

Community Structure and Press Coverage of Health Risks from Environmental Contamination

Abstract and Executive Summary

Robert J. Griffin

Center for Mass Media Research
College of Communication,
Journalism and Performing Arts
Marquette University
Milwaukee WI 53233

Sharon Dunwoody

Center for Environmental Communications
and Education Studies
School of Journalism and Mass Communication
University of Wisconsin-Madison
Madison WI 53706

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Abstract

Background. Members of the public rely on mass media as important sources of information about health risks from environmental contamination and other hazards. Our study employs multiple methods to explore the impact of community structure on the behaviors of journalists and their media organizations as they construct messages about health risks from environmental contaminants for their audiences.

Applying the conflict/consensus model of Tichenor, Donohue, and Olien, we proposed that mass media messages signalling that local agents are contaminating the local environment and posing health risks is conflict-generating information and, therefore, is controlled in the interest of community stability. Such control would be expected to vary by community structure, specifically structural diversity ("pluralism," usually associated with size) and economic reliance of the community on manufacturing.

Method. We conducted a three-part study, including a content analysis of nine months of coverage that 19 newspapers gave to environmental contamination, historical case studies of media coverage of three Superfund sites in Wisconsin, and a content analysis of how hundreds of daily newspapers in the Midwest covered an environmental group's 1991 news release concerning toxic releases from industries in the region, based on information from the Toxics Release Inventory (TRI).

Results. Our results indeed indicated that community structure affects local risk communication. While results were at times mixed, in general our study shows that media in less pluralistic (smaller)

communities will tend not to carry much information about health risks stemming from manufacturers and other sources of local contamination, and will tend to stress solutions to local contamination rather than related problems. Papers in communities highly reliant on manufacturing may be similarly reluctant to publish information about health risks from manufacturers.

Our research also revealed some other community structural, news organizational, and news occupational forces that appear to affect risk communication in important ways, and that point to the need for some further research. These findings include the apparent effects of press releases on local news staff mobilization to gather information about toxic releases from industry, the apparent willingness of editors in less pluralistic communities to publish broader stories about environmental health risks not overtly linked to local sources of pollution, and the ways in which political and scientific sources drive news coverage of health risks in Superfund site communities.

Implications. These results prompt some suggestions for risk communication practitioners. In general, just as individuals vary greatly in their need for specific types of risk information, so may communities -- and the media organizations in them -- require different communication strategies. Since most of the mass media in the United States are small city dailies or broadcast stations, or community weekly newspapers, public information specialists need to deal carefully and knowledgeably with community constraints on mass communication about local health risks from environmental contaminants.

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Executive Summary

Members of the public rely on mass media as important sources of information about health risks. We still have a lot to learn, however, about the content of mass media risk messages, about what audiences do with that information, and about the forces that affect the ways media construct the messages.

In this study, we explore the impact of community structure on the behaviors of journalists and their media organizations as they fashion stories about risks posed by environmental contamination. We focus on community structure for two reasons: (1) Researchers have found it to be a powerful predictor of media coverage of environmental issues, and (2) despite its apparent influence, many risk communication campaigns fail to take community structure into account.

Talking about community structure, or pluralism, is a way of talking about the distribution of power in a community. At one end of the structure continuum are homogeneous communities, settings where individuals are a lot like one another and power is shared by a small number of people or interest groups. At the other end of the continuum are pluralistic communities, whose residents are diverse and where many power bases and interest groups compete for influence. Not surprisingly, community size is a good predictor of level of pluralism. For many of us, the best illustrations of homogeneous communities are America's small towns and hamlets, while large, contentious cities anchor the other end.

What makes community pluralism interesting to scholars of the mass media is that communities with differing distributions of power seem to influence their

mass media to play different roles as information channels. This linkage was first articulated by a research team at the University of Minnesota: Phillip Tichenor, Clarice Olien and George Donohue.

The three scholars argue that the mass media in a community are important tools for managing conflict within that community but that the distribution of power in the community determines how the tools get used. A quick look at the two types of communities anchoring the ends of the pluralism continuum is illustrative:

- In structurally homogeneous communities, people in power know each other and tend to work out conflicts interpersonally, in those stereotypical "smoke-filled rooms" down at the Moose Lodge. The role of the mass media in these communities is one of building consensus for those decisions, of legitimizing the power structure. The local newspaper, then, functions as a community booster.

Robert J. Griffin is associate professor of Journalism and director of the Center for Mass Media Research at Marquette University in Milwaukee, WI. **Sharon Dunwoody** is Evjue-Bascom Professor and director of the Center for Environmental Communications and Education Studies at the University of Wisconsin-Madison. The authors greatly appreciate the assistance of research assistants Christine Gehrman and Se-Wen Sun and the helpful guidance of Environmental Protection Agency project managers Lynn Marie Desautels and Ann Fisher.

- On the other hand, structurally pluralistic communities contain so many competing power bases that conflict cannot be worked out interpersonally. Instead, it spills into the mass media. Newspapers in these heterogeneous communities become important communication links, both for the general public and for the powerful, who use the mass media to monitor the perspectives of competing interest groups. Media in these communities are sometimes identified as playing a "watchdog" role because reflecting opposing positions is such an important part of their job.

The bottom line here is that community pluralism ultimately affects the configuration of information available to citizens. In this study, we sought to see how those differing configurations would influence the availability and nature of risk information, particularly information about contamination by local companies that looms as a health risk. We would anticipate differences in handling of these kinds of risk stories for a number of reasons. One is that the presence of a health risk sets the stage for conflict, and Tichenor, Donohue and Olien have found ample evidence that community structure influences reporting of conflictive information. Another reason is that local companies are often part of the power structure of communities. In such cases, stories accusing them of putting neighbors at risk would be sensitive indeed.

Specifically, we expected to find that newspapers in less pluralistic communities would downplay the risks posed by local companies, as such information would be potentially threatening to the social structure of the community. Conversely, we expected to find that newspapers in more pluralistic communities would focus more directly on the risks as problems to residents of the area.

To explore differences in newspaper treatment of environmental risks, we looked for variation in two content dimensions: media "frames" and a related concept that we termed a "risk linkage."

Frames are ways of interpreting information that journalists learn to apply, subconsciously and reflexively, to news accounts. At their simplest,

frames are "what the story is about." They are crucial to journalistic work because reporters must quickly "see" news in the information around them. But frames provide an interpretive scaffolding not only for story writers but also for story readers. We all use the first few paragraphs of a newspaper story to determine that story's main point and to decide if we wish to keep reading.

In the studies discussed here, we paid special attention to how community pluralism affected newspapers' decisions to frame environmental risks as problems or as issues being solved. We suspected that newspapers in more pluralistic communities would frame these risks predominantly as problems while newspapers in more homogeneous settings would emphasize, instead, the ways in which the local power structures were handling the problems.

A "risk linkage" is information that makes an explicit connection between an environmental contaminant and a human health problem, no matter how big or small that problem may be. Such linkages may be sensitive ones in less pluralistic communities where companies are often major power brokers but, conversely, may be common media fare in a more pluralistic community where local companies are only one among many competing interest groups. Thus, we expected to find that newspapers in more pluralistic settings would provide more risk linkages than newspapers in less pluralistic ones.

Guided by research on community structure and our educated guesses about how such structures would influence media coverage of environmental risks, we conducted three studies of press coverage of health risks from environmental contaminants. They are:

- A general content analysis of 19 newspapers, primarily in Wisconsin, examining reporters' use of framing and other presentation strategies in stories about environmental contamination from industries and other local sources of pollution;
- A qualitative, case study exploration of newspaper coverage of three Superfund sites in Wisconsin, using interviews and content analysis; and

- A content analysis of press coverage of a report issued by a New York-based environmental group about toxic pollution in the Midwest, based on the Toxics Release Inventory. Because our research has implications for risk communication public information programs, we cap off our analysis with this case study.

After presenting the results of our analyses, we will explore their implications for risk communication practitioners:

General Content Analysis

We examined nine months of coverage by 19 newspapers in 16 communities; mostly in Wisconsin. (We included Chicago so that we could get as much variation in community pluralism as possible.) We found that community pluralism indeed affects the ways that local newspapers depict environmental contamination--especially that from industries and other sources of local contamination--in their cities and towns:

- Newspapers in larger, heterogeneous (i.e., more pluralistic) communities were more likely to link local contaminants to possible health threats than were papers in smaller, homogeneous (i.e., less pluralistic) places;
- Papers in these larger communities were more likely than their counterparts in smaller communities to frame (i.e., strongly depict) contamination from local sources as a problem;
- Papers in smaller communities were more likely than papers in larger communities to frame contamination from local sources in the context of the solution to the problem.

There are also variations in the ways that news media in these different types of communities made use of what we termed "generic" stories about contamination. Generic stories did not specifically state whether or not the kind of contamination referred to in the story (for example, from power plants, industries, and so forth) was to be found in the local community.

Instead, generic stories provided a broad-based, usually regional or national look at contamination from these and other sources, which in effect could be "everywhere or anywhere." While we still have some uncertainty about the roles that generic stories play in news accounts in bigger versus smaller communities, our study indicated that:

- In larger, more heterogeneous communities, many generic stories seem to be sources of additional information about solutions to environmental contamination problems tried elsewhere.
- In smaller, more homogeneous communities, generic stories tend to stress health risks linked to the contamination referred to in the story, and tend to be feature-type stories, that is, stories not based on specific recent happenings but the kind that usually provide more general information.

It is possible that editors in smaller communities might use such generic stories to convey locally relevant health risk information in a way that avoids pointing fingers at local sources of contamination, but that relies on the ability of local readers to make the necessary inferences. Both of these possibilities signal the need for further research. However, it is clear that editors and reporters in smaller communities treat very carefully information about health risks and other problems stemming from contaminants in the community. The location of the contamination referred to in the story--whether it be local, in some other community, or "generic"--plays a relatively big role in the news coverage decisions of small community journalists, as compared to their large city counterparts.

This analysis provides a baseline suggesting that the case studies to follow provide representative results.

Superfund Case Studies

If community pluralism is indeed influencing reporters' coverage of environmental risks to health, then one should see that influence across an array of

studies and methodologies. The purpose of these case studies was to test for the effect of community structure through a more qualitative process. Specifically, we explored factors influencing newspaper coverage of three Superfund sites in Wisconsin.

We used three criteria to select the sites: (1) A site must be situated near communities of different sizes to create variance in community structure, our primary independent variable; (2) A site must have attracted news coverage throughout its lifespan; and (3) A site must still be in the process of clean up. Once we had selected a site, we collected and qualitatively analyzed newspaper coverage from at least two newspapers serving at least two communities near the site. We also interviewed editors, reporters, and state and federal agency sources involved with the site.

Community structure indeed seemed to be reflected in the newspaper coverage of each Superfund site:

- Newspapers in smaller, more homogeneous communities downplayed coverage of the sites, attending to them only when public hearings and other "news" events demanded attention. Additionally, newspapers in these less pluralistic settings were far more likely to reflect on the Superfund sites as problems being solved by local officials.
- Newspapers in smaller, more homogeneous communities also were loathe to portray the local contaminator as a villain; indeed, the most frequent strategy was to ignore the role of the local company altogether. Editors of newspapers in these more homogeneous settings frequently referred to their role as one of "featuring" the community, not critiquing it.
- Newspapers in larger, more heterogeneous settings, on the other hand, were much more likely to cover these sites extensively and critically. They were more likely to frame the contamination as a problem, both in terms of threatening the health of community residents

and in terms of devising adequate clean-up procedures, and were more likely to identify the contaminator as a community villain.

Just as interesting, however, was another community-based finding. Community structure seemed to influence not only individual story frames but also the larger theme within which a Superfund site was interpreted. Over the course of years of stories, each Superfund site in this case study was given meaning via a very specific, community-based framework that played a major role in what that story was "about" for community members. These community-based frameworks had nothing to do with the notion of risk to health but, instead, were forged by interactions and processes unique to the power structure in that community.

For example, a Superfund site in an unincorporated town adjacent to two larger communities quickly became defined as a territorial problem. Historically, the two larger communities competed to annex land from the unincorporated town, and that territorial dimension quickly took over as the dominant meaning of coverage. The long-term theme of the Superfund coverage of this site focused not on the risks to health of individuals living near the site but, instead, on the struggle of the unincorporated town to maintain a sense of identity.

Similarly, PCB-laden sediments in a river and harbor near Sheboygan were transformed from a story about the risks of eating contaminated fish to a story about the economic problems posed by the contamination. Sheboygan, on the shore of Lake Michigan, relies heavily on sport and commercial fishing for its economic base. The Superfund site there was immediately given meaning as an economic--not a health risk--story.

Thus, these three Superfund case studies not only supported the argument that community structure influences the selection and framing of information about local environmental contamination but also introduced an unexpected community influence: the ability of the community power structure to place its own meaning framework on the issue. Superfund sites take years to resolve and, partly because of the Superfund process itself, remain "news" for much of that time. Over such lengths of time, coverage of each

Superfund site in this study was transformed into a kind of community saga, a morality play unique to the community itself.

Toxics Release Inventory Case Study

This case study examined how community pluralism and the extent to which communities rely on manufacturing for jobs affected the way that 373 Midwestern daily newspapers covered a report, issued by a New York-based environmental group, about high levels of industrial toxic releases in the Midwest. The group, Inform, Inc., included in the report some data on the amount of toxic releases for every county in the seven-state region (Illinois, Indiana, Iowa, Michigan, Minnesota, Ohio, and Wisconsin), based on their examination of the Toxics Release Inventory. News reporters could use these data to "localize" the story, that is, apply the report's findings about toxic releases to their own counties.

Inform, Inc., mounted an information campaign to announce publication of the report, entitled *Toxic Clusters: Patterns of Pollution in the Midwest*. So, we also examined the effects of their press kit and related information activities on press coverage of *Toxic Clusters*, in the context of community pluralism and reliance on manufacturing. Even though Inform, Inc., sent their press kit to only some of the newspapers in our analysis, all of the newspapers we studied had access to a wire service story based on *Toxic Clusters*.

We found that important aspects of a journalist's decisions -- whether to publish a story about *Toxic Clusters* in the local newspaper, and if so, what aspects of the story to stress in the headline -- were related to how much the community relied on manufacturing and, to some extent, to community pluralism. In particular:

- When we divided communities into low, medium, and high levels of reliance on manufacturing, we found that newspapers in communities with the mid-level of manufacturing reliance were the most likely to publish a story about *Toxic Clusters*. This result suggests that editors in communities without much manufacturing might have

considered the story to be locally irrelevant; editors in communities that are very dependent on manufacturing might have considered the story to be, in some way, too sensitive to run locally. This pattern was most pronounced among communities that are highest in pluralism.

- Local sensitivity to the report also seemed to be reflected in the ways that headlines were composed by those newspapers that did run a *Toxic Clusters* story:

>> The more the community relies on manufacturing, the less likely the local paper's headline for the story spotlighted a health risk.

>> Newspapers in communities that are higher in pluralism but not very reliant on manufacturing were the most likely to indicate in their headlines the local relevance of the story.

Also useful in our study was Oscar Gandy's idea that agencies and other news sources who "subsidize" the news media by disseminating to them information that they can use quickly and inexpensively increase the likelihood that the media will use the information. In so doing, the media might offer to audiences the agency's perspective on the news. Among our findings were the following:

- Papers that were sent the press kit were more likely to publish an item about the report, either from a wire service or as produced by one of their own reporters. None of the papers we studied used the Inform, Inc., news release verbatim.
- A major effect of the press kit was to make it easier for editors to assign staffers to cover the story, probably because the press kit contained additional information about the report that was easy for reporters to gather and use. Press conferences, if nearby, had similar effects. Once local staff members were assigned to cover the story, they tended to include in their articles information about the local levels of

toxic releases.

- Newspapers in communities experiencing problems with high overall levels of toxic industrial pollution, or that have "dirtier" local industries, felt more compelled to have one of their own staffers cover the *Toxic Clusters* story. Therefore, local conditions seem to have prompted editors to entrust the story to one of their own reporters.

Overall, our results suggest that information about health risks and related problems stemming from local contaminators is very sensitive information and is treated carefully by local media. In particular, daily newspaper use of information subsidies seems to be affected by a cost-benefit tradeoff in which editors take into account the cost of gathering the information as well the effects on the community of publishing it.

Recommendations

Designers of risk communication programs should, in effect, consider the information needs of two "audiences": (1) selected target groups (segmented publics) and (2) the media organizations serving those publics. In neither case does one message fit all. Our research indicates that:

- Public information programs about risk should take into account community structure, especially community pluralism. As a practical matter, the size of a community's population is a pretty good indicator of pluralism.
- Community structure can have an impact on the interpretive strategy that a newspaper uses to explain a risk and on the types of information about the risk that the paper includes in news accounts:

>> In small communities, newspapers will be interested in maintaining an image of the community as a good place where problems are readily resolved and where people get along with one another. Thus, they will usually welcome information couched in

terms of how local environmental problems are being solved. They will probably be less welcoming of information that spotlights the notion that members of the community are at risk from local sources of contamination. It will be relatively hard to place "this is a local problem" information in such outlets.

>> In larger communities, newspapers will be more open to interpreting an environmental hazard as a local problem and to presenting information about risks from local sources of contamination.

>> Even in larger communities, however, local media might find some contamination issues to be sensitive. For example, newspapers seem to be particularly careful about how they present information about problems of toxicity from industry if the community is highly reliant on local manufacturing.

- The bottom line is that you might need to "tell the story" differently depending on the kind of community, and perhaps work with local news media in different ways. Although they are indicated by the results of our study, more research is needed to demonstrate the effectiveness of the following strategies:

>> You may need to embed the same information (e.g., explanation of a risk, of the cleanup process) in different contexts when working with the news media in different communities, placing the information in the context of a problem if the news medium is in a larger community or stressing what is being done to solve the problem if the news medium is in a smaller community.

>> News media in smaller communities appear to be willing to publish broader, feature-type "generic" stories about health risks from environmental contaminants as long as they are not directly linked to local sources of pollution. For news media in smaller communities, a contact phone number or address for the public might be included.

>> News media in larger communities seem to be interested in generic stories about solutions to contamination problems that are being tried elsewhere.

>> When contamination issues are locally sensitive, news media will probably prefer that their own staff members cover and craft as much of the story as possible. Papers in larger communities tend to have larger staffs to devote to such customized reporting. Under these circumstances, your best strategy might be to supply fact sheets and otherwise make it as easy as possible for local reporters to write their own stories.

Other Factors for Consideration. Our research also generates some other suggestions for planners of risk communication programs:

- In long-playing stories about contamination, risk information seems to be regarded by journalists as more appropriate in the earlier stages of publicity

- Reporters seem to be much more likely to include risk information if it is given to them by a source than to take the initiative to seek risk information from a source to fill out a story or to update it for audiences.
- From a research standpoint, there is considerable value in approaching a risk communication problem by using a variety of research methods, and by taking into account (that is, controlling for) the ecosystem of forces that can affect risk communication processes.

Conclusion

Our research has demonstrated the effects of community pluralism on mass mediated risk coverage, and the need for public information programs concerning environmental risk to tailor their messages to the roles of media in communities that vary in pluralism. Since most of the mass media in the United States are small city dailies or broadcast stations, or community weekly newspapers, public information specialists will need to deal commonly with the kinds of community constraints on mass communication about local health risks that we explored in these studies.

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Copies of the full report can be obtained by contacting:

Lynn Marie Desautels, Director
Risk Communication Project
Office of Policy, Planning, and Evaluation
U.S. Environmental Protection Agency
Mail Code 2131
401 M Street SW
Washington DC 20460

Phone: (202) 260-6995

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