

Introduction

Signorieilli (1993) found that U.S. science and medical news coverage tended to overemphasize official sources, especially governmental officials and leaders of physician and health care organizations. Since news space is limited and journalists often work on deadline, Wilkins (1987, 1989) and Nelkin (1987, 1995) noted that an emphasis on using elite sources often precluded interviewing a more diverse range of persons, who might provide different perspectives on public health issues.

Signorieilli (1993) added that a journalistic reliance on elite news sources drew coverage away from providing a broader educational context, which sometimes adversely affected the public's understanding of health issues. Similarly, Trachtman (1981), the Ciba Foundation Conference (1987, Council of Scientific Society Presidents (1991 and Hagedorn and Allender-Hagedorn (1987) found a scarcity of educational, sociological, cultural, ethical and historical issues within routine science and medical news reporting. Friemuth et. al. (1984) noted how cancer news coverage neither provided the context, history, policy perspectives, or educational background citizens needed to make personal health decisions, or to meaningfully participate in cancer policy discussions.

Instead of providing readers with a educational background or context, or seeking fresh angles, Nelkin (1987, 1995) and Wilkins (1987, 1989) found a tendency for "journalists to follow a compelling news story by relaying the results of continuing, daily news conferences or relying on news releases generated by major governmental news agencies, large companies, or well-organized public interest organizations" (Logan, Peng and Fraser Wilson, 2000a, p. 7).

While the potential for public misunderstanding fostered by an over-reliance on elite sources, a lack of source diversity, and less attention to context has been a frequent topic in medical journalism criticism, most previous literature has tended to assess these issues via case studies often using qualitative methods (Weigold, 2001; Logan, Peng and Fraser Wilson, 2000a). In order to accumulate additional evidence to ground qualitative assertions, Atkin and Arkin (1990) recommended the use of empirical methods and especially content analysis.

"In comparison to qualitative analyses, Hansen, et al. (1998) note content analysis generates a sampling of how news is depicted over time plus empirical precision and controls. Empirical approaches invite further testing and operationalize variables for future study. By testing hypotheses and examining news coverage over time, the resulting data yield insights about whether previous qualitative assertions are isolated cases or are more representative of journalistic actions"(Logan, Peng and Fraser Wilson, 2000a, p. 10).

The scholarship regarding the news media's alleged overuse of official medical sources and dearth of reportorial context also has often been focused within North

America (Weigold, 2001). While Gregory and Miller (1998) reported similar patterns in science and medical news coverage and criticism in the United Kingdom, they suggested one of the enduring challenges in understanding the role of the press in public health and science communication was both to measure actual press performance over time and see if trends were normative in international settings -- accounting for differences in culture and journalistic approaches.

This study combines an empirical approach and an international setting to assess the extent the Korean news media relied on elite sources, provided news source diversity and a broader context for readers during a Korean national public health crisis between September 1999 and December 2000. Since the similarities and differences between the South Korean and U.S. news media and the public health crisis assessed in this study may be unfamiliar to readers, both topics are introduced below.

South Korea's news media

South Korea's news media provide an interesting parallel to the British and North American press corps, because there are many similarities in journalistic newsgathering approaches and freedoms (Kim, 2001). There has been a democratically elected government in South Korea since 1988 and for the past 16 years journalists have experienced unprecedented freedoms to report news without significant governmental interference (Chaudhar and Chen, 1995; Heuvel and Dennis, 1993; Youm, 1996). There are a variety of periodicals and refereed journals that assess and critique Korea's news media including: *Korean Journal of Journalism and Communication Studies*, *Media & Society* and *Newspaper and Broadcasting*.

While there are few studies of how the South Korean press covers science, medicine or public health, Kang (1998) and Kim (2001) noted that two characteristics of South Korean (hereafter referred to as 'Korea' or 'Korean') journalism were a reportorial detachment toward news sources plus an emphasis on removing personal opinion, or editorializing, from news coverage. While objectivity or impartiality are criticized by McQuail (2000) as a myth, and by Tuchman (1990) as a strategic ritual, Korean journalists (who work for national newspapers and television news) follow many of the same news gathering standards and practices as their U.S. counterparts (Kim, 2001).

Akin to Boorstin's (1992) criticisms that U.S. journalists cover pre-packaged events, Korean journalists often are criticized for a tendency to overemphasize 'pseudo events.' Chang, Lee and Oh (2001) added that the tendency to cover news conferences and events set up for the press often precluded Korea's major news organizations from providing a social, economic, ethical, educational, historical and public policy context within news reporting. Within Korean journalism scholarship, there also has been an implied link between the news media's tendency to avoid in-depth reporting and an abridged public exposure to national policy issues (Kang, 1998; Kwon, 1992).

Similar to the U.S., Korean journalists have been criticized for overusing a limited range of official and elite news sources, especially an overemphasis on governmental

leaders and representatives from influential professions (Baek, 2001; Kang, 1990; Lee, 1991). Parallel to the U.S., Park (2002) explained Korean journalists perceive a special obligation (within an ongoing, high profile series of events) to report the reactions, or actions, of national governmental spokespersons and leaders within elite professions. Applied to the Korean health crisis, this implies a significant reliance by Korean journalists on government officials and physicians as news sources.

But in contrast to the U.S., Kim (2001) noted stories based mostly on self-contained reactions by Korean governmental officials and prominent sources to events are an important news framework within Korean journalism. U.S. journalists tend to frame next-day responses by government or other prominent social actors in a slightly broader motif, such as focusing a story on a controversy between officials (Nelkin, 1995; Logan, Peng and Fraser Wilson, 2000a). In American journalism, the self-contained reactions of top governmental officials or prominent social actors are not necessarily perceived as the sole basis of a news story.

In Korea, however, self-contained, one-source based reactions, *per se*, are a normative topic for a news story. Kim (2003) noted Korean journalists tended to frame 'reaction' news stories within three different genres: a) slightly edited reports from statements issued originally by prominent social actors; b) verbatim reprints of the information provided by government officials and c) verbatim reprints of information provided by prominent non-governmental sources, or social actors. In a recent study, Park (2002) described all three types of stories as 'counteraction.'

While many reaction stories are based on slightly edited reports of statements issued by a limited range of prominent social actors, the other two genres (verbatim reprinting of governmental and verbatim reprinting of information provided by non-governmental sources) also have been critiqued as ubiquitous (Kim, 2003).

As a result, in both the U.S. and Korea, the tendency to gravitate toward elite news sources and to frame stories narrowly has been perceived to generate: a) a scarcity of stories devoted to sociological, cultural, ethical, historical and educational issues within routine reporting; b) an excessive use of government officials and representatives of elite professions as sources as well as c) less use of other potential news sources. In Korea, the tendency for news to gravitate towards all three types of reaction stories additionally suggests limited opportunities for journalists to report underlying sociological, cultural, ethical, historical and educational issues.

Similar to the U.S., there also is a scarcity of systematic content analysis, or quantitatively-based studies to assess these assertions (Logan, Peng and Fraser Wilson, 2000a; Yang, 2001). In Korea and the U.S., an underlying issue in journalism scholarship is to assess if case study-based assertions are isomorphic with actual press performance (Stempel, 2003; Wimmer and Dominick, 2003; Yang, 2001).

Korea's public health crisis

Before moving to the study's hypotheses, some background about Korea's public health crisis and health care delivery system is provided.

Chang (2000), Choi (1999), Choi and Kim (2000), Jang (2000) and Kim (2000) described how Korea's public health crisis unfolded in a series of events from September 1999 through December 2000. Prompted by changes in government policies that curtailed the role of pharmacists and limited the capacity of physicians and hospitals to make profits from dispensing pharmaceuticals, a strike (which resulted in a national shut down of private hospitals and clinics) was threatened from September 1999 to June 20, 2000 and began on June 21, 2000. In contrast to the U.S. but similar to Great Britain and Canada, Korea has a national health care service which gives most citizens access to acute and routine medical care. Similar to Britain and Canada, national health insurance can be supplemented by private insurance. Similar to the U.K and the U.S., there are public and private hospitals in Korea and there is extensive medical training within universities.

A national medical strike unfolded from June 21 through July 2000 and most private hospital and clinical services were closed for periods during this time. Both the strike and the preceding era featured an array of social actors, or affected groups, who were significant participants in the initial response to government policy changes, negotiations and an eventual settlement. These social actors included (Chang, Cho, Park and Hwang, 2002):

- Government officials
- Organizations representing physicians
- Pharmacists
- Medical school students
- Medical school faculty
- Pharmaceutical companies
- Incumbent political party
- Opposition parties
- Congress (Korea's national legislature)
- Patients
- Civic organizations (public interest representatives)
- General or lay public opinion
- Public medical insurance corporations
- National health workers and other unions

From June to July 2000, most of the aforementioned groups of health care professionals plus Korean medical students went on strike. However, not all affected groups went on strike simultaneously. From August to mid-December 2000, there was a period of intense negotiations between government leaders and representatives of affected hospital and health care organizations. The strike was resolved in stages but by late November 2000, Korea's hospital and clinics returned to normal services. Medical students were the last major group to return to work and classes.

Korea's public health crisis represented a cultural rarity where governmental actions adversely affected physicians, one of the nation's elite professions (Yang, 2001). Yang (2001), Youm (1996) and Chaudhary and Chen (1995) implied the incumbent Korean government (regardless of the governing political party) normally avoided confrontations with professions, who have high social status and public credibility (such as physicians). In turn, this suggests Korean governmental officials and physicians had significant differences of opinion and were engaged in unusual debates about professional and public policy issues throughout Korea's public health crisis.

Other than relations with North Korea, Park (2002) explained that South Korea's medical strike was the nation's major news story during a 15 month era. As Chang, Cho, Park and Hwang (2002) noted, the medical strike directly or indirectly affected every South Korean citizen.

Korea's public health crisis raised most of the questions about medical public policy that can be examined in a democratic society, including: cost of medical care; access to care; rights, privileges and immunities of physicians, nurses, medical students and patients; the limits of public and governmental controls on medicine; patient rights; the economic viability of national health insurance plans; equitable care delivery; differences between public and government hospitals and medical care; appropriate compensation for medical health professionals; the cost to train physicians; career opportunities for young persons in medicine; the future of Korean medical research and the relationship between medical care and quality of life (Chang, Cho, Park and Hwang, 2002; Cho, 2000).

Chang, Cho, Park and Hwang (2002) and Cho (2000) previously implied there was too much coverage of government officials and physicians during S. Korea's medical crisis. They also suggested there was less coverage of the other social actors involved in the dispute as well as an alleged lack of context and background to help citizens understand the Korean public health care system's problems, its history and future (Chang, Cho, Park and Hwang, 2002; Cho, 2000). Most of their allegations, however, were based on qualitative methods or a content analysis based on a limited sampling of reporting by influential Korean news organizations.

Consequently, the public health crisis provides an exemplar to empirically investigate if the Korean press' news gathering techniques are consistent with patterns projected in previous national and international literature about journalistic practices.

Specifically, Korea's public health crisis provides an opportunity to quantitatively assess: a) the extent that Korean journalists relied on elite news sources; b) the extent Korean journalists interviewed sources other than government officials and physicians and c) the comparative degree news topics either were based on reaction stories, or a more in-depth context to help readers understand complex medical policy issues.

The study's hypotheses

In this study, the investigators assessed how two newspapers, *Chosun Ilbo* and *Hankyoreh*, relied on news sources, provided a broader context and framed news topics during Korea's public health crisis. The study's hypotheses were:

H1 There should be a high frequency of stories where the primary (first attributed) source is a governmental official or a physician, and these high frequencies should remain consistent in *Chosun Ilbo*'s and *Hankyoreh*'s news coverage of Korea's public health crisis.

H2 There should be a low frequency of stories where the primary (first attributed) news source represents groups, health care professionals, institutions or citizens (other than governmental officials or physicians) and these low frequencies should remain consistent in *Chosun Ilbo*'s and *Hankyoreh*'s news coverage of Korea's public health crisis.

H3 There should be a high frequency of stories where the second attributed news source is a governmental official or a physician and these high frequencies should remain consistent in *Chosun Ilbo*'s and *Hankyoreh*'s coverage of Korea's public health crisis.

H4 There should be a low frequency of stories where the second attributed news source represents groups, health care professionals, institutions or citizens (other than governmental officials or physicians) and these low frequencies should remain consistent in *Chosun Ilbo*'s and *Hankyoreh*'s coverage of Korea's public health crisis.

H5 There should be a high and a consistently high frequency in *Chosun Ilbo*'s and *Hankyoreh*'s news coverage of Korea's public health crisis where primary news pegs, or frameworks are: a) an abridged reaction or response to breaking events by prominent sources, b) a reprinting of verbatim information provided by government officials and c) a reprinting of verbatim information provided by non-governmental sources.

H6 There should be both a low and a consistently low frequency in *Chosun Ilbo*'s and *Hankyoreh*'s news coverage of Korea's public health crisis where primary news pegs depict more multidimensional issues (topics other than an abridged reaction or response to breaking events by prominent sources, a reprinting of verbatim information provided by government officials and a reprinting of verbatim information provided by non-governmental sources).

Methods

The discussion of the study's methods is divided into four sections: 1) the time assessed in the study; 2) the rationale for the selection of *Chosun Ilbo* and *Hankyoreh*; 3) outcome variables and operational definitions plus 4) coder reliability and operational definitions of a high, moderate to low frequency of occurrence.

Time assessed in the study

Two coders read all articles in *Chosun Ilbo* and *Hankyoreh* published between September 19, 1999 and December 12, 2000. The dates coincided with the initial reporting of a possible protest by health care providers in September 1999 and the last news story on the settlement, which was completed by December 12, 2000. Three time periods were analyzed: September 18, 1999 - June 20, 2000; June 21 - August 1, 2000 and August 2 - December 12, 2000.

As introduced in the literature review, from September 18, 1999 - June 20, 2000 there was a build up to a strike after a possible change in governmental policy threatened to change the role of pharmacists and pharmaceutical reimbursement. The period from June 21 – August 1, 2000 included a trial run of the Korean government’s new pharmacist policy and a resulting strike of more than 95 percent of Korea’s hospitals. The Korean government implemented its pharmacist policy on August 2, 2000 and the settlement of the strike and the return to work by a variety of health care professionals unfolded through December 12, 2000.

The study’s time periods, then, were based on when news events were clustered rather than dividing the era into three equal time periods. While the authors realized this division might result in uneven sample sizes, the periods paralleled three separate time frames (each of which provided different challenges for both newspapers). By keeping each frame distinct, the authors sought to investigate if the coverage of the public health crisis changed as actual professional rhythms and news cycles occurred.

Rationale for the selection of *Chosun Ilbo* and *Hankyoreh*

Chosun Ilbo and *Hankyoreh* were selected in part because each news organization routinely covers national news events, yet they are editorially distinctive. Both *Chosun Ilbo* and *Hankyoreh* are separately owned and nationally distributed. The circulation and editing of both newspapers is for different demographic audiences. *Chosun Ilbo* is Korea’s oldest, elite, ‘establishment’ newspaper of record (Youm, 1996; Heuvel and Dennis, 1993; An, 1994; Park and Park, 2000). *Chosun Ilbo*’s editorial page is traditionally conservative and its audience is skewed toward older, more successful business executives, government officials and other professionals (Heuvel and Dennis, 1993; An, 1994; Kim, 1999). *Hankyoreh* (which means ‘one nation’) appeals to younger persons and features a more liberal editorial page that is more conciliatory about North Korean reunification than most Korean national news media (Chaudhary and Chen, 1995). However, *Hankyoreh* is not an equivalent to American or European-style ‘alternative’ news organization. While more politically and culturally liberal than *Chosun Ilbo*, *Hankyoreh* is a newspaper of record, covers a range of national news similar to other national newspapers, encourages reportorial detachment and makes a clear separation between news reporting and commentary (Heuvel and Dennis, 1993). In both newspapers, journalists are discouraged from reflecting their opinions within news stories and are encouraged to represent the opinion of sources, similar to wire services in the U.S. and Western Europe. In both news organizations, there are ethical codes and

guidelines regarding journalistic conflict of interest similar to elite news organizations in the U.S. (Korean Press Foundation, 2000; Park and Park, 2000). The combination of the two newspapers provides a diverse sampling of news coverage of the Korean health care crisis by major news organizations.

The editorial contents of *Chosun Ilbo* and *Hankyoreh* are archived. Both news organizations routinely win international and national awards for news reporting and writing. Both *Chosun Ilbo* and *Hankyoreh* support the Korea Press Foundation and its national code of journalism ethics (Korea Press Foundation, 2000). These collective actions suggest an ongoing, internal concern about broader social responsibilities and an interest in internal editing decisions. Because both newspapers are in an industry leadership role, they are among the news organizations often criticized for their editorial decisions (Youm, 1996; Heuvel and Dennis, 1993, Chaudhary and Chen, 1995; Park and Park, 2000; Logan, Peng and Fraser Wilson, 2000a).

Shoemaker and Reese (1996) explain that in content analyses, a range of external factors, such as changes in news personnel, management, and profitability can influence how news is reported. This suggests that a number of confounding variables potentially undermine the reliability and validity of assessing a news organization over time. During the period surveyed, however, both *Chosun Ilbo* and *Hankyoreh* had stable news staffs with modest turnover levels. From September 1999 to December 2000, the ownership of both newspapers remained the same. Both news organizations also have a veteran staff and standards of appropriate journalistic behavior and ethics are self-imposed (Korean Press Foundation, 2000; Park and Park, 2000). The stability in both newspapers suggests the news coverage within the *Chosun Ilbo* and *Hankyoreh* can be internally compared during a short period of time (Logan, Peng and Fraser Wilson, 2000a).

A total of 687 articles, or a census of all the articles about the public health crisis in both newspapers, were analyzed (*Chosun Ilbo* = 256, *Hankyoreh* n = 431). All stories were in Korean and were read by coders whose native language is Korean. News stories were archived in KINDS, a Korean news article database. The assessed stories all were published in the final editions of *Chosun Ilbo* and *Hankyoreh*, which are nationally distributed. Editorials, signed columns, and opinion-editorials were not assessed in the study.

Outcome variables and operational definitions

Outcome variables were: the frequency of social actors who served as the primary news source; the frequency of social actors who served as the second news source; the frequency of news stories where the topic was reactions or verbatim reprinting of statements from government officials and prominent social actors, or stories where the topic focused on multidimensional issues.

Within and between categories, outcome variables were seen as mutually exclusive. For example, only one primary (first attributed) source was coded in each assessed

article, only one, second news source was coded in each assessed article and only one news topic was assessed per story.

A primary news source was operationally defined as the first social actor or source who received attribution or direct quotation with a news story. A second news source was operationally defined as the second social actor or source who received subsequent attribution or quotation with a news story. The term ‘primary’ was used because in every story assessed in *Chosun Ilbo* and *Hankyoreh*, the first attributed news source also was the most attributed news source. Hence, the first attributed news source served as the most referenced social actor throughout all news articles in both newspapers. Shah and Thornton (2004) defined social actors as primary news sources who are individuals or institutions that actually or potentially affect other individuals or institutions.

Nevertheless, Chang et. al. (2001) and Chang et. al. (2002) found that (similar to the U.S.) Korean news stories do not always quote or attribute to only one person or release and sometimes use a second news source to balance or counterpoise the views of the initial source. As a result, the authors measured two, rather than one, news sources to determine the extent that official or non-official sources were the focus of continued attention (or were depicted as social actors) in news reporting.

The list of anticipated primary and second news sources (in Table 1) was derived from an aforementioned list of important, or affected, social actors in the Korean public health crisis provided above by Chang, Cho, Park and Hwang (2002). There were only n=7 stories with primary or first news sources in *Chosun Ilbo* and n=13 first news sources in *Hankyoreh* that did not fit into these categories (reported in Table 1). There were only n=3 second sources in *Chosun Ilbo* and n=5 sources in *Hankyoreh* that did not fit into anticipated categories during the period surveyed. News sources who were not on the anticipated list of social actors in the Korean public health crisis were coded as ‘others’ and are explained in Tables 1 and 2.

All n=687 measured stories had a primary news source. The frequency of stories with a second attributed news source was n=147/256 in *Chosun Ilbo* and n=250/431 in *Hankyoreh*. Hence, the sum of stories measured for a second attributed news source was significantly smaller. News sources were named within the stories surveyed, so coders’ determination of first and second sources usually was self-explanatory and did not require scrutiny of external materials. In n= 8 cases in *Chosun Ilbo* and n= 23 cases in *Hankyoreh*, a sentence within a story introduced a second news source and immediately introduced a third. The second and third news sources, then, were used interchangeably in ensuing paragraphs. The authors coded these examples as ‘multiple’ second news sources, as reported in Table 2.

The frequency of news stories where its framework (or topic) depicted reactions or verbatim reprinting of statements from government officials and prominent social actors - - or reported more multidimensional issues – was determined by noting the emphasis within a news story’s initial paragraphs (usually paragraphs one through four). A story’s opening paragraphs frequently are the most read and memorable section of a news

account, so story topic is a frequently used variable within qualitative or quantitative literature regarding public health reporting (Wallack, 1990; Logan, Peng and Fraser Wilson, 2000a, 2000b).

Reaction type stories were broadly categorized as reaction news stories from government officials or prominent social actors as well as verbatim reprinting of information provided by government sources or prominent social actors. More multidimensional news topics were broadly categorized as: interpretive reporting; background information; non-reaction event reporting; human interest stories; governmental rationales and future prospects reporting.

The categories of reaction news stories from government officials or prominent social actors as well as verbatim reprinting of information provided by government sources or prominent social actors were derived from the aforementioned Korean-based literature. The categories of interpretive reporting, background information, non-reaction event reporting, human interest stories, governmental rationales and future prospects reporting were identified as specific examples of alternative types of news frameworks in the study's pre-test (or, were identified as rhetorically different than reaction news stories from government officials or prominent social actors as well as verbatim reprinting of information provided by government sources or prominent social actors). All these categories are listed in Table 3.

A reaction news story was operationally defined as an article where the first four paragraphs focused exclusively on individual or institutional responses to news events from prominent social actors involved in the Korean health crisis. Within reaction news stories, there was not an evident verbatim reprinting of information provided by sources. While the story focused exclusively on one source's or an institution's response, the story featured some editing of remarks or statements. The literature notes an overall tendency among Korean journalists to print reaction stories but there is little differentiation if this occurs more frequently among governmental officials or prominent social actors (Park, 2002). Hence, the authors combined governmental officials and prominent social actors into one variable, which was termed 'reactions' in Table 3.

Publishing verbatim information from government officials was operationally defined as publishing (without editing) information provided by government agencies or political leaders. Publishing verbatim information from prominent social actors was operationally defined as publishing (without editing) information provided by the previously identified social actors who were involved in Korea's public health crisis (other than governmental officials). The category 'reprinting government information' in Table 3 refers to publishing verbatim information provided by government officials. The category 'reprinting non-governmental officials' in Table 3 refers to publishing verbatim information provided by other prominent social actors.

Verbatim reprinting categories were divided into government and other prominent social actors because the literature differentiates the extent the Korean news media reprint what government versus prominent social actors officials say or publish ((Baek, 2001;

Kang, 1990; Lee, 1991). *Hankyoreh* and *Chosun Ilbo* occasionally inform readers (in bylines or datelines) if they are reprinting statements verbatim. In cases where this is unclear, the stories often are rhetorically distinguishable from other types of news reporting. For instance, the rhetoric within verbatim statements criticizes opposition positions without attribution, or uses pronouns such as ‘we’ in self-reference. In a few cases, coders referred to stories by other news organizations, or historical documents on government and other websites, to see if a story was republished verbatim from released documents.

The other more multidimensional news topic categories: interpretive reporting; background information; non-reaction event reporting; human interest stories; governmental rationale and future prospects reporting were operationally defined as follows. A non-reaction event story provided readers with accounts of news conferences, protests, public hearings, report releases and other breaking news events. Within non-reaction event stories, the story was more focused on reporting an emerging controversy, or the scene surrounding a related public event or news conference, than the immediate positions taken by any source. In contrast to the U.S. where non-reaction event stories often are not seen as multidimensional and are criticized as lacking journalistic enterprise or providing context, in Korea, this genre may represent a more complex approach to reporting daily news events within an ongoing, high profile controversy (Boorstin, 1992; Kim, 2001).

The other categories: human interest stories; background information; government rationale; future prospects and interpretive reporting each reflected a higher degree of independent journalistic enterprise. Each are interpreted as reflecting efforts to provide context or understanding to breaking news events. A human interest framework was operationally defined as introducing readers to the personality, characteristics, demeanor, lifestyle, and habits of a prominent government official, physician, or a social actor involved in Korea’s public health crisis. Background information was operationally defined as a story that provided a wrap up, review, synopsis, or timeline of previous events. Future prospects was operationally defined as a story that discussed the future of public health policy initiatives, discussions or controversies from a patient’s, medical school student’s, or any other prominent social actor’s perspective. A government rationale was operationally defined as a story that focused on how government officials perceived future prospects, interpret events, or provide other background information. An interpretive story initially was operationally defined as focusing on sociological, cultural, ethical, historical, educational, scientific, policy, or biomedical issues raised during the public health care crisis. This category, perhaps more than the others, fits with the more traditional definition of providing context and reportorial enterprise in a U.S. or European setting. Interpretive reporting was further operationalized into narrower subcategories, which are reported in Table 4. These narrowed subcategories included: medical policy; economics; history; issue resolution perspective; comparative analysis and political implications. These narrower categories of interpretive reporting were identified in the study’s pre-test and are discussed in more detail within the paper’s conclusion.

A medical policy motif was operationally defined as providing information regarding the strike's implications on the national health care system, or the impact on patients, health care providers and governmental officials. An economics motif was operationally defined as focusing on any aspects regarding the strike's impact on health consumer costs, tax and national budgetary implications. A history motif focused on previous policies regarding national health, or interactions between the public, health care providers and governmental officials. An issue resolution motif discussed how Korea's public health crisis might be resolved or exacerbated. A political implications news story analyzed how government officials, the incumbent and opposition party responded to the nation's public health crisis and the implications of their responses for future elections.

More broadly, all the motifs within this variable focused on historical, educational, policy, political questions or contentions and demonstrated reportorial enterprise to obtain interviews and information. Coders' delineations within these subcategories were self-explanatory from the reviewed articles and did not require scrutiny of external materials.

There were only n=7 stories in *Chosun Ilbo* and n=6 stories in *Hankyoreh* that did not fit into the broad categories of either three types of reaction stories, or more multidimensional news frameworks. These were coded as 'others' and are explained in Table 3. News stories in *Chosun Ilbo* and *Hankyoreh* routinely conveyed a primary focus within headlines and a text's first several paragraphs. Hence, an assignment of a story's framework within the aforementioned categories was often self-evident to the coders.

Coder reliability and operational definitions of a high, moderate or low frequency of occurrence

The coders' assessment of the study's outcome variables required an in-depth understanding of the political, economic and medical context surrounding the Korean public health crisis. To improve reliability, there was extensive discussion among the authors of the applied operational definitions for each outcome variable and the impact of the public health crisis on Korean culture and professions, as suggested by Peter and Lauf (2002). Coders also were encouraged to be familiar with the reporting of other Korean news organizations during the period surveyed. None of the other consulted news organizations were owned by or shared newsrooms with *Chosun Ilbo* or *Hankyoreh*.

Coders were trained in content analysis techniques prior to data collection, and a pretest representing a constructed week was conducted for both newspapers. A constructed week (for the pretest) was selected based on a procedure described by Krippendorff (1980). Independent coding resulted in a 94 percent agreement over all coding decisions. The high degree of intercoder reliability is explained by pre-testing and extensive preparation for cross national content analysis as recommended by Peter and Lauf (2002).

The assessment of first, or primary, plus second news sources and story frameworks was determined by calculating frequencies within each measured time period. While the

percentages of all outcome variables are reported in Tables 1, 2 and 3, they are not interpreted.

Because the study was a census, not a sample, of what *Chosun Ilbo* and *Hankyoreh* published, the authors interpreted frequencies. While comparisons among categories within different time periods frequently are calculated by comparing percentages, it is appropriate to use frequencies when a content analysis is based on a census (Zhang and Cameron, 2003). Frequencies are a more conservative (lower) measure of occurrences than percentages per time period. Frequencies also better represent what Reichert, Mueller and Nitz (2003) call the 'actual incidence' and Billeaudeau, Domke, Hutcheson and Garland (2003) term a 'consistent presence' of what readers see when they read the same newspaper over time. Similarly, the measurement of significant differences across all three time periods was calculated by comparing frequencies.

In the analysis of outcome variables, a high frequency of occurrence was operationally defined to be more than 20, a moderate frequency was operationally defined as between 10 and 19 and a low frequency of occurrence was operationally defined as less than 10. While heuristic, a scale where fewer than 10 instances (from a sample where $n > 40$ with multiple categories) has been operationally defined as low by Wicks and Souley (2003), Johnston and Swanson (2003), Zhang and Cameron (2003) and Greenwald (1990). The decision to interpret a distribution of 10-19 instances as moderate and 20 or more as higher (applied uniformly regardless of differences in sample sizes) was derived from a range suggested by Wicks and Souley (2003). The uniform application of the scale to the findings for each time period ensured a consistent, systematic approach to analyzing findings. A consistent, systematic approach is recommended for quantitative content analyses by Wimmer and Dominick (2003), Stempel (2003) and Hansen, Cottle, Negrine, and Newbold (1998). However, this meant the scale of low, medium and high occurrences needed to be interpreted consistently across the study's time periods regardless if the frequency distribution and sample size differed.

Results

Hypothesis one stated there should be a high frequency of stories where the primary (first attributed) source is a governmental official or a physician, and these high frequencies should remain consistent in *Chosun Ilbo*'s and *Hankyoreh*'s news coverage of Korea's public health crisis.

Table 1 reports the frequency of news stories where physicians were the primary news source ranged from 20 to 38 in *Chosun Ilbo* and from 36 to 50 in *Hankyoreh*. The frequency of news stories where government officials were the primary news source ranged from 24 to 40 in *Chosun Ilbo* and from 31 to 54 in *Hankyoreh*.

The frequency that physicians and government officials were first sources in *Hankyoreh* was interpreted as high across the three measured time periods, which was consistent with the hypothesis. The frequency that physicians were a first source also was interpreted as high in *Chosen Ilbo* across the three measured time periods, which was

consistent with the hypothesis. The frequency of government officials was high in *Chosun Ilbo* in two of the three time periods, but from June 21-July 2000, dipped to 17, which was operationally defined as a moderate use. This finding marginally rejected part of hypothesis one. However, the overall findings suggested a high frequency of using physicians and government officials as first sources within both newspapers.

Table 1 reports the frequency of news stories where physicians were a primary news source varied significantly in *Hankyoreh* across the three measured time periods ($X^2=6.5$) but did not vary significantly in *Chosun Ilbo*. In reverse, the frequency of news stories where government officials were a primary news source varied significantly in *Chosun Ilbo* ($X^2=6.2$), but did not vary significantly in *Hankyoreh*. The latter results indicate there was a shift in the frequency, or extent, each news organization used physicians and governmental officials as primary sources over time. However, the empirical differences marginally challenged expectations, since most of the overall frequencies of physicians and government officials as primary sources in both newspapers remained high. Hypothesis one was partially accepted.

Hypothesis two stated there should be a low frequency of stories where the primary (first attributed) news source represents groups, health care professionals, institutions or citizens (other than governmental officials or physicians) and these low frequencies should remain consistent in *Chosun Ilbo*'s and *Hankyoreh*'s news coverage of Korea's public health crisis.

Table 1 reports the frequency that civic groups, pharmacists, medical school students, patients, the incumbent political party, medical school faculty, congressional leaders, opposition party, general public, pharmaceutical companies, multiple news sources and others were used as primary news sources in *Chosun Ilbo* and *Hankyoreh* during the three time periods. Since the findings have a similar pattern in many of the twelve categories, the authors will report aggregate findings and then, note the exceptions. Table 1 reports the frequency that pharmacists, medical school students, patients, the incumbent party, medical school faculty, opposition party, general public, pharmaceutical companies and others were first news sources mostly was low in *Chosun Ilbo* and *Hankyoreh* in all three measured time periods.

Table 1 explains the frequency where civic groups were a first source was an exception to this pattern. In the third period, the frequency of civic groups was moderate (not low) in *Chosun Ilbo* and the frequency of civic groups used as primary sources was moderate in *Hankyoreh* for all three time periods. Other exceptions included: the frequency where medical school students were a first source in *Hankyoreh* was moderate in the third reporting period and the frequency where congressional officials were a first source was moderate in the second period in *Hankyoreh*. While the latter findings are inconsistent with the hypothesis, the aggregate findings suggest the frequency of subcategories of other first sources (besides government officials and physicians) was mostly low, which provided partial support to the first part of hypothesis two.

Table 1 reports the frequency of pharmacists and civic groups as first sources did not vary significantly in *Chosun Ilbo* and *Hankyoreh*. Table 1 reports the consistency across time could not be calculated in 12 of the 24 possible subcategories because individual frequencies were zero or <5 in many of the data points. In contrast, the frequency of the use of medical school students as first sources varied significantly in *Chosun Ilbo* ($X^2=6.7$). While this inconsistency marginally challenges the second part of hypothesis two, the overall findings suggest the low frequency of news sources in subcategories other than physicians and governmental officials was partially consistent with previous findings. Hence, hypothesis two received partial support.

Hypothesis three stated there should be a high frequency of stories where the second attributed news source is a governmental official or a physician and these high frequencies should remain consistent in *Chosun Ilbo*'s and *Hankyoreh*'s coverage of Korea's public health crisis.

Table 2 reports the frequency of news stories where physicians were a second news source ranged from 10 to 16 in *Chosun Ilbo* and from 11 to 38 in *Hankyoreh*. The frequency of news stories where government officials were a second source ranged from 9 to 15 in *Chosun Ilbo* and from 15 to 19 in *Hankyoreh*. The frequency that physicians and government officials were a second source in *Chosun Ilbo* was moderate across all of the three measured time periods, which was inconsistent with the first part of the hypothesis. The frequency physicians were a second source was moderate in the first and high in the second and third measured time period within *Hankyoreh*, which was partially inconsistent with the first part of the hypothesis. The frequency government officials were a second source also was moderate in *Hankyoreh* in all three time periods, which was inconsistent with the first part of the hypothesis. These findings were interesting because fewer news articles used second compared to first sources ($n=147/256$ in *Chosun Ilbo* and $n=250/431$ in *Hankyoreh*).

Table 2 reports the frequency of news stories where physicians were a second news source did not vary significantly in *Hankyoreh* and *Chosun Ilbo* across the three measured time periods. The frequency of news stories where government officials were a second source did not vary significantly in *Chosun Ilbo* or *Hankyoreh*. The latter results suggest there was not a shift within the frequency each news organization used physicians and governmental officials as second sources across time, which supported the second part of hypothesis three. However, an empirical consistency across all three time periods marginally challenged expectations, since the frequencies of reporting physicians and government officials as a second source tended to be moderate. As a result, hypothesis three was rejected.

Hypothesis four stated there should be a low frequency of stories where the second attributed news source represents groups, health care professionals, institutions or citizens (other than governmental officials or physicians) and these low frequencies should remain consistent in *Chosun Ilbo*'s and *Hankyoreh*'s coverage of Korea's public health crisis.

Table 2 reports the frequency where civic groups, pharmacists, medical school students, patients, incumbent political party, medical school faculty, congressional leaders, opposition party, general public, pharmaceutical companies, multiple news sources and others were used as the second source in *Chosun Ilbo* and *Hankyoreh*. Since the findings were similar in many of the twelve subcategories, the authors will report aggregate findings and then, note the exceptions. Table 2 reports the frequency of civic groups, patients, the incumbent party, medical school faculty, opposition party, congressional officials, the general public, pharmaceutical companies and others as second sources was low in *Chosun Ilbo* and *Hankyoreh* across all three measured time periods. In nine of the 12 subcategories within this variable, the frequency of second source use was low in all three time periods in both newspapers.

Table 2 reports the frequency pharmacists were a second source was low in all three time periods in *Chosun Ilbo* and in the first and third time period in *Hankyoreh*. The frequency medical students were a second source was low in all three time periods in *Chosun Ilbo* and in the first and second time period in *Hankyoreh*. The frequency that multiple sources were a second source was low in *Chosun Ilbo* in all three time periods and was low in the second and third time period in *Hankyoreh*.

In contrast, Table 2 reports the frequency pharmacists were a second source was moderate (not low) in the second time period in *Hankyoreh*. The frequency where medical school students were a second source was moderate in the third measured period in *Hankyoreh*. The frequency where multiple sources were a second source was moderate in the first of three measured periods in *Hankyoreh*. These findings were interesting because fewer news articles, $n=147/256$ in *Chosun Ilbo* and $n=250/431$ in *Hankyoreh*, used second compared to first news sources. While these individual findings were inconsistent with the first part of the hypothesis, the aggregate findings provided partial support for the first part of hypothesis four.

Table 2 reports the frequency of use of second sources did not vary significantly in the frequency pharmacists, civic groups and patients were second sources in *Chosun Ilbo* and *Hankyoreh*. Table 2 reports the consistency across time could not be calculated in 12 of 24 possible subcategories because individual frequencies were zero or <5 in many of the data points. In contrast, the frequency of the use of medical school students as second sources varied significantly in *Hankyoreh* ($X^2=6.1$). The frequency of the use of multiple sources as a second source varied significantly in both *Chosun Ilbo* ($X^2=5.9$) and *Hankyoreh* ($X^2=11.5$). The frequency of the use of the opposition party as a second source varied significantly in *Hankyoreh* ($X^2=6.9$). While these inconsistencies marginally challenged the second part of hypothesis four, the overall findings suggest most of the use of second news sources was low and the low frequency of news sources in subcategories other than physicians and governmental officials was partially consistent with previous findings. Hence, hypothesis four received partial support.

Hypothesis five stated there should be a high and a consistently high frequency in *Chosun Ilbo's* and *Hankyoreh's* news coverage of Korea's public health crisis where primary news pegs are: a) an abridged reaction or response to breaking events by

prominent sources, b) a reprinting of verbatim information provided by government officials and c) a reprinting of verbatim information provided by non-governmental sources.

Table 3 reports the frequency of news stories that featured reactions as a topic ranged from 31 to 39 in *Chosun Ilbo* and from 40 to 82 in *Hankyoreh*. The frequency of news stories that reprinted verbatim non-governmental information ranged from 8 to 10 in *Chosun Ilbo* and from 16 to 33 in *Hankyoreh*. The frequency of news stories which reprinted verbatim governmental information ranged from 9 to 20 in *Chosun Ilbo* and from 15 to 25 in *Hankyoreh*. Table 3 reports the frequency of stories that featured reactions as a primary topic was high across all three time periods in *Chosun Ilbo* and *Hankyoreh*. The frequency of stories that reprinted verbatim governmental information was high in the first period in *Chosun Ilbo* and in the second and third time periods in *Hankyoreh*. The frequency of stories where the topic reprinted verbatim non-government information was high in the second and third periods in *Hankyoreh*. In contrast to the hypothesis, the frequency of verbatim reprinting of non-governmental information in *Chosun Ilbo* was low to moderate across all three time periods. The frequency of stories where the topic was verbatim government information was moderate in the first time period in *Hankyoreh* and was moderate during the second time period in *Chosun Ilbo*. The aggregate of the findings suggests equivocal support for the first part of the hypothesis.

Table 3 also reports the frequency of reactions, reprinting non-governmental information and reprinting government information did not vary (or was consistent) across all three time periods in both newspapers. While frequencies in two categories (reprinting non-governmental and governmental information) were moderate to low, which challenged previous findings, the aggregate frequencies of stories that reflected the overall use of all three genres as a news topic seemed sufficiently high to provide equivocal support for hypothesis five.

Hypothesis six stated there should be both a low and a consistently low frequency in *Chosun Ilbo's* and *Hankyoreh's* news coverage of Korea's public health crisis where primary news pegs depict more multidimensional issues (topics other than an abridged reaction or response to breaking events by prominent sources, a reprinting of verbatim information provided by government officials and a reprinting of verbatim information provided by non-governmental sources).

Table 3 reports the frequencies where a story's primary topic included the following subcategories: interpretive reporting; background information; non-reaction reporting about events; human interest; governmental rationales; future prospects and others. Since the findings were similar in many of the seven subcategories, the authors will report aggregate findings and then, note the exceptions. Table 3 reports the frequencies of stories about: interpretive background information; non-reaction reporting about events; human interest; governmental rationales and future prospects were mostly low in *Chosun Ilbo* and *Hankyoreh* across all three measured time periods. The exceptions were: the frequency of interpretive reporting as a news topic was moderate (not low) in *Chosun*

Ilbo across all three time periods; the frequency of background information was moderate in *Hankyoreh* in the second and third measured time period; the frequency of non-reaction event reporting was moderate in *Hankyoreh* in the second time period and the frequency of human interest was moderate in *Hankyoreh* in the third period. Although these latter findings were inconsistent with expectations, the overall findings suggested modest support for the first part of hypothesis six.

While the frequency of interpretive reporting did not vary in *Chosun Ilbo*, the frequency of interpretive reporting varied significantly in *Hankyoreh* ($X^2=14.2$). While the frequency of non-reaction event reporting about events did not vary in *Hankyoreh*, the frequency of non-reaction event reporting varied significantly in *Chosun Ilbo* during the three time periods ($X^2=8.6$). Table 3 reports changes in frequencies of government rationale, future prospects reporting and others were not calculated because data points had zero or frequencies <5 . Overall, while there were modest findings that interpretive reporting and non-reaction event reporting varied across time in one newspaper, there was partial support for hypothesis six because the frequencies in most subcategories were low and tended not to vary over time.

Conclusions

Four of the study's six hypotheses received partial support.

- * The frequency of government officials and physicians used as a first source was mostly high and consistent in both newspapers.

- * The frequency of civic groups, pharmacists, medical school students, patients, incumbent political party, medical school faculty, congressional leaders, opposition party, general public pharmaceutical companies, multiple news sources and others used as a first source was somewhat low and consistent in both newspapers.

- * The frequency of stories where civic groups, pharmacists, medical school students, patients, incumbent political party, others, medical school faculty, congressional leaders, opposition party, general public pharmaceutical companies, multiple news sources and others were the second source was mostly low and consistent in both newspapers.

- * The frequency of stories where the story's primary topic was framed around more multidimensional issues was mostly low and consistent in both newspapers.

One of the study's six hypotheses received equivocal support.

- * The frequency of stories where the primary topic was framed on a) an abridged reaction or response to breaking events by prominent sources, b) a reprinting of verbatim information provided by government officials and c) a reprinting of verbatim information provided by non-governmental sources ranged from high to moderate, yet was consistent in both newspapers.

One of the study's six hypotheses was rejected.

* The frequency of stories where the second attributed source was a government official or a physician was mostly moderate (not high) in *Chosun Ilbo* and *Hankyoreh* and was consistent across all three measured time periods.

Consistent with the hypotheses, *Chosun Ilbo* and *Hankyoreh* relied heavily on governmental and physicians as first and second news sources. Civic groups, pharmacists, medical school students, patients, incumbent political party, medical school faculty, congressional leaders, opposition party, general public pharmaceutical companies and others (who were active participants in Korea's public health crisis) received less attribution. To put this another way, source patterns were skewed in favor of elite news sources.

Both newspapers also frequently covered: a) an abridged reaction or response to breaking events by prominent sources; b) a reprinting of verbatim information provided by government officials and c) a reprinting of verbatim information provided by non-governmental sources as news topics with sufficient frequency that the frequencies of stories framed around more multidimensional approaches were correspondingly low.

News topics based on accounts of news conferences, protests, public hearings, report releases and other breaking news events (termed non-reaction event reporting in Table 3) also were relatively rare in both newspapers (*Chosun Ilbo* n=13/256; *Hankyoreh* n=22/431). This finding is somewhat contrary to the literature regarding medical journalism practices in North America and perhaps the U.K. and partially implies Korean journalists might be trying to avoid the tendencies often criticized by medical journalism's critics (Wiegold, 2001; Nelkin, 1995). But the dearth of these types of stories masks the tendency between the two newspapers to instead, base stories on a slightly edited, singular reaction from a prominent social actor (*Chosun Ilbo* n=102/256, *Hankyoreh*, n=199/431), verbatim reprinting of information from government officials (*Chosun Ilbo* n=39/256; *Hankyoreh*, n= 60/431) and verbatim coverage of information from non-governmental officials (*Chosun Ilbo* n=27 /256; *Hankyoreh*, n= 77/431). So, the irony here is the alternative to basing stories on news conferences and controversies may be even more one-dimensional coverage.

Hankyoreh (n=431) published more stories about the public health crisis than *Chosun Ilbo* (n=256). While the column inches devoted to the news coverage were not measured, reporting about the public health crisis received prominent story placement in both newspapers throughout the 15 month period.

Overall, the aggregate findings suggest a tendency to: overemphasize official sources; underemphasize other news sources and avoid extensive in-depth reporting. These results are similar to findings within the U.S literature regarding public health news reporting such as, a) Wilkins' (1987, 1989) and Nelkin's (1987, 1995) assertion that the use of elite sources often precludes interviewing a wider range of community sources and b) Signorieilli's (1993) assertion that attention to elite news sources limits the time and space journalists have to provide a broader educational context.

However, *Chosun Ilbo* and *Hankyoreh* made some efforts to diversify news sources and each newspaper provided some context in their news reporting. Tables 1 and 2 report that *Chosun Ilbo* attributed civic groups, pharmacists, medical school students, patients, incumbent political party, medical school faculty, congressional leaders, opposition party, general public, pharmaceutical companies and others as first sources in $n=82/256$ (or 32 percent of all stories) and as a second source in $n=76/147$ (or 51 percent) of all stories. *Hankyoreh* attributed civic groups, pharmacists, medical school students, patients, incumbent political party, medical school faculty, congressional leaders, opposition party, general public and pharmaceutical companies and others as first sources in $n=176/431$ (40 percent) of all stories and as a second source in $n=126/250$ (50 percent) of all stories. Thus, both *Chosun Ilbo* and *Hankyoreh* were attentive to a diversity of news sources and there was some evidence each newspaper expanded their use of alternative sources, as events warranted. For example, both *Chosun Ilbo's* and *Hankyoreh's* interest in interviewing medical students as a first sources increased during the third period as the student strike became a more pressing national issue.

While the findings revealed the overall attention to multidimensional topics was low, if one breaks down interpretive reporting into subcategories revealed in Table 4, the results suggest each newspaper occasionally covered medical policy, economics and history as well as provided an issue resolution perspective and other analyses during Korea's public health crisis. Although Table 4 was not reported in the findings section because it was not linked to hypotheses five and six, Table 4 suggests each newspaper focused on occasionally providing readers with a deeper understanding of ongoing events. Turning to the findings in Table 4, *Chosun Ilbo* and *Hankyoreh* devoted 12 and six stories, respectively, to reporting medical policy. *Chosun Ilbo* devoted nine stories to reporting the economic repercussions of the public health crisis. Further, *Chosun Ilbo* devoted $n=31/256$ (12 percent) of their news topics to interpretive reporting and *Hankyoreh* devoted $n=15/431$ (three percent) of their news coverage to interpretive reporting.

Indeed, both newspapers did not overlook providing some context for readers. The number of multidimensional and interpretive stories may be comparatively low, but there was no pattern of journalistic neglect.

The study suggests that the use of content analysis helps confirm some previous qualitative assertions and also exposes some countertrends. Although the study partially supports some normative assertions about Korean and U.S. news coverage tendencies, the breakdown of variables into measured subcategories revealed some journalistic attention to diversify sources and provide perspective.

The study's limitations include: a) the use of only two Korean newspapers; b) the inherent challenges within content analysis to narrowly define operational definitions to improve consistency between coders and c) the use of a heuristic scale to operationally define low, moderate and high occurrence of measured variables.

The study's interpretation of findings relies on a scale where low, moderate and high frequencies of occurrences are operationally defined. For example, if 1-14, 15-29 and

above 30 incidences were interpreted as low, medium to high, this shift in the scale would alter the interpretations of the findings in both newspapers. But even if a different scale shifted the interpretation from moderate to low, or from high to moderate, a skew was evident in the overall findings.

Regarding the study's other limitations, the authors assessed only two of Korea's several national daily newspapers. While the results reflect the two newspapers surveyed during the time period, the findings are not generalizable to other Korean newspapers or news organizations. Content analysis also demands a degree of discretion by coders especially in the application of subtle operational definitions and complex patterns in news coverage (such as *Hankyoreh's* and *Chosun Ilbo's* occasional use of attributing more than one second source).

In conclusion, the study reinforces some of the findings in previous literature that assess science and medical coverage in the international news media. This study also highlights the value of content analysis to raise new questions and challenge assertions, and underscores the value of an international setting for research on how the news media cover public health.

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Table 1. Frequency and Percentage - Primary (First Attributed) News Source by Time

News Source (Total Freq./ %)	Paper	Sep 99 – Jun 20, 00	Jun 21, 00 – Jul 00	Aug 00 – Dec 00	χ^2	sig.
Physician	<i>Chosun Ilbo</i>	38 (40.4%)	35 (44.3%)	20 (24.1%)	5.236	.073
	<i>Hankyoreh</i>	36 (38.7%)	50 (31.4%)	39 (21.8%)	6.562	.038*
Government	<i>Chosun Ilbo</i>	40 (42.6%)	17 (21.5%)	24 (28.9%)	6.291	.043*
	<i>Hankyoreh</i>	31 (33.3%)	45 (28.3%)	54 (30.2%)	.492	.782
Civic Group	<i>Chosun Ilbo</i>	3 (3.2%)	6 (7.6%)	10 (12.0%)	4.663	.097
	<i>Hankyoreh</i>	10 (10.8%)	12 (7.5%)	16 (8.9%)	.689	.709
Pharmacist	<i>Chosun Ilbo</i>	7 (7.4%)	3 (3.8%)	2 (2.4%)	2.579	.275
	<i>Hankyoreh</i>	5 (5.4%)	10 (6.3%)	7 (3.9%)	.951	.622
Medical School Student	<i>Chosun Ilbo</i>	2 (2.1%)	3 (3.8%)	9 (10.8%)	6.706	.035*
	<i>Hankyoreh</i>	-----	1 (.6%)	14 (7.8%)	-----	-----
Patient	<i>Chosun Ilbo</i>	-----	-----	6 (7.2%)	-----	-----
	<i>Hankyoreh</i>	3 (3.2%)	7 (4.4%)	9 (5.0%)	.451	.798
Incumbent Party	<i>Chosun Ilbo</i>	-----	2 (2.5%)	4 (4.8%)	-----	-----
	<i>Hankyoreh</i>	2 (2.2%)	6 (3.8%)	6 (3.4%)	.486	.784
Others ^a	<i>Chosun Ilbo</i>	1 (1.1%)	3 (3.8%)	3 (3.6%)	1.521	.467
	<i>Hankyoreh</i>	2 (2.2%)	4 (2.5%)	7 (3.9%)	.838	.658
Multiple	<i>Chosun Ilbo</i>	-----	-----	-----	-----	-----
	<i>Hankyoreh</i>	3 (3.2%)	6 (3.8%)	10 (5.6%)	1.004	.605
Medical School Faculty	<i>Chosun Ilbo</i>	1 (1.1%)	2 (2.5%)	2 (2.4%)	.605	.739
	<i>Hankyoreh</i>	-----	4 (2.5%)	8 (4.5%)	-----	-----
Congress	<i>Chosun Ilbo</i>	1 (1.1%)	2 (2.5%)	-----	-----	-----
	<i>Hankyoreh</i>	-----	11 (6.9%)	-----	-----	-----
Opposition Party	<i>Chosun Ilbo</i>	1 (1.1%)	3 (3.8%)	2 (2.4%)	1.371	.504
	<i>Hankyoreh</i>	-----	3 (1.9%)	3 (1.7%)	-----	-----
General Public	<i>Chosun Ilbo</i>	-----	2 (2.5%)	-----	-----	-----
	<i>Hankyoreh</i>	1 (1.1%)	-----	4 (2.2%)	-----	-----
Pharmaceutical Company	<i>Chosun Ilbo</i>	-----	1 (1.3%)	1 (1.2%)	-----	-----
	<i>Hankyoreh</i>	-----	-----	2 (1.1%)	-----	-----
Total	<i>Chosun Ilbo</i>	94 (100.0%)	79(100.0%)	83(100.0%)		
	<i>Hankyoreh</i>	93 (100.0%)	159(100.0%)	179(100.0%)		

*<.05

^a “Others” include medical socialists, the public corporation of medical insurance, Health and Medicare Labor Union, non-source, etc.

Table 2. Frequency and Percentage of the Second Attributed, News Source by Time

News Source (Total Freq./ %)	Paper	Sep 99 – Jun 20, 00	Jun 21, 00 – Jul 00	Aug 00 – Dec 00	χ^2	sig.
Physician	<i>Chosun Ilbo</i>	11 (22.0%)	10 (23.3%)	16 (29.6%)	.689	.709
	<i>Hankyoreh</i>	11 (22.0%)	23 (24.2%)	38 (36.2%)	3.489	.175
Government	<i>Chosun Ilbo</i>	15 (30.0%)	10 (23.3%)	9 (16.7%)	1.996	.369
	<i>Hankyoreh</i>	15 (30.0%)	19 (20.0%)	18 (17.7%)	2.739	.254
Pharmacist	<i>Chosun Ilbo</i>	4 (8.0%)	7 (16.3%)	6 (11.1%)	1.385	.500
	<i>Hankyoreh</i>	1 (2.0%)	10 (10.5%)	6 (5.7%)	3.816	.148
Medical School Student	<i>Chosun Ilbo</i>	-----	2 (4.7%)	7 (13.0%)	-----	-----
	<i>Hankyoreh</i>	1 (2.0%)	7 (7.4%)	15 (14.3%)	6.116	.047*
Multiple	<i>Chosun Ilbo</i>	6 (12.0%)	1 (2.3%)	1 (1.9%)	5.998	.050*
	<i>Hankyoreh</i>	11 (22.0%)	7 (7.4%)	5 (4.8%)	11.499	.003**
Civic Group	<i>Chosun Ilbo</i>	4 (8.0%)	2 (4.7%)	4 (7.4%)	.427	.808
	<i>Hankyoreh</i>	6 (12.0%)	6 (6.3%)	6 (5.7%)	2.025	.363
Patient	<i>Chosun Ilbo</i>	7 (14.0%)	4 (9.3%)	2 (3.7%)	3.127	.209
	<i>Hankyoreh</i>	1 (2.0%)	4 (4.2%)	3 (2.9%)	1.750	.417
Opposition Party	<i>Chosun Ilbo</i>	-----	1 (2.3%)	1 (1.9%)	-----	-----
	<i>Hankyoreh</i>	1 (2.0%)	9 (9.5%)	2 (1.9%)	6.973	.031*
Medical School Faculty	<i>Chosun Ilbo</i>	-----	1 (2.3%)	-----	-----	-----
	<i>Hankyoreh</i>	3 (6.0%)	2 (2.1%)	5 (4.8%)	1.505	.471
Incumbent Party	<i>Chosun Ilbo</i>	-----	3 (7.0%)	3 (5.6%)	-----	-----
	<i>Hankyoreh</i>	-----	3 (3.2%)	2 (1.9%)	-----	-----
General Public	<i>Chosun Ilbo</i>	1 (2.0%)	2 (4.7%)	2 (3.7%)	.501	.779
	<i>Hankyoreh</i>	-----	-----	3 (2.9%)	-----	-----
Others ^a	<i>Chosun Ilbo</i>	2 (4.0%)	-----	1 (1.9%)	-----	-----
	<i>Hankyoreh</i>	-----	3 (3.2%)	2 (1.9%)	-----	-----
Pharmaceutical Company	<i>Chosun Ilbo</i>	-----	-----	2 (3.7%)	-----	-----
	<i>Hankyoreh</i>	-----	1 (1.1%)	-----	-----	-----
Congress	<i>Chosun Ilbo</i>	-----	-----	-----	-----	-----
	<i>Hankyoreh</i>	-----	1 (1.1%)	-----	-----	-----
Total	<i>Chosun Ilbo</i>	50 (100.0%)	43 (100.0%)	54(100.0%)		
	<i>Hankyoreh</i>	50 (100.0%)	95 (100.0%)	105(100.0%)		

*<.05, **<.01

^a “Others” include medical socialists, the public corporation of medical insurance, Health and Medicare Labor Union, non-source, etc.

Table 3. Frequency and Percentage of News Topics by Time

Topic	Paper	Sep 99 – Jun 20, 00	Jun 21, 00 – Jul 00	Aug 00 – Dec 00	χ^2	sig.
Reactions	<i>Chosun Ilbo</i>	39 (41.5%)	32 (40.5%)	31 (37.3%)	.202	.904
	<i>Hankyoreh</i>	40 (43.0%)	77 (48.4%)	82 (45.8%)	.382	.826
Reprinting Non-government Information	<i>Chosun Ilbo</i>	9 (9.6%)	10 (12.7%)	8 (9.6%)	.483	.785
	<i>Hankyoreh</i>	16 (17.2%)	28 (17.6%)	33 (18.4%)	.061	.970
Reprinting Government Information	<i>Chosun Ilbo</i>	20 (21.3%)	10 (12.7%)	9 (10.8%)	3.647	.161
	<i>Hankyoreh</i>	15 (16.1%)	20 (12.6%)	25 (14.0%)	.532	.767
Interpretive Reporting	<i>Chosun Ilbo</i>	10 (10.6%)	11 (13.9%)	10 (12.0%)	.383	.826
	<i>Hankyoreh</i>	9 (9.7%)	1 (.6%)	5 (2.8%)	14.220	.001***
Background Information	<i>Chosun Ilbo</i>	5 (5.3%)	3 (3.8%)	3 (3.6%)	.364	.833
	<i>Hankyoreh</i>	2 (2.2%)	13 (8.2%)	10 (5.6%)	3.697	.157
Non-reaction Event Reporting	<i>Chosun Ilbo</i>	1 (1.1%)	3 (3.8%)	9 (10.8%)	8.671	.013*
	<i>Hankyoreh</i>	3 (3.2%)	13 (8.2%)	6 (3.4%)	4.659	.097
Human Interest Framing	<i>Chosun Ilbo</i>	5 (5.3%)	5 (6.3%)	7 (8.4%)	.661	.719
	<i>Hankyoreh</i>	3 (3.2%)	2 (1.3%)	10 (5.6%)	4.556	.103
Others ^a	<i>Chosun Ilbo</i>	2 (2.1%)	1 (1.3%)	4 (4.8%)	2.069	.355
	<i>Hankyoreh</i>	5 (5.4%)	1 (.6%)	-----	-----	-----
Government Rationale	<i>Chosun Ilbo</i>	-----	-----	1 (1.2%)	-----	-----
	<i>Hankyoreh</i>	-----	3 (1.9%)	7 (3.9%)	-----	-----
Future Prospects	<i>Chosun Ilbo</i>	3 (3.2%)	4 (5.1%)	1 (1.2%)	1.930	.381
	<i>Hankyoreh</i>	-----	1 (.6%)	1 (.6%)	-----	-----
Total	<i>Chosun Ilbo</i>	94 (100.0%)	79 (100.0%)	83 (100.0%)		
	<i>Hankyoreh</i>	93 (100.0%)	159 (100.0%)	179 (100.0%)		

* $<.05$, *** $<.001$

^a “Others” included topics such as stories based on public opinion polls.

Table 4. Frequency and Percentage of Interpretive News Stories by Time

Topic	Paper	Sep 99 – Jun 20, 00	Jun 21, 00 – Jul 00	Aug 00 – Dec 00
Medical Policy	<i>Chosun Ilbo</i>	4 (40.0%)	5 (45.5%)	3 (30.0%)
	<i>Hankyoreh</i>	2 (22.2%)	1 (100.0%)	3 (60.0%)
Economics	<i>Chosun Ilbo</i>	4 (40.0%)	-----	5 (50.0%)
	<i>Hankyoreh</i>	3 (33.3%)	-----	-----
History	<i>Chosun Ilbo</i>	2 (20.0%)	2 (18.2%)	-----
	<i>Hankyoreh</i>	2 (22.2%)	-----	-----
Issue Resolution Perspective	<i>Chosun Ilbo</i>	-----	2 (18.2%)	-----
	<i>Hankyoreh</i>	1 (11.1%)	-----	1 (20.0%)
Comparative Analysis Perspective	<i>Chosun Ilbo</i>	-----	2 (18.2%)	-----
	<i>Hankyoreh</i>	1 (11.1%)	-----	1 (20.0%)
Political Perspective	<i>Chosun Ilbo</i>	-----	-----	2 (20.0%)
	<i>Hankyoreh</i>	-----	-----	-----
Total	<i>Chosun Ilbo</i>	10 (100.0%)	11 (100.0%)	10 (100.0%)
	<i>Hankyoreh</i>	9 (100.0%)	1 (100.0%)	5 (100.0%)

Elite sources, context and news topics: How two Korean newspapers covered a public health crisis

A content analysis of the coverage of a public health crisis in Korea from September 1999 to December 2000 explored six hypotheses about news reporting and topic selection mostly derived from qualitatively based literature. The findings suggest two Korean daily newspapers (*Chosun Ilbo* and *Hankyoreh*) emphasized governmental and physicians as news sources, underemphasized other news sources and limited in-depth reporting. The study's findings appear to support prior assertions in the international literature that critique news media performance. However, *Chosun Ilbo* and *Hankyoreh* used a range of sources and provided some multidimensional news coverage during the public health crisis. While both newspapers depended on governmental officials and physicians as news sources and tended to provide less in-depth coverage, the overall findings do not reveal a pattern of journalistic neglect.

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