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# A Survey of Newspaper Coverage of HCFA Hospital Mortality Data

JOEL RUDD, PhD
KAREN GLANZ, PhD, MPH

Dr. Rudd is with Arizona State University in Tempe, and Dr. Glanz is with Temple University in Philadelphia.

Tearsheet requests to Karen Glanz, PhD, MPH, Department of Health Education, 304 Seltzer Hall, Temple University, Philadelphia, PA 19122.

**Synopsis**

*A study that assessed newspaper coverage of the 1986 Hospital Mortality Data for Medicare Patients released by the Health Care Financing Administration (HCFA) of the U.S. Department of Health and Human Services is described. Media interpretation of Federal information about the quality of hospital medical care is also discussed.*

*A sample of 68 articles from newspapers serving urban areas of various sizes in all regions of the United States was analyzed. Articles were coded into classifications according to how the news was played, headline bias (positive-negative-neutral), hospital mentions, quote sources, explanations for excessively high mortality rates, urban area population, and geographic region.*

*The findings indicated that HCFA's release of the 1986 hospital mortality data received heavy news coverage. There were twice as many negative headlines as positive ones, although nearly 95 percent of the hospitals had mortality rates within expected ranges. Quotes from representatives of hospitals predominated in the newspaper articles, and they often blamed some aspect of the HCFA data for higher-than-expected mortality rates.*

*Newspaper attention to the quality of hospital care clearly raised consumer awareness of the idea that health care quality can vary. The newspaper articles, however, provided no guidance on obtaining valid data or on using it to make health care choices.*

FOR THE FIRST TIME, information on the quality of health care is being made available to American consumers by government agencies, consumer organizations, mass media, and the health care industry itself (*1,2*). One of the more noteworthy examples of this is the Hospital Mortality Data for Medicare Patients released by the Health Care Financing Administration (HCFA) of the U.S. Department of Health and Human Services. The data reported hospital-specific mortality rates for Medicare pa-

tients in nearly 6,000 hospitals in the United States.

In releasing the data, HCFA identified those hospitals with higher-than-expected mortality rates, those with lower-than-expected mortality rates, and those with mortality rates in the expected range (*3*). Initially, data from 1984 were released to the public in August 1986 under the Freedom of Information Act. The hospital mortality data received considerable attention from the mass media, the hospital industry, and public health policy makers (*3,4*). Because the data had not been designed for public use, considerable confusion, misinterpretation, and hostility toward HCFA emerged.

HCFA released mortality data to the public again in December 1987, using data from 1986. Prior to public release, the 1986 data had been made available to hospitals for review and comment. HCFA received critiques and comments from more than 2,700 hospitals in time to include them in the release of the data.

HCFA releases its hospital mortality data for several reasons, not the least of which is to aid "consumers in making decisions on obtaining health care" (*3*). The 1987 release of the data was specifically designed to be understood and used by consumers. Prior to 1987, studies of hospital mortality experience did not identify hospitals by name (*4*).

The mass media play a critical gatekeeping role in providing information on the quality of health care to consumers. Given the technical nature of the data, newspapers performed an especially important service in communicating the hospital mortality data to consumers. Newspaper articles serve as "filters" for technical information by translating it into language that the average lay person can understand and making it accessible to the public. Journalistic decisions on what information to publish, how to slant it, and who to consult for interpretation or reaction, set the tone and boundaries of what reaches consumers. To the extent that newspapers imply that some hospitals are inferior or superior or raise doubts about government-generated data, they can influence consumer perceptions of health care providers and their choices about where to obtain care.

The purpose of our study was to assess the type, amount, and themes of newspaper coverage of the release of 1986 HCFA Hospital Mortality Data for Medicare Patients in December 1987 and to describe media interpretation of Federal information about the quality of hospital medical care. It was, first of all, *exploratory*, with the aim of learning what consumers are being told; and second, it was *analytical*, in trying to assess whether the type, amount, and slant of coverage in different regions varied systematically with the ratings of hospital quality.

## Methods

**Sample.** We gathered a convenience sample of 68 newspaper articles on the December 17, 1987, release of the HCFA hospital mortality data. The bulk of the articles were accessed via NewsBank, a reference service that provides articles of research value from newspapers in more than 450 cities in the United States. Additional articles were acquired from the library collections of the Universities of Arizona in Tucson and Minnesota in Minneapolis-St. Paul.

Care was taken to gather articles from newspapers serving small, moderate, and large urban areas in all regions of the United States. Goals in the search of NewsBank articles were to obtain at least 10 articles in each of the four geographic regions and 15 or more in each of the three sizes of urban areas. The final sample included articles from newspapers in 47 urban areas in 28 States. Two articles were selected from the Wall Street Journal, which is considered a national newspaper. Of the 68 articles, 60 were published on December 18, 1987.

**Coding.** All newspaper articles were identified by title, publication, and date. In addition, the following information was recorded for each article:

1. total number of lines of text,
2. page number and section in which the article began,
3. headline valence (positive, negative, neutral),
4. number of hospitals mentioned in the text and accompanying charts (if any) with higher, lower, and as expected mortality rates,
5. number of quotes in the text and their sources, and
6. number and nature of the reasons, or explanations, offered for hospitals with higher than expected mortality rates.

All 68 articles were coded by a research assistant, and a randomly selected subsample of 10 articles was separately coded by a researcher. Intercoder reliability was .95, considered sufficiently high to preclude use of two coders for the entire sample. All disagreements in the subsample were resolved prior to analyses.

## Measurements

**News play.** When newspapers are used as a sampling frame, measurements of news play (how a particular story is packaged and displayed) indicate the relative significance a paper attaches to it and the extent of the paper's interest in the story (*5*).

In our study, news play was measured in two ways. The first was article length, indicated by the total lines of print in each article. The greater the number of lines, the greater the news play given the article. Counting lines of print is just as efficient in measuring article length as counting words. In addition, counting lines is less subject to coder error than counting words (*5*). Another common measure of news play, the number of inches in a column of print, was inappropriate in this study because NewsBank sometimes shrinks or enlarges its stories to fit or fill the space available on its microfiche.

The second measure of news play was the page of the newspaper on which the article began. The location of the story is another indication of its importance. In one category were articles that began on the front page of any section of the newspaper; and in the other were articles that began on any other page. Front page articles reflect greater news play than those beginning on inside pages (*6*).

**Headline valence.** Headline valence refers to the bias or tone of the headline. Each headline in our study was coded as positive, negative, or neutral. Positive headlines emphasized positive aspects of the HCFA hospital mortality data, usually the finding that all or most local hospitals were within the expected range or had lower than expected mortality rates. For example, the headline in the December 18, 1987, edition of the Minneapolis Star-Tribune declared, "State Hospitals Fare Well in Mortality Study."

Negative headlines emphasized negative aspects of the released data, usually that some local hospitals had higher-than-expected mortality rates. "Deaths Greater Than Expected at 8 Hospitals," the Dallas Morning News headline of December 18, 1987, said, as an example. Neutral headlines, like the "Mortality Data Released for 6,000 U.S. Hospitals," headline in the December 18, 1987, New York Times, emphasized neither positive nor negative aspects of the release.

**Hospital mentions.** The name of each hospital mentioned in each article was recorded. Hospitals having lower-than-expected mortality rates were counted separately from those with higher-than-expected mortality rates and those whose mortality rates were within the expected range. This measurement gave an indication of the extent to which the print media serves an information or news function. An information function is served if a hospital's inclusion in an article is unrelated to its reported mortality rate. On the other hand, a news function is served if hospitals with lower- or higher-than-expected mortality rates are overrepresented in articles.

**Quote sources.** Direct and indirect quotes in articles were counted by source. Direct quotes are those between quotation marks, as in "People who read this information must be cautioned that it should not be used to rank hospitals nor was it designed to provide a national benchmark for measuring quality of care," the quote attributed to HCFA Administrator William Roper, MD, in the December 18, 1987, Birmingham (AL) News. Indirect quotes are those attributed to a source without the use of quotation marks. An example in the same Birmingham News article was the statement that officials at both hospitals said the HCFA report unfairly singled out their facilities. The relative frequency of use of quotes from various sources is a critical measure of how stories are viewed by their producers and how stories are likely to be interpreted by readers. The sources quoted are an indicator of who the media view as major and peripheral players in a story.

**Explanations.** The reasons, or explanations, offered by representatives of hospitals with higher-than-expected mortality rates were also coded. It is a common reporting technique to call on those individuals or organizations viewed as responsible for alleged substandard or nonnormative performance to account for that performance. Responsible parties are almost always given an opportunity to comment or respond to such allegations. The thematic analysis (*7*) of explanations in our study defined an explanation as any utterance offered to make apology for, to try to remove blame for, or to respond in any other way to the finding of higher-than-expected mortality rates.

**Urban area population.** Using U.S. Census Bureau 1986 estimates, we recorded the urban population served by each newspaper. For cities with a population of more than 50,000 people, the Metropolitan Statistical Area population figure was used. For

*'The extent of news play given to the release of 1986 HCFA hospital mortality data ... attests to the view that the quality of health care is of interest to consumers and that quantitative information on the quality of care is considered unique and newsworthy.'*

cities of fewer than 50,000, the urban population figure was used.

**Geographic region.** The 47 urban areas represented in the sample of 66 non-national newspapers were divided into 4 regions, following U.S. Census Bureau classifications: Northeast, North Central, South, and West. In the sample, 19 newspapers were published in the Northeast, 13 in the North Central Region, 21 in the South, and 13 in the West.

## Results

**Analysis and research questions.** Analysis of the coded data answered the following questions:

1. How much news play (attention) was given by the print media to the release of HCFA hospital mortality data?
2. Did headlines tend to be positive (emphasizing lower-than-expected mortality rates), negative (emphasizing higher-than-expected mortality rates), or neutral?
3. To what extent did hospitals mentioned in the article fall above, below, or within expected mortality rates?
4. Who was quoted in the article and what was their affiliation? Were representatives of particular interest groups more likely to be quoted?
5. What explanations were offered by representatives of hospitals with higher-than-expected mortality rates?
6. To what extent do the answers to the these questions vary by size of city and geographic region?

**News play.** The average article in our sample was 162.9 lines long, with a range of 48 to 291 lines. Almost half, 46 percent, of the articles began on the front page of a section; 54 percent began on an inside page. Thus, articles reporting release of the HCFA hospital mortality data tended to be presented as major stories in terms of average length; combined with frequent front-page placement, they represented high news play. The news play received by these stories did not vary significantly by headline valence or the number or proportion of hospitals mentioned with higher-than-expected mortality ratings.

News play, as measured by article length, was not uniform across geographic regions. Nearly half the articles in newspapers from the Northeast and North Central Regions were of medium length, while nearly half of the articles in newspapers from the South and West were long ($\chi^2 = 7.40$, df = 2, $P < .05$).

As measured by article placement, news play varied according to the size of the urban area where the newspaper was published. Newspapers serving large urban areas placed 84.2 percent of the articles on the HCFA hospital mortality data on the front page. Newspapers in medium-sized cities placed 30 percent of the articles on the front page, and 40 percent of the papers in small cities did so ($\chi^2 = 12.64$, df = 2, $P < .01$).

**Headline valence.** In our sample, 41.2 percent of the articles had negative headlines (emphasizing higher-than-expected mortality ratings), and 42.6 percent had neutral headlines. Positive headlines were found in only 16 percent of the articles. Interestingly, headline valence was not significantly associated with the number or proportion of hospitals mentioned with particular mortality ratings. In other words, articles with negative headlines were no more likely than articles with positive or neutral headlines to mention a high number (absolute or relative) of hospitals with higher-than-expected mortality ratings.

**Hospital mentions.** Overall, the average number of mentions per article was 10.8 for hospitals with lower-than-expected mortality rates, 2.0 for hospitals with higher-than-expected mortality ratings, and 1.0 for hospitals within expected mortality ranges. The maximum number of hospitals with lower-than-expected mortality ratings mentioned in any one article was 55. The equivalent figure for hospitals with higher-than-expected mortality ratings was 16; for hospitals with mortality ratings within expected ranges, 10.

The mean percentage of mentions for the three categories of hospitals was also calculated. Overall, 56 percent of all hospitals mentioned had lower-

than-expected mortality ratings, 23 percent had higher-than-expected mortality ratings, and 21 percent had ratings within the expected range. Comparable figures for the entire HCFA hospital mortality study were as follows: 3 percent of the hospitals studied had lower-than-expected mortality ratings, 2.5 percent had higher-than-expected mortality ratings, and 94.5 percent were within expected mortality ranges. Clearly, the articles in our sample overrepresented hospitals with lower- and higher-than-expected mortality rates and underrepresented those within expected mortality ranges.

In addition, there were strong negative correlations between the percentage of hospitals with lower-than-expected mortality ratings and the percentage of hospitals with higher-than-expected mortality ratings ($R = -.51$) and with hospitals within expected mortality ranges ($R = -.63$). This indicates that articles with a large number of mentions of hospitals with lower-than-expected mortality ratings tended to have relatively fewer mentions of other hospitals.

**Quote sources.** Sources of quotes in articles were grouped into four categories: hospital and medical representatives, HCFA and government officials, consumer and health group spokesmen, and college professors. Quotes from representatives of the hospital industry and medical community were more than twice as likely to appear in an article (average of 12 quotes per article) as the next most frequently quoted source, HCFA and other government officials (averaging just under 5 quotes per article). Representatives of consumer and health advocacy groups (mean 1.6) and college professors (mean 0.4) were quoted much less frequently.

While quotes from most sources were fairly uniformly distributed in the various newspapers, quotes from HCFA and other government officials were used nearly twice as often in newspapers serving large urban areas as in newspapers from medium-sized and small cities. The mean in large cities was 7.2, in medium cities 3.6, and in small cities 3.9 ($F = 5.86$, $df = 2$, $P < .01$). In addition, quotes from hospital and medical sources were more frequent in newspapers from the Northeast (13.8) and South (14.4) than the North Central (10.9) and the West (7.5) ($P < .05$).

The only quotation source that varied with article length was hospital and medical officials. The mean number of quotes from this source increased monotonically with article length. The longer the article, the more quotes from hospital and medical sources (mean of 6.8 quotes for short articles, 12.1 for moderate length, and 17.2 for long articles; $P < .001$). The number of quotes from hospital and medical sources was also a function of the number of hospitals mentioned in an article. In those articles in which three to seven hospitals were mentioned, a significantly greater number of quotes from hospital and medical sources were used than in articles in which a low number of hospitals were mentioned. Surprisingly, articles that mentioned a high number of hospitals were no more likely to quote hospital and medical sources than articles mentioning a low or moderate number of hospitals.

Percentage of articles that mentioned various explanations for higher-than-expected mortality rates in newspaper coverage of HCFA 1986 hospital data

| *Explanation category* | *Percent* |
|---|---|
| Blame HCFA study | 69 |
| Blame patient's illness level or source of referral: | |
| Patient's illness level | 59 |
| Patient admitted from nursing home | 32 |
| Patient admitted from emergency room | 19 |
| Blame patient's social characteristics: | |
| Age | 35 |
| Socioeconomic status | 26 |
| Patient's race | 1 |
| Geographic location of hospital | 9 |
| Do not accept blame | 29 |

**Explanations.** The ten distinct types of explanations found in the sample were combined into four categories (see table). The most common response in the face of higher-than-expected mortality rates was to blame some aspect of the HCFA study itself, usually a conceptual, methodological, or statistical flaw (more than two out of three articles contained this excuse). The illness level of patients was the second most frequently cited explanation for higher-than-expected mortality rates. This was done either directly by blaming the patient illness level or indirectly by blaming the high proportion of hospital admissions from nursing homes and admissions through the emergency room. A third category involved blaming social characteristics of patients (age or socioeconomic status) or the neighborhood where the hospital is located. Finally, about 3 in 10 articles contained denials that the hospital was in any way to blame for the higher-than-expected mortality rates.

The nature of two types of explanations varied by the size of the urban population served by the newspaper. The "blame the patient's age" reason was frequent in newspapers from medium-sized

cities and rare in newspapers from large cities. The "blame patients admitted from nursing home" reason was rare in newspapers from small cities and more common in newspapers from medium-sized and large cities. (Large city hospitals are more likely to receive patients referred to them from smaller facilities which are unable to care for the very ill.)

## Discussion

Overall, newspaper articles in our sample reporting the release of the HCFA 1986 hospital mortality data received high news play. Almost half of the articles began on the front page of a newspaper section and the average article length was more than 160 lines of type. News play varied by geographic region and size of urban area. Articles published in the South and West were longer than those published in the Northeast and North Central Regions. Large city newspapers were more likely to place the story on the front page of a newspaper section than medium-sized and small city newspapers. Surprisingly, news play did not vary by headline valence or by the number or proportion of hospitals mentioned in the text with higher-than-expected mortality rates. Given the traditional definition of news, it might have been predicted that negative headline valence and presence of hospitals with higher-than-expected mortality rates would have deserved greater news play. Such was not the case in our sample of newspapers.

There were more than twice as many negative headlines as positive ones. Headline valence was not associated with the nature of the hospitals mentioned in the articles. This too was somewhat unexpected. It seems reasonable to have predicted that articles with negative headlines would contain more mentions of hospitals with higher-than-expected mortality rates. The headlines may have been designed to attract readers' attention, often without accurately reflecting the slant of the stories themselves. This raises the question of whether newspapers and their reporters might be concerned about liability, legal action, or community relations.

The pattern of hospital mentions in the articles was not representative of the overall HCFA study findings that nearly 95 percent of the hospitals were within expected mortality ranges. Only 21 percent of those mentioned in our sample of newspaper articles were within the expected range. Hospitals with lower-than-expected mortality ratings (55 percent of hospital mentions) and with higher-than-expected mortality ratings (23 percent of mentions) clearly appeared in newspaper articles far more frequently than their relative numbers in the entire HCFA study would justify.

Representatives of the hospital industry dominated the quotes used in the newspaper articles, especially in the Northeast and South. The longer the article, the greater the number of quotes from hospital and medical sources, regardless of the number of hospitals mentioned in the article. Overall, HCFA and other government officials were quoted less than half as often as hospital and medical representatives. HCFA and other government officials received somewhat more attention in newspapers serving large cities. As has been found in other studies of media coverage of health and safety issues (*8*), quotes from consumer and health groups were rare in the articles in our sample.

Explanations by hospital representatives for their higher-than-expected mortality rates were common in the articles. The most common explanation was to blame some aspect of the HCFA study. In addition, blaming the illness level of their patients, and simply not accepting blame, were also common.

## Conclusion

The extent of news play given to the release of 1986 HCFA hospital mortality data, as determined from a sample of newspapers throughout the United States, attests to the view that the quality of health care is of interest to consumers and that quantitative information on the quality of care is considered unique and newsworthy. Headlines were more likely to be negative, though negative hospital-specific data did not dominate. While negative findings were not over-emphasized, average or expected findings were mentioned less often than would be predicted by the actual data. Thus, the articles tended to stress either praise or caution about specific local or regional hospitals. This reflects newspapers' aims to deliver news more often than to deliver information.

The newspapers treated the hospital mortality data as they would any story on the business page and sought quotes mainly from hospital and medical representatives. These sources usually offered one of three key explanations for higher than expected mortality rates, and the most common was to blame some aspect of the HCFA study.

How did newspaper coverage of the information about the quality of hospital care serve the consumer audience? It no doubt raised consumer awareness of the concept that health care quality

varies, although, at the same time, it may have planted doubt about the validity of so-called "hard" data on quality of care. It probably served to support the notion of cautious consumer choice without providing concrete guidance on how to obtain useful and valid data on health care quality.

It is probably unrealistic, because of the practical constraints of time and space, to expect newspapers to carry this additional information. If HCFA would provide this type of explanation in its press kits, however, newspapers might include it in their articles. Quotes from HCFA and government officials were common in the newspaper coverage we analyzed.

Both public officials and health professionals believe that the demand for information about quality of care is increasing (*9,10*). It is important that these topics be handled objectively and cautiously to avoid generating unwarranted fear among readers. Newspapers that cover these matters should be conscious of their role as unofficial information brokers and continually strive to provide balanced coverage of health care issues to consumers of medical services.

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# Requiring Formal Training in Preventive Health Practices for Child Day Care Providers


BETTY Z. BASSOFF, MSSA, DSW
WINNIE O. WILLIS, RN, ScD

The authors are with the Maternal and Child Health Division, Graduate School of Public Health, San Diego State University.



Dr. Bassoff is Acting Chairperson of the division and principal investigator for grant MCJ 063710-03 of the Health Resources and Services Administration, Maternal and Child Health Bureau, to demonstrate a system for training child day care providers in preventive health practices in five California counties.

Dr. Willis is an Associate Professor in the division. They collaborated on a study funded by the State of California's Department of Education to test the feasibility of mandating health training as a requirement for licensing family day care homes and day care centers.



Tearsheet requests to Betty Z. Bassoff, SDSU Graduate School of Public Health, San Diego, CA 92182—0405.


## Synopsis


*The study was a test of the feasibility of mandating training in preventive health practices for child day care providers in California. Three approaches were taken to determining the feasibility of mandatory training. They were (a) to identify persons and groups with the capability to provide training, (b) to identify systems and networks for communication and collaboration on health issues related to day care at the local level, and (c) to determine the child day care providers' concerns, needs, and future interests regarding child health.*

*Information was collected on relevant courses offered by universities, colleges, and adult education programs; on training offered by child health authorities; and on formal curriculums offered by local and national sources. Day care center and family day care home providers were surveyed to determine their knowledge of child health issues, their concerns, and their future needs. The providers surveyed cared for a total of 14,340 children. Information on local networks was obtained from the surveys, from interviews, and from a special task force that had been set up to advise the State legislature.*

*Study results supported the conclusion that a coordinated system of State-wide training was feasible, given the existing networks of training and*