3	3	355

Examining the pairings between cause and solution reveals several important findings (Table 3). Sixty-two percent of the stories in which contamination was identified as the cause behind the issue being covered also mentioned a solution. However, these solutions (increasing regulation, making better choices, further study) were numerous and diffuse with no clear winner.

The two other causal process/solution couplings that appeared most frequently followed logical if simplistic patterns. Increasing regulation was consistently mentioned as the solution to a lack of adequate regulatory practices. Improving consumers choices was often cited as the solution to environmental health problems that resulted from poor consumer choice.

Table 3: Cross-tabulation of causal process and solution

<u>Causal Process</u>	<u>Solution</u>						<i>Total</i>
	<i>None</i>	Increase Regulation	Better Consumer Choices	Further Study	Infrastructure	Decrease Regulation	
Contamination	55	38	30	20	4	1	149
Poor Regulation	37	32	5	3	2	3	83
Nature	38	8	7	0	3	0	57
Consumer Behavior	12	7	22	0	1	1	44
None	6	1	2	2	0	0	11
<i>Total</i>	152	88	67	26	13	5	355

Summary of the Media Narrative of Environmental Health

In sum, the dominant media narrative privileges contamination over other environmental health issues. It emphasizes the contaminating practices of businesses or industry play without adopting an explicit anti-business stance nor a call for further oversight of industry as a whole. Though it acknowledges the role of government in protecting human health, the narrative emphasizes problems and conflict over solutions. The schematic below lays out this narrative.

Figure 10:

Dominant Media Narrative of Environmental Health



COGNITIVE/COMPARATIVE ANALYSIS

In the following section, we compare the dominant media narrative to our previous research with environmental health experts and members of the general public in terms of the following three narrative components: Orientation, Causal Responsibility, and Solutions Responsibility. Table 4 summarizes this comparison.

Table 4: Summary of expert, media and public narratives of environmental health

Narrative Component	Expert	Media	Public
Orientation: Definition and Scope	Contamination plus Health Promotion Differential impacts on populations	Contamination Wide variety of domestic and international locales	Contamination Household
Causal Responsibility	Diffuse institutional contexts of EH work that are vulnerable to commercial interests	Big business	Big business Or Bad individual decisions
Solution Responsibility	Greater collaboration among public EH agencies and better public policy	Government protection and better consumer choice	Individual awareness and decision-making and government protection

Orientation: Definition and Scope

The media largely fails to define and in most cases does not even use the term environmental health. It narrows the range of environmental health work to regulation, largely equates environmental health issues with contamination, and ignores the types of infrastructure-based policies, prevention and promotion perspectives that experts propose. The media narrative also focuses on how environmental health issues affect specific *places* rather than specific *populations*. Lastly, the media positions regulatory issues as being in direct conflict with economic growth, thus setting up a “zero sum game” between these issues. Similar to the media, the public has no working definition of the term “environmental health” and focuses on contaminants—often at the household level—as the primary mechanism by which the environment influences human health.

Experts share concerns over contamination, but envision a broader environmental health agenda that includes deliberate changes to the environment in order to promote public health, the enactment of programs that will prevent environmental health problems from occurring in the first place, and encompasses a variety of stakeholders and environmental health workers. Rather than focusing solely on location, the field is concerned with how environmental health issues disproportionately affect communities of color and/or of lower socioeconomic backgrounds.

Implications

The media narrative is likely to reinforce the public's narrow understanding of environmental health issues while doing little to give the field coherence in the public's mind. This combination makes expert perspectives on environmental health issues "hard to think." Without a sustained public discussions regarding how environments can be designed to maximize *positive* health outcomes, the public will continue to equate environmental health with environmental threats (chiefly contamination). As a result, the public will remain unaware of the substance of environmental health work and the wide range of groups and institutions that "do" this work on their behalf.

By associating environmental health issues with specific geographies rather than with specific populations, the media narrative may deemphasize the human costs of particular incidents. For example, the public is more likely to hear that a problem occurred in California rather hearing that that problem affected all adults. We suspect that this tendency to ignore the victims in favor of a drier factual reportage misses the opportunity to help the public think about environmental health in a more human and social way. On the other hand, previous FrameWorks research has shown that discussions that focus on disparities between places, rather than between groups, generate greater support for social policies aimed at addressing social inequalities.⁴³ To the extent that this pattern holds true with respect to environmental health issues, the media's focus on geographic clusters of events may in fact provide some opportunity to deepen the public discourse about inequality and environmental health.

The media is also likely to support the tendency among members of the public to individualize environmental health problems through its media's reliance on the value of "health" and its focus on improving individual choices as the solution to environmental health problems.⁴⁴ Previous FrameWorks research has shown that the American public understands health as determined primarily by individual choice.⁴⁵ When this individualistic model is operative, the idea that health can be affected by social or environmental factors is pushed off the table.

The public's close association of health and individualism suggests that the media's use of the health value will cue individual-level solutions in the public's mind and impede systems-level thinking.

The media's use of the metaphor of war to describe tradeoffs between regulation of environmental health issues and economic development is also counterproductive. This metaphor contains the explicit assumption that environmental health regulatory action is a zero sum game, and that taking steps to favor some will inevitably hurt others. When zero-sum thinking occurs in association with economic costs, health prevention and promotion efforts will be particularly difficult for the public to support. Finally, the two-sidedness of the presentation--business versus government--does not lend itself to solutions that involve a wide variety of stakeholders.

Causal Responsibility

The media focuses exclusively on contamination as the cause of environmental health issues and on particular businesses as the actors responsible for this contamination. In this narrative, the media portrays environmental health degradation through contamination as an inevitable cost of economic development. The public also maintains a vague sense that contamination issues are largely caused by "big business."

On the other hand, expert accounts of causal responsibility for environmental health issues generally center on institutions. According to experts, environmental health work falls under the purview of multiple private and public institutions. The diffuse nature of the field of environmental health makes coordinated and strategic action difficult. Experts also note that some of the field's inability to create effective policies and programs is the result of obstacles created by business interests. In the expert story, then, causes of environmental health threats are tied to ineffective coordination on the part of institutions responsible for both doing the work of environmental health and enacting the policies, programs and infrastructure necessary to support this work.

Implications

There are several likely effects of the causal component of the media's narrative on public understanding of environmental health issues. The idea that contamination is simply a part of "doing business" has the tendency to normalize environmental health hazards in the public mind. Similarly, the portrayal of contaminants in the environment as an inevitable consequence of modern life further reinforces public perceptions of the intractability of environmental health issues. In addition, the media's focus on the causal processes underlying

environmental health *problems* leaves little room for expert understandings of the factors and mechanisms underlying health *promotion* and *prevention* to enter into public conversation.

Also troublesome is the extent to which the media leaves the causal actor slot unclear or empty. Without a clear causal actor, the public will likely attribute causal responsibility to the individual consumer for making bad choices, to the government for being wasteful, inept, and inefficient, or to big business for prioritizing profits over people's health. Each of these three causal actors implicates very different types of solutions, only one of which comes close to those advocated by environmental health experts.

- Identifying individual consumers as the causal actor implies that individual behavior change is the appropriate solution. This obscures the importance and effectiveness of systemic and policy-oriented solutions.
- If inept government is the cause of the problem, it is unlikely that giving the government more resources and greater purview will be supported as a solution to these issues.
- Finally, and most promisingly, if profit-seeking businesses are behind environmental health concerns, environmental health experts will at least be in a position to argue for better regulatory policies.

While there is some promise in assigning causal responsibility to business, the ready availability of individuals and government in the media narrative are highly problematic for the field of environmental health.

Solution Responsibility

The most striking absence in the media narrative of environmental health is in the area of solutions and the actors responsible for those solutions. In those cases where solutions are discussed, the role of responsible actors consists of either government or individual consumers. This idea that government must play a central role in addressing environmental health issues is perhaps the most significant point of contact between the media narrative, the experts story, and the public's thinking. Relative to most other issues FrameWorks has researched, environmental health issues thus appear to be advantaged in that the role of government is not relegated to the expert perspective, but is a dominant feature of both the media discourse and the public's cognitive terrain.

However, this advantage is not as robust as one might hope. Environmental health experts discuss solutions centered around the enactment of policies that both *regulate* the release of contaminants into the environment, *prevent* future

environmental health problems, and *promote* human health at the population level. They also advocate for public investment in the creation of a coordinated and well-resourced environmental health field. The media and the public hold a narrower view of the role of government. Namely, it is responsible for enacting and enforcing regulation to protect its citizens from threats of contaminants. The role of government as an agent of *health promotion* and *prevention* is absent.

While the media, expert, and public narratives do converge on the primacy of government in enacting solutions to environmental health issues, they contain substantial differences with respect to the agency of other solutions actors. Experts understand a kind of partnership between government/political channels and an informed and engaged citizenry, and therefore seek to promote public engagement with and advocacy for environmental health issues. Both the media and the public view the public's role in relation to government in a far more passive way—as the objective of protection. However, members of the public also strongly believe that it is up to the individual to make smart decisions to protect themselves from environmental hazards and take responsibility for their health.⁴⁶ In short, in both the media and in public understanding, individuals are perceived as passive in their relationship to government, but simultaneously responsible for addressing environmental health issues.

Implications

To the extent that its narrative fails to discuss solutions to environmental health issues, the media is likely to further reinforce a sense of the intractability of large scale problems. Unfortunately, the solutions the dominant narrative offers--that government should enact better regulations and individual consumers should make better choices--may be even less productive than offering no solutions. The media's portrayal of "government as protector," if not deployed carefully, can easily cue cultural models of the government as an intruder into citizen's everyday lives. Focus on individual-level solutions similarly render programmatic remediations less conceivable and desirable. The absence of prevention and the fact that infrastructure-based solutions among members of the public and in the media presents a particularly difficult communication challenge for environmental health practitioners.

The media fails to provide a model for an engaged and informed public that advocates collectively for meaningful and effective environmental health policy and programs. This is also likely to further entrench the public's extant household-level understanding of environmental health issues. As such, it is extremely difficult for people to appreciate the role and importance of policy, legislative change, and programs enacted by the field in ensuring public health and safety at the population level. The association between individual consumer

choice as both the cause and the solution of environmental health issues narrows the range of possible interventions to “better information” so the public can make “healthier choices.” It simultaneously excludes broad-based public health measures that are larger in both scope and impact.

CONCLUSIONS AND RECOMMENDATIONS

This analysis has mapped a dominant media narrative of environmental health issues; identified differences between the media's narrative and the story that experts are trying to tell; and, finally, described the ways in which this media narrative reinforces or contests the cultural models that members of the public employ to make sense of these issues. Below, we present a set of recommendations that emerge from this analysis.

- **Highlight environmental health issues other than contamination and clearly lay out how environmental health practitioners address these issues.** There are two aspects of environmental health, as defined by experts, that are critical to integrate into media conversations. First is the expansion of environmental health to include issues beyond simply “threats and dangers” from contaminants. The media’s single-minded focus on threats and contaminants severely undermines experts’ ability to turn the conversation toward health promotion. Second is the need to make visible the broad range of environmental health *work* upon which the public depends, rather than allowing the media to continue to reinforce public understanding of environmental health as something done solely by researchers in academic settings. FrameWorks is currently developing an explanatory metaphor to aid in these two broadening tasks but communicators can begin this work by being strategic in the issues they choose to highlight and the way they position environmental health workers in addressing these issues.
- **Be mindful of unfilled slots in the media narrative.** There are many elements missing from the media narrative of environmental health issues. These empty slots leave room for the public to fall back on understandings that tend to work against the types of solutions that experts propose. Communicators should explicitly identify both the causal process *and* the causal actor in the stories they tell, and ensure that the narrative includes a specific solution.
- **Build on existing media and public conversations around the importance of environmental regulation.** Public, media and expert narratives are all favorable to regulation, suggesting that strengthening environmental regulation represents relatively low-hanging fruit for communicators. Communicators should build on existing support for environmental regulation, while still being careful not to cue unproductive models of government as wasteful, over-reaching, or inept.

- **Emphasize partnerships, cooperation, and citizen engagement** as necessary parts of this narrative. Environmental health experts and advocates should emphasize the important relationship between an active and engaged public and a responsive public sector in the policy-making processes. This does not mean entrenching dominant understandings of individual responsibility for environmental health issues. Rather, we recommend that communicators explain the value of an *active partnership* among all stakeholders in the design and implementation of environmental health programs, policy and practice.
- **Avoid using “health” as the lead value.** Existing cultural models of health are largely individualistic and divorced from systems-level solutions.⁴⁷ At the same time, both the public and the media place high value on health and hold the belief that all people deserve to live in healthy environments. There is surely a role for “health” in a reframed narrative, but communicators need to be clear that they are referring to health at the population rather than individual level. Furthermore, the values statement should remind audiences of the collective rather than individual responsibility for addressing environmental health issues.

If the field develops and consistently disseminates a coherent narrative that draws on these recommendations and employs other tools that emerge from FrameWorks’ prescriptive reframing research, a new narrative can begin to take shape. As it emerges this new story will benefit from the mutually constitutive nature of media and public discourses — gaining momentum, entering the discourse cycle, and beginning to shift public understanding, aligning it more closely with the expert view of environmental health.

APPENDIX A: SAMPLE SEARCH TERMS

The words health, risk and safety are designed to limit the capture to stories that are related to environmental issues that impact human health.

- water + health + safe*
- water + health + risk
- nuclear + health+ safe*
- nuclear +health+ risk
- radiation+health +safe*
- radiation+health +risk
- Chemical +health+safe*
- Chemical +health+risk
- Sanitation+health+safe*
- Sanitation+health+risk
- Food + health +safe*
- Food+health+risk
- Soil +health+safe*
- Soil=health+risk
- environment + health + built OR design OR infrastructure⁴⁸

The searches were performed together so as to limit duplicate stories from the sample. Because the analysis examines narrative structure, article length was used as inclusion criteria. Only stories that contain at least 500 words were included in the sample.

APPENDIX B: QUANTITATIVE CODEBOOK

Codebook Construction

We first examined 50 stories randomly selected from the larger sample of 355. In each of these 50 stories, we identified the metaphors, values, messengers, perspective, frames and narrative components. This sub-sample analysis was used to develop the codebook deployed to quantify the narrative content and attendant frames of the larger sample.

The codebook was divided into three narrative components: *orientation*, *causality*, and *solution*. Each of these components was further divided into the categories and sub-codes detailed below.

Reliability

Prior to coding the full sample, we tested the reliability of the coding scheme and coder training procedure. Two FrameWorks researchers applied the codes to a set of 20 stories randomly selected from the total sample. Results were subjected to a test of inter-coder reliability. The researchers achieved an average inter-coder reliability score of 0.82, using Holsti's coefficient, indicating 82 percent agreement across the codes for each category.⁴⁹

Orientation: The orientation component addresses the following questions: What is the story about? What perspective guides the narrative? What is at stake?

Absence or presence of the terms "environmental health" or "environmental public health." This category assesses whether the media story explicitly labels content as belonging to the domain of environmental health.

Topic. This category identifies the foundational issue, topic, or event of the story.

Sub-codes include:

1. Contamination
2. Regulation, legislation or enforcement practices
3. Sanitation (e.g., garbage removal, sewage)
4. Human health promotion (e.g., built environment, public transportation)
5. Catastrophe
6. Negative health impact (e.g., effect of substances on human health that do not fit the criteria for contamination, such as salt or sugar consumption)

Setting. This category identifies the geographic location and the affected population discussed in the story.

Vector. The vector category identifies the medium through which contamination or environmental threat occurred. Sub-codes include:

1. Water
2. Soil
3. Food
4. Air
5. Chemicals
6. Radiation

Messengers. This category identifies the sources explicitly cited or quoted within the news story. Sub-codes include:

1. Private individuals
2. Industry representatives
3. Government officials
4. Elected politicians
5. Researchers or scientists
6. Activists or advocates
7. International governments

Perspective. This category identifies whether the story's perspective is pro- or anti-regulation and pro- or anti-business.

Metaphors. This category identifies the metaphorical devices used to describe issues related to environmental health.

Values. This category identifies the value referenced in the story. Values are defined as the orientational cue that provides an answer to the question, "What is at stake, and why does it matter?"

1. Health
2. Prosperity
3. Environmentalism
4. Responsible management
5. Rights
6. Other

Causality: The causal narrative components address the issue of what and who is precipitating the newsworthy event or phenomenon.

Cause of the environmental health issue. This category identifies the causal process that led to the event or issue that is the topic of the story.

1. Contamination (Note: Contamination was coded as the *cause* only if the story identified it as the specific cause behind the environmental health issue or event.)

2. Nature (any act of nature, such as a natural disaster)
3. In appropriate regulation (any cause that is related to regulation, including lack of regulation, violation of safety standards/guidelines/legislation, or too much regulation)
4. Individual/consumer behavior
5. Other

Causal Actors. This category identifies the entity explicitly named as the actor behind the causal process. Sub-codes include:

1. Domestic government
2. Foreign government
3. Business/industry
4. Consumers
5. Activists
6. Scientists
7. Other

Solution: The solution component identifies the remedial action associated with the issue and the actor or entity responsible for taking that action.

Solutions. This category describes the solution identified in the story. Sub-codes include:

1. Increase regulation
2. Decrease regulation
3. Better consumer choices
4. Further study
5. Improved Infrastructure (such as investing in alternative energy or strengthening public water sources)
6. Other

Solution actors. This category describes the actor(s) responsible for the solution. Sub-codes include:

1. Domestic government
2. Foreign government
3. International regulatory bodies
4. Business
5. Consumers
6. Scientists

APPENDIX C: TABLES

Table 1: Topic of Coverage

	Frequency	Percent
Contamination	195	54.9
Regulation/Enforcement	69	19.4
Human Health Promotion	53	14.9
Catastrophe	18	5.1
Other	13	3.7
Sanitation	7	2

Table 2: Vector

	Frequency	Percent
<i>None</i>	87	24.5
Food	74	20.8
Radiation	69	19.4
Water	64	18
Chemicals	33	9.3
Air	27	7.6
Soil	1	0.3

Table 3: Geographic Setting

	Frequency	Percent
<i>None</i>	121	34.1
USA (General)	73	20.6
US State	52	15.6
Japan	40	11.3
Gulf of Mexico	35	9.9
Haiti	10	2.8
Pakistan	4	1.1
Other	3	0.8
China	2	0.6
Africa	1	0.3
Chile	1	0.3
Germany	1	0.3
Indonesia	1	0.3
Russia	1	0.3

Table 4: Messengers

	Frequency	Percent
Researchers	89	25.1
Priv. Industry.	85	24
Gov't Officials	70	19.7
No messenger cited	52	14.6
Politicians	31	8.7
Activists	27	7.6
International	1	0.3

Table 5: Values

	Frequency	Percent
Public Health	285	80.3
Environment	20	5.6
Responsible Management	19	5.4
Prosperity	17	4.8
<i>None</i>	9	2.5
Rights	4	1.1
Other	1	0.3

Table 6: Causes of Environmental Health Problems

	Frequency	Percent
Contamination	149	42
Bad Regulation	83	23.4
Nature	57	16.1
Individual/Consumer Behavior	44	12.4
Other	11	3.1
<i>None</i>	11	3.1

Table 7: Causal Actors

	Frequency	Percent
Business/Industry	125	35.2
None	125	35.2
Domestic Gov't	52	14.6
Consumers	37	10.4
Foreign Gov't	11	3.1
Activists	2	0.6
Scientists	2	0.6
Other	1	0.3

Table 8: Solutions

	Frequency	Percent
<i>None</i>	152	42.8
Increasing Regulation	88	24.8
Individuals Making Better Choices	67	18.9
Further Study	26	7.3
Infrastructure	13	3.7
Decrease Regulation	5	1.4
Other	4	1.1

Table 9: Solution Actor

	Frequency	Percent
<i>None</i>	165	46.5
Government	93	26.2
Consumers	55	15.5
Business	23	6.5
Foreign Gov't	13	3.7
International Regulatory Bodies	3	0.8
Scientists	3	0.8

Table 10: Affected Population

	Frequency	Percent
None	302	85.1
Children/Babies	27	7.6
Pregnant Women	9	2.5
Specific Group	6	1.7
Women	4	1.1
Men	3	0.8
Young Adults/Teens	3	0.8
Animals	1	0.3

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¹² William Labov and J. Waletzky, "Narrative analysis: oral versions of personal experience," in *Essays on the Verbal and Visual Arts*, ed. J. Helm (Seattle: University of Washington Press, 1967).

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¹⁷ Fulton et al., *Narrative and Media*.

¹⁸ Michael Schudson, *The sociology of news* (New York: Norton, 2003).

¹⁹ Shanto Iyengar, *Is Anyone Responsible?: How Television Frames Political Issues* (Chicago: University of Chicago Press, 1991).

²⁰ Bird and Dardenne, "Myth Chronicle and Story: Exploring the Narrative Quality of News.;" Schudson, *The sociology of news*; Jacobs, "Producing the news, producing the crisis: narrativity, television and news work."

²¹ Pew Research Center. (2010). *How news happens: A study of the news ecosystem of one American city*. http://www.journalism.org/sites/journalism.org/files/Baltimore%20Study_Jan2010_0.pdf

²² The search terms were generated by purposively sampling 4 media stories from 10 events that exemplify the core areas of environmental health identified in the expert interviews. These events included the Deep water Horizon oil spill, Hanford Nuclear waste, NYC biking issues, high speed rail issues, sanitation issues in the Occupy protests, Keystone pipeline, issues of obesity and the renewal of the farm bill, fracking controversies, and a recent listeria outbreak.

²³ FrameWorks researchers conducted 10 one-on-one, one-hour phone interviews with environmental health experts in July and August 2010. To locate experts, FrameWorks compiled initial lists with help from staff of the American Public Health Association (APHA), the Association of Public Health Laboratories (APHL) and the Association of State and Territorial Health Officials (ASTHO). Individuals on the lists provided by these organizations were asked for additional recommendations for interviewees. Given the wide range of professionals studying and working in this field, the final list sought to include as many different "types" of environmental health practitioners as possible, including both academics and applied practitioners, and experts on various aspects of the field of environmental health. These interviews were conducted over the phone and, with participants' permission, were recorded and subsequently transcribed for analysis in order to recover the environmental health narrative as framed by experts in the field.

²⁴ Quinn, N. (2005). *Finding culture in talk: A collection of methods*. New York, NY: Palgrave Macmillan.

²⁵ Three FrameWorks Institute researchers conducted the interviews in May and June 2010. The interviews covered issues related to environmental health. Consistent with interview methods employed in psychological anthropology, cultural models interviews are designed to elicit ways of thinking and talking about issues. Patterns of discourse, or common, standardized ways of talking, were identified across the sample using a basic grounded theory approach to thematic analysis. These discourses were then analyzed to reveal tacit organizational assumptions, relationships, propositions and connections that were commonly made, but taken for granted, throughout an individual's transcript and across the sample. In short, analysis looked at patterns both in what was said (how things were related, explained and understood) as well as what was not said (shared, but taken-for-granted, assumptions).

²⁶ See Appendix B for Tables that provide raw counts for each graph.

²⁷ Lindland, Eric H. & Nathaniel Kendall-Taylor (2011). *People, Polar Bears, and the Potato Salad: Mapping the Gaps Between Expert and Public Understandings of Environmental Health*. Washington, DC: FrameWorks Institute.

²⁸ Anonymous. Deals for Greece and Medco, and Layoffs. *The Wall Street Journal* Pg. A5, July 23, 2011.

²⁹ Baby Bottle Red Alert, 30 January 2010, *The Wall Street Journal*, A14

³⁰ See Rokeach, Milton. (1973). *The Nature Human Values*. New York: Free Press, and see Simon, Adam. (2011) *The Pull of Values* Washington, DC: FrameWorks Institute

³¹ Schlosser, Eric. "Unsafe at Any Meal." *The New York Times*, July 25, 2010 Section WK; Column 0; Editorial Desk; Pg. 8

³² Labov and Waletzky, "Narrative analysis: oral versions of personal experience."

³³ While contamination dominated both orientation (as the topic of coverage) and causality components of the media narrative, there are key differences between contamination as topic and contamination as cause. Contamination was coded as the *topic* only if the main thrust of the story was about contamination. Contamination was coded as the *cause* only if the story identified it as the specific cause behind the environmental health issue or event.

³⁴ Broder, John M. "E.P.A. Sets Poison Standards for Power Plants." *The New York Times*, December 22, 2011 Pg. 26

³⁵ Wines, Michael. "Tainted Dairy Products Seized in Western China" *The New York Times*, July 10, 2010 Pg. 6

³⁶ Broder, John M. "E.P.A. Sets Poison Standards for Power Plants." *The New York Times*, December 22, 2011 Pg. 26

³⁷ Kendall-Taylor, Nathaniel and Susan Bales (2009). *Like Mars to Venus: The Separate and Sketchy Worlds of Budgets and Taxes*. Washington, DC: FrameWorks Institute.

³⁸ Thomas M. Burton and Betsy McKay. U.S. News: New Sleuths for Food Safety --- Sweeping Law Calls for Vast Increase in Inspections; Zeroing In on Cantaloupes. *The Wall Street Journal*. 7 October 2011, A3.

³⁹ Zajac, Andrew Under Obama, a renewed FDA; The agency steps up its regulatory activity, and the activism is likely to increase. Los Angeles Times 10 October 2011, A11.

⁴⁰ Eisnefeld, Sue. That flea spray helped my cat; but as for me . . .
The Washington Post, May 24, 2011 HEALTH; Pg. E01

⁴¹ Karen E. Crummy. "State ties to Cotter draw fire Closely linked to the mill, regulators long played down its contamination dangers." *The Denver Post*, October 23, 2011 Sunday, A SECTION; Pg. A-01

⁴² Darshak Sanghavi , "Natural Disasters" *Slate Magazine*, May 7, 2010 Friday

⁴³ Davey, L. (2009). "Strategies for Framing Racial Disparities: A FrameWorks Institute Message Brief." Washington, DC: FrameWorks Institute.

⁴⁴ Lindland, Eric H. and Nathaniel Kendall-Taylor (2011). *People, Polar Bears, and the Potato Salad: Mapping the Gaps Between Expert and Public Understandings of Environmental Health*. Washington, DC: FrameWorks Institute.

⁴⁵ Baran, M., Kendall-Taylor, N., and Lindland, E. (2011). *"Let's Look at Me Personally": Mapping the gaps between expert and public understandings of sustainability and health care*. Washington, DC: FrameWorks Institute.

⁴⁶ Lindland, Eric H. and Nathaniel Kendall-Taylor (2011). *People, Polar Bears, and the Potato Salad: Mapping the Gaps Between Expert and Public Understandings of Environmental Health*. Washington, DC: FrameWorks Institute.

⁴⁷ Bales, Susan N. (2008) *Framing Community Health as if Food and Fitness Mattered*. Washington, DC: FrameWorks Institute.

⁴⁸ We considered using more a more expansive set of terms here (transportation, urban planning, food availability, parks...) but decided that such a more inclusive strategy such as this would flood the sample with stories that in actuality did *not* have consonance with the expert account. To assure greater alignment between the sample and the expert story of EH, we restricted our search to terms we felt most likely to elicit core "built environment" issues.

⁴⁹ Krippendorff, K. (1980). *Content analysis: An introduction to its methodology*. Beverly Hills, CA: Sage.

