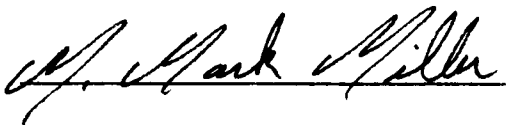


To the Graduate Council:

I am submitting herewith a dissertation written by Jan Patrice Quarles entitled "An Analysis of News Coverage of an Artificial Heart Implant and Related Public Relations Activities: The Case of William Schroeder." I have examined the final copy of this dissertation for form and content and recommend that it be accepted in partial fulfillment of the requirements for the degree of Doctor of Philosophy, with a major in Communications.


Paul G. Ashdown, Major Professor

We have read this dissertation
and recommend its acceptance:







Accepted for the Council:


Vice Provost
and Dean of The Graduate School

AN ANALYSIS OF NEWS COVERAGE OF AN ARTIFICIAL HEART IMPLANT
AND RELATED PUBLIC RELATIONS ACTIVITIES:
THE CASE OF WILLIAM SCHROEDER

A Dissertation
Submitted for the
Doctor of Philosophy
Degree

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Jan Patrice Quarles

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This work is dedicated to my parents, Laverne and Pauline Quarles, for their unending encouragement and support in helping me reach this goal.

ABSTRACT

From November 1984 to August 1986, the media in the United States focused attention on the implantation of the Jarvik-7 artificial heart by Dr. William DeVries at the Humana Heart Institute International in Louisville, Kentucky. William Schroeder, DeVries' first patient there, became the second artificial heart recipient in history.

This study used Grunig's science communication model and situational theory to consider the complexities of medical coverage. It analyzed the coverage in The New York Times and the Louisville Courier-Journal and the coverage on ABC, CBS, and NBC for the first 22 weeks following Schroeder's implant. It also included interviews with key personnel and a narrative of the public relations activities of Humana, Inc.

An analysis of print paragraphs and broadcast reports showed that from one-quarter to one-third of the coverage dealt with routine medical updates on William Schroeder's condition. Discussion of treatment and the patient's activities often brought the total percentage close to half of the total coverage. Speculations that the coverage focused on the patient were well-founded. The rest of the coverage dealt with issues not directly related to the patient.

Content analysis and matrices of media activity revealed similar patterns of coverage by the networks. The two newspapers differed in coverage. The New York Times coverage focused on medical details and on the public's right to know. The Courier-Journal printed almost twice as much information as the Times, providing details on Schroeder's condition but also focusing on public policy and the issue of review. While

similar in content, the broadcast media covered the event with different emphases. NBC emphasized the positive achievements of the medical team while ABC was more balanced and CBS used the coverage to bring other questions forward.

Information from Humana came primarily from the medical spokespersons or other "unnamed sources." Extensive "media anticipation," a term former public relations director Robert Irvine used to describe Humana's planning and actions, was found. The Humana communications model varied from Grunig's model in that more players interacted and the patient was a central figure of concern for many issues, foremost among them the issue of privacy.

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CHAPTER 1

INTRODUCTION

From late November 1984 to the early months of 1986 the print and broadcast media in the United States focused extensive attention on the implantation of the Jarvik-7 artificial heart by Dr. William DeVries at the Humana Heart Institute International in Louisville Kentucky.

By July 1986, six people in the world had received permanent artificial hearts. Others have received the heart as a temporary device. Three of the permanent artificial heart implants took place in Louisville, Kentucky, in 1984 and 1985.

In the drama that took place during the first implant in Louisville, the Humana Heart Institute International and its parent company, Humana, Inc., were key settings. Players in the real-life drama included the public relations personnel at both the hospital and the corporation and the reporters who wrote about the implant. The story, reported over the course of more than a year, focused on many of the issues central to changes in the American health care system and reflected the controversies of reporting on medicine.

Humana's public relations activities for the first artificial heart implanted under corporate sponsorship and subsequent print and broadcast coverage of the procedure provided an unparalleled opportunity to study the interplay of factors in the coverage of the artificial heart.

The Humana corporation (The first artificial heart, 1985) saw its decision to pioneer in implant surgery as an opportunity to "identify

Humana in the public mind with international prominence in medicine" and let the public know that "a private company was fully capable of supporting an important clinical research project that had been stalled at a public university." Thus the stage was set for the first implant to occur in a for-profit setting.

With the first Louisville implant members of Humana's corporate public relations staff and the public relations staff member at Humana Hospital Audubon knew they had before them a task of some magnitude given the intense interest reporters had shown in Barney Clark's historic 1983 implant surgery at the University of Utah in Salt Lake City.

William Schroeder was the second man in history to receive the artificial heart and the first to have the implant in Louisville. His surgery was preceded by a detailed public relations plan.

Many case studies of corporate public relations activities by corporations have been done, but few have examined the relationship between public relations personnel and the media in a medical setting in which other factors and issues specific to health care come into play. The study reported here is one of the first to look at public relations activities and personnel and news practitioners and their products in such a setting.

The Case of William Schroeder

William Schroeder, a retiree from Jasper, Indiana, became the second man in history to receive an artificial heart when he underwent surgery on November 25, 1984.

His selection as a heart implant patient was preceded by Dr. William DeVries' announcement in July 1984 that he would leave the University of Utah to join the heart team headed by Dr. Allan Lansing at Humana Heart Institute International in Louisville. The implant followed shortly after the Food and Drug Administration's approval of the implant at the Heart Institute. Surgeon William DeVries was the only surgeon allowed to implant the device. Surgery at the University of Utah was FDA-approved, but DeVries had to apply for clearance to move the site of the implant surgery. The FDA approved Humana-Audubon as an implant site on November 8, 1984.

Schroeder, 52 years old at the time of surgery, suffered from severe cardiomyopathy, a usually fatal weakening of the heart. His illness was also known as congestive heart failure. After a first heart attack in 1972, Schroeder had coronary bypass surgery. The operation was successful but his heart condition worsened. In 1983, health problems caused his retirement from his job as a quality control specialist at Crane Naval Weapons Support Center in Crane, Indiana.

Schroeder was a former chapter president of a union for government employees. He had been married for 32 years. He and his wife Margaret had children from the ages of 21 to 33, and five grandchildren.

Schroeder was referred to the artificial heart program and Dr. DeVries by his Indiana physicians, who decided his condition was inoperable. Physicians at the Heart Institute monitored Schroeder's condition. He had to undergo a gall bladder operation and treatment for

infected gums before qualifying as the second patient in history to receive the Jarvik-7 artificial heart.

Schroeder underwent surgery on the morning of November 25, 1984. The surgical team returned to surgery later the same day to stop a bleeding problem.

In the year and a half since his implant, Schroeder suffered three strokes, as well as seizures, fever, and other illnesses. He had difficulty speaking and experienced memory loss. As of early July 1986, he was a patient at Humana-Hospital Audubon. During the year and nine months since his surgery, he celebrated his 53rd and 54th birthdays (February 14), spent some time in a special apartment near the hospital and rode in a special van to his hometown. It was a time for both highs and lows. Schroeder and his family marked the one-year anniversary of the implant on November 25, 1985.

The Age of the Voyeur: A Basis for a Study

Haynes Johnson, writing about William Schroeder in 1984, identified the "age of the voyeur. The most intimate aspects of one's life from birth to death . . . are played out for all to see, share and drool over." He noted the interplay of technological progress and the "public playing out of suffering":

Out of this latest situation you can almost see the calculators computing the sale of the next model of the artificial heart or hear the brokers touting which stock does best depending on the outcome of the latest live-and-in-color TV operation:

"Jarvik-7 heart pump down 2 1/2, artificial kidneys up, 6 1/2." (p. 23)

Other commentators have noticed changes in the tone of medical coverage in recent years. Ellen Goodman (1984) has called the present the age of "celebrity medicine," saying, "We take our hi-tech medicine personalized now. We prefer our innovations with a shot of hype." She questions the ethics of such reporting, saying it turns "medical researchers into publicity hounds" and "creates a kind of media and moral schizophrenia between the celebrity of a few and the anonymity of others."

A 1983 "Nightline" (ABC's late-night news roundup) featured Arthur Caplan, an associate of the Hastings Center Institute for the Study of Ethics and the Life Sciences.

In the panel discussion on medical reporting, Caplan noted the complex nuances of medical reporting as he spoke of the lack of balance he saw in medical coverage. "The human interest side is often overemphasized, and there's a lack of care in describing disease particulars. Reporters focus on the human side, not always showing the true issues."

"As often as not," he added, "the focus is on people who are attractive to the media for some reason, setting up unfair competition for humans who see their problems mediated in the mass media."

Caplan also noted a number of issues arising from medical coverage. For instance, he wondered, what explicit assertions are made about families' personal qualities? How are verbs used in medical reporting? Are

they descriptive, analytical, or insinuatinal? Caplan said the focus on individuals in medical coverage is an example of the media doing what they do best, but at cost to disenfranchised communities and communication of useful information.

Does the medical reporting process bring about voyeurism, the "celebrity medicine" syndrome? Does it reduce life and suffering amidst technological progress to the level of a soap opera? Is such reporting a relatively new phenomenon, tied to technology? Or is the coverage only continuing a concern with the body that has always been present in medical stories in the lay press a "person-oriented focus," as suggested by a 1957 survey? For the purpose of this study, medical reporting is considered a subset of science reporting, but some important differences will be noted in the study.

In his 1967 book, Science and the Mass Media, Hillier Kreighbaum writes of the necessary relationship between the scientist and the science writer. He includes medicine within that purview. He notes that medical reporting goes back to the only issue of Benjamin Harris' Publick Occurrences in 1690. Two paragraphs on smallpox, informing readers of the extent of the "more malignant fever" that spread in Boston, were included to quell rumors about the fever's spread.

A 1901 article in the Chicago Record Herald detailed the medical complications and surgery that followed the assassination of President McKinley. The early example serves as a precedent for similar coverage today of presidential illnesses and assassination attempts.

As Kreighbaum noted (p. 20), the earlier science writing had several things in common with writing today. First, as he says, it dealt with medicine. Almost three centuries later, readers are still fascinated with medical news. Kreighbaum says that until the space races of the twentieth century, medical reporting almost always had the greatest popularity in reader surveys.

By the early 1950s, the artificial heart was a focus of medical writing. The early experiments with artificial hearts in calves were documented in Time (1951) and other publications. Brian Boylan (1969), writing in The New Heart, foresaw the implications of the first total artificial heart implant 14 years later:

The first successful implantation of a totally artificial heart probably will be accompanied by extensive publicity, speculation in popular magazines about massive replacements of hearts and the usual cautions and criticisms from physicians and legislators. Some of the more practical minds among our lawyers and criminologists might even wonder how a man with an artificial heart can be legally executed or murdered. (p. 116)

Boylan continued to prophesy by adding:

Despite the speculations of magazine writers and the imaginative fantasies of articulate scientists, development of a clinical artificial heart is not likely to touch off promiscuous implantations. There may be thousands of patients who could benefit from an artificial heart, but only a few of the most desperate cases will get it during the years immediately after its perfection . . . artificial hearts and transplants will continue to catch the imagination of the public, perhaps because they are so daring, so extreme. These are heroic measures, which even the most daring surgeon will use sparingly. (pp. 116-117)

The Current Study

The current study uses a recently developed science communication model, and a situational theory of communication, developed by James Grunig (1979), as a backdrop for interviews with the personnel involved in the public relations activities and media coverage of the Schroeder implant. A content analysis identifies topics covered in selected print and broadcast media and examines what exists in written and broadcast coverage of Schroeder's implant. The two parts of the study examine the entire coverage process surrounding the Schroeder implant for manifest content, situational variables, and for the thematic elements present in the event.

CHAPTER 2

REVIEW OF THE LITERATURE

The body of literature on science communication is growing, but somewhat fragmented. Studies have focused on the roles and motivations of scientists in communications with the mass media, on the science reporter, and on the concepts of accuracy and understanding.

Specific studies on medicine have looked at the use of medical information by audiences and examined the use of information by physicians. Few studies have looked at the mass media communications process for medical information when patients are involved. In this study, medical reporting refers to the dissemination of news and information about a medical case to the general public through newspapers and television. It does not include medical personnel talking to peers through medical journals.

The literature review below provides examples of studies done in the areas discussed above and examines their applications for medical reporting.

Many professionals were involved in the Schroeder case. In the weeks following the heart implant, journalists, public relations practitioners, and physicians were involved in the story on a regular basis. In Schroeder's case physicians not only communicated on the level for

which they trained--the interpersonal level--but also served as sources to the mass media. Their role and the role of the public relations professionals as "linkers" between the physicians and the media are also examined in the literature review.

The Roles

A study of the public relations role in the Humana case reflects a concern for further investigation of Stempel and Culbertson's (1983) statement that PR personnel are viewed as facilitators but not initiators, translators or controllers of the flow of medical information. The role of the public relations practitioner in the flow of information about a topic can be functionary--only supplying information about the organization--or functional, sensing and interpreting the views of publics to corporate management (Skinner and Shankin, 1978). Public relations functions in a large corporate environment have grown as business has grown. As one executive says of the public relations person as "linker":

No longer can we be only communicators. What is in the message will become our responsibility as well as how skillfully it is conveyed. No longer can we be only wordsmiths. The concepts and strategies behind the words will fall on our shoulders. No longer can we be a third party between the source of the information and the audience for whom it is intended. (p. 45)

The current study investigates the application of these definitions for the Humana public relations personnel.

Stocking (1985) investigated the role of the public relations practitioner in the "media visibility of an organization." Others (Aronoff, 1976; Baxter, 1981) have studied why journalists use information or how journalistic news values are seen by practitioners and reporters (Tichenor, Olien, and Donohue, 1967) but the relationship of journalists and public relations personnel has been discussed infrequently. Many of the studies done with public relations personnel and reporters are dedicated to ferreting out the roots of perceptions about public relations personnel.

Stocking (1985), however, studied the roles of public relations and source prominence in securing science news coverage for American medical schools. In her survey of 85 medical schools and their information offices, and a subsequent content analysis of coverage, she found that public relations activities in some instances had little or no effect on media visibility independent of the news values inherent in a story. Her study suggests that the effectiveness of public relations activities depends on the news values of the sources. Different dependencies on the public relations function may vary with organizational structure. Closed systems may force reporters to be reliant on public relations activities while open systems may allow reporters free access to news sources.

Dunwoody and Ryan (1983) note that "few researchers have studied the relationship between public information personnel, journalists and scientists." Their study found that the public practitioner's role as a

mediator had been empirically identified, but that the effectiveness of that role had not been examined in detail. What few studies exist have contradictory results. Tichenor, Olien, Harrison, and Donohue (1970) found that at least half of a sample of scientists perceived some mediation taking place by the public relations practitioners in their organization, and perceived that more accurate stories were being done. However, Basset, Davison, and Hopson (1968) in a review of sociologists found them directly linking to the mass media, with little regard for the public relations practitioner. Dunwoody and Scott (1971) found no relationship between a source's perception of mass media coverage and their reliance on practitioners.

In their 1983 study, Dunwoody and Ryan studied the role of public information persons as mediators between scientists and journalists. They investigated what they call the "mediator" task, a function that the persons in an information triangle--scientist, journalist, and practitioner--acknowledge. In a study of 278 scientists, they asked if public information officers played an effective mediating role. They found that most scientists acknowledged the public information function, and would retain it, but conversely felt that practitioners sometimes hinder scientist's communications efforts. The scientists in their sample said, overwhelmingly, that they would prefer direct contact with journalists, a finding contradicting the notion that liaisons have a great amount of control. The current study includes an examination of

the physician-media relationship, one which differs greatly from the scientist-media relationship Dunwoody and Ryan investigated.

Gardener (1973), in a thesis on medical reporting problems, reflected the comments of Dr. Alan Scott, a general practitioner in Texas and respondent to her thesis survey, on the role of the practitioner long before the current boom of public relations jobs in the health care industry. As he said, "Herein lies much of the answer to accurate coverage, and more coverage, of the medical world: the retention of public relations men and women who can serve as liaison between source and media (p. 54).

The study of actors within a system may be done using concepts from the dramatistic analysis of Kenneth Burke (1966), the "story journalism" of G. H. Mead (1934) and studies of the news media as created realities (Altheide, 1976; Tuchman, 1978; Altheide and Snow, 1979). Mead said that the news "picks out characters that lie in men's minds" while Altheide and others refer to the created "logic" of a media report. Nimmo and Combs (1984) described a rich tradition of dramatistic analysis and news as storytelling in their review of the nature of news accounts. Of particular interest are Sperry's (1981) descriptions of the narrative quality of television. She argued that the reporting process is a literary act and contends that the hero motif, which she called "man's simplest and most pervasive myth," offered a standardized news formula often seen in television.

Studies of the actors within a science communications system also include Tichenor, Olien, Harrison, and Donohue's study of the different

elements of the newsroom system and accuracy. The study (1970) looked at the extent to which characteristics of the source subsystem and channel subsystems are associated with communications accuracy in science reporting. The authors examined the frequent criticisms scientists have about media coverage. They were critical of inaccuracies arising from sensationalism quoting out of context, and media practices after the work has left the reporter's hands, the study noted. The current study of the Schroeder implant investigates in detail the characteristics of the source and channel subsystems in a medical reporting situation and the criticisms in and of the subsequent coverage.

Science Communication

The roles of the journalist and the physician may be considered in the light of the large, and growing, body of studies on science communication. LaFollette (1973) said science communication differs from other communication because the agenda is set more often by scientists than by journalists. The current study notes the patterns of control for a medical reporting situation.

In their review of research on scientific information, Cronholm and Sandell (1981) saw the growing importance of writing on science in light of two trends: the growing demand for public participation in decision-making on social issues and the technological complexity of those issues.

The authors identified approaches to journalists' roles in presenting a story. They said that journalists may view science as a playful

game, a menace, or a salvation. As well they may present information they have obtained from sources as curiosities, as added impressions of their own level of knowledge, or as a "genuine education" for their readers and viewers. Some writers may identify with scientists, the authors said, while some identify with the reading public. The roles writers take will determine how the complex information they are working with is presented to the public.

To supplement their observations, the authors reviewed the growing body of literature on accuracy in science reporting. Whenever the story is complex, as with most science and medicine stories, accuracy poses a special problem. The authors reviewed studies including Charnley's early study (1936), Tankard and Ryan (1974), Tichenor et al. (1970). Moore and Singletary's (1984) study of network television sources' perceptions of the accuracy of science news is a recent addition to the studies.

Scientists and Reporters

Other scholars have investigated the role of the journalist in presenting medical and scientific news. The concerns serve here as a basis for the study of the differing roles of the personnel involved in the Schroeder case. Goodfield (1981) discussed the relationships at length in Reflections on Science and the Media. Exploring the different views of scientists and reporters on accuracy, she quoted one scientist as saying about science writing: "the public clearly prefers a simple lie to the complicated truth."

Goodfield said many scientists will always resent "simplified" stories. As she said:

They [scientists] believe that the contest between the bare fact honestly presented and the flashy headline, or between a difficult and prolonged controversy and a short but exaggerated story, is an unequal one; given a contest between truth and profit, those scientists say, the truth will go under. (p. 8)

Goodfield also pointed out that the public "out there" for science and medical stories is "those whose science teachers are the media." For a journalist she said the challenge is to convey accurately yet readably the real-life issues today, issues which are "ambiguous and divergent."

She also drew an interesting parallel between physicians and the journalists:

Unlike physicians who may feed on the fear of those who buy their skills by playing directly on the desire for reassurance and certainty, journalists fall into the opposite temptation of continually viewing everything with alarm. If competition for public attention spoils their judgment, what they may tell us may be interesting, even highly instructive, but not altogether to be trusted in our search for understanding and decision. (p. 14)

Goodfield said the distortion may come about for two reasons and specifically lists the "shortcuts" writers take with information. One is "simply to not go deep enough or spend time enough to find the correct story, another is to create interest in an irresponsible way, by bending the facts, exaggerating the impact" (p. 18).

However, Goodfield did not see the problems in presenting scientific and medical problems as solely the fault of the journalists. She also discussed at length the scientist who "plays" at being an expert and

the scientists who won't talk when talking is necessary. Data and diagnoses are very tentative and "vulnerable," as will be noted in the current study. Therefore, she argued that reporters and scientists have reciprocal obligations if the public is to be informed. She said:

What has to be reconciled is the vulnerability of the preliminary data of scientists, and its tentativeness, with the journalists' need for speed and hard news. (p. 36)

Goodell (1985) saw a shift in the scientist's role, as popularization is becoming part of their practice. Still, there are problems. Goodell noted that scientists are "not always discriminating" in their criticisms of the press--some criticisms are good, others aren't. She noted that "some scientists anticipate . . . they will have the upper hand in exchanges with journalists. . . . Journalists, however, are as fiercely independent" (p. 152). She said the real antagonism between the two groups is that scientists feel ineffective in preventing and correcting the press's failings (p. 152). Her comments apply equally to the relationship of the physician and the media. In the medical reporting situation, a third element is added--the patient.

Perlman (1974) said problems arise when writers confront "audiences on one side, scientists on the other, and the traditions of the media in the middle" (p. 218). He argued that writers should exercise "clinical judgment" akin to that of physicians in a highly competitive atmosphere. He called for more aggressiveness and more reporting of the social ramifications in stories. A medical reporting situation not only involved audiences, scientists, and media traditions, but the questions of family and patient privacy and autonomy. Physicians seek to exercise clinical

judgment for their patients while reporters are trained to exercise such judgment for their audiences through the traditions of the media.

Grunig, in a 1979 article, noted the differing roles of communications professionals in the science communication process. He cited studies (Tannenbaum, 1963; Johnson, 1963; University of Missouri, 1973; Patterson, Booth, and Smith, 1969) that showed that editors saw stories from a public interest viewpoint while other groups saw stories from the standpoint of the information that is provided. Studies have further shown that editors differ from the public, scientists, and science writers in their perceptions of what the "public interest" really is (Tannenbaum 1963; Patterson, Boone, and Smith, 1969).

Sources

The role of the source in a medical reporting situation is paramount. Specialized information is provided, and the source must also be cognizant of the ethical considerations for patient privacy. Studies of the sources of information for the mass media include Dunwoody's (1984) study and a number of others that describe what are termed the "visible scientists." The term is one coined by Goodfield for that small group of scientists who actively serve as sources to the media.

A 1978 article by Dunwoody also found an "inner circle" of science writers akin to the small group of visible scientists. One might add the term "visible physician" to her observations as the medical field undergoes changes in media exposure. Physicians involved in controversial medical cases (the artificial heart, Baby Fae, research on AIDS),

the "TV" doctor-commentators, and paradoxically, the physicians who wish to denounce the use of the media by physicians, now appear as sources in the media.

Goodell (1977) described the "visible scientist." The scientist almost always has a colorful image, a tendency to be a workaholic, and characteristics the media then mold. Goodell noted that some of the other characteristics of the scientist who is followed by the media are those qualities that make for success anywhere--"ambition, energy, inquisitiveness, creativity, facility at explanations, organizational ability, facility and intelligence" (p. 38).

Ryan (1979) studied the attitudes of scientific sources and journalists toward science news. He used a coorientation model and found that scientific sources and journalists had many similar attitudes but disagreed over areas of sensationalism, approval of the story once written, and the timing of the release of information to the general public.

McKenna (1985) studied NIH-funded scientists working on health problems in an application of Grunig's situational theory of communication. He studied the level of involvement, constraint, and problem recognition scientists perceive in dealing with the media. He found that active and passive communication increased as problem recognition increased and decreased as restraint recognition increased. His other findings reflect the literature in the field citing distortion, inaccuracy, sensationalism, and premature reporting of findings as the primary problems in the field.

One specific study of sensationalism in science reporting is that of Glynn and Tims (1982). The authors studied the local and national coverage of the Tennessee Tellico Dam controversy using content analysis and concluded that a major problem in science reporting is the presentation of an issue. Many important factors were involved in the issue, the authors said, but the study showed it was uncertain that the public received enough information to perceive of the struggle as anything more than a dispute over a three-inch insignificant fish blocking a 90 percent complete dam.

A later study by Glynn (1985) investigated the concept of sensationalism in science reporting. Glynn said the nature of science writing often precludes fair and accurate coverage of science stories. Science reporters must deal with science topics although they may have general assignment backgrounds, and must deal with the various pressures of the newsroom.

Glynn studied the basic attitudes of reporters and their editors regarding environmental issues and defined sensationalism as "placing exceptional emphasis on unique aspects of a situation" (p. 70) by using a mail survey with a response from 110 newspapers. He found that editors tend to evaluate sensational treatment of science articles more positively than do reporters, but that both groups tended to view sensationalism negatively. He ascribed some of the difference in views to the longevity of the editor in the newsroom and the "quickenning urgency" necessary for news but not necessarily essential to the scientist.

Perhaps one of the best descriptions of the role of the scientist in relation to the mass media is found in Goodell's (1977) book The Visible Scientist. In the book, Goodell explored science reporting and the phenomenon that much of the science news reported comes from a small group of "visible" scientists. She said science news is among one of the most heavily criticized areas of reporting and discussed scientists' criticisms, including distortion and sensationalism. Professional writers agreed with the scientists' perceptions, with one writer adding that the greatest failure of the media is their failure to report findings as tentative. Scientists also wish more historical perspective.

In terms of the scientist/reporter relationship it is difficult for the scientist or physician to understand the tendency of the press to "spotlight a single individual as the scientists responsible for the discovery or invention." As Goodell said, this can be disastrous for the person in the spotlight. As this study will later note, media coverage can be problematic to everyone concerned when the spotlight touches family and physicians and friends, and a balance must be achieved between a patient's privacy and the public's thirst for information.

Media Coverage

Mazur (1981) discussed media coverage and public opinion on scientific controversies. He said coverage could amplify or define events, and suggested that quantity of coverage may have as much effect as the semantic content of a story. Questions of quantity versus content

become especially important in prolonged medical stories such as Schroeder's.

Shepherd's (1981) findings reinforced those of Maccoby and Mazur. He suggested that the lay public becomes sensitized to issues primarily through the mass media, magnifying the problems of accuracy and mishandling. He said the "initial decision of what to report is understandably the single most important act in science news reporting" (p. 131). In a medical situation, general reporters without specialized knowledge of medicine may make the "what to report" decision based on the information provided by a public relations office or an appointed source, or on the questions and stories of others. Both ways of making decisions can lead to "pack journalism."

Bruce Swain, in his book Reporter's Ethics (1978) examined privacy, relationships with sources, and other concerns. Of particular interest is a concept he called the "blackbird syndrome," akin to pack journalism, which occurs when "reporters must cover an issue or person already marked as newsworthy by another." Swain said reporters, bending to various pressures, have little time to develop genuine understanding and therefore tell their readers less.

Logan (1985) commented on the rationales for investigative and explanatory trends in coverage. He discussed what he saw as a shift in the focus of science reporting to "science and its impact on economics government or public policy" (p. 53) and the analysis of clashes between scientific research and social values or "explanatory journalism." He said such changes in reporting have not been accepted within the

scientific community. An example of problems with such changes was seen in the comments of White House Science Advisor George Keyworth III (Culliton, 1985; Shaw, 1977; White House advisor, 1985). Such critics complained that explanatory or investigative reporting benefit neither science nor society.

Logan's article traced the development of science/press cooperation from the 1920s through the period when major scientific groups controlled all publicity about research through rules such as the Ingelfinger rule to the growth of explanatory reporting in the late 1970s during a time when a number of issues--health, nuclear energy, etc.--were being explored nationally. His article said the changed role of the journalist was bound to grow out of the changes within the scientific community itself.

Graham (1981, cited in Logan, 1985), said that contemporary social values are integral to science, and that it is "illogical to conceptually separate the two processes" in media coverage:

We now recognize the links that exist many areas of science and our values and ethics. We are ready to benefit from the insights that science can bring to our understanding of these values. We know that we must live in the middle range of science-value interactions, seeing that the pure poles of "value-free science" and science-free values" are both, in similar measure, diminishing in strength. (Logan, p. 56)

Logan concluded in his commentary that although the elevated image of science "has taken a beating from news coverage of intraprofessional debates and public controversies," it would be worse for reporters to continue the limited reporting approaches that reigned until 1970.

Literature on Medicine and the Media

Medicine makes news. In the last decade, physicians have become television doctors and print columnists. Transplants, implants, and research on cancer, heart disease, and AIDS lead the news and make front page headlines. The AMA's position on public education through the media has softened although peer pressure on individual physicians who use the media still exists. Medicine is a hot topic, one of personal interest to every reader or viewer.

Oates (1973) called medicine unique among scientific professions in the degree to which it finds itself directed by the popular voice. Today, the popular voice is answered almost every day. Newspapers have medical beats and television stations have resident physician-commentators.

Reporting on medicine takes skill and sensitivity. The dangers--inaccuracy, sensationalism, premature reporting--scientists see in reporting science become more problematic for medicine. Reports of breakthroughs or possible cures affect everyone, directly or indirectly. Thousands of individuals may listen to a report on a new drug or procedure, and clamor for treatment. They may forego available treatments to pursue the smallest shred of information. If the news is distorted or inaccurate, if a new "miracle" drug is only in the testing stages and years away from approval for the marketplace, hopes can be dashed.

Few complete studies on the coverage of medical events or issues exist. Previous studies, commentaries on the Baby Jane Doe case (Kerr,

1984), coverage of Applied Immune Deficiency Syndrome (Streitmatter, 1984) and a body of studies on coverage of cancer research offer insight into the questions to be asked in a study of medical coverage.

In a 1955 Neiman Reports, Moskin explored the problems of communication between physicians and the media. Thirty-one years ago, he defined the problems inherent for the two professions as the "inhumanity" of medicine, the multiplicity of medicine, and the barriers the two professions erect. He foresaw that physicians and reporters will "have to look at subjects from the point of view of the reader," something not always done then . . . or now. He identified the "inhumanity of medicine" as the impersonalization of medicine. He said the problem was a creature of his time, but it remains a problem today. It is significant to note that, while within medical practice, critics argue for less dehumanizing treatment, some media critics--and some physicians--argue that too much media personalization of the patient occurs.

The second problem Moskin identified as "multiplicity" was that of specialization. Thirty-one years later, the medical profession is more specialized. Moskin noted that the multiplicity "leaves the layman floundering." Three decades later, reporters now specialize themselves in an attempt to help laymen, who are still floundering. Sometimes, even the reporters flounder. The third problem--barriers--he called the barriers of "pride and self-interest, of vanity and infallibility." He described the "professional curtains" physicians use to keep themselves at arms-length. Today, the barriers and professional curtains still exist. The problems Moskin, a magazine editor, had in establishing a

physician as a medical columnist in 1955 are the problems he would face today--pressure against individual publicity in the mass media.

A 1957 book by Kreighbaum, one of the founding deans of science writing,, detailed the controversy at that time between the press and the medical profession. Krieghbaum compiled the text from a series of Joseph Macy, Jr. Foundation Conferences. At the conferences, physicians and reporters discussed the problems of medical reporting. For example, a Washington Post reporter discussed the relationship of physicians and reporters in an conference transcript from the book:

Newspapermen and physicians live in their own worlds. They see the same things but each views them from his own training. The newspaperman looks at news as something the public has a right to know. The physician has the duty to protect his patients and himself. (p. 27)

The reporter's comment in the 1950s mentioned many of the same issues discussed in medical reporting today. The same issues--patient privacy and the public's right to know--are crucial in the Schroeder case.

The problems in the relationship between reporters and physicians are not new. Solutions are slow in coming, and the problematic nature of the physician-reporter relationship makes examinations of medical coverage even more necessary. Perhaps, at the basis of the knot of problems is a fundamental tension between the physician's desire for privacy (his or her own and the patient's) and the reporter's need--and the public's thirst for information.

A report on the state of medical reporting in the mid-1980s was found in a Medical World News cover story for June 25, 1984, written by

Haggerty and Bankhead. Their "search for common ground" explored the conflict between reporters and physicians in terms of reporting's conventions, not medicine's restrictions. The authors contended that brevity often leads to inaccurate reporting.

The situation for public education through reporting in the mass media is changing, however. The American College of Physicians stated its position on the relationship of the physician and the media in its 1984 Ethics Manual:

Those physicians who are able to comment authoritatively on medical subjects should be prepared to do so to help keep the public informed properly. Those physicians who are able to help the public with accurate information should regard interacting with the news media as an obligation to society and, in a manner of speaking, an extension of medical practice. Such interactions should not be exploited for personal gain. (pp. 20-21)

The last sentence of the statement is the one which has led to problems for those physicians who do speak as media sources. Quite often, they face peer pressure because they have done something for "personal gain." But who is to interpret what "personal gain" means from case to case?

Information for physicians on their role in dealing with the media can be found from time to time in the pages of The New England Journal of Medicine. An example was the May 1983 article by Martin Bander. In the article, he talked about ambivalence toward members of the media because of the horror stories many physicians have about media dealings. He gave step by step guidelines at one point referring to the rule laid

down by the formidable Dr. Franz Ingelfinger when he was editor of the journal.

His rule stressed that a physician should not talk to the media about results of a study or innovation until that information had undergone peer review in the medical journals. The rule has now taken on the name of the current editor of the journal, Dr. Arnold Relman. Although the Relman rule only applies to The New England Journal of Medicine as editorial policy, other publications have adopted it.

The Relman rule does two things, Goodell (1977) pointed out. First, it "protects the system of quality control in science," discouraging charlatans and encouraging misleading information. But, she said, it also "ensures that the public will get the violá" view of science:

They will see the approved final product not the trial and error experimenting, debating and groping that make up the scientific process. In their concern to protect people from substantive inaccuracies, scientists mislead them much more seriously about the essence of the scientific process. Also, by stripping science of its natural human interest, they leave it for reporters to add artificial drama. In short, scientists contribute to the very sensationalism and "discovery" orientation of the press that they criticize. (p. 131)

In a 1985 article, Goodell again commented on the Relman or Ingelfinger rule:

My purpose is not to debate the Ingelfinger rule: that has been done enough. Rather, the policy, as a matter of style, is an effort to force rather than foster good judgement among science reporters and editors. It influences the selection of science news by limiting journalists' choices rather than by improving their ability to make their own decisions. (p. 154)

The rule is at the center of the medical community's feelings on and arguments over peer review. The conflict becomes, in medical

reporting, one of peer review of a study versus timely reportage of a treatment which may have immediate implications. Relman's criticisms of the Humana program for its publicizing of the artificial heart implant and of DeVries for dealing with reporters and not keeping the details of the operation for peer review had a major impact on the tone and amount of coverage of the artificial heart program.

Oates (1970) studied the social and ethical content of science messages in news magazines. He was among the first to note the necessity of an ethical component in messages that can affect the reading/watching public. He chose a medical topic, heart transplantation, and analyzed coverage of the issue in three major U.S. newsmagazines--Time, Newsweek, and U.S. News and World Report. He used a semantic content analysis and measured the number of times social or ethical concepts were mentioned. He concluded that such statements were found in "hot" story items but bemoaned the lack of a standard useful in judging how much social and ethical content is reasonable in a story. Commentators and ethicists alike wondered about the amount of discussion of ethical issues in the Schroeder story. This study investigates that discussion but cannot bring closure to the question of how much discussion is enough. Oates' comments are apt, particularly because few studies have looked at ethical content. But the final question of how much ethical content--or in the present study, detail--is reasonable is a hard question to even begin to answer about journalism in a democratic system. The question of what is reasonable has been left up to editors, and editors differ.

Consumers can vote for what's reasonable with their dollar, but the vote is cumulative for many factors, not just ethical content.

O'Keefe (1970) studied use of the mass media for information by medical sources. He found the use of the media minimal, as physicians cited sensationalism, inaccuracy, and incompleteness as reasons for not using the mass media for their information, even in scientific areas not related to their practice. But Cronholm and Sandell (1981) observed that physicians do use the mass media for some general information. And, as noted in this study, so do patients and their families.

Burd (1981) studied recent health reporting in Texas and found that most medical news stories could be placed in one of three categories (from Hay 1970): elaborate gee whiz accounts, medical and health oddities, and controversies. Hay originally used a fourth category: "a new phase in which science writers study the possible effects on society of science and technology" (p. 170). It is interesting to note that news stories on the Schroeder implant could be placed in any of the four categories.

The issue of patient privacy is an especially touchy one. In Gardener's 1972 study, one practitioner held the view that "the public is not entitled to bowel movement bulletins on presidents, although it is entitled to accurate description of condition" (p. 46).

In the same study, Gardener investigated five problem areas she contended were inherent in medical reporting: (1) "instant reporting," (2) validity of restrictions in news coverage, (3) ethical conflicts,

(4) accuracy in reporting and the obligations of practitioners in both fields, and (5) qualifications of medical reporters.

Using interviews and a questionnaire sent to public relations officers of medical societies, she identified the major problem to be that of peer review--submitting all work to medical journals first--versus instant reporting--or telling the media about research and discoveries immediately.

Her earlier study (1969, reported in 1972) found reporters alone demanded instant reporting, while PR practitioners and physicians saw the necessity of peer review. However, it should be noted, the position of PR practitioners has changed in the last decade.

Proponents of peer review cite examples where publicity problems arise and news stories were found to be inaccurate or misleading. They list perceived problems such as the premature claims of success for heart transplants by Drs. Christian Barnard and Denton Cooley (Crichton, 1968).

Today, medical stories are "hot" topics, and can be found almost daily in newspapers and in the broadcast media. Their sheer number leads to concerns. One reporter (Kerr, 1984) found "profound moral and ethical ramifications in the Baby Jane Doe case," controversies which she felt should be addressed in full in the media. A reporter for Newsday, she eventually collaborated with a medical writer on a series of issue pieces on her concerns.

Streitmatter (1984), in his analysis of the coverage of AIDS, identified lessons to be learned from the coverage, including the

reaffirmation of a need for specialized beats covered by specialized reporters.

Jay Winsten, director of the Office of Health Policy Information in the Harvard School of Public Health, reported on the pressures facing medical reporters in an important article, "Science and the Media: the Boundaries of Truth" in the Spring 1985 issue of Health Affairs. Winsten said the level of public understanding of science and health depends on the quality of reporting on a topic. In a three-year period he interviewed 27 senior members of the science writing and news communities to define science news and look at the pressure inherent in science reporting.

Winsten cited competitive forces in the newsroom (among them the search for the "exciting" story and prominent display), the difficulty of balancing on the "boundary of truth" when the natural bias of journalism is toward the "strong" statement and a constant "new" angle, and the predominance of anecdotal reports as problems.

Other problems Winsten's sources named were the beginning competitiveness among medical centers for publicity (because of economic pressures) and the use of public relations firms to promote individuals, hospitals, and medical centers. Some critics have called the Schroeder implant a case in which all of the concerns Winsten noted come together.

Winsten made several recommendations, among them more attention to limitations of a treatment or study a greater emphasis on trends in research, and more description of available choices when risks (health,

technological) are present. Also, he called for a halt to the current public relations assault.

The best public relations strategy an institution can adopt over the long term is to build a solid reputation among journalists for providing timely access to information. News conferences should be reserved for occasions when the institution plans to release information of compelling information or importance. Press releases distributed to the national media should contain genuine news or provide useful background; currently most do neither, according to reporters. (p. 22)

Greenburg, Freimuth, and Bratic (1979) noted the emotional nature of public attitudes toward cancer and the difficulties in conveying useful information to the public. They studied coverage of cancer in the 50 largest dailies for three months in 1977 and found that three major topics accounted for 60 percent of coverage of cancer: famous people and cancer, other carcinogens, and laetrile. People were the central focus in about one-third of the stories. The authors found cancer a "highly fear-arousing subject with the public," with surveys indicating that the illness was perceived as more serious and debilitating than it actually was in most instances. Topics perceived as priorities by cancer researchers were rarely covered, they concluded, since the vast majority of cancer stories were breaking news. In the conclusion of the 1977 study, the authors said the fragmentary nature of news contradicted the complexity necessary for coverage of a complex issue.

The study was followed by an update in 1980 (Freimuth, Greenburg, DeWitt, and Romano, 1984) which analyzed headlines and health columns as well as news stories. The 1980 sample was similar to the 1979 group, but people stories numbered only 16 percent. Few stories provided

information on prevention risks, detection, and treatment. Coverage emphasized "dying rather than coping." The language of the headlines was found to be neutral.

The difference in the 1977 and 1980 findings by the authors is interesting, given that it occurred at a time when most critics were saying the problem was extensive personification of medicine. Art Caplan of the Hastings Institute named personification, or dealing with the personality and life of the individual patient, to the exclusion of other information, as a major problem in reporting medical topics.

The existing literature on medical reporting explores in some depth the conflict between reporters and physicians. As well the research to date investigates the problems seen in coverage and the limitations of both professions. As Haggerty and Bankhead (1984) noted, few researchers have looked at how well developments are communicated to the reading, listening, and viewing publics. Also, few studies have traced the process of communication in a medical setting or investigated the manifest content of coverage. The study reported here begins that process.

The Grunig Science Communication Model

James Grunig's (1979) descriptive model of science communications and his situational theory of communication are used in this study to examine interactions occurring in the coverage of the implant. Grunig contended that traditional models of communication may not fully apply to the communication process in science. However, Schramm's basic

sender-encoder-message-decoder-receiver model has proven to be a basic tool for several decades of communications scholars and Grunig based his model in part on that picture and its assumptions.

Grunig's model of science communication contains many of the same reference points as Schramm's traditional model of communication. However, he took into consideration the fact that in science communication there are other actors, complex linkages, the background structures of organizations (often complicated) and two-way information in the communications process. Figure 2.1 illustrates his model.

Grunig noted that scientists do not usually communicate with audiences. Instead, they communicate with other personnel--science writers or other individuals--who serve as "linkers" to publics. He also noted that much of the linker/scientist interaction occurs within an organizational context. In his 1979 study, Grunig noted that science communications studies to date have (1) looked at individual parts of the model (most often audiences) or (2) interactions between members of a dyad in the model (science-writers--scientists, for example).

Within his science communication model, Grunig proposed a theory of communications used to explore the communications process. Grunig's situational theory assumes that attitudes, personality traits, and similar concepts do not program people to communicate in a certain way. Rather, his theory of situational communication said "people communicate when a situation arouses their interest or when they must deal with a problem" (p. 23).

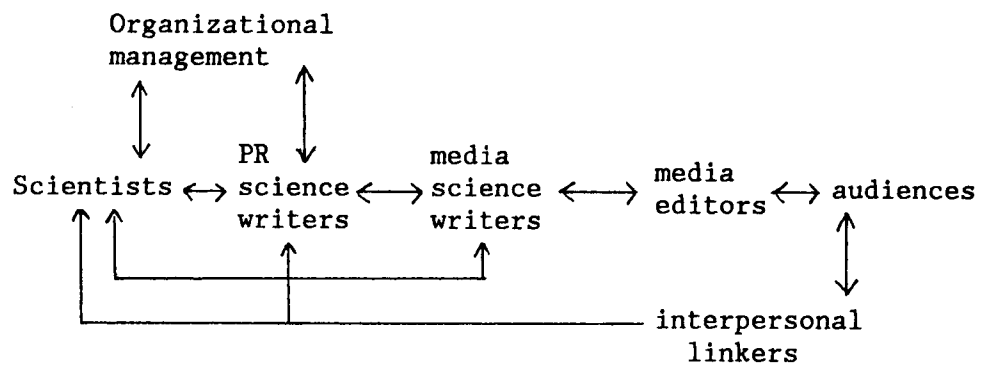


Figure 2.1 The Grunig science communication model.
(Source: Grunig, 1979, p. 20)

coverage to date on the topic. This is both a limitation and a necessity in the study given the event's ongoing nature.

Other Analysis

The data in the content analysis, along with a breakdown of key events and information obtained in discussion with key personnel, serve as a basis for further analysis. However, other methods also were used to study the situation.

The frequency of stories or broadcast reports on different topical areas is mapped against a key source of information provided for use in the story--Humana's print record of news releases--the updates provided to the media. The matrices are found in the following chapters. The print information provided a daily (and eventually weekly) record of Schroeder's condition. It was a valuable primary source.

In addition, the stock prices for Humana for the time period of the study were mapped to ascertain the effects of the media coverage on Humana, Inc. Other business activities during the 22 week period are examined to provide the most complete picture of the effects of the coverage.

The content analysis is supplemented by a narrative which describes the coverage in detail and highlights those observations which directly apply to the study's examination of the coverage of the implant. Also, additional information on the status of the artificial heart program in mid-1986, eighteen months after the Schroeder implant, is included.

The situational theory investigates how each person or group of people perceive a situation and theorizes that perception affects how communication occurs in the incident at hand. He focused on the process of communication, not attitude change or a prediction of adoption of information.

The four important variables in Grunig's situational theory useful for exploring the communications process are:

Problem recognition--"the extent to which a person recognizes that something is missing or indeterminate in a situation so he stops to think about it."

Constraint recognition--"the extent to which a person perceives constraints that will limit his freedom to construct his own behavior."

Referent criteria--"a guide learned in previous situations which a person can use with discretion in a new one" (p. 24).

Level of involvement--"the extent to which a person perceives a connection with the situation"--will determine how and when a person communicates--with information processing (passive) or information seeking (active) (p. 25).

In his theory, his basic idea is that a person communicates about something when it is problematic. Constraint recognition is the recognition of those elements or situations which might hinder one in his or her freedom to do something about a situation. Referent criteria provide patterns for action, and level of involvement may determine whether a communicator acts actively or passively.

The Grunig theory primarily has been used to predict the communication behavior of audiences in terms of information processing or information seeking. McKenna's (1985) study was the first to investigate the factors for the communications patterns of sources. It is discussed in a previous section.

Grunig's theory and predictive model are based primarily on studies of audiences. He drew his model of the sources and linkers from previous studies. His use of the situational theory has been to depict audiences, primarily for environmental concerns, in an effort to help communicators in planning for those audiences and tailoring messages. However, in medical as well as science coverage, there will be instances in which involvement is high and forced although problem and constraint recognition are high.

Grunig has used the theory and model in a number of studies. He also used the components of the McLeod and Chaffee coorientation model in his studies as he examined the congruency, accuracy, agreement, and understanding between and among actors in a given situation. His 1979 study described numerous investigations using the situational theory and coorientation to study environmental communications.

Grunig's model is designed to provide a look at situations in which the provision of information to the public is desired, not the persuasion of individuals--for science communicators are seen as information translators and providers, not persuaders. Grunig did not mention the role of the persuader in the communication process. Also, he did not consider the fact that active communication may be mandated in a

situation regardless of an individual's constraint recognition or problem recognition. In the Schroeder case, information provision and persuasion are both parts of one message. This study is the first to examine such a combination.

The study uses Grunig's model for science communications and his situational theory of communication as a starting point for the investigation of the communications process in the coverage of the Schroeder implant. When technological innovation enters the picture in a medical situation, both a "technology push and a market pull" may well be present (Roberts, Levy, Finkelstein, Moskowitz, and Sondik, 1981). The market pull--or impetus for market success--may involve persuasive communication. The Schroeder case, as depicted in a model, will apply aspects of Grunig's model but take into consideration that "market pull" and the presence of persuasive communications.

It is best to acknowledge at this point that the term "model" describes reality in a simplified way. As Grunig noted, "All models are false--at least in part--because they cannot represent all of reality" (1984). The model framework in this study only represents key variables for study.

The model has been a useful tool for theory-building and research throughout the history of communications research. It provides a structure for thinking, a place for departure.

Asher (1984) noted that by "constructing a model consisting of a small set of concepts and relationships to represent complex phenomena and by working through the implications of that model, we can gain

understanding of real world processes" (p. 6). Deutsch (1952), in an article on models in social science, defines a model as a structure of symbols and operating rules that are supposed to match relevant points in an existing process, useful because we cannot "directly grasp" the process (p. 357).

Numerous studies have followed the classical models of communication (Schramm, etc.). Johnson and Klare (1961) discussed the activity in construction of models in communications in earlier decades of the discipline.

Asher also noted the usefulness of inductive theory, moving from observation of certain events to "generalization of these dependent phenomena based on observation. Ideally data would be generated using guidelines from prior theory" (p. 6). The inductive theory, as well as retrodution (the interplay of theory and data analysis) is necessary in theory-building and model construction.

Following the development of a model, testing that model or framework usually follows. An example of this is the work of Tichenor, Donohue, and Olien (1973) on the evolution of a structural model of communication based on the Westley-MacClean model. The Westley-MacClean model also features some concepts found later in the Grunig model, including feedback, the concept of coorientation, and an emphasis on linkages between communications components. The Tichenor, Donohue, and Olien report (1973) on their research program based on the Westley-MacClean model described their evolution to a systems and information

control approach. This approach, they said, requires extensive structural analysis of contexts.

Tichenor, Olien, Harrison, and Donohue (1970) stated that messages encoded for, and delivered to, a mass audience may be thought of as results of processes occurring within specified subsystems. They specified a model--or conceptual picture--with a source subsystem, a channel or gatekeeper system, and an audience subsystem. The authors championed a systems perspective of mass communication, as they conceived of a disseminated message as a result of a process, and the system was conceptualized as existing for the purpose of producing such messages.

Grunig's model is an illustration of a systems approach to the communication of science information. It shares some factors with the Tichenor, Olien, Harrison, and Donohue study but adds significant variables found in his situational theory. Both models use the concept of coorientation.

Grunig's model is compatible with general systems theory, where a methodological assumption is a "direct focus on the structure of systems per se, to discover the logics by which they are organized" (Pearce, Cronan, and Harris, 1982).

A systems view can provide a useful perspective. As Ervin Laszlo (1972) said,

it is a mode of organizing existing findings in reference to a concept of systems, systemic properties and relationships. . . . there are certain invariances of organizations . . . the recurrent features of phenomena in a changing environment (pp. 19-23).

Dubin (1969), in an extensive discussion of theory building, emphasized the need for research that provides data for developing more clearly the units of a theory, its laws of interaction, its system states, and the boundaries of a model. This is descriptive work, necessary for good theory and subsequent hypothesis testing, Dubin said. The present study uses a modification of the Grunig model to examine one case in depth and investigate the system in which it occurs.

CHAPTER 3

THE ARTIFICIAL HEART

A 1939 horror film "The Man They Could Not Hang," is prophetic of the artificial heart implants today. The film depicted the actor Boris Karloff as a mad scientist. He sought to develop an artificial heart and tried the heart on a patient, but the experiment was discovered by the police. The police disrupted the operation, the patient died, and Karloff was sentenced to hang for murder.

However, he was "resurrected" by a colleague and after "extreme surgery to correct a broken neck," the doctor, artificial heart intact, was brought back to life and spent the remainder of the film seeking those who condemned him (Boylan, 1969, pp. 104-105). Thus, the idea of a implantable artificial heart entered the popular mind many years before an artificial heart implant was actually done.

The funding of an artificial heart program was preceded by almost a decade of development of artificial replacements for animals by Dr. William Kolff and others. Kolff and Tetsuzo Akutsu experimented as early as 1957 with the implantation of a total artificial heart when they put two pumps in a dog's chest to replace its heart (DeVries and Joyce, 1983). Other methods of cardiac assistance were also being developed at the time. Clifford Kwan-Gett developed several pneumatic hearts. The first clinical use of an artificial heart pump on a temporary basis by Michael DeBakey predated the heart program funding by two years. DeBakey and others at Baylor University in Houston had attached

a temporary pump to rest the heart of a 42-year-old man but the patient died four days later of pneumonia.

The first coverage of the early activities in artificial heart usage came with Debakey's use of the heart as a temporary device in a heart operation in 1965 and Dr. Adrian Kantrowitz's use of a permanent device.

The early artificial devices were not the true artificial heart reported and questioned so extensively today, but rather only partial devices intended to assist the patient. However, this fact did not deter media attention.

Debakey, in particular, was criticized roundly by his peers, when the media descended on Houston, where he operated. He was denounced as a publicity seeker. He answered the criticisms by saying the uproar occurred because the first patient died. His second patient survived with scarce mention in the media (Boylan, pp. 106-107).

In 1969, Denton Cooley implanted a total right and left ventricle prosthesis in a patient who could not be weaned from the cardiopulmonary bypass machine. The prosthesis kept the patient alive for 64 hours before a human heart transplant was found. The transplant functioned for 32 hours before the patient died of pneumonia. Cooley's operation predated similar bridge operations today by more than a decade (Devries and Joyce, 1983).

The artificial heart surgery, or implant of the device, differs from a transplant surgery. In the latter, a donor human heart is

transplanted into the chest of a recipient whose own heart ceased to function.

Media attention did not stop with artificial hearts. Two years later, Christiaan Barnard, a South African surgeon, transplanted the heart of a dead girl into the chest of a man with heart disease. The patient, Louis Washkansky, lived 18 days but the surgery led to other transplants (by other surgeons) over the course of the next few months. Of the five transplants in December 1967 and January 1968, only one patient lived long enough to leave the hospital (Boylan, 1969, p. 75)

The transplants drew media attention. As Boylan (1969) said, "the deed is followed by rhetoric." Among the media making comments on Barnard's exposure to the media was the British magazine Punch, with a "new surgical anthem":

Onward Christiaan Barnard!
Scarcely goes a week
But another surgeon
Copies your technique
Then if his endeavors
Meet with mild success
Copies your technique in
Calling in the Press. (Boylan, 1969, pp. 78-79)

As one critic said, the transplant procedure, and other procedures with "artificial" hearts, were called successes before results were clearly established (Page, 1968). At this time, Barnard's fellow physicians were angry--whether from professional jealousy or dismay--about his appearances on U.S. television, the planned film biography of his life, and his hobnobbing with celebrities (Boylan, 1969).

In 1965, a quarter century later, Congress funded investigation into an actual artificial heart when it appropriated \$14 million for the development of a total replacement for the human heart and established the Artificial Heart-Myocardial Infarction program. The National Institutes of Health was the primary source for expenditures in the development of the artificial heart spending some \$250 million in federal funds for the project (Preston, 1985). However, during the late 1970s, the NIH favored the development of partial hearts, or heart-assist devices, not the total heart tethered to a machine.

One of the missions of the program, as stated by the chief of the artificial heart program in testimony to Congress on the establishing of a committee to study the societal implications of technological progress, was "to mechanically assist or replace the diseased heart in man (1968). Dr. Theodore Cooper estimated at the time that "a minimum of 10,000 Americans, possibly as many as 50,000 to 80,000, could become potential recipients of temporary or permanent cardiac assist devices" (p. 439). His estimate included the use of pacemakers and other devices as well as the total heart. It is worth noting here that Cooper anticipated as early as the mid-1960s the role the press would play:

I do not see that public reports of dramatic scientific advances will create any particular problems. The public now demands this information and is becoming more sophisticated. . . . Certainly it is always a mistake to suppress news.

The press is becoming more responsible in science reporting and there is less over-glamorization of science than there was 10 years ago. There is still room for improvement in both the release of information to the press and in treatment of that information by the press but the trend seems obvious. All in all there is no doubt that censorship always leads to more

serious problems than a straight-forward reporting of the facts however untimely or temporarily embarrassing. (p. 422)

The Artificial Heart Program was established in February 1964. The NIH had forecast that, working within their own laboratories and with contractors, they would have a mechanical device to replace human hearts ravaged by disease ready for clinical testing by 1970. Heart disease was, and is, a major killer, and the development was part of the offensive launched to combat it. The developers hit many obstacles. Eventually, appointed panels reported on the ethical, social, legal, and economic implications of the heart. The first panel published a study in 1973: The Totally Implantable Artificial Heart: Economic, Ethical, Legal, Medical, Psychiatric, and Social Implications. Reports were issued in 1969, 1977, 1980, and 1981. The Working Group on Mechanical Circulatory Devices, a new committee, convened in 1984 (Omenn, 1984) and issued a report in May 1985.

The artificial heart program split into two parts in 1966 with half of the money going to develop "assist devices" and half to the study of heart attacks. Kolff and his group, later to include the inventor of the Jarvik-7 heart, continued work on a total replacement for the ravaged human heart.

Symbion, Inc., of Salt Lake City, Utah, was founded by William Kolff in 1976 with other researchers, including Robert Jarvik. Kolff was the first person to implant successfully an artificial heart in an animal when he replaced a dog's heart at the Cleveland Clinic in 1957. The dog lived an hour and a half. The heart now used in permanent heart

implants is the Jarvik-7, developed by one of the partners in Symbion, Robert Jarvik (Porter, 1985). The first total artificial heart to be implanted into Dr. Barney Clark in 1982 was the result of more than 20 years of research and \$200 million in research funds. Dr. Robert Jarvik made significant design changes in the heart, and it carries his name. Clark died on March 23, 1983, after surviving 112 days with a total artificial heart.

The heart is pneumatically driven. It has two polyurethane ventricles and layers of pliable Biomer. When placed in a patient's chest, it is connected by Dacron vascular prosthetic grafts. In the implant surgery, the patient's heart is excised to expose the openings of the aorta, pulmonary artery, and the atria. The artificial heart is attached by stitching the arteries and the atria to the Dacron cuffs, and the artificial ventricles are snapped into place. The heart is driven by a pneumatic system (now the Utah Drive or the portable Heimes Drive) connected to the patient by drive lines which extend from the heart and out of the left upper abdomen (DeVries and Joyce 1983).

After Barney Clark (1984), edited by Margery Shaw, explores the complex maze of issues surrounding the first implant of a Jarvik-7 with Clark's operation at the University of Utah. The book is the proceedings of a conference held in October of 1983 in Alta, Utah, after Clark's death. The conference explored ethical perspectives; governmental, sociological, and legal issues; relations with the media and the Institutional Review board; and economic, historical, and scientific issues. The resulting book quite literally became required reading for

several members of the Humana public relations team. Of special interest to this study is the section on the relationship with the media.

Dr. Lawrence K. Altman (1984), medical reporter for the New York Times and himself a physician, discussed the issues which arose in the coverage of the first implant. He said the University of Utah failed to anticipate the extent of media coverage:

After all how is it that a medical school can invite the media get the advance publicity it requested from virtually all major American news organizations and then not expect them all to show up when the real event occurs? Journalists are human and are not known for enjoying coitus interruptus. So the attitude of surprise lies somewhere between naivete and incompetence. (pp. 114-115)

Altman's critique of the Barney Clark case is important to the study for several reasons. First, he used the analogies developed for discussions of public information and media coverage. The analogies are used widely, but their usefulness may have suffered in the light of NASA's problems following the Challenger disaster in 1986. Altman described the two approaches: the NASA approach, which meant that an organization provided open information and access, and the Soviet approach, which meant that an organization provided little or no information. In the NASA model, open communication occurs, with announcement in advance of developments and disclosure. In the U.S. space program, the public was able to listen to communications with the astronauts as the officials were hearing them. The Soviet model is closed, with no reporting of problems, only triumphs.

In his critique of the Clark case, Altman said the physicians applied the NASA analogy to their case--meaning that everything was discussed openly--but used the analogy inappropriately. He said the analogy did not hold in the Clark case because the public did not see any aspect of the operation and no scientific papers were issued. Humana's planning was in part a reaction to the complaints about those areas.

Altman questioned the lag in the release of scientific papers on the operation, criticizing the lack of detail provided to reporters. As a physician, Altman steps here into a peculiar "Catch-22" that would recur in the Schroeder case and subsequent cases. The Catch-22 is the "Relman rule." The rule, a policy of the New England Journal of Medicine, holds that papers offered for publication in the professional journal cannot be published if details of the research have been reported in the news media previously.

In the Utah news conferences, Altman said, information was withheld, but doctors and cardiologists said they couldn't discuss the case intelligently without information which was seemingly very slow in publication, or perhaps held up because extensive publicity had occurred.

Altman also questioned the public relations function in the Clark case and points out inconsistencies. Primarily, he was concerned with the possibility that the flaws in the presentation of Clark's case represented deeper problems with the administration and quality of artificial heart research.

Altman also noted the failure of the Utah group to provide the press with adequate information on the historical development of the

artificial heart. He also noted the lack of follow-up information from Utah after Clark's death and the lack of information on the workings of the institutional review board at Utah.

Chase Peterson responded to Altman's criticisms of Utah's efforts in a subsequent chapter of After Barney Clark, saying Utah's efforts were open and extensive and arguing that the university made "good and reasonable" plans for the implant.

An Editor & Publisher column (April, 1984) reported the issues in medical reporting discussed by a panel at a Women in Communications conference in Costa Mesa, California. At the panel discussion, Los Angeles Times medical writer Harry Nelson said the news media are victims of staged events, such as the mechanical heart operation. He predicted that the Humana public relations effort would "backlash" on the hospital when the artificial organ becomes obsolete and is replaced by newer devices. Reporters attending the panel discussion said their audience wanted coverage on the artificial heart. One reporter, Sandi Pavici, said people were "relating to what affected them personally" when they read coverage on the heart.

An article in Heartbeat (1984), the National Press Photographers Association's publication for Region 4, discussed the role of the Humana team's photographer, William Strode, in the operation.

Strode handled the majority of the photography for the operation, an arrangement that allowed Humana to control access to photographs.

The article discussed the issue of privacy as it relates to photographs, and detailed how decisions were made as to which photographs would be used.

A primary issue was raised in the article that would later concern for many of the operation's critics--how open will Humana continue to be with negative news? In the case of Schroeder's first stroke, Strode was on the scene the next morning. However, the situation deteriorated and Strode later left the Humana job.

In an article in New Republic, Robert Bazell (1985), the NBC correspondent covering the Schroeder implant, related his experiences in covering the implantation of a baboon heart into "Baby Fae" and contrasted the actions of Loma Linda University with those of Humana.

Bazell said that Loma Linda was unprepared for the news media and made major errors, while Humana prepared, as he said, "a public relations operation to match any I've ever seen." He detailed the actions of the company and the reasons David Jones, corporate chairman of Humana, Inc., gave for the company's participation in the heart project.

Bazell noted that the information was always presented in the best possible light for Humana, and that, while the staff never lied (to his knowledge) they continued to put out "continuing progress" reports when Schroeder had extensive neurological damage. In addition he noted that Humana physicians were given training in handling tough interviews in the most optimistic way.

Bazell ended his article by summing up his view on coverage of the heart:

Exotic medical procedures certainly make compelling news stories, and for a time they can elevate unknown medical institutions such as Loma Linda from obscurity. The trouble is they are indeed experimental, and often they do not work. In the end, they run the risk of attracting considerably more bad publicity than good. Despite hopes to the contrary, it takes more than one operation to make any medical establishment "number one."

CHAPTER 4

METHOD

Lowery (1979) studied the state of communications research in the decade of the seventies and found the field suffering from "tunnel vision," emphasizing only a few methods for research most cross-sectional at one point in time. He called for application of Eugene Webb's (1966) advice to use multiple methods or strategies in research. This study applies that advice and examines the Schroeder case using historiography and content analysis and all other available avenues for research.

The study focuses on the public relations activities and news coverage of the case. It analyzes the actual content of selected print coverage and national network broadcast coverage by qualitative and quantitative methods. It incorporates a discussion of the communications activities of the public relations personnel who served as liaison to the media and activities of reporters. The study also maps those activities in the Grunig science communication model.

The study uses a method similar to that used by Michael Robinson and Margaret Sheehan in their study of CBS and UPI coverage in the 1980 campaign. The Robinson-Sheehan study used content analysis as well as interviewing to determine the content, process, and performance of campaign news coverage. The study provided one of the most complete examinations of the 1980 campaign. Nimmo and Comb's (1984) study of crisis coverage on the network news used content analysis and dramatistic analysis to determine the varying manifest and dramatistic content of crisis

stories. This study follows in the same tradition, applying a number of techniques to provide a much-needed examination of a medical reporting situation.

Interviews with Key Personnel

One portion of the study explores the activities and actions/reactions of the principal personnel. As Burke (1966) noted, human communication is based on symbolic action. For Burke, life is "a series of unfolding dramas" (Nimmo, 1984). An investigation of the roles, perceptions, and situational perspectives for the key players in the drama in which Schroeder was a central figure, provides a basis of analysis in relation to the manifest content of the coverage.

Steven R. Brown (1974) has noted that, with intensive analysis and interviewing, one can study a small group of people for the purpose of revealing the more subtle aspects of behavior of which the typology of response--if statistically represented--"may only be a consequence" (p. 3). As Brown said, intensive methods don't necessarily count things, but, instead, are best equipped to determine which things are worth counting in the first place" (p. 15).

This study used interviews with primary sources to determine the recent history of the event. The interviews were structured and varied from two to five hours in length. Findings are discussed in subsequent chapters. Questions asked of or about sources included:

1. What was your role in the case?
2. What are the major issues in the case?

3. Did you see other coverage on the implant?
4. What were your perceptions of the accuracy of the coverage?
5. What were your perceptions about the theme of the coverage?
Your feelings about it?
6. Do you think the stories were balanced? Why or why not?
7. Do you perceive that the news stories talked about things better left unsaid about personal life? Please elaborate.
8. What did you perceive as the problem in the case? (What is indeterminate in the situation?)
9. Did you feel that you had any constraints placed on your actions? What were they?
10. What references from past events did you use to inform your actions in the case?
11. How involved were you in the case?

Interviewees were contacted by letter and by telephone. Interviews were held with three of the key players in the case at Humana, Inc., and with one reporter. Audiotapes were made for use in compiling the narrative portion of the study. The key people not interviewed in person were sent a questionnaire. The questionnaire (see Appendix) contained the questions previously noted and asked for additional comments. Two reporters responded to the questionnaire. Two others, contacted several times with copies of the questionnaire and a follow-up letter, did not respond. However, their response to the Schroeder situation or the artificial heart implant in general is taken from articles they have

previously published. The study used all available resources to ascertain the views of participants.

Content Analysis

The content analysis of the Schroeder case is an analysis of all relevant newspaper content of the Louisville Courier-Journal and The New York Times and all evening news segments on the topic broadcast by ABC, CBS, and NBC from November 26, 1984 (the date of Schroeder's operation), to April 7, 1985 (the date he left Humana Hospital Audubon and moved for the first time to an apartment across from the hospital).

A census of information of selected media was chosen because the nature of the event caused rapid changes in the coverage. Any observed differences are actual, not a result of statistical analysis. In addition to the changing nature of the coverage from day to day which led to the use of a census instead of a sample, the nature of the story led to the choice of detailed units of analysis.

The media analyzed include (1) the three television networks--ABC, CBS, NBC, (2) a major elite paper, The New York Times, and (3) the major state paper in Kentucky, The Louisville Courier-Journal. The three networks were chosen because most of the audience would obtain their initial information on the Schroeder implant from television news reports. The coverage also is available on videotape for analysis.

The network coverage was obtained from the Vanderbilt Television Archives at Vanderbilt University in Nashville, Tennessee. The index to the archives was searched for the previously identified months and

3/4 inch videotapes were compiled for study. The network coverage studied consisted of all news clips dealing with the artificial heart or William Schroeder during the designated time period. Because of the limitations of the Vanderbilt Archives footage was compiled only for the 6:30 p.m. network news shows on the days available.

The two newspapers were chosen to represent a local view and a national, elite view of the same event. In interviews for the study, reporters said they read two papers--The Courier-Journal and The New York Times.

Coding forms were developed and pretested for coding of both the print and broadcast data. The broadcast form used the same categories as the print form, but allowed for additional categories of visual analysis. A print form allowed for longer stories given the technological capacities of the print medium. The forms are contained in the Appendix.

In addition to the coding form, a coding guidebook with areas for story placement (print only), entire story type, and content by paragraph (print) or report (broadcast), as well as source (print), news-gathering style and visual mode (broadcast), was developed. It was pretested and amended after pretesting. Categories were verbally discussed and delineated by coders before coding began.

The content analysis form used several categories which should be briefly elaborated. Placement for the print media was on the basis of front page, section page one, or other page location. The content

categories are self-explanatory, with the exception of the following categories which were discussed at length before coding began:

1. Schroeder background--details of the patient's life and work prior to implant.
2. Operation details--specific details of the November 25 procedure.
3. Treatment details--what was done to the patient by physicians.
4. Condition details--how the patient made progress from day to day.

Other areas which bear explanation include "Schroeder activity"--his therapeutic or other activities, the "artificial heart" category for statements about the program as a whole, and the "heart, general" category for coding all references to the heart and heart disease in general.

Source category codings include one for "doctors," one for "specific doctors," and others for doctors noted frequently in the coverage (DeVries, etc.). The coders' instructions were that the categories were not overlapping. That is, a source coding for DeVries appeared only under "DeVries," while a reference such as "doctors said" was coded for that general referent and "specific doctors" used only for a physician's name not occurring regularly.

The categories for story type followed Theberge (1979) and Nimmo and Combs (1985). Stories were categorized as:

- (1) News: the factual what, where, who, when, and why
- (2) Peripheral: information or background not required to understand the event

- (3) Perspective: information or background aiding understanding (Nimmo and Combs, 1985, pp. 24-25)

or as editorial or a combination of the categories listed above.

Stories and broadcast reports were coded by two female, college-educated coders as suggested by Haskins, Miller, and Quarles (1985). In a study using a quota sample of coders and a study of the good news-bad news dimension of content in news headlines, the authors found that such coders obtained higher reliability scores.

Following Nimmo (1985), the broadcast content was coded using reports, consisting of a "single presentation within the framework of a larger reported story" (p. 22). For instance, broadcast stories on the heart were announced by a news anchor, but within the stories would be found segments, or reports, by three or four reporters. On the eve of Schroeder's operation, one lead story contained reports on his condition, on DeVries' preparations, on the Schroeder family and on neighbors in Jasper, Indiana.

The unit of choice for analysis for the print media was the paragraph, because numerous issues could be discussed within the boundaries of one print story. However, print stories were also coded by entire story for comparison.

The print coverage was obtained by microfilming the census of stories concerning any aspect of the artificial heart appearing within the time frame chosen. Each newspaper was examined page by page for articles. Microfilm prints were obtained from the University of Tennessee library, through Interlibrary Loan at the University, from the

University of Kentucky M. I. King Library, and from the Louisville Public Library in Louisville, Kentucky. The microfilm prints were then read and coded by each coder using the form and coding categories.

The reliability measure used to determine the level of agreement between two coders in coding the print and broadcast content was Scott's π , the statistic of choice for nominal data. Scott (1955) developed an index which reports the agreement between or among coders, taking into account the number of categories, the frequency with which each category is used, and the amount of chance agreement that might occur. The index ranges from 0.0 to 1.0.

$$\text{Scott's formula} = \frac{P_o - P_e}{1 - P_e},$$

where the expected agreement is the sum of the squared proportions over all categories, and assuming the two coders' probabilities of using any one of the categories are equal.

A computer program was written for establishing the intercoder reliability for the nominal data obtained in the content analysis using Scott's π for nominal scale coding (Krippendorff, 1980).

The results of the analysis are reported in subsequent chapters. A packaged program, SPSS-X, was used in the analysis of the data. The data, primarily nominal in character, is analyzed descriptively. Any significant factors between newspapers or among network reports are reported. It should be noted here that while the data analyzed is a census of a certain time period within the case it is by no means all of the

CHAPTER 5

HUMANA, INC., AND A HEART IMPLANT

Humana, Inc., the driving corporate force at the center of the artificial heart implant drama in Louisville, grew from the discussions two young lawyers had with their golfing partners in early 1961.

A year later, Wendell Jones and David Cherry, attorneys with Wyatt, Grafton, and Sloss in Louisville, had become partners with realtors Charles Weisberg and Lewis Bass in a nursing home, Heritage House of America. The builders of the home also owned an interest.

Heritage House was the first nursing home in a chain of the eventual 42 known as Extendicare, Inc. The first nursing home venture eventually led to a corporation that is now one of America's 500 largest companies (Luecke, May 5, 1985).

The chain of events which led to Humana, Inc., is well-documented in a Louisville Courier-Journal series in May of 1985. The newspaper's medical reporter, Mike King, and business reporter, Pam Luecke, detailed the series of events that led to today's Humana. They chronicled the growth of the corporation that began as the nursing home chain was sold, a series of hospitals bought, and a name changed. The series painted "A Portrait of Power" as it looked at Humana's extensive impact on the investor-owned industry and at its existence as a dominant force in the Louisville banking, arts, and health communities.

King and Luecke described the series of corporate moves that led to Humana's taking over American Medicorp of Pennsylvania and its attempt

at another hostile takeover which failed. The company has not made "a significant acquisition of hospitals" since it took over American Mediacorp. As of July 1986, it owns 87 hospitals. It has, however, become a pacesetter in the for-profit health care industry as it has branched out into complementary fields: insurance, home health care, health care products, and free-standing doctors' offices.

Humana's early decision to explore alternatives to the standard hospital business was one Jones and Cherry discussed in the 1985 annual report:

The world is turning, the system is evolving and those who do tomorrow what they did yesterday are likely to be caught short. That was the message of Humana's 1981 annual report, which explained the need to explore alternatives in health care delivery at a time when the hospital business was thriving.

Now four years later we are in a period of unprecedented change. The early recognition of the need to change has given Humana an unparalleled opportunity for market leadership. (Humana, pp. 2-4)

The corporation's philosophy of change was borne out in Humana Care Plus (health care plans), Humana Medfirst (currently 148 freestanding medical centers, where physicians own the practice but contract with the corporation for ancillary services) and a brand-name strategy for their hospitals. The strategy assured that each Humana hospital would be identified as such in the hospital name. As the 1985 report said, "When fiscal 1985 began, we were still known primarily as a hospital company. When it ended, we had achieved recognition as an integrated system of health care services and Humana had become a national brand name" (p. 5).

The brand-name strategy, and Humana's recognition of the changing nature of the American health care system, were moving forces in the corporation's decision to become involved in clinical medical research, another unusual move for a for-profit concern primarily associated with standard health care delivery. The brand name strategy, the move to research, and Humana's innovations are threads woven throughout the story of the artificial heart in Louisville.

The Beginnings: An Interest in the Artificial Heart

Humana's initial interest in the artificial heart began with a million dollar investment in 1982. The senior vice-president suggested that Humana invest in a company called Kolff Medical, located in Salt Lake City. Kolff Medical is the company now known as Symbion, Inc., manufacturers of the artificial heart. The Hospital Corporation of America also invested \$1 million in the company. Bill Ballard, a senior financial officer at Humana, joined the Kolff board at that time (Irvine, 1986).

At the time, the "product" Kolff Medical then offered was a training program on the artificial heart implant. Concurrent with the investment, Humana was also negotiating with Allan Lansing, probably the best-known cardiologist in Louisville, to leave the Jewish Hospital there and join the Humana Audubon staff. Humana offered to have Lansing trained as an artificial heart surgeon. Lansing subsequently left Jewish for Humana and became the medical director of the Humana Heart Institute International. He went to Salt Lake City and trained as an

artificial heart surgeon once each month. His instructor was William DeVries.

By 1983, Humana's former public relations director Robert Irvine said, the rumor was "the next artificial heart will be done in Louisville and Lansing is doing it."

But that was not to be the course of events. Allan Lansing and William DeVries got to know each other. DeVries was invited to Lansing's home in Louisville, and at some point, the possibility of DeVries working at Humana arose. "David and Wendell are opportunists, looking for a niche. They knew DeVries was having a tough time in Utah," Irvine said. What began as a discussion between two physicians exploring opportunities for practicing together led to two weeks of serious discussions between Symbion and Humana. At the time, DeVries was in the process of leaving the Symbion board because of charges of conflict of interest.

"At one point, Jones asked DeVries, 'How many cases will it take for you to know if the heart works?'. DeVries said 25, maybe 35. Jones shot back, we'll underwrite 100," Irvine said.

Negotiations continued. Key executive from Symbion and Humana held talks on a sealed-off floor at the Hyatt in Louisville. Irvine recalled that Robert Jarvik, inventor of the Jarvik-7 and president of Symbion, wanted to interview him and called him to the Hyatt for an early morning meeting.

Irvine recalled his reaction to Jarvik: "The thing that was so obvious so quickly was that Jarvik knew more than most public relations

people about the media. . . . He was a media-wise physician" (Irvine, May 5, 1986). Irvine took Jarvik and his entourage to Humana Hospital Audubon for what was Jarvik's first look at the for-profit hospital. He later took them to the Louisville airport. The Symbion group then flew to Houston to tell Michael DeBakey that DeVries had decided to go to Louisville, not Houston, Irvine added.

Irvine's interview and the subsequent inclusion of a Humana corporate public relations staff member on the flight to Houston marked the concrete beginning of the public relation staff's role in the artificial heart implants at Louisville. Linda Broadus joined the Symbion group to "get their input on answers to questions about the artificial heart, fly back and give the staff an update" (Irvine, 1986).

DeVries Announces a Change

The formal beginning of Humana's involvement in artificial heart research came in the form of a press conference held Monday, July 31, in the lobby of Humana Hospital-Audubon. In that conference, DeVries announced that he was moving from Salt Lake City to Louisville to work with a cardiovascular team, headed by Allan Lansing, at the Humana Heart Institute International.

As a subsequent Humana document prepared for the Silver Anvil competition sponsored by the Public Relations Society of America said:

Humana knew the public relations implications of Dr. DeVries' decision would be immediate and immense. Dr. Barney Clark was the subject of worldwide media attention for 112 days. Everyone involved in the artificial heart program knew that media

interest would continue with the next patient and on into the future.

The first indication of media interest came within minutes after the press release announcing Dr. DeVries' decision was distributed on July 31st. The Humana Hospital-Audubon switchboard was jammed with media calls even though a different phone contact number had been used. Every phone in the Humana public affairs department began ringing. The volume of calls required seven hours to return.

Dr. DeVries' press briefing in the hospital lobby the next morning was packed with members of the media who had travelled overnight from as far away as Salt Lake City and New York to ask questions. Shortly after the press conference Dr. DeVries told Robert B. Irvine, director of public relations for Humana. "You have no idea what you and I are now involved in. The public relations for the artificial heart will be as important as the surgery itself, in some respects." (The first artificial heart, 1985, pp. 1-2).

The Role of Public Relations

DeVries' announcement and Humana's support of the artificial heart project led to more than a year of high involvement for the corporate and hospital public relations personnel. As the Silver Anvil document points out, the decision gave Humana the opportunity to "identify Humana in the public mind with international prominence in medicine." The decision also dovetailed nicely with the corporation's just-completed brand name strategy plan. Under that plan, two-thirds completed at the time of the announcement, hospitals had been renamed to include the company name. The brand-name plan itself had met with some opposition (Irvine, 1986).

The current study investigates the role of public relations in the first artificial heart implant in Louisville by detailing the activities

that took place and by describing situational communication factors for some of the key players within Humana and in the media.

The composition of the Humana public relations team during the Schroeder implant would change because of corporate restructuring. However, several key personnel played roles. Robert B. Irvine joined Humana in 1982. He had previously worked with Richardson-Vicks, Commercial Credit, and SmithKline Beckman. He also brought a background as a systems analyst to the team.

Linda Broadus, a public relations manager on the corporate staff, had a background in television production. She became involved in the project with the initial flight with the Symbion team to Houston and would be a key staff member in the preparation of audiovisual materials.

George Atkins joined the team as Director of Public Affairs in the fall. He joined Humana in 1984 to oversee legislative affairs. He previously served as Secretary of Finance and Secretary of the Cabinet to Kentucky Governor John Y. Brown.

Tom Noland joined the corporate public relations staff in late 1984. A former reporter working in Paris, Noland was not present for the research and planning stages of the first implant at Humana. He joined the team during the Schroeder implant and handled much of the information provision to media outlets internationally.

Donna Baker Hazle, the public relations director at Humana Hospital-Audubon, came to the project with a background in marketing and in teaching. She joined the hospital staff six months prior to the Schroeder implant. Hazle worked with the corporate public relations

staff as an observer during the initial implant at Audubon and assumed more duties as the two subsequent implants were done.

The First Step: Research

The role of public relations in the coverage of the artificial heart implant began with DeVrie's announcement and activities in the first stage of a four-step public relations process as defined by Cutlip, Center, and Broom (1985) in the sixth edition of Effective Public Relations. The four steps are: (1) defining public relations problems--research or situation analysis, (2) planning and programming --strategy, (3) taking action and communicating--implementation and (4) evaluating--assessment.

The members of the corporate and hospital public relations staff immediately began preparing for media interest in the artificial heart by acquiring as much information as possible on the artificial heart to date. They guessed they would have about six months to finish research and planning before DeVries obtained Food and Drug Administration approval to do implants at Humana.

Within 24 hours of DeVries' announcement, Irvine accompanied DeVries to Salt Lake City. During the plane trip, he talked with DeVries and Larry Hastings, technical director for the artificial heart program. "Their war stories scared me," Irvine recalled. "DeVries had his tires slashed, his office burglarized . . . things unheard of to my background in public relations." The possibility that such events could occur in Louisville gave the Humana team pause. For example, they

planned for family photographs of the Schroeders (the Clark home was broken into by parties seeking family photographs) and hired extra security personnel. Threats to DeVries, and a bomb found in a car in the Humana-Audubon parking garage, were downplayed during the Schroeder implant. Hazle said everything that came into the hospital for the Schroeders was thoroughly investigated before being given to them (Hazle, April 29, 1986).

While he was in Salt Lake City, Irvine toured Symbion and met key officials. He received an orientation on the technology and terminology of the artificial heart and saw an artificial heart implanted in a calf. He met with John Dwan, the University of Utah's director of development and community relations, and discussed all points of the media relations before and after Barney Clark's surgery. He toured the medical center and saw Clark's room, the cafeteria which served as a media center and the parking areas where media vehicles had created problems.

Irvine discussed every detail with Dwan--spokesmen, briefings, background materials, parking, food, work areas, phones, security, photo labs, and briefings (The first artificial heart, 1985).

Irvine also met with Jarvik and Symbion Executive Vice-President William Moeller to talk about the "medical, ethical, and legal issues" discussed after Barney Clark's death. The two stressed the needs for better background information and media management.

The impact of the events to come was apparent to Irvine his second night in Salt Lake City, when a McNeil-Lehrer satellite report featured

Robert Jarvik arguing the ethical and economic issues with Arthur Caplan, an ethicist from The Hastings Institute (Irvine, May 5, 1986).

Irvine's initial trip provided information on communications needs. From the information, several needs were noted. He noted several items, later recalled in the 1985 Humana Silver Anvil documentation.

They included the needs to:

- assign responsibilities early on
- develop background materials
- establish media guidelines and policies
- develop broadcast-quality video on the heart
- conduct a "dry run"
- develop a position paper to address the issues

This stage of the research was the major driving force for the many preparations Humana made for the first Louisville implant. Irvine later made two more trips to Utah. However, the corporate staff undertook several other research activities.

Humana commissioned Hill and Knowlton in New York City to interview key media personnel who had participated in coverage of the Clark case about "what they liked and didn't like and any suggestions for the next artificial heart." The public relations firm also pulled together key people in health care for a one-day meeting later in the planning stages where they "second-guessed" Humana on the preparations to date (Irvine, May 5, 1986).

The survey Humana commissioned provided an insight into what some of the key reporters thought:

They seemed to think some space, some food and a phone fulfilled their obligations. In this instance, science, medicine and public relations were intertwined. Nobody thought through the permutations.

. . . the media need controlled access to people who can provide information. . . . access to the family is crucial . . . with Barney Clark it became an issue of checkbook journalism.

The added responsibility of being in the corporate sector is great--they'll have to be even more forthcoming with data than a university might be otherwise. They'll be vulnerable to criticism simply because of the environment surrounding them. The institutional review board issue is already a strike against them. (Irvine, May 5, 1986)

The proprietary survey provided other comments. As Irvine said, "We learned a lot from them and paid attention to them."

The corporate public relations staff also conducted a NEXIS computer database search to identify how many articles had been written, by whom, and with what emphasis. "That's where Larry Altman popped up in a hurry," Irvine said. Dr. Lawrence Altman, medical reporter for The New York Times and a physician, had covered the artificial heart program in depth. As Irvine said, "Altman is by far the most knowledgeable reporter alive about the artificial heart" (Irvine, May 5, 1986).

Planning

Planning began when Irvine returned from Utah in August although research continued through the early fall. In the Grunig science communication model, administrative personnel play a role in the communications process. In the Schroeder case, the corporation's top officials were involved as they approved Irvine's initial two and one-half page memorandum of plans, talked with corporate and hospital PR staff

members, and made themselves available for interviews during the initial weeks following the Schroeder surgery. However, the two were not involved on a daily basis.

Irvine submitted his planning memorandum to Ballard, the chief financial officer, who "took the memo down the hall to Jones and Cherry" and got it approved. A preliminary amount of \$125,000 was allocated from the public relations budget for the fiscal year and planning began.

During this phase of the preparation, the department outlined what activities would be done as a result of the research. The company's public relations goal was "to provide the media with all the information and visual materials needed to cover the artificial heart program." Specific goals, stated in the company's 1985 Silver Anvil documentation, included:

- (1) Accurate media coverage of the artificial heart program and favorable awareness of the Humana Heart Institute, Humana Hospital-Audubon and Humana, Inc.
- (2) Management of the media's activities to minimize disruption of the hospital's patient care activities and physician relations
- (3) Dissemination of the artificial heart program information throughout Humana's hospitals to build a sense of pride and involvement among employees and staff physicians; and
- (4) Increased physician referrals from positioning the Institute and Hospital at the forefront in providing high-quality medical care. (The first artificial heart, 1985, p. 6.)

The public relations staff had approximately three months to prepare to meet these objectives. During those months, a number of activities took place.

Preparation for an Implant

The three month timetable was based on discussions with Humana Heart Institute surgeons. Preparations during that time period by the staff included the development of a briefing book and video coverage, the hiring of a photographer, and the development of a public relations protocol. In addition, the staff wrestled with the numerous small details of readying a hospital for extensive media coverage (Irvine, May 5, 1986).

The protocol provided a step-by-step delineation of responsibilities for the media relations surrounding the first artificial heart implant at Humana, specifying who would talk with media representatives in which circumstances. It detailed the sequence of events if patient problems occurred, described the policy for interviews and related specifics on the distribution of photographs and video footage. As well, it detailed the optimum communications plan for coverage (Humana Heart Institute, 1984).

In retrospect, the protocol was an essential document for the public relations staff and the physicians and administrators involved in media relations. However, it was not the first development in the planning process. "The protocol was not put out until later. It was a defensive move," said Irvine. He said the establishment of a protocol, even late in the game (October), provided a "this is it, here's what's going to happen" approach, countering any interference that had arisen because of the lack of clarity in job roles.

From the beginning, the department worked on the established timetable for the protocol, plan "A." However, it also developed a contingency plan--plan "B" for implementation if the implant occurred early.

Taking Care of Details

Taking care of business in the preparation of information for the first implant at Humana meant taking care of a multitude of details. Irvine transferred from corporate headquarters to Humana-Audubon to better coordinate efforts. Donna Hazle worked with him, but also had to take care of the many other public relations activities still continuing at the hospital. During this time, communications were established with the FDA's public information director for medical devices. The FDA also received any Humana mailings and any news clips on the artificial heart program.

A heart transplant was done at Humana Hospital-Audubon in August 1984 without information to the media (at the transplant physicians' requests) and the resulting problems, as well as Irvine's trip to Utah, convinced the team that openness with the media was the only policy choice they had (Hazel, April 29, 1985).

A Place for Briefings

The public relations staff had to prepare the hospital for an influx of reporters and technicians. From DeVries' press conference in July, it was apparent that the hospital had no area large enough to accommodate them. Reporters had jammed the lobby of the hospital to hear

DeVries, blocking the main entrance. Other arrangements had to be made (Hazle, April 29, 1986).

An empty space, slated to be an endoscopy suite, was redesigned into a briefing room. Staff members were active in the planning of the room, assuring that instead of the "spaghetti" of microphones on the podium, there would be a simple mix box for duping audio and video by simultaneous feed. The room was built with microphone plugs in the walls for radio reporters and sufficient power outlets. There was an outside entrance from the parking lot so reporters wouldn't have to enter through the main lobby. The room accommodated 75 chairs and 16 tripods. A small room with telephone banks was located off the main room (Irvine, May 5, 1986).

When a "dry run" was held November 18 for reporters interested in the implant, it became apparent that even the new space would not accommodate the number of reporters interested in the story. During the week before the implant, staff members had to move the briefing center to the Convention Center downtown, undoing the arrangements made at Humana and setting them up again downtown (Hazle, April 29, 1986).

The Book

The briefing book developed for the media by the public relations staff became the "critical path" in the media preparation for the artificial heart. Writing the "book" became a major undertaking for the staff members during September and October. The time problem was complicated by a corporate restructuring occurring during the fall.

The book, a three-ring binder, contained fact sheets on the artificial heart program, the key participants and the key institutions involved. It also contained a copy of the patient consent form and fact sheets on many aspects of the artificial heart program. Specifically, it contained:

- Biographies
- Background information on Humana, Inc.
- Information on Humana-Audubon and the Humana Heart Institute International
- Information on heart disease
- A look at the protocol review and selection process
- the consent form
- fact sheets on Symbion, the UTAHDRIVE and the HEIMES heart driver
- a description of the evolution of the artificial heart and a glossary of terms
- media guidelines (Humana Heart Institute, 1984)

During the writing of the book, public relations staff members assumed an internal "science writer" role in the Grunig model, putting in many hours in the library of a nearby medical school. After several drafts of the contents were written and a final document readied and printed, the staff members spent a weekend in mid-November assembling the 62 pages of contents.

Members of the media differed in their reaction to the "book." Irvine described the department's motivation in putting together the briefing document:

What we had from our first meeting was a mythical TV crew from Dubuque, coming in to cover the first artificial heart guy. People aren't going to know the first thing about an artificial heart . . . we tried to anticipate as much as we could of their information needs, with the knowledge that later we would be buried by other things and have less time to spend backgrounding. (Irvine, May 5, 1986)

The local AP bureau chief, Ed Staats, said a reporter could write stories from the book alone. He later told Irvine, however, that the book was a problem because reporters didn't dig as much. Other reporters, Irvine said, viewed the book as a godsend because they would be writing a story late at night and couldn't remember something and could turn to the book as a reference piece.

Irvine said he felt the book cut down on inaccuracies during the course of reporting on the implant. His staff dealt with only two or three problems, and those came from rewrites, he said. However, the use of the book differed with the level of reporter. Irvine stressed that the book wasn't designed for Altman or other members of the "Barney Clark Alumni Club"--those reporters who had followed the story over the years or who had covered the Barney Clark implant in Salt Lake City.

"The book was for the reporters from Evansville, overseas, from Jasper, Indiana, . . . and those guys would say thanks," Irvine said.

Getting the Pictures

One of the public relations objectives developed after the intense analysis of the Barney Clark coverage situation was that of providing

the media with visual coverage. Reporters were dissatisfied with the coverage on Barney Clark and specifically complained about video coverage of the operation itself. Still photography of the implant was vital, and the Humana staff realized they needed to provide a system to distribute photographs.

Linda Broadus of the corporate staff oversaw the selection of a video crew and the development of video footage on the artificial heart. MedStar, a firm specializing in medical photography, was chosen for the assignment. Broadus made an initial trip to Salt Lake City to scout video production opportunities and another trip to run interference for the MedStar crew as they filmed.

Humana chose to provide broadcast quality footage to reduce disruptions at the hospital by filming crews and to be equitable to all media groups (The first artificial heart, 1985).

Vignettes were developed and distributed via satellite. The vignettes provided footage on (The first artificial heart, 1985):

- The Artificial Heart
- History and Future of the Artificial Heart
- Support Equipment and the Quality of Life
- Trends in Cardiovascular Surgery
- The Humana Heart Institute International
- Symbion Training Program
- The Surgical Team

The video segments were produced in October. The group also filmed DeVries performing an artificial heart implant on a calf. As Irvine said, it was hard news footage, something a station would want.

Still photography was another challenge. Humana had to work out a system that provided the media with photos but did not disrupt patient care. William Strode, a freelancer who had worked with Black Star, was chosen as the Humana photographer.

The public relations protocol described earlier relates the details of the photography distribution system, as does Strode's article cited earlier in this study. Plans were made to process photographs immediately after the implant surgery and to distribute copies of each photograph to the wire services, the Louisville Courier-Journal/Louisville Times, and specified others (The first artificial heart, 1985).

The Planning Continues

Humana took other steps prior to the November implant to ascertain the level of interest in the artificial heart implant and implement other aspects of necessary planning.

The staff sent a letter in August to local and national media to determine who would be sending reporters to Louisville when an implant occurred. A response card attached to the letter assured that those responding would be placed on a media list. The list was later used to alert the media about Schroeder's implant (Hazle, April 29, 1986).

Other steps Humana took included a one-day critique of planning to date and discussion of ethical issues. In addition, key members of the

staff and the medical spokesmen participated in one day of confrontation training with Ammerman Enterprises (The first artificial heart, 1985).

The hospital's planning goals included the selection of spokesmen and the use of "dry runs" to prepare for the actual implant. Dr. Allan Lansing was appointed as medical spokesperson. Irvine said, "Allan was a natural choice. He was head of the Heart Institute, a good counterpart to Chase Peterson (at Utah), a cardiovascular surgeon and articulate, personable and good-looking" (Irvine, May 5, 1986). DeVries and attending physicians would speak as needed from the medical side. The public relations spokespersons appointed were Irvine and George Atkins.

The hospital used "dry runs" extensively in anticipation of the actual implant. The video crew and still photographer had numerous practice sessions in the operating room, learning how to cope with the sterile field surrounding the operating table and choreographing the delicate interchange of opportunities between the still and video photographers (Irvine, May 5, 1985).

For the Humana public relations department, the media briefing on the artificial heart was a dry run. The FDA approved Humana on November 8 as a site for artificial heart clinical investigation and screening of patients began. This approval triggered the final stages of planning. A media briefing on the heart was scheduled for November 19 (The first artificial heart, 1985).

The "dry run" media briefing immediately showed that the briefing room was too small to accommodate everyone who was interested in

covering the artificial heart. More than 135 media personnel jammed a room designed for 75 to 100.

At the briefing, reporters questioned Dr. Robert Jarvik, Dr. Peter Heimes, and Drs. Lansing and DeVries. After the briefing, the need for an alternate site led to the choice of the Commonwealth Convention Center in downtown Louisville. A contract was signed on November 21 for use of space in the center, and all support systems for the media were moved between that time and November 25. As Humana's Silver Anvil document details, South Central Bell worked through the night to install telephones. Consultants set up a sound and light system in eight hours. From Friday, when the news was released announcing the selection of Schroeder for the implant, until the surgery Sunday, media crews from the three major networks, CNN and local affiliates set up editing facilities and sets (Hazle, April 29, 1986).

The Consent

When Schroeder was chosen to receive the second artificial heart implant, he signed (twice in 24 hours) a lengthy consent form. Item 13.0 in the form was pertinent to the media activity that began on November 25, 1984:

I am fully aware of the considerable public interest anticipated in my story as a recipient of a Total Artificial Heart. I am also aware that Humana-Hospital Audubon has an obligation to disseminate medical information concerning my hospital course as deemed appropriate in the judgment of my physician. In addition to those materials identified in paragraph 12 [those for scientific teaching], the Humana Hospital-Audubon, as approved by my physician, is authorized to make, or permit to be made, photographs, slides, films, video tapes, recordings, or other means of recording and/or communicating

hereinafter referred to as the "material(s)," that may be used in newspaper, magazine articles, television, radio broadcasts, movies or any other media or means of dissemination. I consent to the use of my name, likeness or voice for such purposes and I release the Humana Heart Institute, Humana-Hospital Audubon, their officers, agents, and employees from all claims of liability with respect to the showing, use or dissemination of such material(s). I understand that the materials which are made public, as described in this paragraph, will protect my modesty and be within generally accepted bounds of good taste. (DeVries and Symbion, 1983, p. 5)

Implementing the Plan

The notice that William Schroeder would receive his artificial heart on Sunday, November 25, 1984, brought staff members back from Thanksgiving holidays across the state and the south. Preparations for what Irvine called a "media onslaught" (his book by that same name will be published in late 1986) began about 12 hours before surgery.

Representatives came from Newsday, Newsweek, The National Enquirer, People, Time, USA Today, and from 30 newspapers, including The New York Times, the Los Angeles Times, The Philadelphia Inquirer, The Washington Post, both Chicago newspapers, and a number of other larger newspapers. Reuters, United Press International, and Associated Press sent managers and correspondents. Internationally, the Asahi Shimbun and the Yomuiiri Shimbun, Der Spiegel, Excelsior (Mexico), MaClean's, Quick, and the Kyodo news service sent reporters to Louisville. The three major television networks, CNN, INN (the Independent News Network), Good Morning America and MacNeil/Lehrer were on site. Twenty-three local/regional television stations sent crews, and Globo TV Network Brazil also

reported from Louisville. Radio correspondents came to the event from ABC and NBC radio news, AP and UPI radio, and from local and regional stations.

The staff registered about 200 media people at the convention center. Housing problems arose because a large trade show was already in town, but the mayor's office helped.

The briefing area at the convention center was open 18 hours a day from that Saturday until a few days before Schroeder's first stroke in December. The entire PR staff, plus alumni and secretaries, worked 12- to 16-hour days the first few days and then a schedule was established.

A briefing was held on Saturday night at 9 p.m. Dr. Lansing provided information on the surgery and Atkins followed with guidelines for the media. Atkins assumed overall responsibility for the artificial heart PR effort a month before, while Irvine directed the day-to-day media operations (The first artificial, 1985).

Donna Hazle described the feeling that went through the hospital as Schroeder went to surgery on Sunday morning:

There was a silence that came over this hospital at about six o'clock in the morning. Everybody in the hospital knew. It was eerie . . . when Bill Schroeder came down the hall, you could hear a pin drop. There were no pages in the hospital . . . people were awestruck." (Hazle, April 29, 1986)

Schroeder's surgery began at 7 a.m., with hourly updates at the center by Atkins at 10 minutes before each hour. The still photographer, Bill Strode, shot numerous pictures and prints were chosen for release. The video production team was filming the operation and cassettes were edited as the operation progressed, allowing the staff to

show reporters an 18-minute videotape of the procedure at the postsurgical briefing.

By 2 p.m., the Humana Silver Anvil document said, more than 200 reporters and news crews had gathered at the convention center. By briefing time, MedStar footage of the operation and Strode's photographs had provided viewers and readers worldwide with a glimpse of the historic operation.

Six copies were made of each photograph made during the implant, with copies going to each of the wire services, to the Courier-Journal, and two copies on bulletin boards in the briefing area. Humana also kept a copy (The first artificial heart, 1985).

At 7 p.m., news came to the center that Schroeder had to go back into the operating room for additional surgery to stem excessive bleeding. This meant another update at 10 p.m.

For the first few days, the staff members were busy coping with requests for interviews and answering inquiries from the U.S. and abroad. Medical briefings were held at 7 a.m. and 3 p.m. each day, with an 11 p.m. overnight update put out and a 9 p.m. update done if necessary. After a week, the update went to once a day in the a.m. (Irvine, May 5, 1985). Tables 5.1 through 5.6 show the media activities of the two newspapers and three networks as they corresponded to Humana updates.

DeVries joined reporters at the media briefing center to discuss Schroeder's condition the third day after surgery. Later, other specialists in the case--Schroeder's neurologist and his psychologist--

Table 5.1 Humana updates and resulting coverage in November 1984

Date	November 1984							
	23	24	25	26	27	28	29	30
Humana update	x	x	x	x	x	x	x	x
# LCJ		2	3	9	7	4	1	2
# NYT		1	2	2	2	1	1	1
ABC	x		x	x	x	x	x	x
CBS				x	x		x	x
NBC		x	x	x	x	x	x	x

x indicates update or coverage.

Print stories listed by number of stories each day.

Table 5.2 Humana updates and resulting coverage in December 1984

December 1984																															
Date	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31
Humana	x	x	x	x	x	x	x		x	x	x	x	x				x	x	x	x				x			x				x
#LCJ	1	3	2	2	1	2	2	2	1	2	1	1	1	3	2	1	1	1	1	1	1	1	1	2	2			1	1	1	1
#NYT	1	1	1	2	1	1	1	1	1	2	1		1	1	1	1	1	1							1						
ABC			x	x		x			x	x		x	x	x	x	x	x			x				x							
CBS	x	x	x			x						x	x	x	x	x	x			x				x	x						
NBC	x		x	x		x	x	x		x		x	x	x	x		x						x								

x indicates update or coverage.
 Print stories listed by number of stories each day.

Table 5.3 Humana updates and resulting coverage in January 1985

January 1985																															
Date	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31
Humana		x	x	x		x	x	x	x	x	x		x	x	x	x	x				x										x
#LCJ	1						1					1				2							1								
#NYT	1						1							1					1												
ABC																															
CBS																															
NBC																	x														x

x indicates update or coverage.
 Print stories listed by number of stories each day.

Table 5.4 Humana updates and resulting coverage in February 1985

February 1985																												
Date	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28
Humana				x						x							x	x	x	x							x	x
#LCJ							2	1							1	1	4	4	2	2	1	1		2		1	1	
#NYT									2						1	1	1	1	1	1	1	1	2		1		1	
ABC							x	x					x		x	x	x	x	x	x	x		x					
CBS								x						x	x	x	x	x	x									
NBC							x		x					x	x	x	x	x	x	x	x	x		x				

x indicates update or coverage.
 Print stories listed by number of stories each day.

Table 5.5 Humana updates and resulting coverage in March 1985

March 1985																															
Date	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31
Humana	x				x	x	x	x			x	x	x	x	x			x	x	x	x			x	x	x	x	x	x		
#LCJ	1	1	2	1	1		1		1	1	1		1	1	1			1		1					1						
#NYT		1	1	1	1					1					1	2			1									1			
ABC									x					x																	
CBS			x						x					x		x															
NBC	x						x																								

x indicates update or coverage.
 Print stories listed by number of stories each day.

Table 5.6 Humana updates and resulting coverage in April 1985

Date	April 1985							
	1	2	3	4	5	6	7	8
Humana	x	x		x	x	x	x	x
# LCJ				1	1	3		
# NYT				1	1			1
ABC						x		
CBS			x			x		
NBC			x			x		

x indicates update or coverage.

Print stories listed by number of stories each day.

would join the two to talk to the media. The Schroeder family also did several group interviews with the media.

Interview requests "far exceeded" the time available from Drs. Lansing and DeVries and Humana officials David Jones and Wendell Cherry. The two officials came to the convention center to help in any way they could, and found themselves in demand for interviews because of the for-profit hospital angle found in the story. As Irvine said, "We shoehorned all the interviews in. Lansing took the brunt of it." And, for members of the "alumni club," who they interviewed mattered. The seasoned reporters didn't want to talk to Robert Jarvik again about the heart--they wanted to talk to DeVries (Irvine, May 5, 1986).

Several journalists complimented Humana on the organization at the Commonwealth Center and the availability of help in the early weeks. The information flow worked well, in part, because the public relations staff and the media had meetings if either side was upset. The pool meetings were used several times. Once, Irvine said, the reporters felt Lansing was getting himself into trouble with the way he was answering a question. Irvine said Washington Post reporter Christine Russell, "like an aunt," tried to get Lansing to understand--"We asked you this question, here's how you answered, and the problem was . . ." (Irvine, May 5, 1986).

A Humana staff member who had previously been a reporter said he found the transition to the Humana team easy because the team worked with reporters in one big room and everyone was caught up in the same concern, reporters and staff members alike. "We all got caught up in

the excitement. This guy who was almost dead is now alive, and this couldn't have happened ten years ago," Tom Noland said (Noland, 1985).

Two interviews, a week and two weeks after the surgery respectively, were conducted with William Schroeder. Dr. DeVries taped the first one and reporters Altman of The New York Times and George Strait of ABC News taped the second. Other opportunities for video coverage included Schroeder's telephone call from President Reagan.

Critics later said the public relations staff did not do enough to remind people that, during this time, the experiment still was an experiment. When asked if Humana had a role in reminding people of the experimental nature of the operation, Irvine said, "People want these things to work, want to get behind them . . . it's like having your ball team win--We tend to forget that only six players may be any good and they may wear out. We all have that tendency. It's natural" (Irvine, May 5, 1986). He said any daily reminder would have come out as boilerplate.

During this time (and during the earlier planning stages as well) Humana kept internal publics informed and made them feel they were a part of the process. As the Silver Anvil document noted, Humana corporate public relations transmitted every news release to all hospitals in the system via the HUCOM system. A briefing book and copies of the video vignettes were sent to each hospital prior to the implant. Several of Humana's hospitals "reported increased local and regional coverage" because of the implant (The first artificial heart, 1985).

The Stroke

Twice-daily updates continued through the next few weeks. On the 17th day after his implant, Schroeder talked with President Reagan and complained about his social security check. The next day, he had a stroke. Many of the reporters had left Louisville. The public relations staff reconvened rapidly and telephoned the people on their media list. The staff quickly reopened the Convention Center room and prepared for a 7 a.m. briefing the next morning. TV crews and other media personnel flew into Louisville airport to cover the stroke. Reports painted a brief picture of family grief, and told how Margaret Schroeder had called for physicians when her husband slumped over dinner.

The stroke emphasized how the saga of Bill Schroeder had affected everyone, even hardened media professionals. "There wasn't a dry eye in the press room the night of the stroke," Hazle said. She said she felt seasoned reporters were as excited about the story as anyone, that she never felt any "coldness" in the media personnel (Hazle, April 29, 1986).

The first stroke triggered a series of public relations problems for the staff at Humana, as the cause of the stroke was debated immediately in the media. Print and broadcast reporters wondered if the stroke had been caused by the artificial heart.

Key physicians Lansing and DeVries often had professional differences of opinion. Schroeder was less available for media coverage. He had lost his ability to speak. Irvine discussed some of many reactions to the stroke:

The family was proud of Bill, amazed at how he had come back. He got national publicity and everybody enjoyed it. Then a stroke hits and all of a sudden a patient cannot speak. On a personal side, he went from a vibrant individual to someone who was debilitated.

The family didn't want him showcased in that condition. I made a point to Robert Bazell, "How can you interview someone who can't talk? A squeeze of the hand doesn't work with a TV crew. (Irvine, May 5, 1986)

With the stroke, Irvine felt, the public relations operation did not go underground, as some people assumed. "The flood gates were open," Irvine said. "Then there was very little to pour out."

And, as hospital public relations director Donna Hazle observed, "We realized what a precedent we set, and the difficulty of sticking by it. They wanted video and we gave them stills. I always asked, 'Would you want your father, husband, or uncle photographed like that?'" (Hazle, April 29, 1986).

The key terms in the consent form Schroeder signed became "in the judgment of my physician" and the phrase "protect my modesty and be within generally accepted bounds of good taste." The boundaries of "good taste" varied with medium and reporter, and DeVries' judgment was to be the key factor in the amount of information released after the stroke.

Most observers say the change in the Humana public relations operation began after the stroke. Even through the first week or so poststroke, reporters praised the Humana staff for its willingness to provide as much information as possible. As Schroeder's recovery from the stroke--said at first to be "amazing"--became a lengthy struggle,

the news reports became negative. As Humana had less information--and less hopeful news--to provide, criticisms of the public relations operation began.

However, the people involved cite different dates for a definitive change in the information provision. It is most probable that no single date totally signifies the change that occurred in the flow of communications from Humana to the news media, since any change is the result of numerous factors.

Reporter Mike King cited the stroke and the February 18 news conference held concerning the heart implant of Murray Haydon as significant dates. During the conference, many of the questions directed to DeVries were on Schroeder's condition, not Haydon's. A tired DeVries had come to the news conference to talk about his latest patient and not Schroeder. Word was out that Schroeder's condition was deteriorating and Altman asked a question on Schroeder's BUN factor which DeVries did not feel he had to answer. Observers said he did not expect or understand the continuing interest in Schroeder when he had a new case to talk about. Irvine said DeVries felt the fatigue factor, and that AMA criticism of the implant and coverage as a "Roman circus" (peer pressure for DeVries) were factors in his response. Another staff member said criticism from the AMA was "withering" to DeVries (Noland, October 10, 1985). DeVries also differed with Lansing as to Schroeder's prognosis. Lansing had given a depressing prognosis for Schroeder a day earlier. The statement irritated DeVries and upset the Schroeder family.

From the time of the news conference, fewer stories about Schroeder appeared in the media. Until he left for an apartment across the street, the information furnished to the media consisted primarily of a taped update on the telephone system in the Humana-Audubon public relations office. During this time, however, such incidents as a outdoor wheelchair ride, a ride in a modified van and a wedding rehearsal at Audubon for his son, Terry, gave Schroeder a media profile. For a stroke victim, progress is measured in days and weeks, not hours, and this was seen in the pace of media coverage during the early part of 1985.

The change in the news flow from Humana was noted in a May 1985 Washington Journalism Review article by Jon Meyerson. "We've entered a new phase of the program," Irvine said in a March interview for the article. DeVries' last briefing in the time period was February 22, when he said "What got out in the press [about Schroeder's postoperative stroke] affected the patient adversely, and, as the physician in charge, my number one goal is to look out for the interest of the patients" (Meyerson, May 1985, p. 12).

Reporters were critical of the cutback, as can be noted in discussions of coverage in subsequent chapters of this study. As reporter Mark Mayfield of USA Today said:

This is an amazing story. For the first time that I know of the public is in on the ground floor of a human experiment. Because there are real people involved, we have to watch who's being experimented on, how they and their families are reacting. We don't want to give up that angle of the story. (Meyerson, p. 12)

Critics of Humana's publicity previously now condoned the cutback, the article noted, with Relman saying that since the operations weren't an "unbroken success" Humana was cutting back on coverage. He found it "understandable." Another critic, a Boston cardiologist, said in the article that the "public has a right to know, but in doses, with precise, detailed, periodic updates" (Meyerson, p. 13).

The possibility of Schroeder's attendance at his son's wedding in Jasper, Indiana, was a focal point he had given for his own recovery. The Schroeder family assumed their father was going to the wedding, but DeVries, as his primary physician, made a decision that Schroeder would not be able to attend, based on his medical condition and the stress such a trip would entail.

At the last moment, a wedding rehearsal was planned at Humana-Audubon to give Schroeder a sense of participation in the wedding. Donna Hazle planned the event held in the Humana lobby: Schroeder wore a tuxedo and watched the rehearsal of his son's wedding. Although he could not attend the wedding in Jasper, reporters did, and the wedding was covered as a news event in and of itself.

Donna Hazle detailed some of the concerns the physicians and staff members had about a trip to Jasper for Schroeder. "On the positive side, it was one of his goals. On the negative side, he needed critical care, and the nurses had to have Indiana licenses . . . we didn't know if he was strong enough." Hazle said the hospital investigated a number of options--including a helicopter--before DeVries made his decision based on Schroeder's condition (Hazle, April 29, 1986).

During this time, the Humana public relations staff wrestled with a new problem--checkbook journalism. The Schroeder family made an agreement with Life, whose reporters then required access to more information and normally off-limits parts of the hospital.

On April 6, Schroeder moved to an apartment across the street from Humana-Audubon for the first time, a historic move in that he became the first human to live out of the hospital with an artificial heart. Reporters were present at the move and covered it as a story for the evening's national news, but Life reporters were the only ones allowed inside the apartment:

When we took Schroeder across the street, Life people were the only ones inside the apartment at the wish of the family. We had to control that situation. All the national media were there, too. It was a very intensive situation for a few days. (New trend, 1985, p. 1)

The Life article took a look at the time period from Schroeder's implant until his release to the apartment, the same time period covered by this study. The article described Schroeder's operation and his "bullish recovery" as well as the subsequent crises in his recovery. It discussed the public relations preparations for the implant, giving an estimated cost that the story calls "expensive news, but cheap advertising" (Bill's heart, May 1985, p. 37).

The tone of the article was sometimes harsh. The description of Schroeder's life from November to April said one of the fundamental questions--Why did Bill Schroeder receive an artificial heart?--was never asked. The article said the public believed Schroeder was dying and needed the heart to live, while the FDA wanted to see if the implant

would work in the future. DeVries wanted the implant for both reasons, the article said. As the article continued:

But having it both ways turned out to be impossible, because the surgeon and his sponsor succumbed to the allures of the medical miracle. They began to believe in it. With the eager cooperation of the press, they made Bill's recovery heroic.

When the hero fell, damaged by stroke and fever, it was too late to remind us of the necessary risks of medical science; Humana's alternative was to cut back on information. . . . Professionals and critics who might have withheld judgment or even supported DeVries while he pursued his research have become alarmed. Their most serious charge, which may or may not be premature, is that the implants substitute mechanical heart disease for human heart disease--that Schroeder has been kept alive for an inglorious, inevitable death. Ironically, most of the photographs that shed light on Bill's odyssey were commissioned by Humana itself. And these do show him to be a kind of a hero. (Bill's heart, p. 33)

The Schroeder Family

Schroeder's family became a focus of media attention during the implant coverage. One of the criteria for choice as an implant candidate was a strong family support group, and Schroeder certainly had that. The members of his immediate family met with the media several times during the first weeks and eventually talked with reporters on an individual basis.

In some of the news stories covering Schroeder's activities after the stroke, the family's irritation with some of the media coverage was noted. Here, the issue of a patient's privacy arose. How much did the public have a right to know--through the media--about Schroeder's activities and his family? The issue of privacy was discussed sporadically in the coverage. A reporter might note that a family member was upset

with the coverage or with a reporter. But how did the family members feel? When interviewed by Strait and Altman, Schroeder himself welcomed the publicity and the spotlight as he first recovered, saying that it was necessary to get the information out.

One insight into a family member's reaction to the press of news coverage surrounding their father's operation can be found in the comments of Mel Schroeder to a conference on medicine and the media held by the Foundation for American Communications in Washington. Mel Schroeder remembered:

When we first started into this implant, everyone knew that we would be in the eyes of the public. But we didn't know exactly all that entailed. We were really awakened the night the news was released. (Schroeder, October 24, 1986)

He said that the family had planned to meet and talk about how to handle the media attention, but didn't get a chance to meet since his father's surgery was moved to Sunday. He said that after the news got out the family had phones ringing constantly, and people knocking on their doors, and camera crews in the yard. He also said:

It was really a new experience to be in the public eye overnight and basically we didn't know what to expect and we sure didn't know how to handle it but as the weeks went by and we got our help from Mr. Atkins and Mr. Irvine and Donna Hazle that we got used to it and things kind of died down a little bit and it still took away from our privacy very much so. (sic)

The bad thing about the family and our privacy is that every time we do something that is somewhat significant, the story is out and we have to make room for the press, for the security, the technicians, the nurses, the doctors and various hospital personnel. . . . I look at it and realize that it was a situation where a lot of people needed to know the information and it was their job. I wish somehow that we could do something eventful and then report it later but I don't see

how that would work with all the competition. Basically I think the press has handled it pretty well and we haven't had to hit anyone to get their attention but it's kind of like a party that someone shows up that wasn't really invited and anytime you make plans for an event one of the first things that came up was how you handle the press. (Schroeder, October 24, 1985)

Mel Schroeder talked to both the physicians and reporters in attendance at the 1985 conference. He had a few words of advice--from a family's point of view--for reporters:

Now to move on to the reporters and give them a little bit of advice. I would like to meet everyone here too and say hello and get them in a corner and ask them how their mom and dad are really doing. But the only advice I really have to give them is if you are in a pinch and you can't think of anything else to write about do something other than inaccurate stories about the artificial heart implants and families. We have found out many things we didn't know. For instance, we found out my mother is a diabetic. I range in age from 28 to 32, but 28 is okay. My father is paralyzed from the neck down, I always thought it was kind of hard to walk when you are like that. And I was even given credit for being the father of my brother's baby and I won't even touch that one. (Schroeder, October 25, 1984)

However, Mel Schroeder said, the family has gotten along with the media "pretty well." He said he just didn't believe everything he read about the artificial heart. He said the family always tried to provide something for the media. "I would just ask that you take what we try to provide and don't press for more if possible," he requested.

Mel Schroeder said it had been difficult for his father and for the family, but "still life goes on." On the heart program itself, he said, "I don't know the answers to the quality of life, financial ethics, legal issues, but I do know that if no one tries, nothing is gained" (Schroeder, October 25, 1985).

Humana Staff Members and Situational Variables

One of the purposes of the current study is to depict, for one specific case, the communications factors as described by James Grunig in the situational theory described earlier. Such a depiction becomes the starting place for thinking about a theory for reporting of a medical incident and how such an incident differs from science communication.

Figure 5.1 illustrates the flow of information in the Schroeder implant coverage. The functions of Humana personnel are noted in a model approximating that of Grunig described in a previous chapter. One of the most notable factors in considering Grunig's situational theory as a backdrop is that, for the public relations staff members involved, the situation was one of high involvement. Across the board, staff members say of the situation: "You live it." More than anyone else, Irvine "lived" the situation. As he recalled, "You don't deal with it until it's all done. It's awful pressure. It took me a year. I still cringe when the phone rings. They need you, they find you and you live it" (Irvine, May 5, 1986).

Grunig's theory says that level of involvement will determine how one communicates. Within the scope of this theory, one may interpret the "high" level of involvement leading to active communication as enforced--the communicating is, after all, a job, and a job in the midst of a crisis. Within the crisis situation, then, level of involvement may almost always be high, the communications active and not passive.

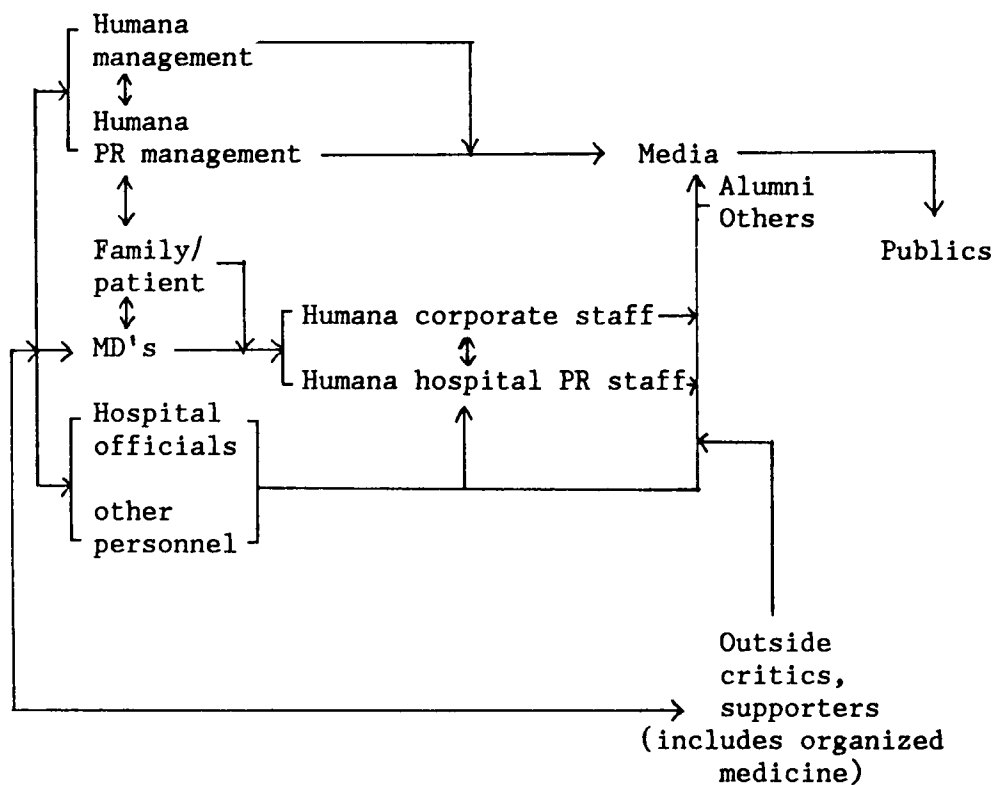


Figure 5.1 Information flow for the Schroeder implant.

Another Grunig variable is constraint recognition. Recognition of constraints in the Schroeder situation differed with the position of the person responding to the question: What did you view as the constraints of the situation? This difference argues for an exploration of situational theory in terms of the "frames" of reference different individuals bring to a situation. As Grunig has written, sometimes individuals control their own behavior and sometimes constraints control behavior. It depends on the situation. The differing responses on constraints and problems recognized by individuals in the same situation structured by similar constraints argues for the consideration of "frames."

Humana staff members cited major constraints such as a lack of teamwork and lack of clarity in the roles assigned to individuals in the event, while, as later noted, reporters cited other constraints. "Power plays" can be constraints for individuals who must work within an organizational structure to get information released beyond that structure. Also, in the Schroeder situation, the fact that a "hospital and downtown," or a town-gown situation, existed also created restraints. In the Schroeder implant coverage, constraint recognition for participants meant that coverage might be hindered, but the players were not in a situation where those constraints could make a difference in their level of involvement. Despite constraints, the public relations personnel still had to get information to answer their own questions and still had to get some information to the media.

Humana staff members had a high level of involvement but had little time to see what resulted from their work. As Irvine said, "You were

vaguely aware of what's happening. The only things that make you any more aware are when there are problems." The staff had no time for on-going evaluation of their activities. That was to take place later.

As time went on with the coverage, he said, he saw the evolution from personal stories to the ethical stories which Hazle, King and network reporters also noted. Perceptions of the story itself varied. Hazle said that the story started off as a personal one about Schroeder and DeVries, but became a issue story as the "information we gave out was less and less meaty." She said she thought it was very typical to see a story become one of issues and peripherals, since reporters didn't want to let the story go.

"It became a story of patient's rights versus being well-informed, of what's good and bad in medicine . . . it became even that broad and then came full circle to the press criticizing itself." She said that members of the media asked her point blank, "Have we handled this right? Have we forgotten the family?" (Hazle, April 29, 1986).

"Early on," she said, "it was a personal story of a man's triumph over death and a young physician's dream to be achieved and then it became harsh, as harsh realities set in" (Hazle, April 29, 1986).

Problem recognition is another variable Grunig used in his situational theory of communication. The problem recognition variable says people do not think or communicate about a situation unless it is a problem, or they find something missing in the situation. For the current study, the "situation" is the Schroeder implant and the interface of the public relations staff and the media. For one of the primary

public relations staff members, "the biggest problem was the personalities of the participants," while for another, exhaustion and the frustration of "not being able to respond in a timely manner" were the problems. It is interesting to note that for the Humana personnel, perceptions of the problems within the situation were bound to the organizational structure within which they all worked. For the staff members, the problems they recognized and constraints they perceived on their actions seemed to be bound in the organizational constraints of Humana or Humana-Audubon, or in the personalities playing major roles in the corporation or the hospital. For reporters (considered in later chapters) the problems seemed to be the issues evoked by the implant or, in turn, Humana's actions.

Effects of the Coverage on Humana, Inc.

Bill Schroeder's implant was a lead story on every national newscast on November 25. Schroeder, DeVries and the Humana name continued to be news items for the months encompassed by the current study. How did the corporation itself fare during the times of intensive media attention?

Chairman David Jones summed up his philosophy about Humana's participation in the artificial heart implant program in an interview with Malcolm Ritter of the Phoenix Gazette. Jones said:

There's nothing in it we can gain other than a reputation for having a high-quality hospital where even the most sophisticated and difficult procedures can be safely performed. If the world learns that the Humana Heart Institute is one of the best places in the world for the diagnosis and treatment of

heart disease, it will turn out to be a success for us. (The first artificial, p. i)

Surveys conducted after the implant did find an increase in public recognition of Humana. A Modern HealthCare survey in the February 15, 1985, issue found that the Humana name was recognized by approximately 16 percent of the U.S. population after the implant. The article noted that the corporation had "virtually no" name recognition prior to the implant.

A survey of Kentucky residents for the regular omnibus poll done by the University of Kentucky's Survey Research Center found that 81.6 percent of the 680 residents interviewed were very interested or somewhat interested in the news media coverage of the artificial heart. Approximately 52 percent knew that Humana had formed the Heart Institute where the implants took place. When asked if it was suitable for a for-profit company to be engaged in "the field of artificial heart research and surgery, 76.3 percent agreed that it was. About 62.6 percent felt that everyone who needed a mechanical heart should receive one regardless of ability to pay, and 55.7 of that percentage were willing to have taxes raised to pay the cost.

Did the higher profile Humana received as a result of the artificial heart implants at Louisville translate into dollars at the stock market? An examination of the daily stock prices for the company showed the stock price ranging from a low of 23 to a high of almost 36 in daily trading. Figure 5.2 illustrates the monthly pattern of the stock prices during the period studied.

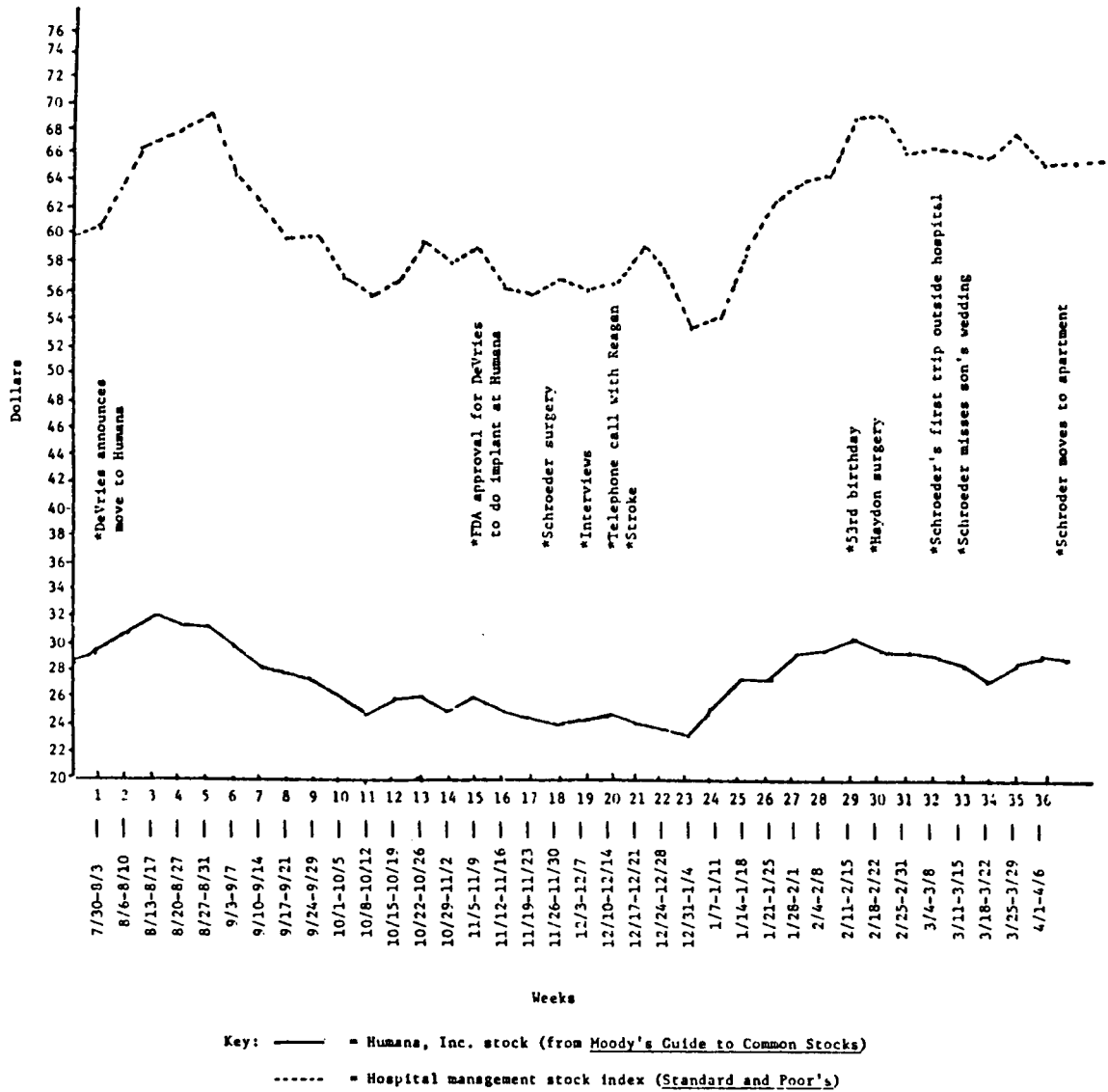


Figure 5.2 Weekly price of Humana, Inc., stock from August 1984 to April 1985 compared to hospital management stock index for the same period.

A November 28 Louisville Courier-Journal noted that trading of the shares was up two days after the implant, although the price of an average share fell. Reporter Steve Massey said that 492,000 shares changed hands on November 27, up from an average of 150,000 to 200,000 per day. As Massey said:

The stock's high trading volume and lackluster performance reflected, several securities analysts felt, investor uncertainty about the potential benefits the artificial heart implant could bring Humana when weighed against current problems affecting it and other hospital-management companies. (Massey, 1986)

No causality in the gradual rise and fluctuation of stock prices during the months studied can be attributed solely to the artificial heart. A number of factors contributed to the slow growth in the Humana stocks. The company actively sought new options in the health care field and introduced several new health care plans during the same period that the artificial heart implants were covered as news. As well, problems in the health care field at large may have been a dampening factor on any success, as analysts noted.

Moody's Guide to Common Stocks noted the developments for the company:

For the quarter ended 11/30/84, net income gained 12% to \$54.6 million. Revenues increased 7% to \$665.4 million. The number of patient care days provided by the company's hospitals declined 9% . . . however, the company reported increases in outpatient use of its hospitals and in the volume of services needed by inpatients. The Group Health Care Division recorded a significant increase in the number of people covered by Humana Care Plus -75,400 at 11/30/84 from 40,900 three months earlier.

One may speculate that some increased enrollment in Humana's health care plans or increased usage of Humana's Medfirst facilities could be attributed to increased name recognition of Humana through its profile in the news media.

By the end of the second quarter, the company was reporting earnings up 9 percent from the period one year prior, and revenues up 10 percent to \$710.8 million. The company's prospects were considered good for the near future as an analyst noted that "Humana is strongly positioned in the new more competitive health care market" (Moody's, Summer 1985). The analysts mention Humana CarePlus and Humana Medfirst Center. By the end of 1985, Medfirst had doubled its revenues from a year earlier and Humana Care Plus had increased its membership more than six times over (from 75,400 members to 474,100 members).

Any statement which attributes Humana's success as a corporation during the time period studied solely to the publicity attained with the artificial heart implant would ignore the reciprocal effects of the success of Humana's other subsidiaries.

However, as a 1985 Business Week article recognizes, some Humana insiders draw that direct connection. The article estimated an advertising expense of \$10 million for Humana in 1985, but said "media attention sparked by Humana's artificial heart program is proving more valuable. The authors said that since Schroeder's implant, enrollees in Care Plus doubled. They quote a Humana senior vice-president, Henry Werronen, who said: "That's tangible evidence that the brand-name strategy works" (Deveny and Tarpey, 1985).

How much did all the publicity cost? The Humana Silver Anvil document noted expenses were "within the budget set by management." As the document said, "A budget of \$125,000 had been allocated for the planning and preparation phase of the program. An additional \$200,000 was budgeted for the first implant with the knowledge that additional money would have to be allocated for subsequent procedures" (The first artificial heart, 1985).

The Humana document also considered the fourth step in the public relations planning process as it evaluates its progress against original objectives cited earlier. Observations of note include the Modern HealthCare poll (February 15, 1985) reported previously.

The Position Statement

Humana issued a position statement on its involvement in the artificial heart program after questions were raised during the Schroeder implant about the company's motives. The position paper specifically cited the criticism of Dr. Boyle and Dr. Relman, as they "took exception to the nature and amount of information released about the procedure and the patient" (Humana, 1985, p. 5). Another critic questioned who would benefit. The position paper answered the question of benefit by citing a letter and comment from Schroeder himself, comments from Mrs. Schroeder and observations from an NIH expert.

The document then tackled the question of publicity as it said:

The issue of publicity, addressed by Drs. Boyle and Relman, was faced squarely by Humana in the months leading up to Mr. Schroeder's implant. It was clear from the interest

generated by Dr. Clark's operation that hundreds of reporters, cameramen and technicians would descend upon Louisville when an implant was performed. They would come because of a growing public awareness of medical issues and a corresponding desire for medical information--not because of anything Humana would or would not do. They would publish and broadcast news about the procedure whether Humana gave it to them or not. The question thus became: should the company cooperate with the responsible medical press in the interest of informing and educating the public about an experimental procedure which, by virtue of continuing (though diminished) NIH support for non-clinical artificial heart research, involves a question of policy. Humana determined that its responsibility as an institution in a free society was to provide as much information as possible, as soon and as often as possible.

Mr. Schroeder was fully informed about the public interest his operation would generate; both he and his physicians agreed to cooperate with the media as long as such cooperation would not jeopardize any aspect of his treatment. Humana established the policy of allowing the physicians and the patient's family to function as "gatekeepers," so that those directly involved would not be subject to undue stress. . . . The press followed medical briefings intently and reported responsibly on the procedure. Perhaps it was their restraint, as well as Humana's, that led another physician to describe the publicity as "extraordinarily important." (Humana, 1985, p. 8)

The position paper also discussed other central issues of the implant, including cost, Humana's continuing role, and the quality of life question. Humana called any answer to the cost issue premature. The heart may never be a "commercially available form of treatment" and evolving technologies may cost less as they develop. For instance, the heart pacemaker, once massive, is now a small implantable device. In addition, the position paper added, the roles of private insurance companies or the government are unknown (Humana, 1985, p. 11)

The quality of life question, argued the position statement, could not be answered until comparisons are made among a series of implant patients although progress can already be noted. To give heart recipients

a "near normal existence" requires an implantable device, physicians agree. (A nuclear-powered implantable device considered in the Soviet Union has been rejected in the United States as unsafe.)

Humana in 1986

Almost two years after Bill Schroeder's heart implant, the company has good prospects in the competitive health care market. The corporation has focused on other artificial human parts--the cochlear ear implant, for instance--and has watched William DeVries go through battles with the FDA over the viability of the permanent artificial heart.

In the year and one-half since Schroeder's implant, two recipients died and the artificial heart issue became a public policy issue. Humana's profile has, perhaps, been painted more strongly in other areas; group insurance, for instance, or Medfirst Centers, because progress with the artificial heart program has slowed.

The position paper issued by Humana in 1985 also discussed the future of the company in medical research. The document said that Humana plans to establish a major education center at the Heart Institute International. Also, the Institute had plans to apply for approval to test left-ventricle assist devices and implantable defibrillators. The papers stated that Humana "is not seeking a monopoly on the artificial heart" as other surgical teams are being trained on the device. "Humana hopes not only to contribute to the development of life-saving therapies, but to help make the general public better informed about its own health and about the issues involved in health-care delivery," the

document concluded. An earlier statement said of Humana that "its purpose is to render a service; if it succeeds in doing this well, it can't help but make a profit" (Humana, 1985, p. 9).

Tom Noland, a corporate public relations manager at Humana, put the challenge for Humana into words as he said "The heart was a home run. Now, it's how do we keep hitting singles?" (Noland, October 10, 1985).

CHAPTER 6

PRINT MEDIA COVERAGE OF THE IMPLANT

On the day of William Schroeder's operation, news of the operation led broadcasts nationwide--even internationally--and made the front page in almost every major newspaper. During the first fourteen weeks, the story received hundreds of column inches of print space and hours of broadcast time. Also in that time period, 1675 wire stories were filed (AP, UPI and Reuters) (Nexus, 1986). In the months to follow, the event was the subject of news magazine articles, the focus of checkbook journalism and a Life magazine story, the basis for a fictional TV drama series episode and the subject of editorials and columns. The artificial heart itself became a topic for advertisements and cartoons. Schroeder's life became a hot topic for mini-series or television movie bids.

The current study, however, examines two newspapers and the three major American networks and their coverage of the implant during the first fourteen weeks. The narrowed focus allows close examination of a substantial block of information selected from a considerably more vast array.

The study looks at two newspapers that covered the artificial heart implant of William Schroeder. The New York Times is one of the world's elite newspapers (Merrill, 1968). The primary reporter covering the implant was Dr. Lawrence Altman, who is both a physician and reporter.

The Louisville Courier-Journal is considered one of the nation's 50 best dailies (Merrill and Fisher, 1980). It was the community paper of record in the implant coverage. The primary reporter for the newspaper was Mike King, a veteran reporter at the newspaper who had just taken over primary medical reporting duties. Other members of the team that covered the implant for the Louisville newspaper were Gideon Gil and Judy Bryant. Pam Luecke contributed to business stories on Humana.

An assessment of the differing approaches to the implant by the two newspapers is a part of the current study. As one broadcast reporter noted, he read the two newspapers each day for further information or new angles on the implant story (Questionnaire, 1986).

The Louisville Courier-Journal

The Courier-Journal was formed in 1868 by the merger of two Democratic newspapers in Louisville--the Louisville Courier and the Louisville Journal. John Merrill and Harold Fisher (1980) characterize the newspaper as a "champion of courageous, victorious journalism. . . . it has consistently taken editorial positions which have jarred the complacent thinking and action of those desiring to perpetuate the status quo" (p. 192).

Until mid-1986, the newspaper was owned by the Bingham family of Kentucky and run by Barry Bingham, Jr. Familial disputes caused Barry Bingham, Sr., to offer the newspaper for sale. The Gannett company bought the newspaper, which has won numerous Pulitzer Prizes and other honors across the years.

The Courier-Journal covered the heart implant for a number of reasons. The story was national news of a local origin, and a story with much local interest because of Humana's profile and influence in the Louisville community. Also, the story was part of the bigger story of the changing of America's health care system (King, 1986).

Observers have remarked that the Courier-Journal took on the artificial heart story as a community project. At any rate, the newspaper covered the implant extensively.

From November 24, 1984, to April 6, 1985, the newspaper carried 115 stories on the implant. Page one stories totalled 46.8 percent, while 24.3 percent of the stories were on a section page one and 28.9 percent were inside the newspaper. A content analysis using Nimmo and Combs' (1985) categories for types of news found that 34.3 percent of the story content was news (the who, what, when, why, and where of the event), 17.9 percent peripheral (not required to understand the event), 25.1 percent perspective (information aiding understanding of the event), 1.7 percent editorial, and 20.9 percent a combination of news, perspective, or peripheral. Tables 5.1 through 5.6 (pp. 87-92) illustrate the Courier-Journal's contribution in output of stories by date.

Table 6.1 shows the coding of entire stories by content categories. More than one-quarter (28.3 percent) of the news stories were coded as being on the condition of William Schroeder. As one reporter noted, the time period studied was "the story of the man," an observation supported by the number of stories on his condition.

Table 6.1 Content of Courier-Journal coverage by entire story (by paragraph)

	<u>Courier-Journal</u>
	# / %
Condition details	801 / 28.3
Artificial heart	362 / 12.8
Haydon, Bircham	304 / 10.7
Miscellaneous	301 / 10.6
Humana PR	134 / 4.7
Treatment details	122 / 4.3
Schroeder family	116 / 4.1
Schroeder activity	111 / 3.9
Operation details	68 / 2.4
Implant cost	62 / 2.2
Barney Clark	56 / 2.0
Lansing	50 / 1.8
Symbion, Jarvik	41 / 1.4
Experiment	39 / 1.4
DeVries	36 / 1.3
Review panel	36 / 1.3
Schroeder background	34 / 1.2
Quality of life	34 / 1.2
Humana finance	28 / 1.0
Schroeder comment	28 / 1.0
IRB	29 / 1.0
Transplants	26 / 0.9
Heart, general	10 / 0.4
Humana background	0 / 0.0
Informed consent	0 / 0.0
Ethics	0 / 0.0
Commercialization	0 / 0.0
Total	N = 2828 / 100.0

Table 6.2 shows the content of the stories by paragraph. Using the paragraph as the unit of analysis allows a more detailed picture of the coverage to emerge, as news stories often change topics within the body of a story. The four writers at the Courier-Journal produced 2,828 paragraphs of copy in 22 weeks. As one reporter noted, the story "ate more space" than any other story at the time. Here again, the content fell primarily into the "condition report" category.

Information flowing from Humana was definitely used, although one reporter was quick to point out that "we have enough sources in the hospital to not depend on the PR department." When attribution was given, 27.3 percent of the references were to the appointed medical spokespersons in the event, Drs. Lansing and DeVries.

Humana spokespersons were attributed in another 7 percent of the coverage. No attribution was seen in 36.1 percent of the paragraphs. This figure, however, does not take into consideration the fact that attribution may have been made in a subsequent paragraph, but even with that consideration, a pattern emerges that may indicate use of sources in the hospital who wished to remain nameless in the coverage. Table 6.3 shows sources coded.

Reliability measures--using Scott's π --were computed for the theoretical variables. Holsti (1968) and Weber (1985) note that problems can occur in the coding of data for a number of reasons. Weber cites studies (Saris-Gallhofer et al., 1978 and Grey et al. 1985) which indicate that the reliability of content analysis can vary with the

Table 6.2 Content category by paragraph for the Louisville Courier-Journal

	<u>Courier-Journal</u>
	# / %
Condition details	539 / 19.1
Miscellaneous	314 / 11.1
Haydon, Bircham	291 / 10.3
Artificial heart	245 / 8.7
Schroeder activity	180 / 6.4
Treatment details	156 / 5.5
Humana PR	143 / 5.1
Schroeder family	140 / 5.0
Barney Clark	110 / 3.9
Operation details	90 / 3.2
Schroeder comment	73 / 2.6
Symbion, Jarvik	59 / 2.1
Humana finance	59 / 2.1
Schroeder background	57 / 2.0
Quality of life	51 / 1.8
DeVries	48 / 1.7
Heart, general	44 / 1.6
Experiment	44 / 1.6
Lansing	39 / 1.4
Implant cost	37 / 1.3
Review panel	27 / 1.0
IRB	25 / 0.9
Transplants	21 / 0.7
Humana background	8 / 0.3
Ethics	9 / 0.3
Commercialization	9 / 0.3
Informed consent	7 / 0.2
Availability	3 / 0.1
Total	N = 2828 / 100.0%

Table 6.3 Sources used by paragraph in the Louisville Courier-Journal

	<u>Courier-Journal</u>
	# / %
No attribution	1020 / 36.1
Lansing	445 / 15.7
Devries	328 / 11.6
Other	317 / 11.2
Specific M.D.	133 / 4.7
Irvine	128 / 4.5
Schroeder family	115 / 4.1
"Doctors"	72 / 2.5
Other Humana spokesperson	57 / 2.0
Schroeder	49 / 1.7
Friends	32 / 1.1
Jarvik	43 / 1.5
Salb	20 / 0.7
Gooden	18 / 0.6
Fox	18 / 0.6
Atkins	15 / 0.5
Relman	6 / 0.2
Heimes	6 / 0.2
Boyle	4 / 0.1
Mudd	2 / 0.1
Total	N = 2828 / 100.0

level of aggregation, with sentences and documents having the highest reliability while that for paragraphs was slightly lower. This occurred in the present analysis, primarily because the analysis went beyond the broad measure of "story" categories to achieve a finer analysis of the data.

Holsti also commented on this issue as he wrote:

Subdivisions within categories permit the analyst to make more comparisons, and therefore to test more hypotheses, but research costs will increase as coders have to make more and finer judgments. Reliability may also suffer as the number of categories increase. (Holsti, 1968, p. 98)

The current study uses both a finer unit of analysis and a large number of categories in an attempt to meet requirements Holsti stresses for units of analysis. That is, they should reflect the purposes of the research, be exhaustive, be mutually exclusive, independent and be derived from a single classification principle (Holsti, 1968, p. 95).

Considering the large number of content categories used in the current study, another comment by Holsti is salient.

That high reliability can be achieved for simple forms of content analysis is amply documented in the literature. Conversely, as categories and units of analysis become more complex, they may yield results that are both more useful and less reliable. Reliability is a necessary condition for valid inquiry but, paradoxically, the cost of some steps taken to increase reliability may be a reduction in validity. (Holsti, 1968, p. 142)

The reliability for the content category, using Scott's π was .64. Given the complexity of the coding categories and the attempt to find out more useful data than could be found by a story coding alone, the

level of agreement seems reasonable. For coding of entire articles by story coding using the same content categories, Scott's π was .83. By story type (news, peripheral, perspective, editorial and combination) the reliability was .36. This appears to have resulted for two reasons: one, the use of the combination category in different ways by the different coders and, second, in the peculiarities of the Scott's π statistic. The observed agreement for the two coders was .54, but the adjustment statistic lowered the reliability.

For source codings, the reliability was .39, with problems caused by the nonexclusivity of categories and the adjustments by the statistic. (Actual observed agreement was .51.) In this case, only a few sources were predominately used and the data was not "rectangularly distributed." As Scott (1955) writes, "Any deviation from a rectangular distribution of frequencies across categories will increase the 'expected percent agreement.' Therefore, the findings of the study, which do concur with the thesis that primarily only a few topics were discussed, also create a distribution that is not rectangular, and an increased 'expected percent agreement' which lowers the Scott's π . Placement was not computed, but coders completely agreed on that category. Using an average, the average Scott's π for all the categories computed for reliability (theoretical variables only) was .65, a reasonable level of agreement given the study's complicated design.

A Closer Look at the Coverage

The Courier-Journal had a team of three reporting on the artificial heart. The newspaper's interest in the artificial heart and its

dealings with Humana began long before 1984. The newspaper covered the company from its beginnings. Stories about Humana's community impact were already in the planning stages when the move of artificial heart program was announced.

The Courier-Journal and Humana, Inc., serve as cornerstones in the Louisville community. But the two giants have an on-again, off-again relationship, as evidenced by the problems erupting over a series on the corporation done by Robert Peirce in the late 1970s. The series detailed Humana's financial condition and its relationship to other hospitals in the area. Allegedly, the reporter at the newspaper did "some sloppy reporting" on financial conditions and Jones threatened a lawsuit. That instance was only one of many run-ins the newspaper and the corporation have had during their coexistence (Lambeth, 1985).

Mike King took a position as medical reporter two weeks before the Humana story broke with DeVries' move. However, in his capacity as a special projects writer, King had been planning another series on the corporation when he found out that DeVries was in town and was announcing a move to Humana (King, 1986).

From the time of DeVrie's announcement and move, the Courier-Journal staff was involved in coverage of the implant on an almost daily basis. Stories were written by all three members of the team, with Mike King in the lead as writer of record, Gideon Gil (a new reporter with a background in biochemistry from Harvard) and Judy Bryant reporting on the event. Staff writer Mary Ann French also contributed.

An Odyssey as Written by the Courier-Journal

The Louisville newspaper quickly led the pack in announcing the choice of William Schroeder as an artificial heart candidate with two front page (and jump) stories on Schroeder as patient and personality. The lead stories focused mainly on the details of the implant and on Schroeder's considerations in electing to have the implant. The personal story quoted Schroeder's friends and his family physician and their perceptions of his motivation to choose the implant. A four-column photograph (credited to Humana) of Schroeder and his wife accompanied the November 24 stories.

The November 25 issue of the Courier-Journal identified the heart story as an important Louisville story by taking three quarters of the front page--and a complete jump page to tell of preparations for the implant, to discuss the synthetic materials from which the Jarvik-7 is made, and to run a tie-in story on a double heart transplant for a young Kentucky girl. The front-page banner story used a detailed medical illustration of the implant procedure as well as a Schroeder family photo.

By the third day and the morning after Schroeder's surgery, the newspaper was running stories under a logo illustrating the artificial heart. A forecast of the newspaper's decision to make an initial heavy investment in implant coverage was illustrated by the special four-page "special pull-off section" completely devoted to the artificial heart. The section was detailed, descriptive, and indicative of the paper's

attempt to cover all the aspects of the story. Illustrations of the heart and the Utah drive were used, and lead section stories focused on Schroeder's condition and his family's reactions. After an initial lead paragraph capsulizing DeVrie's comments on the operation, Mike King wrote about the bleeding around the implant that sent Schroeder back to surgery. Discussion of the problem continued for several column inches. The article on the family--written by Bryant and two other staffers--Al Cross and Mary Deiter--focused on the patient's condition before the implant. It also noted the family's first postoperative contact with the media (Terry Schroeder called the newspaper).

The pull-off section also explored, in inside stories, the prayers of parishioners in Schroeder's Jasper, Indiana, church and brought into focus early on the question of "Humana's health" and noted: "As Schroeder recuperates, the Humana name was likely to be in the news for days, maybe weeks" (King, November 27a, 1984). The story raised the two primary criticisms by ethicists: Humana was exploiting the marketing value of the program, and DeVries' connections with the institutional review board were too close.

Another story in the section also raised the ethical question. Writer-of-record Mike King quickly gained a profile as the member of the team tackling the issues aspects of the implant and coverage as he wrote about the ethical questions the surgery brought to the forefront. Among them was the tension of "first do no harm" (nonmalevolence) versus experimentation to further knowledge. The article noted that heart

surgery brought the tension into focus. Hastings Center ethicist Art Caplan noted that hundreds of people get experimental cancer drugs every day, but "do an artificial heart or transplant a baboon's heart into a baby and the whole world pays attention" (King, November 27b, 1984).

King wrote about a number of ethical issues in the story. Do the artificial heart's benefits outweigh its harms? Dr. Norman Shumway, a noted American transplant surgeon and a critic of the artificial heart as a permanent device, said it "shocks the hell out of the patient, tears up the valves, [and] beats up the kidneys and other organs" (King, November 27b, 1984). Shumway's comments were of special interest since he keeps a low profile on almost every other issue.

In addition, King noted, other issues arise. What about quality of life? Experiments and human subjects? King discussed the evolving concept of the institutional review board system, its importance in the decisions made for the heart program, and the difference between the Utah and Humana boards. Utah's board was activist and strident in its concern about who reviewed the heart program and when DeVries operated, King said, while Humana's IRB was like most hospital review boards--11 of the 14 members were doctors, nurses or other health professionals associated with the hospital and not as knowledgeable about the heart program (King, November 27b, 1984). He later noted that the issue of the review board became a crucial one:

This is a team of mostly local doctors who practice at Audubon who have in the past not handled anything more elaborate than intraocular lenses or pacemakers and all of a sudden they had the most dramatic medical experiment in the history of the world under their jurisdiction. (King, May 6, 1986)

Other stories in the extensive pull-off section included an exploration of other artificial organs under development, a look at the history of the artificial heart, brief biographical sketches of the members of the operating team, a profile of heart disease as the biggest killer, and questions and answers on the artificial heart.

In the Q & A section, costs and use of the heart were explored. In the answer to the question of cost, the news staff noted that Barney Clark's surgery cost \$250,000 excluding surgical fees, and forecasted that Schroeder's costs would not be that high (Questions and answers, November 27, 1984). The section also mentioned experimentation with totally implantable artificial hearts, most notably the Soviet experiments with a nuclear-powered artificial heart (an implantable device powered by an encapsulated isotope), a heart which was considered by an NIH study group in the United States but rejected because of cost and safety.

The second day after the operation, the heart was still headline news in Louisville, as stories on two-thirds of the front page discussed Schroeder's condition--"Patient's circulation good a day after implant"--and the details of a second operation to stem bleeding after the implant. Judy Bryant did a feature story on the "togetherness" that got the Schroeder family through the operation. An additional two complete inside pages (A6 and A7) again illustrated the importance placed on the implant by the newspaper. Under the heart logo, the two pages explored the issues of cost and theology ("Patient's worries weren't

theological") and contained photos of an X-ray of the Jarvik-7 in Schroeder's chest and photos of the Humana staff in action.

Found in the two-page spread was the first extensive mention of the media arrangements and Humana activities, as Gil profiled the press arrangements. In the story, one correspondent noted:

They have spared no expense, right down to the vinyl-covered notebooks, dozens of phones, sandwiches, an answering service, said Scott Kraft of the Los Angeles Times. It's like covering a football game where they hand out statistics at the end of every quarter. (Gil, November 27, 1984)

Loretta McLaughlin of the Boston Globe, in discussing the differences between Humana's public relations activities and those at Loma Linda, said that Humana:

has hung the ostrich egg in the henhouse, as the example to be held up to the medical research world on how to handle the public-information side. There has just been an outpouring of information. (Gil, November 27, 1984)

In the same story, Jim Key of WAGA-TV in Atlanta said "Obviously, it is to their advantage. They couldn't buy this publicity, probably, for what it will cost them to do the 100 operations." John Dwan of the University of Utah noted that "They're much better prepared than we were, because they have our experience to live on."

One of the few editorials on the artificial heart program to appear in the newspaper said that it seemed right "to suspend judgment on these matters" [the host of questions raised by the program] as a "team of physicians, nurses and others strives for a historic accomplishment." It would be better, the editorial said, to commend those who were taking

the risks and to think of the reactions of "supposedly wise people to innovations of the past" (The risks, November 27, A4).

Again, the heart was front-page news on November 29, as articles profiled the watch for infection--and Schroeder's smallest activities--and discussed the knowledge being stashed for the next operation. An inside piece noted trading was picking up in Humana stock following the first few days of media coverage.

A full jump page continued stories on details of Schroeder's recovery and a sidebar described his request for a beer. Dr. Lansing told the press of Schroeder's first request--a beer--and told them he got a grape Popsicle instead. A Milwaukee brewery responded with a case of beer. The reporter said that the New York Post described the request in a full page headline: "Heart Man's First Words: GIVE ME A BEER" (Long, November 28, 1984).

The November 28 edition also ran an editorial from the New York Times. The piece discussed the costs--both financial and human--of the artificial heart, and discussed possible outcomes:

Mr. Schroeder's surgeon predicts he'll become well enough to leave the hospital and swing a golf club. That's much to be hoped for. Even if less successful, the operation is justified. Several more like it will be needed to assess the technique. (Hearts and technology, p. A8)

By the 29th, the story was off the front page but the headlines were optimistic. Schroeder was "feeling better than before the implant." That day, he was the subject of a story that described his diet, condition, and humor.

On the 30th, Schroeder was front page news again, with a feature story that described the elation of the Schroeder family. In the families' own words, the story portrayed a man who was a "fighter, a tough old nut." The story was one of the first to quote members of the medical team on Schroeder's "amazing" progress. The story also quoted the family on his interest in beer--it was somewhat exaggerated in the media, they said. The story reiterated a theme also found in the broadcast coverage of the family's first conference--Terry Schroeder's comment on the surgery: "It brings back the same old dad." The same issue also ran an accompanying front page piece on the Heimes Drive and the test Schroeder would undergo on the drive. The story described the drive, previous trials on calves, future hopes for Symbion and costs for the drive. In the story, Dr. Jarvik estimated that a heart and portable (Heimes) driver would cost \$25,000 as a package.

December 1 brought a perspective report on the contributions of Barney Clark to the heart program. The article centered on Una Loy Clark and her willingness to share her experiences. As she said, "the public and the media were so good and so supportive . . . that I feel a great responsibility to share things with people" (Long, 1984). Clark forecast the emotional roller coaster to come and said Humana's offer to pay for the operation would make a difference for the Schroeders. Dr. Clark's son, Stephen, differed with his mother's viewpoint, calling the program "still a very experimental one--and really quite a radical experiment" (Long, 1984).

The next day, Schroeder's temperature (lowered to normal) and the details of his recovery continued to make section page one news. The story was written primarily on detail, with only a few descriptions of Schroeder's comments or reactions to remind the reader of the individual behind all the detail. Another story in the Sunday edition discussed the music DeVries listened to during surgery and provided three columns of information on DeVries' preferences for music during surgery.

The next story, on December 3, profiled the life and habits of another principal in the Schroeder drama--Robert Jarvik. The story described a doctor who has never treated a patient, a brilliant inventor, an "off the wall" guy. As well, the piece discussed his role in the invention and marketing of the heart.

"Schroeder's progress excellent" after 7 days, read another headline on December 3. The accompanying story detailed Schroeder's visitors and his condition and activities. On December 4, stories ran concerning DeVries' wish to use the Heimes driver for longer periods of time and, again, Schroeder's condition. The story also described an interview Schroeder videotaped with DeVries--a rare find in a newspaper. However, Schroeder's history-making interview found its way into both papers and onto the air on all three networks that day.

By the 5th, physicians were "getting tough on diet and exercise," cracking down on the heart hero's craving for sweets. No more "special patient" status, the article reported.

The first criticisms of the Humana project to warrant a headline and not just a mention were the AMA criticisms on December 6. Two AMA

officials delivered scathing comments in the article. Most of the criticisms were directed at DeVries and at Humana's use of the media (or provision of information).

King noted that a member of the AMA's judicial council, Dr. David Olch, in an association newsletter, said the "implant's circus-like trappings have presented medicine with ethical dilemmas" (King, December 6, 1984) and said the program was "ahead of schedule" (p. B3). The association's views of publicity came to the forefront in the article with AMA President Dr. Joseph Boyle's attitude on news coverage:

Questions being raised in the public media should be asked in appropriate scientific journals. . . . I wonder if it is in the best interest of the patients in having these experiments conducted on the front page of the nation's newspapers and nationwide television. (King, November 4, 1986, p. B1)

Boyle continued by saying the "public's right to know would not be thwarted if the information were released weeks or even months later. His comments were at the center of a controversy over when medical information should be released. Dr. Lansing and Robert Irvine both responded to his criticisms. As Irvine related to reporter King, the company has "simply been responding to overwhelming public and media interest in the project." He noted that, if they had refused to respond with information, the company would have been accused of "trying to hide the results of the experiment" (King, December 6, 1984, p. B3). Thus, King's story provide opportunities for both side of the issue to respond.

By the next day, DeVries had responded in an interview with Mike King, calling for a national panel to review his research. Humana

agreed to pay for the board's expenses and AMA officials were critical of that portion of the proposal. DeVries said the AMA criticism was:

unfair and tremendously naive and narrow-minded. . . . I'm tremendously concerned about some of these same issues. But it doesn't help to just go on television and condemn the project. It doesn't help us resolve any of these critical issues. (King, December 7, 1984, p. B1)

DeVries added that the idea for the board arose not only because of the criticisms from organized medicine but also because of earlier questions from the Louisville Courier-Journal about the composition of the Humana review board.

Others agreed that the project needed an independent review. Some sided with Relman in strongly opposing Humana's involvement, while some said the review was needed but the medical community had "reacted vigorously, perhaps overreacted, to the perception that Humana is in control of the project" (King, December 7, 1984, p. A8).

In counterpoint to the continuing controversy on the issue of review, Schroeder's condition and recovery continued to be played out in the newspapers and on the air. A second piece on December 7 focused on the chance that Schroeder "may" get a wheelchair ride and a front page photograph the next day showed the first ride.

A Courier-Journal editorial on December 8 came to the defense of Humana and public knowledge on the implant. "So much is palpably ridiculous" about the AMA's attack on Humana that the valid concerns were obscured, the paper noted. The editorial asked if the physicians weren't more interested in preserving the shreds of "witch doctor mystery around the medical profession" than they were in asking genuine

questions. The editorial concluded that review was necessary, with an independent panel, but said of criticisms from the AMA:

. . . it's ridiculous to expect such experiments to be conducted in secrecy. And, if any information is given, it should be accurate and complete, even at the risk of conveying more than is necessary. There is no evidence that the news coverage of this event has been harmful. (Medical ethics, December 8, 1984, p. A8)

The December 8th paper also reported Schroeder's move out of intensive care.

Courier-Journal management went on record about the publicity operation at Humana with an editorial from acting editor and publisher Paul Janensch (Barry Bingham was away on leave) on Sunday, December 9. Portions of his editorial focused on the criticisms played out across the pages of the newspaper in the week prior. He discussed the AMA critics and said:

They should realize that the world's second artificial heart implant was a major news story and was going to be covered by the world's news media with or without the cooperation of the surgeons, Humana and the patient's family. Humana didn't have to drum up publicity. The challenge it faced was to cope with an invasion of more than 150 reporters and other news people. . . . To their credit, Humana public relations officials conferred ahead of time with officials at the University of Utah . . . a news media center was set up . . . briefings were held there mornings and afternoons . . . between briefings, Schroeder's conditions were posted . . .

Far from being circus-like, press relations were highly professional and, some news people thought, a bit too controlled. (Janensch, December 9, 1984, p. D3)

Several of the recurrent themes of the Schroeder implant appeared on the newspaper's front page on December 10. One story by Mike King studied the contrasts in Barney Clark's and Bill Schroeder's recoveries.

The second detailed the pool interview the patient himself had with two reporters on Sunday night. The article was most illustrative, as readers (and viewers of the pool interview on two of the network stations) got an insight into the patient's own thoughts and feelings.

George Strait, one of the pool reporters, asked Schroeder what he thought of the AMA controversy on whether it was wise for Humana to release the information on his condition. Schroeder replied:

I don't care if they release every bit they got on me. That doesn't bother me. All I wanted to do was No. 1, get myself healthy and No. 2, help other people. And if I can do either one, I'll feel my mission was accomplished. (French, December 10, A1)

The Louisville newspaper wrote about Schroeder helping others two days later when he sent a telegram to a man awaiting the first artificial-ear implant at Humana-Louisville, but on December 13, it was the triumph of the common man, as Bill Schroeder's famous telephone conversation with President Reagan made page one news.

A break in two weeks of the portrayal of steady, sometimes "amazing" progress, was reported the next day, but optimism still reigned. Bill Schroeder's stroke was chronicled in banner headline and a graphic portrayed possible causes. Two stories bridge the top of the front page--one on his condition and one on causes and recovery. Lansing ruled out the heart as a cause, and prophesied that the first 48 hours would determine Schroeder's rate of recovery from the stroke. On the same day, Schroeder's special status was at issue, this time in an editorial that talked about Schroeder's talk with President Reagan and the subsequent solution of his Social Security problem. As the piece said,

"William Schroeder's success . . . is a political breakthrough almost as dramatic as the medical breakthrough of his artificial heart . . . or it would be if everyone mired in red tape could get the results obtained by the plain-spoken Hoover (Phone call, December 14, 1984, p. A14).

By the next day, medical writer and team leader Mike King had homed in on the issues and dilemmas posed by the stroke. He wrote a commentary on Schroeder's quality of life and causes of the stroke. In the article, a spokesman for the American Heart Association described the reactions of viewers, readers and reporters as he said:

Overnight we all went from a tremendously excited feeling about the heart and what it's done for Mr. Schroeder to wondering whether it maybe has really hurt him. That's the kind of thing you have to learn to expect when you are on the frontier of medicine. It puts this whole thing in perspective again: This is an experiment and things can change very quickly. (King, December 15, 1984, A11)

While reporter King was exploring the quality of life question, a first page headline proclaimed Schroeder as "recovering brilliantly" from the stroke. Dr. Lansing also forecast that Schroeder would be "out of bed in 48 hours." However, he noted, "Last night was a beneficial slap in the face or cold splash, because it brought us to realism. It was a sobering influence on the family and one perhaps we needed" (Gil, December 15, 1984, p. A12).

By the middle of December, the Courier-Journal stories began to reflect the mixed future for the patient--as a "Good times, bad times" story reflected. Now, DeVries said, progress would be measured in days and weeks rather than hours. Prior to the stroke, newspaper stories

often focused on Schroeder's hourly activities throughout the day. Now the focus was broader, the victories smaller. As the story tone changed, however, a focus on condition and therapy still could be seen.

Schroeder's condition almost can be charted from the headlines. By the 17th of December, Lansing said Schroeder's spirit would be his main loss, and a subsequent story chronicled Lansing's assessment of Schroeder's inactivity. Results of the stroke continued to be revealed slowly, as a headline on the 18th described Schroeder's neurologist's (Gary Fox's) findings. The article continued to chronicle his condition and Lansing's assessment as spokesman.

The next day's story reviewed the patient's condition and activities and described in detail a test for determining an origination point for blood clots. By December 20, the optimistic headlines and leads were gone, the story concerned with Schroeder's slow progress, memory loss and curtailed activities. The story looked back at Lansing's assessment of Schroeder's "brilliant" recovery but said the patient who had once given interviews now did not even initiate conversations with his family.

December 23 brought new developments in the formation of a panel to study the program. A board was to be formed apart from an advisory committee at the hospital, primarily to assure no conflicts in interest. The article reported that Dr. Michael DeBakey, who pioneered in heart transplants, was asked to join the independent panel, which was to meet under the auspices of the Institute of Medicine.

The primary Humana medical spokesperson, Dr. Lansing, was profiled in the December 24 edition of the Louisville newspaper. It was common knowledge among observers that Lansing created some tension and uproar when he said he was the "best heart surgeon in the region," even better than William DeVries.

One Christmas Day story chronicled the patient's holiday activities while another reflects the somber mood of the holiday. King quoted one artificial heart program medical team member who mused:

The whole mood--not just of Bill Schroeder, but everyone involved in his recovery--has changed since the stroke. We were all pretty upbeat there for a few weeks, but that's changed now. There's no panic or anything like that. We're just not sure where this thing is headed now. (King, December 25, 1984, A1)

Photographs of Schroeder continued to appear until early 1985. A front page photo on December 25 showed a tearful Schroeder surrounded by grandchildren. It was a moving picture, but a very private moment made public.

As the year drew to a close, questions about the stroke began to be answered. Although a story on December 24 found no more clots in Schroeder's heart, Dr. Robert Jarvik, inventor of the heart, and DeVries (four days later) concurred that the heart may have been part of the cause. Their concurrence was the "heart" story for December 28.

The next day's story was a report (the first) on the apartment Schroeder would occupy once he left the hospital. In addition, the story contained the ubiquitous condition and activities report. When the

patient has a permanent artificial heart, even a shower becomes media material.

As the patient's recovery became less amazing and more routine, placement decisions were made. The newspaper covered details of Schroeder's slow recovery on inside pages. The issues raised by the implant--those of cost, availability and quality of life--became the front page news. A December 23 article by Mike King noted that a National Academy of Sciences component (the National Institutes of Medicine) may study the ethics and economics of the heart, in a story that profiled the continuing debate on the issue of program review--and where it should be done.

Year-end stories in the Courier-Journal proclaimed 1984 the "Year of the Heart" for Louisville, in describing the "flurry of activity in the medical community that some called the 'heart wars'" (King, December 30, 1984, p. 4). A January 1 piece described DeVries' search for the next heart implant candidate and provided an update on Schroeder's condition and a script of his wife's thanks for "having him around another Christmas" (Cross, January 1, 1985, p. C9)

At this point, a change in the pace of the newspaper's coverage was seen. The newspaper had devoted space and a team of three staff members to the story. It had printed a news story, peripheral story or perspective story almost every day since the implant. At the turn of the year, as the patient began to count progress in terms of weeks and months, not hours, the coverage patterns changed. Activity fell off until the

coverage cycle began once again--although with nowhere near as much intensity--with Murray Haydon's implant.

The optimism remained. A January 7 story by Mike King begins by detailing how Schroeder surprised his physical therapist by "tossing his walker aside and strolling resolutely on his own down the long hallway to his fourth-floor room" (King, January 7, 1985, p. A1). The next update was six days later, calling the recovery "steady but frustrating." With the medical focus predominant at the time, the newspaper ran a lengthy Forum discussion by Barry Seigel on the "murky nature of medical ethics" (Seigel, January 6, 1985, p. D1).

On the 9th, King reported on a patient considered for an implant who received a donor heart instead. A story on January 17 described the van designed for Schroeder's trips outside the hospital. DeVries again characterized his patient as recovering. "He's getting stronger," Mrs. Schroeder agreed. "Someone who's been through what he's been through has got to be strong" (Bryant, January 17, 1985, p. B1). By January 23, the newspaper was quoting Dr. DeVries as saying the patient would be out of the hospital in a month (Schroeder may, January 23, 1985, p. A10).

Another group entered the fray of implant review when the American Heart Association said it may conduct an independent study of the project (if no other group did so) in a February 7 article in the Courier-Journal. By February, the other groups that said they would make an independent review had taken no action, but a social and economic study

of the heart program was due from NIH in May (King, February 7, 1985, p. B1).

DeVries' position on the question of media coverage was given in another February 7 story that covered a panel on the media's right to information in medical stories. DeVries, Art Caplan from the Hastings Center, Courier-Journal reporter Mike King, and several other medical reporters served on the panel sponsored by the Louisville chapter of The Society of Professional Journalists/Sigma Delta Chi and the Jefferson County Medical Society. Reporter Gideon Gil described DeVries' views:

He said the media's insistence that it be allowed to cover the activities of the institutional review board at the University of Utah intimidates members of the group . . . and delayed their approval of his first implant, in dentist Barney Clark, by some five months . . .

For that reason, DeVries said, he did not want the deliberation and membership of the review board at Humana made public. But the surgeon said the media also helped his project. He said questioning by the press caused him to realize some of the ethical implications of his work, and media criticism also led him to revise the informed consent document . . . (Gil, February 7, 1985, p. B3)

Here, it should be noted that the Courier-Journal filed under the Freedom of Information Act to obtain the names of the members of the Humana review board.

Further comments by DeVries shed light on how doctors are prepared for dealing with the media (not well at all, it turns out) and how publicity was involved in the implant procedure:

DeVries said the responsibility of researchers to disclose their findings to the public has changed since he went to medical school and was told "a doctor's name should be in the newspaper when he's born, when he's married and when he dies."

In releasing information, he said, the doctor must be governed by the patient's right to privacy. "The patient has a right to be protected," he said, noting that he has frequently consulted the Schroeders about what they wanted released.

After Schroeder's December 13 stroke, his family did not want him to appear on television anymore, DeVries said.

On the other hand, a potential implant recipient would basically be disqualified if he or she did not want publicity. DeVries said. "I am very firmly convinced that there is absolutely no way to keep a secret in a hospital." (Gil, February 7, 1985, p. B3)

On Friday, February 8, DeVries traveled to Jasper, Indiana, to thank the townspeople for their support. He talked with high school students and spoke at a fundraiser, the Courier-Journal story said. Another article in the issue described DeVries' participation in an ABC "Nightline" show (discussed in previous chapters) (Gil, February 8, 1985, p. B2).

A February 10 front page article providing the details of Schroeder's slow recovery was written by Altman for the New York Times news service. It was the first such story to be used in the Courier-Journal, which had its own "heart team." The piece portrayed Schroeder's arduous journey in detail, focusing on the memory lapses the patient continued to battle. A few brief paragraphs tacked to the end of the article disagreed with the Associated Press report that Wilbur Nevels was to be the next artificial heart implant candidate as was rumored. A Humana spokeswoman denied that he was under consideration (Altman, February 10, p. A1, A20).

A February 15 article marked Schroeder's first birthday with the heart, describing both his "mysterious fever" and a resolution honoring him passed by the Jasper City Council.

The Courier-Journal had news of the next candidate by February 16 and ran a front page story and photograph of Murray Haydon. From this point, condition reports and stories on the artificial heart program entwined the lives of Schroeder and Haydon. Condition reports on Schroeder appeared in almost every story on Haydon in the second round of intensive media coverage of an artificial heart recipient.

In addition to the front page story on Haydon appearing on the morning of his surgery (February 17), an analysis of Schroeder's condition shared the front page placement. Reporter Mike King wrote that a "myriad of questions" were being asked about Schroeder even as the third implant began. The biggest questions, he said, were, "Why isn't Schroeder well enough to leave the hospital?" and, "Has the stroke he suffered in December left him so seriously impaired that he will never be able to live an independent life?" King described the setbacks that Schroeder--and the program--faced in the months since the implant. King extensively quoted Barton Bernstein, a Stanford historian who writes on the artificial heart project, as the historian said:

But clearly, if they can't get him out of the hospital, if he doesn't have some degree of independence from the medical team--even if he lives longer than Dr. Clark--the perception will be that Bill Schroeder's case hasn't taken this experiment any further than Barney Clark. (King, February 17, A10)

In the article, Bernstein also noted the increased use of the implant as a temporary bridge for those patients with heart disease who were waiting for a human heart transplant.

The Courier-Journal provided extensive coverage on the Haydon implant, although a special section was not prepared. The artificial heart logo was redesigned and used. Peripheral articles included one on the Penn State heart, a new design for the artificial heart and a competitor to the Jarvik-7, and one on the way candidates are screened for the artificial heart program or for heart transplants. Factors that come into play for both implants and transplants, the article said, include a strong family support network, common sense and a desire to live for specific reasons (French, February 17, 1985, p. A10). Another page of articles discussed Haydon's support in his community, profiled the previous patients, and reported that, despite criticisms, little had changed in the Humana public relations operation. Information was still provided (Bryant, February 18, 1985, A5).

The February 18 contained two pages on the implant, as headlines declared "Haydon sails through implant without problems." Accompanying articles discuss the Haydon family's attitude during surgery, details of the surgery and an analysis of the criteria for implant and transplant patients. If Haydon were younger, Mike King noted, he would have qualified for a transplant, not an implant (those criteria have now changed) (King, February 18, 1985, p. A4).

Tuesday's stories were a study in counterpoint, as Haydon's recovery was chronicled optimistically while Lansing's reports on Schroeder

painted a more dismal picture. The article on Schroeder's condition noted Lansing's return for a second statement to the press in which he was more optimistic about Schroeder's chances. His statements that day were the focus of both network news and print stories. The Courier-Journal reported his change in perspective, but did not give the impression that a major problem for Lansing as a spokesperson had occurred or that the Schroeder family had been extremely unhappy with his statements.

Lansing was back again the next day, telling the media about Haydon's recovery in words he had "chosen carefully" and saying that Schroeder, whose condition had taken a dramatic jump, went for a wheelchair ride in the sun. The Wednesday story chronicled the exchange of professional opinions between DeVries and Lansing about the latter's comments on Schroeder's condition during the news updates on Haydon. Lansing's earlier, pessimistic remarks had alarmed the family. By the end of the day, the story noted, Lansing was calling the controversy "very beneficial" despite the negative publicity that arose (Bryant and French, February 20, 1985, p. A1).

On Friday, February 22, Schroeder went for another wheelchair ride and met reporters. One, Robert Bazell, spoke to him but he responded only slightly. The newspaper story described the exchange and provided additional updates on the conditions of both implant recipients.

By the next day, however, Schroeder's physician spoke out on media coverage of his patient. An angry DeVries told the media that coverage had scared Schroeder and scared off potential candidates.

He openly announced a change in the amount of information that would be provided, while saying press accounts of Lansing's description of Schroeder as discouraged were "grossly exaggerated." Gil described DeVrie's exchange with reporters, an exchange starting when "one reporter" asked for information on Schroeder's kidney function. "It really isn't the general media's business anymore," DeVries told Altman.

The Courier-Journal article noted that DeVries' position (as compared to that he voiced at the SDX panel) "squared" with the AMA's criticisms. The surgeon said that Mrs. Schroeder was upset about finding video crews and photographers outside when her husband was going to be taken outside (Gil, February 18, 1985, p. A1).

The article, and the incident, were sharp signals of the change in the information flow from Humana. Reporter Mike King noted that there were several other "breaking points" in the time period. This incident, and series of remarks, however, made the front pages and was noted--although not immediately--on the network news. The information flow had changed.

The change was exacerbated by the differences in opinion between Lansing and DeVries that leaked into the media. One such case was the disagreement on what constituted a "success." A February 24th article discussed the subjectivity of decisions about the heart's success. As DeVries said, "How do you compare my quality of life to your quality of life? What measures, what yardsticks do you use?" (Gil, February 24, 1985, p. A1). Humana's review board and its members were discussed, as

well as criticisms that the board could make no quality of life decisions because no members were trained in medical ethics.

Gil's article pointed out that several issues--public policy ones--were left out of both Humana review board and FDA discussions. Those issues included cost-benefit, and as Art Caplan said, "Nobody really has the ball on this" (Gil, p. A18).

Lansing made the headline in a related story on the fact that a heart implant opens a door to a long recovery process. The story contrasted the recoveries and personalities of Schroeder and Haydon and DeVries' policy of pulling back from the media was mentioned again.

Schroeder's move to an apartment house across the street from Humana-Audubon was "anticipated" well in advance, and the pattern of coverage in the Courier-Journal reflected that anticipation. The newspaper had noted the existence of the apartment and its special design weeks before. Gil's story on February 27 detailed the changes in routine Schroeder was making in preparation for the move, but a story the next day spoke of the delay in moving him because of his "continued weakness."

Schroeder was briefly mentioned in an article on March 1 which primarily focused on a bleeding problem experienced by Haydon. In the article, Gil reported that Schroeder's move was delayed until mid-March or later. Haydon's bleeding continued to make news the next day, with the decision against an operation to stem internal bleeding that occurred when some tubes were removed. By March 3, the newspaper was chronicling

the operation that was necessary after all. The story ran one-half of the front page and one-half of an "A" section page.

Mike King, lead reporter for the Courier-Journal team, came out with a position paper on the Forum page of the March 3 issue as he discussed the "press-as-pariah factor" in the artificial heart program. The central issue, he said, was the question of how much the public has a "right to know."

King said physicians were now realizing public opinion played a role in the acceptance of the artificial heart program. In the past, he said, the approach has been different. Many advances in heart research and treatment (the pacemaker, for example) were developed on anonymous patients whose names were still unknown. But one spokesperson involved with those developments admitted the public--and the press--are more sophisticated now.

King introduces the reader to the two standard categorizations of medical reporting--the NASA approach and the Soviet approach (discussed earlier in this study). He fits the heart program into the NASA (open discussion) niche and Baby Fae and the Stanford transplants into the Soviet model (closed, or open only to positive information). He also looks at DeVries' new position on dealing with the press. The surgeon said his judgment was that the patients to date should have satisfied the public's curiosity about the program. He said, however, that he would inform the press if the patients' conditions were to deteriorate.

King's article was the only one studied which sharply depicted the "rift" between Lansing and DeVries. Other hospital sources confirmed

for him that the antipathy between the two physicians in turn affected the public relations operation at Humana.

King's article was an incisive look at the relationship between Humana and the media. Family members talked to the press in very controlled circumstances, he noted, and individual interviews were discouraged. King was critical of Humana as he said "the public has no specific ideas how the families feel about the experiments" (King, March 3, 1985, p. D4).

What about the central issue in the relationship, King wondered. How much does the public have a right to know? He quoted Barton Bernstein of Stanford:

It's too easy to say there are no simple answers to that question. This is an experiment--a highly commercialized one at that. I'm uncomfortable allowing the researchers or the sponsor [Humana] to answer for the family. (King, p. D4)

Bernstein added that with the commercial aspect of the implant, "the added specter of profiteering--at least in terms of image and public relations" meant the experiments should be conducted as openly as possible. He spared no words as he mused:

It intrigues me that when the experiments were going well, when Schroeder was recovering nicely, that Humana released a lot of information and photographs and began talking about this like it was an established therapeutic alternative. . . . And when things went sour and when people begin wondering if bad things might happen to the next patient, they turned the public relations spigot off and began worrying about patient privacy and dealing with the medical journals. (King, p. D4)

King said that Humana, Symbion, Coors, Komfort Koach, and a number of other firms have benefitted from the coverage.

King also quoted Art Caplan of the Hastings Center, who provided the viewpoint that neither business nor the media had great records on the right to know question:

Often, he said, the press tries to justify publishing information it has gathered about the subjects of medical experiments as the "public's right to know" when in fact it is printed for the entertainment value. Likewise, he said, medical researchers have invoked the privacy issue to keep the press from asking "tough questions that might cause their patients and their families to wonder whether it was all worth it." (King, p. D4)

Articles on March 4 and 5 provided status reports on Haydon's bleeding and Schroeder's condition. A brief piece on March 7 described the van ride Schroeder took with his sons.

Changes in the patient consent form for the implant were the focus of a Sunday, March 10, article. Lansing described the changes at a Federation of American Hospitals meeting, where Humana was "publicly lauded" for its heart program.

Until the 15th, coverage was sparse, and primarily consisted only of updates and descriptions of activity. On the 15th, DeVries' decision to keep Schroeder in the hospital instead of attending his son's wedding (one of his goals in having the operation) made front page news. In the article, Lansing described the alternatives considered: police escorts, a helicopter. But the decision was made by DeVries over family member's objections. The hospital tried to lessen the disappointment for the patient and the family by holding the rehearsal at the hospital and videotaping the ceremony (French and Gil, March 15, 1985, p. A1). Newspapers have a way of remembering and marking comparative milestones. A

brief story on March 18 marked Schroeder's 113th day with the implant. Clark lived 112 days.

Schroeder and the medical team spent the last part of March in preparations for a move to apartments across the street from the hospital. During that time, Haydon moved back to the coronary care unit with respiratory problems, and eventually had a tracheotomy. The Courier-Journal followed those developments and ran a story on DeVries' reaction to the use of an unauthorized artificial heart in Tucson, Arizona.

By April 4, Schroeder's moving day was announced--Saturday, April 6. In the two days before the move, the newspaper ran articles on the apartment that detailed the apartment's design and stressed that Schroeder would still "have little privacy."

On the day of the move, the newspaper looked at the historic occasion and the festive mood but also ran an article in which DeVries warned that Schroeder was still subject to strokelike attacks (a forecast of what eventually happened). That same day, area physicians met to discuss the costs--and cost effectiveness--of the heart, another story reported.

The Courier-Journal continued to cover the heart story after Schroeder left the hospital on April 7. The newspaper reported condition updates weekly, and covered both the individuals involved in the heart program and the program as public policy over the next year and a half.

The Reporter of Record

Mike King, medical reporter for the Courier-Journal, remembered how he came to take the job:

Bob Pearce was covering this for us, and he got tired of covering medicine. He was discouraged; there was a lot of intensive criticism of Bob's work by Humana. Bob convinced me it would be an interesting job to take the medical beat. . . . I was coming back from a stint in the paper's Washington office. We went for five months without a medical writer per se. . . . I was the last to talk to Pearce, so I covered health care in the General Assembly that year. . . . I could see competition among hospitals heating up. (King, May 6, 1986)

King said he was intrigued by the notion of being the newspaper's medical reporter but decided to stay as a special projects writer because he had "heard how difficult it is to work with doctors and how PR people were jerks and how the newspaper had to be receptive to Humana because of their influence not just on the community but on the newspaper" (King, May 6, 1986). The newspaper hired a medical reporter from the Fresno Bee in early July. The day they announced her hire, however, she called and said she had decided to take another job because "not much ever happened in Louisville in medicine." King took the job, temporarily, and 2 weeks later DeVries announced his move. King said he knew something was up when Jarvik and DeVries were in town, but that the original tip was that Humana was going to move Symbion to Louisville (King, May 6, 1986).

King said he had become interested in Humana after seeing how much power it had amassed from 1981 to 1983. The company had always played a major role in Louisville business and culture during the past 10 years, but it seemed to King that when Louisville went through the depths of a

recession in the early 1980s, it turned to the service industry and said "Pull us out." Humana was a big part of that industry in Louisville.

King said one of his reasons for agreeing to get involved in the coverage of medicine was to do a story on Humana. A series had been proposed in 1983, and eventually, in 1985, King and business reporter Pam Luecke wrote the story.

"Everything came to focus in the artificial heart project," King said of Humana. "The company's style, its inventiveness, its visionary attitude about medicine and high profile techniques and procedures just came to the fore in the artificial heart project" (King, May 6, 1986).

King took the medical beat with the understanding that he would get some help from someone with a science background. Gideon Gil, a reporter and biochemistry major from Harvard, was hired. And King, who stayed writer of record on the project, "basically hit the books" and talked with cardiologists as he educated himself on the artificial heart.

King and his editors made several decisions early on. "I decided that when DeVries came, the most important thing was to find out why he left and what was promised here," King said.

He went to Salt Lake City and found out that DeVries "ran into a lot of buzz saws at the university, with lots of medical political maneuvering in the university and the community not unlike what's going on in Louisville now [1986]."

King found out that DeVries had met resistance from the institution's review board. "We thought it was important to document what might happen in Louisville versus what happened in Salt Lake City."

This led him into the sidelines of the story--the ethical problems, informed consent, the institutional review process. "I vaguely knew about them, but I got a crash course in them in Salt Lake City."

King subsequently tried to find out the membership and performance of Humana-Audubon's institutional review board. The IRB issue was a central focuses of his stories on the policy issues surrounding the artificial heart. He eventually filed a Freedom of Information request to obtain the information (King, May 6, 1986).

At that time, King said, the paper decided the story was more than a medical story. As he recalled, "This was a bigger story--a local one, with Humana and its connections in Louisville, and a national one in scope, not just in medicine but in ethics, public policy, the role of the private sector in medical research." He said all that came into focus when Humana recruited DeVries and provided him with facilities. The newspaper made a major commitment to the story in terms of space and time, but had to put the Humana business story on the back burner.

The story was a "high involvement" situation for everyone involved with the story. It was the first part of 1986, King said, before he stopped doing something on an artificial heart story every working day.

"We had a tune-up with a heart transplant [at Jewish] in August [1984]," King said. It was a practice run for a story of a much larger scale. As he informed himself about the heart, King said, he knew the story would be a lengthy undertaking.

"We had from July 31 to mid-October to prepare," King said. During that time, he also dealt with a blackout from DeVries. King viewed this

as a major constraint in his coverage. "DeVries was said to be busy putting his new protocol together, meeting with the FDA and with the review board at Audubon," he recalled. King said he tried to talk with him, sent letters to his home and even tried to get intermediaries to intervene.

During the period of preparation, King continued to be interested in the issue of the institutional review board. He obtained the records through FOIA and found out members' names and that "this is a team of mostly local doctors who practice at Audubon who have in the past not handled anything more elaborate than intraocular lens or pacemakers and all of a sudden they had the most dramatic medical experiment in the history of the world under their jurisdiction" (King, May 6, 1986).

King wrote a story on the review board that exacerbated troubles with Humana. He added that only Robert Irvine acknowledged that Humana "screwed up" by refusing to release information on the board. "In fairness to the IRB," King added, "it was like others nationwide, but it was the only one with the artificial heart project."

"The day the story on the IRB was published," King recalled, "I sent a letter to DeVries saying that it was one of the most difficult stories I had ever written" because of DeVries' decision not to participate in the story and provide his views. King still feels DeVries' decision not to talk "is a mistake, but he holds to it." King felt other constraints, some editorial. As the project progressed, he said, the level of interest from editors began to diminish and space diminished. It was a problem identical to that he had when the project first began.

"It took a while to convince them that this is a big story," he said. He also said that the Life magazine deal for exclusive coverage and pictures created problems for his newspaper.

Also, King said, there was a more subtle constraint. When asked if he thought Humana's threats of lawsuits over coverage made the story softer, he said:

It was more subtle than the press to litigation . . . often more subtle relentless criticism going through here on everything written about them [Humana] made our editors less willing to write in a tone with any judgment whatsoever . . . we edited not only to avoid libel but edited in a way to avoid them getting mad at us. (King, May 6, 1986)

For the reporter of record, the central problem and the central focus of the Schroeder implant story were intertwined:

What we should have done, perhaps what we failed at doing, were not as successful at as we had hoped, was to document it as an experiment and not as a moving human event. It's just difficult to do that when you have a dying person who's got a plastic and metal device stuck in his chest who's near death one day and drinking a beer the next. I think we made a valiant effort to put it into context, that while it is saving this person's life, changing and lengthening it, it's also an experiment with a long way to go with a whole host of issues attached to it . . . who gets it, who pays for it, how much the surgeon gets out of it, how much the company that sponsors it gets out of it. (King, May 6, 1986)

King said he saw the central issue of the implant in the question: What does this implant mean for this society at this point? To this community? Yet his stories focused on the issues of review and the public's "right to know."

Who did the Courier-Journal team communicate with at Humana? King said, "We've never been reliant on them [Humana public relations]. We have enough sources to tell us what's going on. We've only been reliant

on them because they asked us to be--to schedule interviews. They've been intermediaries with the family" (King, May 6, 1986).

A change in the information flow occurred as Schroeder's condition and other variables over the course of the months changed, the key players interviewed for the current study agree. Perspectives varied on the change--and the reasons for the change. King commented on his point of view as a reporter and observer of the entire sequence of events. He commented on the first few weeks:

The operation from a PR standpoint was too smooth the first 18 days. They sealed their own fate by being so optimistic about things . . . don't come in and say things like we think or we hope he'll be home by Christmas. Hope is translated as something real important when the chief spokesman says home by Christmas . . . not across the street but HOME. (King, May 6, 1986)

The reporter discussed his own reactions when Schroeder had a stroke as he said:

Then came the disastrous stroke. . . . It came within hours of the check, a ringing example of how this guy was back! Then boom . . . it shocked us all into reality. We were just as guilty as the PR and medical staff. We had forgotten to refer to it as an experiment. (King, May 6, 1986)

King said the PR apparatus "worked well" the first few days. He said he thought the initial misinformation given out about Schroeder's ability to recover was just optimism. "We now know you can't tell about the recoverability of a patient in 24 hours."

Around Christmas, King said, the "gray" area of patient privacy because of the family's wishes came into play. King said his staff gave them the benefit of the doubt. In mid-January, King said, he heard from sources that Schroeder wasn't doing well and he began to ask questions.

He didn't get help at all, he said, and the newspaper printed fewer stories in January because it was "running into a journalistic problem on the use of unnamed sources."

"I tried not to bother the Schroeders, first from a humanitarian point of view, and second because they probably wouldn't know what's going on inside their father's body anyway," King said.

But he said he eventually learned from a good source that Schroeder wasn't doing very well, and wrote that story on the day of Haydon's operation. National reporters picked up on the story, King said, and Lansing--when asked about Schroeder's condition--complicated matters by painting an even bleaker picture than King had heard.

By the end of the week, King said, DeVries came to talk to the media about Haydon and found that all the questions were about Schroeder. His resulting anger and Lansing's remarks made for a PR fiasco, King commented. "I don't think we have any blame for that," he added. "It was responsibly reported."

King marked that as one of the changes. Reporters saw less of Lansing and more of the publicrelations spokespersons. He saw other signposts for change, among them the concentration on moving Schroeder while Haydon was having postoperative bleeding and was back in intensive care, with no coverage. The Haydons were less talkative, too.

In the events of the year following Schroeder's first move to the apartment, King mentioned several other landmarks: Bircham's operation, Schroeder's second stroke and Haydon's stroke, and the use of the artificial heart as a bridge in transplant patients in several other areas

of the country. After Bircham died, and the turn of events found Schroeder back in the hospital and Haydon several months into an intensive care stay, King said "perceptions of the heart as a permanent device changed."

As for the future of the program? King forecast that the:

. . . next one will be a very, very big story. We're going to see in that candidate a type of patient we haven't seen since Clark . . . back to the Utah criteria. It will be somebody with literally nothing left . . . he'll use a device changed a little bit and new techniques . . . he's got to find a clear cut success and it doesn't have to be a longevity success--a nonstroke success, or noncomplicating illness . . . what he needs is a patient like that guy from Sweden, who can get up and walk around and talk about it. It will be interesting to see how they handle it from a PR standpoint. (King, May 6, 1986)

In September of 1985, King noted, the newspaper began to focus more on the FDA's involvement. The story became even more of a public policy story. He said that cost was still an issue, that Humana hasn't told him what it cost. "From a public policy standpoint, we have to know," he added. The IRB issue is unclear. And the quality of life questions persist. He wondered, quoting Lansing, if "heart disease" had been replaced by "artificial heart disease."

King worked on the artificial heart story almost every day from mid-1984 to early 1986. His observations and concerns, and those of the other members of his team, were well-documented in the analyses that were among the hundreds of column inches run on the artificial heart project at Humana. He discussed why the story held his interest so long:

It brings into focus a lot of things in medicine. Corporate privatization, the role of physicians as spokesmen or hucksters, all that comes into play.

In this community, you don't cover medicine without covering the corporate end. (King, May 6, 1986)

King's experiences with Humana and the artificial heart program led him to several observations on medical writing. In several speeches to press groups, he talked about the changes in medicine and what that meant to reporting. With stories on Baby Doe cases and parents crying out in the media for organ donors, "the focus of medical journalism switched away from science and turned its attention instead to economic and social issues." A "new breed" of reporter was emerging to ask physicians and scientists hard news questions.

He also talked about the relationship to public relations personnel. At a conference, he said, a science writer asked him if journalists were "being had" by public relations executives for hospitals who "wanted to promote their services."

I think the answer to that is simple. Of course we get had, but only as much as we allow ourselves to be. Conversely, those of us who are any good have a few PR people from time to time. (King, November 4-5, 1985)

King also discussed the privacy issue as he said:

Often, in the course of covering experiments like the artificial heart, the human element of the story takes on proportions that eclipse whatever medical, social or economic issues are attendant to the experiment. This cannot be helped. A dying patient with a plastic and metal device replacing his heart is news.

But there are limits and responsibilities to our work. It isn't necessary . . . to alert the public each time we know Bill Schroeder is going on an excursion. . . .

Too often journalists cry for access to public patients only to report the drama and not the news. And just as often, doctors and hospital spokesmen claim patient privacy so they will not have to deal with bad news. But there are reasons, at times, for us to be responsible and careful invaders of patient privacy. (King, December 7, 1985)

The New York Times

One of the newspapers of record in the United States, the New York Times is the largest of the American elite papers in total operations. Founded in 1851, it has often been called the nation's best newspaper. It is so honored for the depth of its national and international coverage. Its international circulation puts it among the world's elite papers (Merrill and Fisher, 1980). The newspaper was one of the first to add a weekly section to cover science and medicine.

In the New York Times, the artificial heart story became more than a once-a-week topic. It was hard news and was covered as such. Principals in the event have noted that the New York Times was perhaps the best coverage of the implant.

The newspaper, winner of more than 40 Pulitzer Prizes, achieves in-depth coverage of an area by assigning a reporter to a field without the pressure of producing a story every day. Assigned to the in-depth investigation of medical issues was Dr. Lawrence Altman, a physician and medical reporter who is one of the "inner circle" science reporters described by Sharon Dunwoody (1980). Among medical reporters, Altman was most probably the dean, having written for the Times since 1969 on a variety of medical topics. He also maintains a clinical appointment at

New York University. Irvine and other key players in the artificial heart implant story acknowledge that Altman probably knows more about artificial hearts than any other reporter.

During the 22 week period, the newspaper ran 60 stories on the Schroeder implant, approximately half the number run by the Courier-Journal. Tables 5.1 through 5.6 (on pp. 87-92) illustrate the Times coverage by date. Of those stories, 37.2 were front page stories and 62.8 stories were placed inside. By story type, 61.4 percent of the stories were news, 1.7 percent peripheral, 32.3 percent perspective, .5 percent editorial, and 4.5 percent combination. A "hard news" orientation prevailed, although Altman received high praise from other principals for his insightful commentaries on DeVries and Schroeder.

By entire story, 31.7 percent of the stories were coded as reporting on condition details while 17.2 percent were general stories on the artificial heart. In the Times coverage, 4.2 percent of the stories dealt with the issue of commercialization of the implant research, reflecting the issue within the medical community of for-profit research and Humana's unprecedented entry into that field. Table 6.4 illustrates the content of the Times coverage by entire story.

Table 6.5 breaks down the coverage into the given unit of analysis for the study, the paragraph. Of the 1,475 paragraphs, 21.6 percent dealt with Schroeder's condition and 11.5 percent provided information on the artificial heart in general.

The source coding for the New York Times shows that 24.3 percent of the attributed paragraphs held information from the two primary Humana

Table 6.4 Content of entire story in the New York Times by paragraph

	<u>New York Times</u>	
	# / %	
Condition details	467 /	31.7
Artificial heart	253 /	17.2
Haydon, Bircham	194 /	13.2
Schroeder activity	109 /	7.4
Miscellaneous	101 /	6.8
Schroeder comment	76 /	5.2
DeVries	76 /	5.2
Humana PR	69 /	4.7
Commercialization	66 /	4.5
Treatment details	35 /	2.4
Schroeder background	17 /	1.2
Humana finance	12 /	0.8
Total	N = 1475 / 100.0%	

Table 6.5 Content by paragraph for the New York Times

	<u>New York Times</u>	
	# / %	
Condition details	319 /	21.6
Artificial heart	169 /	11.5
Haydon, Bircham	147 /	10.0
Schroeder activity	130 /	8.8
Treatment details	106 /	7.2
Humana PR	94 /	6.4
Miscellaneous	83 /	5.6
Schroeder background	31 /	2.1
Schroeder family	57 /	3.9
Operation details	55 /	3.7
Heart, general	55 /	3.7
DeVries	52 /	3.5
Barney Clark	47 /	3.2
Humana finance	29 /	2.0
Schroeder comment	29 /	2.0
Experiment	23 /	1.6
Symbion, Jarvik	12 /	0.8
Quality of life	8 /	0.5
Ethics	6 /	0.4
Commercialization	6 /	0.4
Humana background	5 /	0.3
Implant cost	5 /	0.3
Transplants	5 /	0.3
Informed consent	2 /	0.1
IRB	0 /	0.0
Review panel	0 /	0.0
Lansing	0 /	0.0
Total	N = 1475 / 100.0%	

spokespersons, Drs. Lansing and DeVries. Here, however, the Times' primary medical reporter may have had not only the information provided through the public relations channels at Humana but also information gathered because he was both a physician and a reporter. No source was attributed in 48.3 percent of the paragraphs. This percentage may have resulted from the previously discussed fact that the coding did not reflect a source named in a paragraph above. It is more likely, however, that the coding reflects the medical knowledge of a physician/reporter. Table 6.6 describes percentages for the source codings.

Reliability for the coding of the New York Times coverage by content category was .40, using Scott's π . By source, Scott's π was .16. The discussion in the previous chapter as to the reason for the lower reliability should be noted. By referring to the tables on content category and source category, one can note that three categories in the coding accounted for 74.6 percent of the sources named.

Therefore, the distribution across categories (or lack thereof) meant a lower Scott's π . Reliability for story type was .11 (although the observed agreement was .61) and for coding by entire story, .58, an acceptable level of reliability given the intricacies of the coding scheme. The combined reliability for the theoretical variables was .31. Another reason for the lower reliability for the New York Times data, given that the same coders coded the Courier-Journal information at a much higher level of reliability, is that the Times coverage was more technical in nature because it was primarily written by a physician/reporter.

Table 6.6 Sources used by paragraph in the New York Times

	<u>New York Times</u>	
	# / %	
No attribution	712 /	48.3
Lansing	192 /	13.0
Devries	166 /	11.3
"Doctors"	60 /	4.1
Schroeder	61 /	4.1
Specific M.D.	56 /	3.8
Schroeder family	52 /	3.5
Irvine	49 /	3.3
Other Humana spokesperson	30 /	2.0
Other	25 /	1.7
Fox	23 /	1.6
Jarvik	14 /	0.9
Boyle	14 /	0.9
Mudd	6 /	0.4
Friends	4 /	0.3
Heimes	4 /	0.3
Atkins	3 /	0.2
Salb	2 /	0.1
Relman	2 /	0.1
Gooden	0 /	0.0
Total	N = 1475 / 100.0	

A combined reliability for content coded in both the New York Times and the Louisville Courier-Journal was .56, with a Scott's π of .75 by story code for all print. By story type, the combined reliability was .35 (with an observed agreement of .56, however) and for source, it was .62 (with an observed agreement of .70). By averaging, the Scott's π for the entire print coding was .57.

A Closer Look at the New York Times Coverage

A one-column story on November 24 quietly announced that the second effort to implant an artificial heart would occur on the 25th. In the article, Altman profiled Schroeder and his medical problems, updated readers on DeVries' move to Louisville, and looked in retrospect at the problems in the Barney Clark operation. Altman had covered the Clark operation. In fact, he had covered the artificial heart from its beginnings.

Altman's story on Sunday morning set the stage for the implant as he wrote on Saturday night: "Doctors prepared tonight to begin a new episode in the battle to replace damaged or defective human hearts" (Altman, November 25, 1984, p. A1). Accompanying the story was a sketch of the portable power pack and the artificial heart. The caption noted that Jarvik has said that the portable pack might be the "key to the quality of life."

On the second page of the Sunday issue, three-quarters of the page was devoted to the artificial heart. The jump headline for the front

page story continued "Artificial heart team looks to a future of routine implants."

In the story, Altman comprehensively explored the background of the heart program, Schroeder's problems and the issues the surgery brought to the forefront. The use of subheads by the Times is an aid in considering the topics covered. They are:

- Hopeful, But Realistic
- Human Heart Ruled Out
- Attack on Heart Disease
- Commercialization as a Factor
- Criticism and Divestitures
- Consent Form is Revised
- The Patient's Problems
- Different Valves This Time
- Getting Slower on Work Load

The extensive (30 column inches or slightly more) story exhibited the traits for which Altman is known: insightful, thorough coverage. Of particular interest to this study are the discussions of commercialization--in the shift of the heart program from a public university to Humana. Altman noted that the development of the artificial heart was paid for by public funds but that private donations paid for Clark's operation at a cost of \$250,000.

The other issue of divestiture concerned Humana's investment in Symbion and the presence of DeVries on the Symbion board. Humana's interest in the artificial heart had begun with an investment by the

corporation in the research firm. Humana and DeVries voluntarily divested themselves of their Symbion stock on November 8. Altman noted that the divestiture was in no way tied to FDA approval of the implants, which came on the same day. He speculated that the action was tied to criticism from medical school faculty members who said that Humana, with little research experience, was primarily interested in "public relations and proprietary interests" (Altman, November 25, 1984, p. A2). Another article on the 25th focused on Schroeder and the "bulldog" personality his friends said would get him through the implant.

On the day after the surgery, an unusual photograph was center focus of the Times front page. It was photographer Bill Strode's shot of the artificial heart laid out and ready for implantation during the surgery. The accompanying story described the surgery and the setback occurring immediately thereafter. The jump portion of the story on B6 provided more surgical details and a graphic of the heart in the chest. After providing a look at the surgery, Altman considered Schroeder's past physical condition in great detail. A sidebar piece described the prayer vigil held by Schroeder's church in Jasper, Indiana, while an accompanying photo showed Mrs. Schroeder wishing her husband good luck as he was wheeled to the operating suite at Humana.

A brief staff story on page B6 of the same issue looked at the Humana Corporation briefly and considered its investment in the artificial heart program. The article quoted Humana chairman David Jones as he says "The only thing Humana can get out of it is an enhanced reputation. But because our business is health, it is a wise investment."

And spokesman George Atkins acknowledged the heightened profile of the company would "be a windfall." "The rising tide lifts all boats," he said. "As the process receives attention and the tide rises, Humana rises with it" (Hospital executives, November 26, 1984, B7).

Altman went straight to the center of the controversy over private corporations and health care with an analysis on the front page of the Times the next day. His article discussed the trepidation researchers in nonprofit settings feel about the entry of such entities as Humana into the research arena with their "vast resources" and independence from many government regulations. The article focused on a central question: Will an emphasis on profits dilute the purity of the research?

The article implied, and other key players in the study have agreed, that the Schroeder case may be the case best illustrating a turning point for American medicine. At the turn in thinking about medicine in America come conflicts and the critics. Altman cited Dr. Arnold Relman, editor of The New England Journal of Medicine and perhaps the most vocal critic, as Relman worried about Humana's motives, and Irvine as he responded:

Humana does no teaching and no research, and they have never done clinical investigation. Humana has made no contributions in medical research at all. That, in my view, is not the best place to carry out this procedure.

However, Robert B. Irvine, a spokesman for Humana, said, "Dr. Relman's statement was not correct, because physicians at Humana hospitals do clinical research and have published numerous papers in peer-reviewed scientific journals." (Altman, November 27a, 1984, p. C4)

Altman addressed Humana's public relations activities in the article and provided a perspective on his own stance. He said the company did not hide its profit status and acknowledged a windfall. He discussed public relations as he continued the analysis:

Humana has thus far shown itself adept at public relations. However, there is a side to their efforts that goes beyond the organization's coffers. Good public relations can result in sound public education about a specific experiment and, more broadly, about modern medicine. Communication between hospital and public is a task that many medical schools and research institutions have not done well over the years, although they are showing signs of improvement. (Altman, p. C4)

Altman put the entire debate on commercial versus nonprofit settings for research in perspective when he noted that many of the ethical considerations about commercial institutions would have been out of place years ago:

Doctors have long tried to profit from their research. Dr. William Morton, a dentist at Harvard who gave the first public demonstrations of ether as a surgical anesthetic at Massachusetts General Hospital, tried unsuccessfully to turn a profit.

Other academicians have profited from developing medical instruments either directly or by gaining publicity and referrals from other doctors. Not so long ago, most medical research was conducted by doctors who were independently wealthy or who worked for private benefactors. . . .

But after World War II, taxpayers infused large sums of money into medical schools for research. One result was that the taxpayer has become a major patron of medical research. . . . (Altman, p. C4)

Lastly, he noted that some of the debate grew out of professional jealousy and prejudice and that it was "far too early" to tell if anxieties over commercially sponsored research were warranted.

The second story by Altman in the Tuesday edition described the complications that sent Schroeder back to the operating room. His condition was noted as critical, but the headline added that he was "looking super." A brief sidebar noted that all photographs used from the heart operation had been taken by Humana photographer William Strode.

Even the dignified New York Times, in the Wednesday, November 28 issue, headlined the day's update on Schroeder's condition with his request for a beer. The story provided detailed information on Schroeder's condition, therapeutic activity, and drugs. The story was on an inside page, but a front page photograph (by Strode) and caption noted that Schroeder was off a respirator. More detail was provided in the next day's update, as Altman described Schroeder eating breakfast foods but still craving a beer. The story provided a typical look at Altman's discussion of the specific case. He went into minute detail on temperature and medical tests, and it was in this aspect of reporting that his training as a physician was clearly seen.

By the 30th, Altman was chronicling Schroeder's activity, as the patient briefly sat up in a chair. The story observed that Schroeder "seems to be making a far speedier recovery than Dr. Barney B. Clark." Altman reported on the Schroeder family's news conference and discussed ongoing medical tests.

A December 1 story by Altman described tests with the Heimes portable driver, and Schroeder's case of the "blahs" commonly experienced by heart patients. A story on December 2 profiled a second test of the driver and discussed the risk of infection Schroeder would face for the rest of his life.

Altman, as a physician as well as a reporter, added several dimensions to the coverage. Several broadcast reporters, as noted before, said Altman's was the best work during the implant. His training as a physician allowed more intensive reporting on some areas. A case in point was the use of his observations in his sporadically published column, "The Doctor's World." In the first interview DeVries granted after the surgery, he spoke with Altman about the emotions he felt during the implant and since his arrival at Humana (Altman, December 4, 1984, p. A1). Another nonbylined story with the column updated Schroeder's condition and described the patient's interview with DeVries.

Altman described Schroeder's therapy program in a story the next day. He noted Schroeder's condition and new dietary restrictions and discussed the experimental tests the medical team was conducting.

Almost two weeks into Schroeder's recovery, the next day (Thursday, December 6) brought AMA criticisms into play. An Altman article talks about the "heat" AMA officials Olsch and Boyle added to the controversial program.

Olsch made critical remarks in an AMA newsletter and those remarks, criticizing Humana's research as out for publicity were reported on air and in the Courier-Journal as well. Olsch said the implant was "premature" but admitted in a telephone interview with Altman that "I may have to eat my words later."

Altman's article noted that spokesmen for Humana "defended the experiment and publicity as ethical." As Lansing said:

Every ethical standard certainly is being met here and one of the hardest things to make a judgment against would be a patient who is living, doing well, and would not have been alive otherwise. (Altman, December 6, 1984, p. A18)

The next day, the patient was recovering and taking longer walks and Humana spokesman Lansing was reacting to the AMA criticisms. He said he did not agree with the AMA criticisms although he had reservations about the amount of information released. However, he said "It would be impossible for an artificial heart recipient to keep the same degree of privacy that a man in Chicago has when he goes to work" (Altman, December 7, 1984, p. A25).

By December 8, a front page photo by Strode showed Schroeder being transferred from coronary care, showing "dramatic improvement." An accompanying story inside updated his condition and explored the continuing controversy over the AMA criticism. As Altman wrote:

Dr. DeVries and other members of the artificial heart team are members of the AMA. They are known to be deeply upset about the association's criticism. Dr. DeVries has said he was offended and not given due process by the association. He said AMA officials had not spoken to anybody involved with the implant before criticizing it.

Robert B. Irvine, a spokesperson for Humana, said his company was "glad to get these issues out in the open." He said private practitioners and profit-seeking hospitals had a role to play in the changing area of clinical research. From the time of Louis Pasteur, Mr. Irvine said, almost all medical developments have produced "great debates." (Altman, December 8, 1984, p. A46)

The article also discussed the formation of an independent panel to review the heart program. In reiterating the controversy over publicity, the article closed with a quote from Lansing when he was asked whether Schroeder's progress would have differed if the operation had been

performed without publicity. "No, his physical and mental states would have been the same. He said that it would have been impossible to carry out a heart implant secretly" (Altman, p. A46).

A Sunday report updated the patient's condition and activities and provided another reaction to the AMA criticism. Lansing noted that Schroeder had received many cards and letters and that "Mr. Schroeder and his family were much better off because of the support they received from friends and the public as a result of news reports" (Altman, December 9, 1984, p. A39).

On Sunday night, Altman and ABC medical correspondent George Strait interviewed Schroeder in the first pool interview. Altman's Monday story told of that interview almost word for word, describing Schroeder's feelings, his new goals, how the heart felt, and how the patient himself felt about publicity about the artificial heart. "The quicker you get it out to the public and get it in the form of a story or documentary, the better the public is served," Schroeder said. He added that people would make up their own minds. Altman added that, to make his point, Schroeder displayed his scars from previous operations and then showed the two reporters his heart incision and pump (Altman, December 10, 1984, p. B13).

Another of Altman's "The Doctor's World" columns, appearing on December 11, has been cited as one of the best pieces done during that period. In "Why the World Cares About William Schroeder," Altman said that people care because they themselves have dealt with the specter of heart disease. Also, he said, they care for a reason that is a central

focus in any dramatistic analysis of the patient and the implant process. As Altman says, Schroeder was easy to identify with because "he is thoroughly unassuming, a typical guy, as he says of himself" (Altman, December 11, 1984, p. C3).

A UPI story on December 13 reported Schroeder's telephone conversation with President Reagan. The event was front-page news, boxed for emphasis. On the 14th, however, a special to the Times (not bylined) reported the stroke and the quick improvements after the stroke. In addition, a sidebar noted that Schroeder's first Social Security check had been hand-delivered.

Altman returned to Louisville on the 14th when notified of Schroeder's stroke. The next day, he filed a story exploring possible causes of the stroke. A front page photo by Strode showed a drowsy and intubated Schroeder being briefed by a concerned DeVries.

His story on the 16th speculated on causes for the stroke and linked it to the artificial heart, while December 17th's story quoted Lansing on Schroeder's depressed, withdrawn state. Altman's article on the 18th detailed the prognosis given for Schroeder by his neurologist, Gary Fox. A photo of Schroeder watching children sing Christmas carols in the hospital lobby accompanied the latter story.

On December 25, Altman noted that strokes "foiled" Schroeder's goal to be out of the hospital by Christmas. The story described Mrs. Schroeder's news conference to thank the public for support. When asked about the concern over publicity, she said it was what her husband wanted, and added, "it might have made us a little more nervous" but the

messages of support helped during the ups and downs of recovery (Altman, December 25, 1984, p. A36). A photograph on the 26th showed an emotional Schroeder with his grandchildren at Christmas dinner.

Altman's "The Doctor's World" on January 1, 1985, took a look at the issue central to the current study. In "Publicity and Medicine: The Human Factors," the physician-reporter discussed the silence in medicine about the patients who volunteered for experiments in the past and the controversies and disputes over advancements forgotten when the discoveries are taught in medical school. Altman called the heart implant one of the "rare cases" where the public can see developments--and the politics.

Altman reiterated the AMA critique of the implant as a "Roman Circus" and then turned to others who found the publicity very important. As Altman noted, "One factor overlooked by doctors who criticize publicity is that accountability has become critical" (Altman, January 1, 1985, A17). He continued:

Suppressing publicity while waiting to publish the results in scientific language can be compared to publishing a scientific box score long after the event spectators were not allowed to witness is over. Human experimentation is serious business, not entertainment. (p. A17)

Altman also said that critics of Humana's publicity fail to realize that their criticisms only increase the publicity. He said that publicity is necessary if taxpayers continue to fund research, and that it has helped educate the public about heart disease, echoing his statements on the matter in previous columns.

Little appeared in the Times during the month of January, as Altman moved on to other stories. Two stories are worth noting, however. On January 7, the Times carried an editorial, "The Heart of the Experiment," which argued that while no experimental drugs are allowed on the market without approval, the artificial heart experiment was proceeding with virtually no regulation. It called the surgery "as experimental as you can get" and advocated more thorough review.

Several reporters called Altman's "Doctor's World" column of January 15 the best perspective written on the Schroeder implant. Again, Altman's training as a physician gave him special insights as he wrote a story of doing rounds with DeVries. The column described DeVries' exchanges with his most famous patient and eloquently echoed the pace of the heart surgeon's rounds as he looked in on other patients. Altman's words let DeVries' actions speak for themselves, as the surgeon listened, observed and made decisions.

On January 20, Altman told the story of an implant that almost occurred as he wrote about a patient in whom DeVries almost used the heart as a bridge until a transplant could be found. Altman noted that, for many, the bridge was the best potential use of the Jarvik-7 (prophecies of things to come) since many people who might be candidates would not want to be tethered to a machine for the rest of their lives. The potential implant patient received a human heart, however, and the surgery did not come to pass.

In mid-February, Altman noted Schroeder's condition and his problems with memory and talked about the planned move and the assumption of Schroeder's care by his family members.

A Doctor's World column on February 12 explored the "ups and downs" in the implicit drama of Schroeder's implant. Altman told of the emotions the family had faced in seeing Schroeder up and walking, but with memory loss and a need for constant custodial care. Altman said that the media's coverage of the experiment had given the public "a tiny but much needed window into the complexity of human experimentation." He said it taught them that such experiments don't always succeed the first time. (When Kolff developed an artificial kidney, the first 17 patients died; the kidney worked on the 18th.) Altman criticized the AMA for "talking out of both side of their mouth on the issue" when they urged public education but called publicity a "Roman Circus" (Altman, February 12, 1985, p. C3).

On February 16 and 17, Altman profiled the candidate chosen for the third implant. Altman compared the conditions of the three heart recipients in the two pieces and noted that serious quality of life questions exist since both Clark and Schroeder suffered serious complications. A story filed on the 18th described Haydon's surgery in detail similar to the detail used in initial coverage of the Schroeder surgery.

Altman reported "mixed news" on the 19th, as the prognosis for Haydon seemed good and the forecast for Schroeder given by Lansing was gloomy. He reported that Lansing's comment about despondency sometimes leading to suicide was taken by some local TV and radio stations to mean Schroeder might take his own life. In the afternoon, he noted, Lansing softened his comments on Schroeder's future which had upset the Schroeders and DeVries. Lansing insisted his earlier comments had been misunderstood (Altman, February 17, 1986).

By February 20, the two heart patients were "waving hello to each other" and Schroeder was getting more physical activity. Altman's story included a rare look at how Schroeder was "a little shocked" at seeing Murray Haydon hooked up to a machine like his own.

Schroeder was fitted for a tuxedo for his son's wedding and plans were made to release him to the apartment across the street, a February 21 story said. The story also talked about the Haydon family's first meeting with the media.

Subsequent stories described Schroeder's increased activity as Haydon also recovered. Altman's story on February 21 described Mrs. Schroeder's reaction to the presence of reporters outside the door when her husband was planning an outing. She decided not to take him out and face TV crews because she didn't want him to be frightened, Altman said. When asked about her reaction to televised reports, Mrs. Schroeder responded, "The TV is real close and I can always turn it off" (Altman, February 21, 1985, p. B8).

Over the next few weeks, Times reports provided brief updates on the conditions of the two patients. The two patients met briefly in the hospital corridor and that was noted in the paper's "Ideas and Trends" column. By early March, stories were chronicling Schroeder's mysterious fever and Haydon's bleeding and kidney problems. A March 3 story by Altman described the surgery DeVries undertook to stop the bleeding in Murray Haydon's chest. By March 5, Altman's article noted that the bleeding had stopped and that Humana had cut back on the amount of information provided to the media. A March 5 "Doctor's World" focused on

the role Murray Haydon's family played in his consideration for and eventual reception of the implant.

On March 11, an AP story described Schroeder's first van trip, and on that Friday, a short article noted that DeVries would not let Schroeder attend his son's wedding. On March 17, the Times marked Schroeder's milestone of 113 days with an artificial heart. The paper marked the occasion with a piece by Altman from Tucson, where he had been covering the unauthorized use of the artificial heart for Thomas Creighton. Altman noted Schroeder's landmark but went on to explore the use of the artificial heart as a bridge. On the 114th day, the newspaper reported that Schroeder's recovery was so "routine" the hospital would no longer do regular updates. A brief on the 25th reported that the family had sold story rights to Life.

On Thursday, April 4, the newspaper reported that the date for Schroeder's move to his apartment had been set. Alex Jones wrote on the 5th that the upcoming move fueled debates on news coverage of Schroeder and the question of patient privacy and the "tremendous public hunger" for information. Meetings were held and an eventual decision made that the move itself would be a media event but that Schroeder's privacy would be closely guarded afterwards.

Jones' article was the first Times piece to consider in detail the entire chain of events concerning publicity. He noted the criticisms that Humana had cut the flow of information in the past month. Previous to that, he wrote, reporters praised the operation. Said one reporter, Mark Mayfield of USA Today:

In the early days, Humana gave us exceptional treatment. But the flow of information dried up, not the story, and now we almost strictly deal with public relations people, not with doctors. (Jones, April 5, 1985, B5)

Jones likened Humana's public relations policy to a water spigot, with "the handles of the spigot firmly in the hands of Humana's public relations staff." Humana responded, as Jones writes:

"We're trying to balance everyone's needs," said George Atkins, vice president for public affairs at Humana, "but the patient's and patient's families requests outweigh media requests. We're just lucky we've had a clinical team and patient willing to let us share with the public. (Jones, p. B5)

Jones traced the development of the public relations activities at Humana, noting the criticisms of the AMA and others (who thought photos of Schroeder crying were exploitative). He reported that journalists were generally complimentary about the public relations operation and its NASA approach. But he wrote that Robert Irvine, a Humana spokesperson, admitted that Humana provided "too much access, the news conferences, sometimes two a day, were too frequent, and the doctors grew weary of answering questions from reporters" (Jones, p. B5). Jones then noted that briefings stopped altogether shortly after the rumored disagreement between Lansing and DeVries.

On April 7, Schroeder's move made front page news. Altman reported on the history-making move 133 days after the implant. He described the apartment's special features, and said that the move did not preclude medical treatment around the clock. He reminded readers that Schroeder was still participating in an "extraordinarily risky" experiment.

He talked of the fatigue factor Margaret Schroeder would face in caring for her husband. The story was accompanied by a diagram of the

apartment. In a brief footnote, a second story on the 7th noted that Schroeder left behind "one of the stormiest courses of surgery in heart disease" when he left the hospital.

Like the Courier-Journal, the Times continued its coverage past the date of Schroeder's move. The next month saw Jack Bircham's surgery and death, and a continuing debate over the issues brought to the forefront of consideration by Schroeder's implant six months earlier. Over the course of the next year, the Times carried stories on Haydon, Jack Bircham, and DeVries' struggle with the FDA over approval of the implant procedure. The newspaper chronicled the death of two of the artificial heart recipients--Jack Bircham in April 1985 and Murray Haydon in June 1986.

The Reporter/Physician

The background of the New York Times reporter who led the coverage of both the Clark and Schroeder implants has been noted above. Although Dr. Altman did not respond to the questionnaire or follow-up attempts made for the current study, some of his thoughts and comments on the artificial heart program in general can add to the analysis of the Schroeder coverage in particular.

In addition, his comments in his "Doctor's World" columns in the New York Times illustrated his position on some of the salient issues. As noted in a comment by Irvine in an earlier chapter, Altman was the most knowledgeable reporter on the artificial heart program. He was also known for his ability to cover a topic in depth. As the current study was being done, he had already moved on to another medical topic

of great importance to the public--AIDS--and was covering it in great detail.

Dr. Altman covered the Barney Clark implant at the University of Utah in 1982. If there were a president of the "Barney Clark Alumni Club" of reporters covering Schroeder's implant, Altman would preside. As Irvine said, "Guys from elsewhere would follow the alumni association and listen to the questions Larry, Chris Russell, George, and Bob would ask and would follow their lead, asking questions based on that and not going off on a tangent" (Irvine, May 5, 1986). Thus, "pack journalism" or Swaim's "blackbird syndrome" was an aspect of the media coverage.

The New York Times carried articles on the Utah artificial heart program as early as 1981. Altman said that the implant's importance as a major news story was clear early on. In "After Barney Clark: Reflections of a Reporter on Unresolved Issues," a section of the book After Barney Clark (Shaw, 1984), Altman discussed at lengths the strengths and weaknesses of the Utah public relations and information effort.

In the article, Altman raised questions on nine topics related to the Utah implant. He discussed the news conferences held, scientific papers, IRB's, commercialism, and the NASA analogy for the release of information, among other topics.

In discussing the news conferences, Altman praised Chase Peterson for dealing with a diverse crew of reporters that included both those who wanted to know about Clark's pajamas and those (Altman among them) who wanted to know detailed information on Clark's tests. He questioned the lack of opportunity to talk to the patient (Clark) directly and held

fast to the position he later reiterated in the Schroeder coverage: "It is the business of the press to report the developments and steps, controversial or not, in the process of reporting such a historic case" (Altman, in Shaw, 1984, p. 117).

He also discussed the Catch-22 of the Relman rule in the article. He later took the same position on a "Nightline" segment. "The medical profession says it cannot discuss the case intelligently because there hasn't been enough scientific data. And one explanation why there hasn't been enough data is that the medical journal had rejected the paper because there was too much publicity," (he said about Clark's implant) (Altman, in Shaw, 1984, p. 118). (An article by DeVries was later accepted in the journal, the New England Journal of Medicine.)

One can view Altman's comments on the Clark case in light of what the Humana public relations staff subsequently provided on the Schroeder implant. Again, Relman was critical, as the number of stories addressing the AMA's stance demonstrate. However, Humana learned from the Utah experience and tried to answer those criticisms and to provide more information, at least in the earlier stages of recovery.

Altman also discussed commercialism. The "checkbook journalism" of the Clark case as the family signed a contract with Reader's Digest was repeated in the Schroeder case as the family agreed to an exclusive contract with Life. Altman asked a number of incisive questions about the contract. He also criticized the "follow-up" of information by the University of Utah and forecast interest in the second artificial heart case. (At that time, no one knew that the surgery would be performed in Louisville, not Salt Lake City, and under much different circumstances):

I have heard it said . . . that the media's and public's fascination with the artificial heart will rapidly fade with the second case and that the media attention will be much less. Maybe this will be true, but I'm not sure. There might even be more interest than in Dr. Clark's case. The way you have controlled the release of scientific information and the IRB reports, you have created much more controversy than ever existed. The story is much more interesting now. The public now has many more questions about the program than it did before. (Altman, in Shaw, 1984, p. 128)

Media interest in the Schroeder implant was as intense, if not more so, than the media presence at the University of Utah. New issues arose because the surgical procedure was done by a profit-making company.

As noted in an earlier chapter, Altman had high praise for the Humana public relations team in its initial efforts. His stance was seen in his comment that:

Humana has thus far shown itself adept at public relations. However, there is a side to their efforts that goes beyond the organization's coffers. Good public relations can result in sound public education about a specific experiment and, more broadly, about modern medicine. Communication between hospital and public is a task that many medical schools and research institutions have not done well over the years, although they are showing signs of improvement. (Altman, in Shaw, 1984, p. C4)

Throughout the Schroeder implant story, Altman continued to come out strongly in favor of public information. He was first and foremost a reporter. As a scientist, he said in a Medical World News article (Haggerty and Bankhead, 1984) that the nature of science is to "challenge dogma and ask questions. There's no reason those questions can't come from the outside as well as the inside."

Throughout the coverage of the Schroeder implant, Altman provided detailed coverage, with appreciably more medical details and test

results than were found in other print or broadcast reporting. The Humana situation answered several of Altman's criticisms of the Utah operation, at least in the initial stages. Altman was able to talk to the patient. He went on rounds with DeVries. Reporters received more detailed information.

The amount of detailed information presented a problem. As Irvine would later say, "We gave them everything we had, and they got used to that." It was with a detailed question--Altman's question during the first press conference DeVries held on Murray Haydon's condition--that the problem arose. Altman asked DeVries for Schroeder's BUN level and DeVries answered that, if he wanted it, he could get it from the medical journals. Irvine later said that, at this point in the coverage, the fatigue factor--a very significant factor in such prolonged coverage--was getting to DeVries (Irvine, May 5, 1986).

Significantly, in Altman's coverage he devoted only a line or two in the stories immediately following to the fact that Humana was not providing as much information. Other media paid more attention to the incident, calling it a turning point. The entire issue of "how much information" was not to be raised at great length in the Times coverage until Alex Jones' article in April.

The fact that Altman was a physician as well as a reporter caused the public relations staff to handle him somewhat differently. Irvine called him the barometer of Schroeder's condition. "He's the one who came up with the thought that Schroeder had had seven strokes," Irvine said. Altman always had a good reason for asking the questions he did, Irvine added.

A Comparison of Coverage

Tables 6.7 and 6.8 compare the findings of the content analysis for the content and source categories for The New York Times and the Louisville Courier-Journal. By content, the newspapers were similar across many categories. The Times provided more general information on the artificial heart, less on the review board issue. By source, the Times used less attribution, a reasonable assumption given that Lawrence Altman is a physician. The Courier-Journal used statements from Lansing more, although reporter Mike King quickly noted that the staff relied on sources at Humana-Audubon and not on the public relations staff. Altman had the inside track with DeVries, as he went on rounds with him and was able to converse with him as a physician. King had more contact with Schroeder's physician and other sources.

Table 6.9 shows placement in the two newspapers. The Courier-Journal's view of the story as important to the Louisville community on a continuing basis was reflected in the number of stories found on the first page of the B section. The national importance of the story was seen in the fact that the New York Times carried more than one-third of its stories on the front page.

Coverage in the two newspapers reflected a different personality. Although both newspapers showed Schroeder as a common man's hero, locked in a life and death struggle, the issues they concentrated on beyond the story of Schroeder the individual reflected their different interests. Altman's coverage reflected his interest in the details of Schroeder's

Table 6.7 A comparison of content categories (by paragraph)
by newspaper

	<u>New York Times</u>		<u>Courier-Journal</u>	
	# / %		# / %	
Condition details	319 /	21.6	539 /	19.1
Artificial heart	169 /	11.5	245 /	8.7
Haydon, Bircham	147 /	10.0	291 /	10.3
Schroeder background	31 /	2.1	57 /	2.0
Operation details	55 /	3.7	90 /	3.2
Treatment details	106 /	7.2	156 /	5.5
Humana PR	94 /	6.4	143 /	5.1
Schroeder family	57 /	3.9	140 /	5.0
Schroeder activity	130 /	8.8	180 /	6.4
DeVries	52 /	3.5	48 /	1.7
Humana finance	29 /	2.0	59 /	2.1
Humana background	5 /	0.3	8 /	0.3
Quality of life	8 /	0.5	51 /	1.8
Implant cost	5 /	0.3	37 /	1.3
Availability	3 /	0.1	0 /	0.0
Barney Clark	47 /	3.2	110 /	3.9
Symbion, Jarvik	12 /	0.8	59 /	2.1
Heart, general	55 /	3.7	44 /	1.6
Transplants	5 /	0.3	21 /	0.7
Experiment	23 /	1.6	44 /	1.6
Miscellaneous	83 /	5.6	314 /	11.1
Schroeder comment	29 /	2.0	73 /	2.6
Informed consent	2 /	0.1	7 /	0.2
Ethics	6 /	0.4	9 /	0.3
Commercialization	6 /	0.4	9 /	0.3
IRB	0 /	0.0	25 /	0.9
Review panel	0 /	0.0	27 /	1.0
Lansing	0 /	0.0	39 /	1.4
Total	N = 1475 / 100.0%		N = 2828 / 100.0%	

Table 6.8 A comparison of sources used by the newspapers

	<u>New York Times</u>		<u>Courier-Journal</u>	
	# / %		# / %	
Devries	166	11.3	328	11.6
Lansing	192	13.0	445	15.7
Irvine	49	3.3	128	4.5
Atkins	3	0.2	15	0.5
Other Humana spokesperson	30	2.0	57	2.0
Schroeder family	52	3.5	115	4.1
Friends	4	0.3	32	1.1
"Doctors"	60	4.1	72	2.5
Specific M.D.	56	3.8	133	4.7
Schroeder	61	4.1	49	1.7
Other	25	1.7	317	11.2
No attribution	712	48.3	1020	36.1
Jarvik	14	0.9	43	1.5
Salb	2	0.1	20	0.7
Relman	2	0.1	6	0.2
Gooden	0	0.0	18	0.6
Heimes	4	0.3	6	0.2
Boyle	14	0.9	4	0.1
Fox	23	1.6	18	0.6
Mudd	2	0.4	2	0.1
Total	N = 1475 / 100.0		N = 2828 / 100.0	

Table 6.9 A comparison of placement for implant stories by newspaper

	<u>New York Times</u>	<u>Courier-Journal</u>
	# / %	# / %
Page one	549 / 37.2	1323 / 46.8
Section page one	0 / 0.0	688 / 24.3
Other	926 / 62.8	817 / 28.9
	100.0%	100.0%

treatment and condition, and his position on the implant program as a whole. He also focused on the criticisms of the AMA and the public's right to know about the implant. The review board issue was mentioned only briefly, in the context of other discussions. The coding scheme may have obscured the fact that some discussion of the review issue did occur.

For Mike King and the staff at the Courier-Journal, the story became a community project of sorts. For King in particular, the story became one of public policy. In later speeches, King reflected his feelings that the "focus of medical science journalism switched away from science and turned instead to economic and social issues" (King, December 7, 1985). He says:

. . . a new breed of medical reporter is on the scene now, asking the kinds of questions of physicians, hospital administrators, clinical scientists and the ever-present public relations representatives that have for years been fair game for politicians, bureaucrats, and other professions that dominate the media. (King, December 7, 1985)

His views were reflected in the coverage found in the Courier-Journal throughout the 22-week period. Although Judy Bryant and Mary Ann French wrote human-interest stories on the family and friends, Mike King's and Gideon Gil's stories mixed the story of a personality with the story of a public debate over who decides the future of the implant.

The questions of privacy, commercialization and cost--the ethical issues at hand--were discussed in several analyses in both newspapers over the course of Schroeder's odyssey, but the focus, first and foremost, was on the man and his condition.

CHAPTER 7

THE BROADCAST MEDIA

On the night of the Schroeder implant, the story of the surgery and the man led the evening newscasts on the ABC, CBS, and NBC networks. Figures 5.1 through 5.6 (pp. 87-92) illustrate the findings of the content analysis of the artificial heart coverage by the three networks by date.

The figures in the matrices illustrate the dates on which updates by the Humana public relations office, print coverage and broadcast coverage coincide. The three networks followed basically the same timetable in the coverage of the implant. An examination of Table 7.1 shows the striking similarity in content. All three networks had a high amount of reporting on condition details. ABC's coverage dealt more with the artificial heart program as a whole than did the other two networks, while CBS was more likely to characterize the heart program as experimental and commercial. NBC led in discussion of the Barney Clark case. What is notable here is that both the ABC and NBC reporters were alumni of the Barney Clark case. A later look at sources will show that CBS sought out more experts on camera to discuss the ethical ramifications of the program.

When combined, as seen in Table 7.2, the three networks discussed condition details 23.4 percent of the time. When Schroeder's activities and treatment details are also considered, almost 40 percent of the coverage dealt with those person-specific details.

Table 7.1 Content of coverage by individual networks

	ABC		CBS		NBC	
	#	%	#	%	#	%
Schroeder background	4	2.2	2	1.4	2	1.2
Operation details	5	2.7	0	0.0	5	3.1
Treatment details	14	7.6	7	5.0	9	5.6
Condition details	42	22.8	29	20.9	37	22.8
Humana PR	7	3.8	2	1.4	6	3.7
Schroeder family	12	6.5	11	7.9	12	7.4
Schroeder activity	27	14.7	16	11.5	16	9.9
DeVries	7	3.8	3	2.2	6	3.7
Artificial heart	16	8.7	6	4.3	17	10.5
Humana finance	3	1.6	4	2.9	1	0.6
Humana background	1	0.5	1	0.7	0	0.0
Quality of life	4	2.2	8	5.8	6	3.7
Implant cost	1	0.5	2	1.4	1	0.6
Barney Clark	9	4.9	3	2.2	10	6.2
Symbion, Jarvik	1	0.5	3	2.2	2	1.2
Heart, general	2	1.1	3	2.2	0	0.0
Haydon, Bircham	12	6.5	10	7.2	12	7.4
Transplants	1	0.5	1	0.7	2	1.2
Experiment	1	0.5	8	5.8	4	2.5
Miscellaneous	15	8.2	18	12.9	13	8.8
Ethics	0	0.0	1	0.7	1	0.6
Commercialization	0	0.0	1	0.7	0	0.0
Total	N=188 / 100.0		N=147 / 100.0		N=179 / 100.0	

Table 7.2 Combined content of coverage for networks

	Networks combined	
	#	%
Condition details	108	22.3
Schroeder activity	59	12.2
Miscellaneous	46	9.5
Artificial heart	39	8.0
Schroeder family	35	7.2
Haydon, Bircham	34	7.0
Treatment details	30	6.2
Barney Clark	22	4.5
Quality of life	18	3.7
DeVries	16	3.3
Humana PR	15	3.1
Experiment	13	2.7
Operation details	10	2.1
Schroeder background	8	1.6
Humana finance	8	1.6
Symbion, Jarvik	6	1.2
Heart, general	5	1.0
Transplants	4	0.8
Implant cost	4	0.8
Ethics	2	0.4
Humana background	2	0.4
Commercialization	1	0.2
Total	N = 514 / 100.0%	

When stories were coded for type of news, the three networks similarly covered between 50 and 60 percent as news, with the rest of the coverage being a combination of types. In this case, the combination is primarily hard news and perspective, as the case of Barney Clark as a point of perspective for the Schroeder case figured predominately in the coverage by all networks. Types of news are shown for the three networks in Table 7.3.

By visual mode, seen in Table 7.4, all three networks primarily covered the story with "voice on tape," or footage with audio of the aspects of the implant. Some of the footage was taken from the vignettes prepared by Humana. ABC used more of the still photos taken by Bill Strode and provided through the Humana operation. Copies of still photos were posted as they were available for the networks to use. After mid-February, all networks would use more still photos of events in Schroeder's life, as video crew access to the patient's activities was curtailed because of DeVries' concern for patient privacy.

No significant differences in the use of content categories by the three networks were found when cross-tabulated. This can be attributed to the uniformity seen in the coverage and can be seen in most of the frequencies reported for the content analysis.

The reliability for the broadcast data for the content categories using Scott's π was .40 (the observed agreement was .47). By entire story (not by report), the reliability measure was .58, good for the intricacy of the coding scheme. For story type, Scott's π was .11 although the observed agreement was .61. Coders agreed on the visual mode

Table 7.3 A comparison of type of news by network

	ABC		CBS		NBC	
	# / %		# / %		# / %	
News	108	56.4	82	55.8	110	61.5
Peripheral	1	0.5	0	0.0	13	7.3
Perspective	0	0.0	0	0.0	3	1.7
Combination	81	43.1	65	44.2	53	29.6
Totals	100.0%		100.0%		100.0%	

Table 7.4 A comparison of visual mode by network

	ABC		CBS		NBC	
	# / %		# / %		# / %	
Anchor reads	10	5.9	3	2.0	8	4.5
Graphics	0	0.0	6	4.1	1	0.6
Still photo	19	11.2	2	1.4	4	2.2
Voice over tape	0	0.0	0	0.0	33	18.4
Voice on tape	159	82.8	136	92.5	133	74.3
	100.0%		100.0%		100.0%	

of the reports (see coding form in Appendix). A combined reliability for the broadcast categories was .42.

Here, any problems in the reliability measure may have been exacerbated by the intricacy of the coding scheme and the fact that the content falls primarily into a small number of categories. In the broadcast analysis, the definition of a "report" within the context of an entire broadcast piece also caused some difficulties. Holsti (1969) has pointed out the problems that occur when items can be in more than one category (story and report).

A Closer Look at the Coverage

ABC News was first on the scene with a network piece on the surgery when medical reporter George Strait filed a story that aired on November 22. A second heart recipient was expected, but not identified, as the segment ran. The segment was a perspective on the success of the artificial heart program to date.

In that context, Strait explored the heart as an alternative to death and questioned "At what cost?" An alumni of the Barney Clark operation, Strait recalled the problems with that implant. It is significant to note that, early on, Strait mentioned that Humana officials knew the future of the experiment "hinged on public reaction . . . and Humana has already spent hundreds of thousands of dollars catering to reporters" (ABC, Nov. 22, 1985).

The next day, a brief segment identified Schroeder as the next patient, but no lengthy report was given.

On November 24, NBC entered the fray with a perspective from another "Barney Clark alumni," Robert Bazell as well as companion pieces from other reporters. In the segment, Bazell details the past, using footage of Barney Clark, and presents a detailed, factual piece on the improvements made in the heart and heart drivers since the Clark operation in 1982. He was the first on the air to note Humana's funding of 100 implants. The update was followed by a segment on Schroeder's friends in Jasper. In addition, NBC used a segment with Una Loy Clark saying Schroeder "has a better chance" than did Barney Clark.

NBC and ABC had Sunday night lead pieces on the surgery. Strait's piece used the update given by Humana spokesperson George Atkins and drew parallels to Clark's surgery in 1982. Strait called Schroeder a "new pioneer," the first of many characterizations he was to receive. The network also used--as it did in later periods--a live discussion on the anchor desk with resident medical expert Dr. Timothy Johnson. NBC used this mechanism throughout the first two months to raise some of the issues questions. In the first talk, Johnson noted Schroeder's prognosis and reiterated that the procedure was an experiment. He also noted the "more sophisticated public relations effort at Humana" and said that it would make a difference. The long November 25 report ended with footage of a prayer service in Jasper. The "prayer service" theme was repeated during the coverage of later implants, as almost identical coverage of such services appeared on all three networks for all three implants at Humana to date.

CBS was a late entrant on the national scene with the story, as Ned Potter reported on November 26 with a lead story that was a recap of the implant to that point. CBS's coverage began after the actual operation and lacked the detail of operation activities, focusing instead on Schroeder's condition.

ABC and CBS ran stories the day after the operation as well. Several differences in coverage by the networks are apparent even at this early date. After surgery, excessive bleeding meant that Schroeder returned to the operating room the same evening for repair of his aorta. NBC's Bazell covered the problem by saying that doctors had to rush Schroeder back in, but "despite the problem," all is well. ABC's Strait covered the problem in more detail, specifying how much blood was lost, saying the second operation "devastated" the family. He followed up with a few words from Schroeder's daughter. CBS covered the operation in one sentence, but provided a diagram of the problem.

A totally different approach to the use of other "experts" emerged as NBC used Lansing and DeVries, Schroeder friends and family and Una Loy Clark. ABC used friends and family, but Dr. Johnson as well. CBS used a variety of outside "experts" or onlookers early on. Potter and Lem Tucker were the first to look at the issues of for-profit medicine and the first to talk with AMA spokespersons. The first CBS piece to air brings up the question of publicity in the operation for Humana's profit and the tough ethical question of availability while noting Humana's profit margin. A Wall Street analyst says Humana's move is "wise, as more prestige means more dollars."

At this early date, all three networks in some way still emphasized the "experimental" status of the operation.

Three days after surgery, the patient asked for a beer. All three networks jumped at the story. One Humana public relations person noted such statements were "natural. We couldn't have done better if we'd gone to Central Casting" (Noland, October 10, 1985).

By November 27, ABC also had responded to the criticisms of the artificial heart program at Humana. The corporation's for-profit status brought criticisms that "patients would come first instead of profits. Arnold Relman of the New England Journal of Medicine was one of the most vocal critics--and his comments on the ABC segment pertained to only one of his criticisms. Strait talked with David Jones of Humana who reiterated that "patients always come first." As Strait put it, two battles were now going on at Humana: Schroeder was fighting for his life and Humana was fighting to "prove that quality health care and profits can co-exist." ABC's story on the 27th dealt with the same issues, and had Jones discussing the brand-name strategy Humana had recently put into action. Even at this early date, there were mentions of Schroeder leaving the hospital by Christmas. CBS's segment on that date dealt with Schroeder's prognosis and his request for a beer, adding that a brewery sent over several cases after hearing about his request.

By now, the networks began to settle into ways of characterizing Schroeder. Curiously, he became "the man with the artificial heart" to anchors on ABC and NBC, while CBS was careful to refer to Schroeder as the "world's second recipient of an artificial heart." NBC anchors

erred several times in the first few days of coverage as they referred to the implant as a transplant. As noted in an earlier chapter, the procedures are completely different.

By the 28th and 29th, the networks were still spending considerable air time on Schroeder, discussing his desire for a beer, his condition, and the "Coors Cure." On the 28th, NBC's Bazell talked with DeVries (in one of a series of interviews) about the difficulty of rejecting potential candidates for the surgery. On the 29th, an optimistic report detailed Schroeder's first beer and the excitement of the Schroeder family, as son Mel said that the surgery "brought back the old Dad."

ABC reflected the same optimism, using footage of Lansing saying Schroeder was in "excellent condition" and relating the "Coors Cure" story. The segment also mentions that the hospital has begun planning for Schroeder's release, but that the quality of life question is still "critical" for the patient. On the 29th, the network emphasized Schroeder's activities as he drank a beer and received a plaque from his friends. Strait's report painted a precise picture of much of the coverage as he said that Schroeder had been so sick that even the smallest step has enormous drama. However, he mentioned that trouble--excess mucus in the patient's lungs--kept the staff from losing perspective.

CBS's report on the 29th, while referring to Schroeder's "amazing recovery," brought up another aspect--the doubt of many heart patients about the efficacy of the artificial heart. Potter interviewed the mother of a candidate for a another experimental procedure--the transplant of a second human heart into the chest to aid a failing

heart--and talked with Denton Cooley. Cooley performed the first heart transplant in the United States and said in the interview that the artificial heart should be used only as a "stopgap measure."

On the 30th, the Heimes drive was used for the first time. All three networks covered the test. ABC called it a "milestone," but said Schroeder was tired, while NBC referred to the "postoperative blahs" and CBS reminded the viewers that "ups and downs remain" in the experiment. All networks used the still photos provided by Humana. Footage of pool interviews with Jarvik and Heimes, inventor of the portable drive, were also used.

By December and a week after surgery, the networks were reporting that Schroeder's recovery was better than predicted. Bazell reported on the changes made since Clark's surgery and talked with DeVries again. DeVries said he felt that "people now live in a society where changes occur rapidly and where people now understand that the heart, seat of the soul and site of love, may be replaced by a pump." He mentions heart valves and TV's Six Million Dollar Man, Steve Austin. Schroeder himself would refer to his own status as a bionic man in a bizarre twist of life imitating pop television culture.

Several of the high points of the coverage of Schroeder's first, and most optimistically portrayed, weeks of recovery were the interviews. With a small microphone, DeVries served as a "pool" reporter and interviewed his patient about the heart. The coverage of that interview aired on the networks on December 3. Reporters had their first personal interview with him on December 9.

DeVries' interview produced a segment all three networks used--a moving piece in which Schroeder talked about how the heart feels. "There's no pain . . . it's like an old-timey threshing machine," he said. He also said he wanted to "be the same as he was at 40 years old." He said he felt like there were "10 years off his life" and spoke of "attitudes as the number one virtue." The three networks let the dramatic footage speak for itself. As one reporter said, Schroeder had "the look and the sound of a man on the mend."

The same day (Dec. 3, 1984) ABC brought Johnson on to discuss what the success of the implant could portend for others. Johnson talked of the benefits of implants--unlimited sources and no struggles with rejection--while also detailing the problems. The program could crowd out other procedures and resources, he said, and he spoke of the current "window of rationality" as a time to start talking of guidelines. That "window" he spoke of is the time period before the surgery is widespread and a time period in which he feels careful consideration should be given to all the benefits and risks before the "market pull" of the procedure makes such consideration more difficult.

Subsequent coverage that first week after the implant recalled Schroeder's agreement to test some drugs, his new exercise program, and other details of his "recovery." The networks were still exploring the controversy surrounding the heart program, as NBC's Tom Brokaw talked with Lansing and asked him about the allocation of resources in the program as compared to allocations for preventive medicine. Lansing said the research did not take away dollars from preventive medicine but

instead stimulated funding. Ned Potter's segment on December 6 found Dr. Arnold Relman with new criticisms of the program, as it "instilled hope in the hopeless." He said he felt Humana financed the program for headlines and "eclipsed the individual for the experiment." As Potter reports, the Humana physicians thus found themselves forced to explain the purity of their motives. In addition, Potter talked with a medical ethicist, Kenneth Vaux, about fundamental values in health care. He also closed the segment with a query--Does Schroeder's case signify a shift in medical care in the country?

On December 10, a pool interview with Schroeder took place. Dr. Altman and George Strait were the reporters chosen to do the piece. The emotionally charged footage was used in different ways by the three networks. NBC provided details on breakfast and new pajamas, and then used the close-up portions of the tape as Schroeder said he was a "bionic man" and referred to his "real new purpose in life . . . to be with God." The tape lingered on close-up as Schroeder began to cry and turned to his wife.

ABC ran a longer piece, since Strait was one of the pool members. Strait asked Schroeder about the heart as the center of emotion. The patient answered that "it don't matter to me, I got a new one," and the emotion was clearly present as he spoke. CBS did not cover the interview.

What began as a photo opportunity for all three networks ended with very similar stories on Schroeder's savvy on December 12. The networks all portrayed the patient's ability to cut through the red tape as he

talked with President Reagan on the telephone and brought up his problem with Social Security. The brief segments on all three networks on the 12th dealt with the call itself, while the next day dealt with the hand delivery of a check from the regional Social Security office. All three networks then dealt to some extent with the "what about others who can't talk to the President like Schroeder did" question.

The next day brought a different tone to the network coverage on the implant. The optimism of previous broadcasts was a harsh counterpoint to the news on December 14, but the three networks phrased their lead-ins with the "recovery" aspect. Optimism, it seems, still prevailed even in the face of the stroke Schroeder suffered on the evening of December 13.

NBC led with the notion that the stroke was a "frightening time" for all but that the patient was "recovering brilliantly." The network's report centered on condition reports and a description of how the stroke occurred. Dr. Lansing, on the program live from Louisville, admitted the stroke caught everyone off guard. As he said when asked if expectations for the patient were too high, he replied, "Bill Schroeder did so exceptionally well for two and half weeks that, yes, all of us forgot. We got too enthusiastic."

Lansing called the stroke a "sobering influence" in the ABC segment on the same date. Strait covered the particulars of what causes strokes in general and posited causes for Schroeder's stroke.

CBS's Karen Stone said the stroke as a "severe blow to all." Her report focused on Lansing's update. The segment included a look at the reactions of Jasper residents to the stroke.

CBS rounded out its coverage of the stroke by bringing in part of a perspective piece Ned Potter had been working on in California at the time. Potter talked with ethicist Art Caplan of the Hastings Institute and with Norman Cousins, who said "Don't lose perspective. This program is not the key to all problems." Potter reminded viewers that the heart couldn't cure Schroeder's diabetes, for example, and commented that the stroke was a reminder of the fact that the implant was very much an experiment, and one with a cloudy future at that.

The next day's coverage found even the optimism of the previous day's reports tempered again for CBS. The network produced the most coverage on the week of the stroke, as Karen Stone talked with DeVries about the patient and about his own reactions. All three networks provided condition updates on the 17th, saying that the stroke was much more severe than initially expected and using footage of Schroeder's neurologist discussing the problems Schroeder was having and finding Lansing backtracking to explain his previous optimism. Visuals of Schroeder showed a man who had obviously suffered a stroke.

All networks spoke of his brilliant struggle, his tough battle and his perseverance, with NBC painting a tenuous picture of the stroke, while ABC noted Schroeder's "tough battle" and CBS spoke of the long road to recovery.

Sporadic coverage for the rest of the month largely dealt with condition reports on Schroeder and reports of his activities during the holidays. The story NBC told during that time was one of mixed feelings, as the stroke made the patient a "different man." The few stories reported on tests, reported conditions and shared the Schroeder family's perspective on the turn of events.

ABC reminded the viewing audience that the recovery was very much a roller coaster. In an attempt to provide the seasonal tie-in and obtain reactions to Schroeder's condition, Strait interviewed children who sang Christmas carols with Schroeder. By December 20, Brokaw was talking about an "artificial Christmas tree for the man with an artificial heart." On Christmas eve, the network piece reported a study which said the heart did not cause the strokes, gave condition reports from physicians, and first reported that the hospital was looking for an apartment across the street for Schroeder's eventual use. Margaret Schroeder, in the segment, referred to events by saying "he's alive, and that's the best present of all."

CBS coverage in the last part of December again found the network using the Schroeder implant as a basis for related stories. Potter painted a contrast in Schroeder's condition in November and December and said the patient's request for a tree showed his "interest in the small pleasures again." The segment then tied Schroeder's problems with depression to a piece on the Wellness Community in California, where cancer survivors gathered who had decided to "fight off disease" with good

cheer. Both NBC and CBS did short Christmas day pieces on the Schroeders' plans.

During the first part of 1985, the implant story dropped out of the news. The fact that it dropped out at this point is probably not as remarkable as the fact that, given the usual air time for a story, the Schroeder story was so continuously covered during November and December. January would bring only condition reports from NBC.

In January, except for his bout with the flu, Schroeder's condition was not a story item until a new heart candidate was announced. NBC jumped the gun with a brief piece proclaiming Wilbur Nevils as a candidate, but the official announcement of Murray Haydon came on February 15.

ABC and NBC carried brief pieces on Schroeder's birthday. Strait's ABC report was considerably detailed, recapping the interviews with reporters and giving a status report on the patient's current condition. As Strait said, the "intense drama" of the recovery tended to obscure the fact that it was, and is, an experiment. He talked about Schroeder's surgery as a living test of the reliability of the heart valves used in hundreds of people each year. The report also turned to Art Caplan, a previous source for another network, as he said that the government and the public were not ready for the heart, that many had wanted to wait on the Cleveland Clinic's hydraulic artificial heart. The segment also emphasized that the future of any of the experiments depended in part on public acceptance of their scientific merit.

On the 15th, Murray Haydon was introduced as the next candidate for an artificial heart. The coverage then, and the next day, roughly went over the same ground as it had in introducing Schroeder--the brief biography, the friends in the hometown, the illness. On the day of surgery, vigils at the Haydon's church were covered.

ABC and CBS covered the surgery on the 17th, with NBC joining on the 18th. All used the footage of Dr. Lansing giving updates. As an aside, information on Schroeder's condition was provided in each report.

On the 18th, a news conference on Haydon's condition was held. However, most of the questions were directed to Dr. DeVries about Schroeder's condition, since, as one reporter noted, "we heard he wasn't doing so well." During the conference, Lansing said that he was pessimistic about Schroeder's recovery and that "he might never leave the hospital." The assessment reportedly infuriated DeVries. Two of the networks covered just his statement, but ABC's Strait noted that "after discussion with Humana public relations officials and Dr. DeVries," Lansing returned later to change his assessment while denying he was pressured to do so. He apologized for upsetting the family.

ABC noted this and was the first network to pick up on the changes in information flow on the "Pump Boys" as NBC labeled the two artificial heart patients, although NBC had briefly noted on January 20 that Humana was cutting down the number of briefings.

The networks discovered the change in mood gradually. Bazell noted on February 21, as he reported on Schroeder took a first trip outside, that the photo opportunity was the first in several weeks. Bazell

asked Margaret Schroeder if she was upset with some of the coverage as had been rumored. "Yes," she said, "a few things have been misinterpreted but the TV's close and I can turn it off." Bazell's next segment (Feb. 22) discussed the changes, saying that a chapter of an experiment done in public view had "come to an end." Bazell's report said Humana had wanted publicity in the initial stages, but that DeVries was now "fed up," that he didn't want to be influenced by what the newspapers were saying, and that some remarks had upset the family. Bazell said that DeVries felt the patient was being affected adversely and that he would be served better "if the program was taken out of the spotlight."

On February 24, a report noted that "there were no photos of recent activities," since Humana was "clamping down" on press coverage.

CBS did not cover the split until March 10, as it had no segments from February 19 until that date. On March 10, Karen Stone recapped the past month as she reported on a surprise trip Schroeder took and noted that the Schroeder family did not want media attention. She then referred to an incident at the February news conference which was covered in the print media but not mentioned in other network coverage. When Altman asked DeVries a question about Schroeder's BUN level, DeVries shot back, "I'm not going to tell you." From that point, she said, media attention was reduced. DeVries noted that "patient privacy outweighed public curiosity." Several experts quoted in the piece welcomed the change in attitude, as one said "it was time to turn down the lights of publicity," while others--Barton Bernstein among them--held that the

work didn't justify secrecy. DeVries said he would provide detailed information on the next implants in medical journals.

The networks noted very little following the change. Schroeder's activities were briefly covered, and other stories on the heart's use as an artificial bridge came into play. ABC noted that Schroeder wouldn't be able to attend his son's wedding in Jasper and CBS and NBC provided some wedding footage.

CBS noted on April 3 that a move was pending. Finally, the three networks returned to cover Schroeder's move 300 yards to an apartment across from the hospital on April 6. All noted DeVries' description of Schroeder as a "giant" and used footage of the move.

In their book, Nightly Horrors, Nimmo and Combs (1985) contended that network news "defines critical situations for viewers" and that the networks define stories in their own ways. Altheide and Snow (1979) used the term "media logic" to define how a news story is organized, and how different media tell it. Nimmo and Combs suggested that differences may also occur among networks, as did others before them (Karp, 1982). The two authors suggested that the networks have very different personalities in their portrayal of crises, as indicated in a cover note to their text:

CBS relies on interpretive reports from official sources. The overall purpose of their reportage is to make the awesome seem manageable.

ABC, taking a different tack, features as lead actors ordinary people, whose accounts stress hardship for the common man. The crisis, far from seeming manageable, becomes the subject for ever-intensifying alarm.

Resignation is the byword for NBC's crisis coverage . . .
(Nimmo and Combs, 1984, jacket notes)

While coverage of the artificial heart was not crisis coverage, differences in the networks were apparent. Some parallels to Nimmo and Combs were found, as CBS relied on reports from "experts" to a far greater extent than did the other two networks. ABC relied on medical reporter George Strait, resident "expert" Dr. Timothy Johnson and, later, outside experts such as Arthur Caplan (who appeared first on CBS). NBC used more footage from spokespersons at Humana.

A difference in personality emerged, too. The personalities differed from those seen by Nimmo and Combs in crisis coverage. NBC portrayed an "amazing" story in the first few weeks, ABC was amazed but a little skeptical, prone to mention a down side for every highlight, and CBS used the man and the implant to bring questions and critics to the stage.

The Reporters

Network reporters leave their marks on their news stories. The differing personalities of the three news networks depends in part on the people reporting and producing the news segments. What they see as important is what we receive as the story. A reporter's judgment of news values provides his or her "frame" for the news story. The reactions of the network reporters to the issues and events of the Schroeder implant become important. Past events in their own lives, and their own

philosophies, are inextricably wrapped up in the "objectivity" of reporting.

In the current study, reporters responded to questions patterned after Grunig's situational theory and questions on other specifics of the coverage. Also, reporters' responses to Humana's actions help portray the flow of information. It is worth noting that several of the network reporters were graduates of the "Barney Clark Alumni Club" (Irvine, 1986) and therefore brought experience--and some expectations--to the first Louisville implant.

Two of the network correspondents responded to the study questionnaire. A third did not, but his views can be ascertained from an article he wrote for The New Republic.

In terms of variables patterned after those of Grunig's situational theory, reporters said the Schroeder story was one of high involvement. The story was a day-and-night event for the first week. Often, when reporters weren't in Louisville during the first few weeks, they were pursuing related stories. Ned Potter, for instance, was preparing a perspective report from California when Schroeder had his first stroke. Karen Stone, now of ABC, stepped in. As one reporter said of his level of involvement,

I found myself saying, "Here I am in the basement of the Louisville Convention Center and I have no idea if what's happening here is important to the rest of the world, but it is important to me--every time I feel a twinge in my chest, or think about human mortality. Perhaps there is a little less mortality today." (Questionnaire, 1986)

The same reporter admitted that, after Schroeder suffered the after effects of surgery, the story lost many of its global implications (Questionnaire, 1986).

Reporters found constraints in the information flow from Humana. However, they were as quick to praise the company's actions as they were to criticize:

Humana put on very professional and slick presentation. They provided the media with timely, accurate information. To some, they provided too much information. But it was not the whole story. We were never given information that would look bad . . . like the cost of the procedure, and when the medical procedure started to deteriorate, information, while accurate for the most part, was slow in coming. (Questionnaire, 1986)

An obvious major constraint was the filtering of information by Humana--especially since the organization tried to provide a lot of information despite reporters' lack of access to the primary sources. Dr. Lansing said a lot, but ultimately he did not speak for DeVries, the Schroeders or for the Humana Corp. itself. (Questionnaire, 1986)

Reporters' referent criteria for coverage of the implant included covering the first artificial heart case, and the development of the device, and past work on medical, scientific, and technological stories. One reporter cited experience in talking to people involved in other major events, and another added, "In addition, after 10 years of covering news events, one knows what to expect from even the most 'helpful' public relations group" (Questionnaire, 1986).

Reporters defined the major "problem" or indeterminate issue, in the implant as issue-oriented, while key players at Humana saw the problems as more organizational and structural. This finding points to the different "frames" that individuals bring to a story as determined by

their organizational role and by circumstance. Broadcast reporters defined the problem differently:

Scientifically and ethically, would the heart give a life that was worth living. And are such public displays of research experiments invasions of a patient's right to privacy. (Questionnaire, 1986)

Problem: quest for longer life, progress of technology, hope for life of the individual. Indeterminate: Will it work? What is the cost--both economical and spiritual? (Questionnaire, 1986)

An article in New Republic by Robert Bazell points out the problems he found in the Schroeder implant in a comparison of the Louisville operation with one that preceded it by only a few weeks, the Baby Fae operation. Bazell paints his perceptions of the issues at hand as he compares the two operations:

Each attracted scores of reporters, working in an atmosphere more appropriate to a major sports event than to a serious scientific or medical undertaking. In each case, the information relayed by us reporters (which ranged from significant medical data to idiotic trivia) gave the public the chance to root for the underdog--someone who would certainly have died without the operation. . . .

Each case raised innumerable issues about medical care, including the ethics of experimentation, the costs of the latest high-technology adventures, and the appropriateness of heroic intervention. Each case aroused a chorus of criticism, much of it clearly grounded in jealousy, from physicians in other places. And--most important--each afforded an institution outside the medical establishment a chance to try to make itself known. (Bazell, 1985, p. 17)

He notes, however, that the Loma Linda story and the Jarvik-7 story differed, as the artificial heart project was a "well-grounded, carefully considered research project" while the Baby Fae operation was "questionable at best."

Other perceptions of the issues varied. One reporter broke them down into "personal--the health of the patient, philosophical--cost/benefit analysis, intrusion of media, informed consent and science in the sunshine, and scientific--progress of the experiment, Schroeder as a pioneer, is it right to implant a device, just because we can" (Questionnaire, 1986). Another reporter describes his very personal reaction to the issues he found in the case:

I found myself most interested in the philosophical or spiritual questions created by the experiment--the implied quest for immortality; the elevated importance of the individual (both doctor and patient) in this case, and the meaning of the artificial heart experiment to others, now and in the future, with similar medical problems. The questions of experimentation on human beings and the future possibilities of medical technology were also given life.

After the first few days, Mr. Schroeder's daily progress became relatively unimportant to us--15 seconds of information at the beginning of the story to give it a "hard" lead, but after that we would try to make a transition to a broader subject. Obviously, this changed after Mr. Schroeder's first stroke. . . . personally, I was least interested in sociological questions ("Who's going to pay for all this?) because I thought the artificial heart experiment was a poor example of the question. (Questionnaire, 1986)

Sources used by the network reporters included Humana doctors, public relations people, outside scientific sources, and government officials (Questionnaire, 1986). Reporters said they did not use the briefing book very much. They did not see the book, a central part of Humana's preparation, as important.

Robert Bazell (1985) describes what he found available from Humana's public relations department as he said:

After Schroeder got his artificial heart, we were greeted with a public relations operation to match any I have ever seen.

Doctors were available for two briefings every day, as well as for live appearances on the early morning network shows and the evening news. There were videotapes, photographs, copies of the consent form Schroeder signed before the operation, even pathology slides of his old, diseased heart. (Bazell, 1985, p. 19)

Another reporter describes the search for sources:

For basic information, we had to rely heavily on Humana, either in briefings or by cornering Drs. Lansing and Devries whenever we had a chance. Early on, I did not terribly mind this. I recall a local TV reporter complaining, "We have no access to the patient"--to which I gently suggested that we all file into the operating room.

As time went on, unfortunately, it became clear that Dr. Lansing was sometimes trying to give answers for which he was unequipped; e.g., Feb. 18, when he came to talk about Murray Haydon but got into trouble talking about Schroeder's depression.

Eventually, several members of the medical staff were able to clarify information off the record; in general, they made the story more rational and less sensational than it might have otherwise sounded.

We also scoured the country for cardiologists, bioethicists, cardiac surgeons, etc. who would be willing to comment. (Questionnaire, 1986)

While praising Humana for its public relations activities, the network reporters also had criticisms and views on the changes in Humana's public relations strategies. Comments from reporters illustrate their perceptions of the changes:

Like most institutions, when things start to go bad, they "circle the wagons." Humana did the same. Dr. Allan Lansing even went so far as to downplay the extent of the damage. When it was discovered that Lansing had intentionally or unintentionally misled us, a major credibility problem ensued. Relations between the media and Humana became increasingly less cordial. One effect was the removal of Lansing as the chief spokesman. That was a laudable attempt to reestablish credibility. It was also done to help the Schroeder family.

They lost faith in what Lansing was telling them. (Questionnaire, 1986)

Another reporter notes that, following the stroke,

. . . my impression was that Humana, while trying to put the best possible light on things [Schroeder's "astounding" rate of recovery, etc.] was basically continuing what it had done before.

I thought there was a much greater change by the time of the implant on Murray Haydon. By then, Humana wanted to say less, was worried about Schroeder's condition and unprepared for the flood of questions about him. Little coordination between DeVries, Lansing and PR resulted in the famous debacle over Schroeder's first wheelchair ride. It was unclear the morning of Feb. 18 how much Lansing was changing his answers to quiet the furor his comments created, and by the time DeVries came to give a briefing that Friday, the only remaining story was the bad blood between Humana and the media--not worth national attention, I thought. (Questionnaire, 1986)

The change--or perceived change--in information flow brought up questions of patient privacy. One reporter said that "agreeing to take part in this experiment in like going into public life" but he wondered if the family realized the extent to which their private life would be held to public scrutiny (questionnaire, 1986), while another elaborated:

Until the big change in February, I thought the Schroeders were being treated fairly well. Access to them was filtered by Humana, but not unreasonably; we got to hear from them at staged briefings . . . and I preferred not to push beyond that.

The debacle of Feb. 18 [when Lansing was misquoted as calling Schroeder "suicidal"] changed everything. There was no longer any relationship between the family and the regular reporters, and it only got worse.

LIFE magazine did serious harm by bringing money into the picture. One avoids checkbook journalism, not because it is expensive, but because it invites the newsmakers to make their story more lurid. (Questionnaire, 1986)

The network reporters were asked to take all aspects of the case into consideration and react to the criticisms of Humana and the artificial heart program they themselves had covered. As one noted:

Criticisms of Humana from the Eastern medical establishment are gratuitous. Humana did its best. They hoped for positive feedback that would help its image and presumably inflate its profits. I see nothing wrong with that as long as the patient's dignity is not sacrificed. I don't think it was. Schroeder's case is a human adventure, as is any pioneering event. He and his family are interesting . . . Humana chose to personalize the story and for a while was successful. The danger, of course, is when you get to know interesting people and develop affection for them, the reaction to their demise becomes greater. America got to know Bill Schroeder, and therefore grieved at his debilitating strokes. Instead of muddying the ethical issues, I think personalizing the story brought them into sharp focus. (Questionnaire, 1986)

Bazell notes that "Humana simply wanted to get the story out" and quotes David Jones desire to establish Humana as a brand name. He questions Humana's presentation of the information in the "best possible light" and cautions that, while exotic medical procedures can help, they are "indeed experimental, and often they do not work." As he writes, "In the end they run the risk of attracting considerably more bad publicity than good, despite hopes to the contrary, it takes more than one operation to make any medical establishment 'number one'" (Bazell, 1986, p. 20). A third reporter summed up the nexus of factors in the coverage of the Humana implants in an eloquent answer:

Did Humana take advantage of us in its quest for public exposure? Yes, but they succeeded largely because we took advantage of them with their outpouring of pictures and information. Compare the television coverage of Schroeder's story to that of Barney Clark's; the major difference was that Schroeder's was easier to illustrate. There was a similar level of interest in the new lifesaving device, and much of the same waxing poetic about the "courage" of a man on the

brink of death; at Humana, though, we had quotes from the patient himself . . .

In the heat of the moment the extent of Schroeder's stroke damage was successfully played down--but Clark's psychotic episodes, depression, occasional requests to die, etc., did not become public knowledge until long after the headline value of the story had dwindled.

Perhaps this is not altogether bad. I do get the impression that the public was fully persuaded that artificial hearts are imperfect, but fullblown exposure of every unpleasant detail was not what did it.

Nevertheless, it is true that the Schroeders became convenient vehicles for personalizing what might otherwise have been a clinical story. It certainly was a clinical story to DeVries, who asked, "Why all this canonization of the patient?" The answer is that, for better or worse, news media react to the story on a personal level--and so, I think, does the audience. The technology of the Jarvik-7 heart is less complex than, say, a kidney-dialysis machine. But the artificial heart has commanded attention because of the implications it seems to have for the human spirit. Does it save souls? That is too grandiose a question to be answered on tight deadline, but I think the question was implicit, and the soul being tested was William Schroeder's. (Questionnaire, 1986)

CHAPTER 8

SUMMARY, CONCLUSIONS, AND IMPLICATIONS

Summary

This study of the second artificial heart implant examined the manifest content of the coverage in selected media, the flow of information from Humana and the involvement of key personnel. The study used Grunig's science communication model and situational theory as frameworks for considering the complexities of medical coverage in one specific situation.

The study followed the coverage in The New York Times and the Louisville Courier-Journal as well as the coverage on ABC, CBS, and NBC. It employed interviews with key reporters of the event, content analysis of the manifest content of the census of coverage in each of the specific media, and a descriptive narrative of events.

To ascertain the flow of information from Humana, Inc., and the impact of the event on the corporation, the study used interviews with Humana personnel, primary and secondary documents, and a descriptive narrative of events.

There were numerous questions. One, concerning the kind of information found in the coverage, was answered by the findings on the manifest content of the coverage. An extensive analysis of print paragraphs and broadcast reports within their larger context showed that from one-quarter to one-third of both print and broadcast coverage dealt with

the details of William Schroeder's condition. Discussion of treatment and activity details often brought the total percentage close to half of the entire content of the coverage. Thus, the speculations that the coverage focused on the man and shortchanged discussion of the issues were well-founded. Reporters noted, however, that the story of the man was their way of informing the public about the artificial heart in general, as they employed the conventions of journalistic writing and conveyed information on a complex topic by personalizing it.

The content analysis of the coverage and a matrix of media activity revealed similar patterns of coverage from the three networks. In the study, "pack journalism" was more a matter of the "Barney Clark Alumni Club" (both print and broadcast reporters) covering the event and responding to the information provided by Humana, Inc.

The newspapers showed some similarities, but the personalities of the reporters (or reporting team) could be seen in the coverage. The New York Times coverage focused on the medical and technical details and on the issue of the public's right to know and the AMA's criticisms of the publicity Humana and Dr. DeVries received from the event. The Courier-Journal printed almost twice as much information as the Times. The coverage provided detail on Schroeder's condition but also focused on the public policy issues.

Significant differences were found in the print coverage, but they were primarily due to the difference in amount of coverage. Both newspapers used about 20 percent of the coverage for condition details. The

New York Times used less attribution and the Courier-Journal referred more often to other sources.

The broadcast media covered the event with different emphases. NBC portrayed the wonder and amazement of the implant, while ABC tried to play a positive/negative balance and CBS used the coverage to bring other questions forward. The three networks also used different approaches to sources. ABC relied on resident experts, NBC relied more on Humana footage, and CBS brought in more outside experts.

The information flowing from Humana came primarily from the medical spokespersons or other "unnamed sources." The public relations operation was examined and described in the study. Extensive "media anticipation," a term Robert Irvine uses to describe Humana's planning and actions, was found. A medical communications model was drawn for the flow of information from Humana. It varies from the science communication model in that more key players interact in the information flow and a central figure--the patient--exists and is the center of concern for many issues, among the privacy and the very fact of information flow. When an individual life is at risk, it is hard to make abstractions.

Each medium performed within its technological capacities and exhibited those capacities when examined--that is, the print media provided detail and the broadcast coverage "transmitted" Schroeder's experience visually and verbally. In both the print and broadcast coverage, Schroeder was seen as the common man's hero, with the networks covering "the man with the artificial heart" as a star on his own stage during

the recovery and as an embattled, despondent but brave hero after the stroke.

Humana's information provision occurred in three stages: (1) planning from July to November, (2) the initial surgery and recovery, and (3) the stroke and poststroke.

Extensive preparations were made in the planning stages as the public relations staff learned from the coverage of the Barney Clark implant in 1982 and planned accordingly. The staff's planning won the public relations profession's highest award, the Silver Anvil, in 1985.

Humana's public relations personnel served as facilitators, initiators and translators of information about the implant. During the first 22 weeks of coverage, staff members served both in a functional sense--supplying information--and in a functionary sense, interpreting the needs of the media to the physicians and to the corporate management. During the first two months, Humana, Inc., was an open system. As time went on, the system, while not completely closing the information flow, became less open.

The staff's provision of information during the initial surgery and recovery was commended by most of the reporters covering the implant. During the recovery, a tendency to over-optimism was noted both in the updates given to the media by Humana personnel and in the resulting media coverage. The key players involved corroborate such an optimism and readily admit that both the media and the staff got caught up in it.

Both Humana and media sources corroborate that a change in Humana's provision of information occurred following Schroeder's stroke, although those interviewed pinpoint different beginnings for the change.

Situational variables for the key personnel in the implant coverage were explored. The study found that, for the specific players, definitions of problems varied. Humana staff members saw organizational structures as the problem while reporters saw the issues of the implant as the problem. That is, for those individuals within the corporate structure, the central problems were those of getting the information out and dealing with the different personalities involved in a corporate structure. Public relations practitioners are "boundary-spanners" and as such, they must assume, in part, the perspectives of their publics and translate them to management. Translating the media's need for information to individuals in a situation where privacy and organizational concerns are more immediate to most individuals is frustrating. It is a situation that medical public relations practitioners face continuously, and thus it is one which remains as a central problem. Reporters, however, constantly must report new angles on the same event when it is of a continuing nature, therefore their focus is one of issues and changes, not organization structures.

Constraint recognition varied also, as reporters viewed changes in information flow from Humana as a constraint while Humana personnel named internal factors--differing personalities and job expectations--in handling that information flow. For all concerned, the situation was one of high involvement.

In his situational theory, Grunig says that constraint recognition and problem recognition determine how actively one communicates. However, a high problem recognition and a high level of constraint were not barriers to communication in the coverage of the artificial heart, as both Humana personnel and reporters were in a situation where active communication behavior was forced by the structure of the job--as staff members or reporters "lived the job" or communications behavior was restricted by the job when Schroeder's stroke, DeVries' concerns about the media and the AMA's criticisms by organized medicine contributed to the change in the information flow.

Limitations of the Study

The study is, of course, limited in its application to other situations. The findings, however, provide some key questions which can be studied using methods that allow generalization. Interviews with primary personnel and examination of primary and secondary source documents provide an in-depth look at the situation which a more generalizable study would not have provided.

As noted, both primary and secondary sources were used. Observations were corroborated among those interviewed. The documents examined were authentic. Internal criticism of the source documents finds that the documents examined were factual, in so far as they represented the perception of the event by a Humana staff member or member of the media. Examination of the documents, corroborated by interviews, shows that the coverage did contain a high level of detail and that a change did occur

in the flow of information from Humana. Multiple causes existed for the change at Humana.

The content analysis also found a high level of detail in the print and broadcast coverage. Reliability--or internal validity--measures ranged from acceptable to low in consideration of the variables when coded by the scheme developed for the study. The problems in replication between coders occurred because of the intricacy of the coding scheme and the unit of analysis. The problems with the reliability measure of Scott's π , used to code nominal data, have been explored in previous chapters. However, there may be some problem in category agreement if coders replicated the study.

Krippendorff says content analysis can be considered valid to the extent that its inferences are shared by independently obtained evidence. Given the supporting evidence of the interviews and a qualitative examination of the documents analyzed, one can state that the observations of the content analysis show validity in correspondence to the observations of the personnel involved in the event--for example, that the observations on the detail found in the media were reflected in the comments of those involved in and observing the event. One may hypothesize that the results of the content analysis would have predictive validity for other medical coverage involving human experimentation, for example.

In summary, the study is limited in its generalizability to other situations, but it serves as a solid groundwork for a study across medical reporting situations. As well, it provides an important historical

look at the coverage of the second implant and provides a platform for the examination of the problems and issues found within the situation.

Conclusions from the Study

Commentator Haynes Johnson worried in December 1984 that the most intimate aspects of life were played out in the media now, reducing everything to the level of soap opera. As he recalled:

Recently, the celebration--or exploitation--of the individual has taken another turn. Now we are besieged with real-life dramas that have us hovering around the bedside of an afflicted human being. (Johnson, December 31, p. 23)

The study reported here examined what was actually written and broadcast about the second artificial heart implant. Almost half of the coverage concerned daily updates of Schroeder's condition, his treatment, or his activities. One read and heard about the man, and was left to consider the implications of the "brave new world" technology of the artificial heart on one's own life through the implications for one man's life. Perhaps it is, as Ellen Goodman says, easier to digest a life than a statistic. William Schroeder was famous for "what was done to him." The implications for everyone were easier to understand in a drama of the common man. Schroeder was a "tough nut," a working man who could have been a relative.

While often criticized for the personification of the artificial heart patient's struggles, the news media were only feeding what has grown to be a voracious national appetite for medical news. An individual's struggle with cancer, a saga of discrimination and AIDS, a baby's

fight for life, increasingly find their way to the front page and the network news. Innate curiosity and, perhaps, what Johnson called voyerism led writers to the stories and readers to the "news" that resulted.

Every past medical triumph, every hospital patient had a story, but a story infrequently told. Contemporary readers and reporters espouse a "right to know" about medical experimentation, patients, and hospital treatments. Tension results and conflicts arise as rights of privacy and the public's right to know do battle in the arena of a constantly changing health care system.

Any discussion of ethics fell to the floor of the arena. The larger questions so important in the artificial heart experiment were asked, but they were asked after the fact. Issues were discussed, but an analysis of the manifest content showed them at the bottom of the list. Schroeder's story eclipsed any initial discussion of whether it was ethical at all to personify the heart story and led many heart patients to renewed hopes during Schroeder's initial euphoric weeks of recovery.

His story lent itself eventually to discussions of the availability of the heart for everyone, to actual costs of the implant and the cost in resources to other research, and to questions about the quality of life for a person tethered to a machine. Schroeder's struggles, however, would be reflected by discussion of the issues, not preceded by them. Physicians, reporters, and readers alike essentially forgot the experimental nature of the operation during the weeks of Schroeder's brilliant "recovery," as few critics came forth. The patient's strokes,

and subsequent struggles, elicited ethical considerations and the reporting slowed to a pace that mirrored Schroeder's personal progress after the initial stroke.

Inherent in those discussions, and in Humana's activities, were the core tensions of patient privacy, physician-patient confidentiality, and the public's right to know. Humana's involvement in the artificial heart operation brought other issues into the arena to be considered. Humana, a for-profit institution, promised to pay for 100 artificial heart implants when DeVries came to Louisville from Salt Lake City. The company's motives in sponsoring the heart surgery became an inevitable question. Reporters wondered if the company's heart truly lay with its treasure--was it to research or to the bottom line? Humana officials have said that the operations, and the Humana Heart Institute International, would provide an opportunity for the public to link the Humana name with excellent health care. The company's concern with the enhancement of its name and the business and public relations value of the program was reflected in the caliber of public relations program it planned and the amount of money it spent on "media anticipation." It turned on the "spigot" of information full force, and enjoyed the publicity flow. Paradoxically, its sophisticated and highly praised public relations program became a problem, as pressures from organized medicine, professional differences and the turn of medical events caused the information flow to slow to a trickle. The public relations program was criticized, but the physicians controlled the information flow.

A complex number of factors caused Humana to turn off the torrent of information. Schroeder was a stroke patient. He couldn't communicate. DeVries, Humana, and the heart program as a whole had been the targets of extensive criticism from organized medicine and others. The two primary physician-spokesmen had professional differences. One of the most important findings in the study reported here is the sheer complexity of the situation. A complex nexus of factors caused a turn of events as Humana was criticized in the media and the corporate offices turned away from daily involvement in the Schroeder story. Responsibilities were given to the regional and local spokespersons. A Humana spokesperson admitted, in retrospect, that they had erred in providing so much information initially. Their "open system" initially magnified the changes made after Schroeder's stroke and during Haydon's first weeks after surgery. The changes precipitated a noticeable difference in the amount of and topics of coverage, a change exacerbated by Schroeder's lack of recovery.

Many reporters followed the lead of the reporters in the "Barney Clark Alumni Club." The reporters interviewed for the current study said they relied little on the Humana public relations operation, but an examination of the manifest content shows otherwise. What resulted was, at least initially, an event controlled by Humana information. Reporters may have viewed DeVries and Lansing as separate from the Humana public relations operation, but Humana included them in the "media anticipation" team, trained them to respond to the media, and reacted to their decisions on the information provision throughout the period

studied. DeVries himself did not like to deal with the news media, but he knew how important public acceptance of the project would be to its existence, and he acted accordingly.

The stories shaped by reporters from the information provided by Humana and the information they found elsewhere often had amazing similarity, as "pack journalism" became somewhat inevitable. After all, the reporters were in the same briefing area, getting the same information, for much of the initial period. Humana's control and provision of information on the patient was apparent in the print and broadcast stories, but it was initially a control of distribution of the same plethora of information across media. As time progressed, the control extended to content as patient briefings gave little new information--primarily "positive" information, one reporter noted--and then slowed to once a week.

Reporters brought different interests and personalities to their stories. In a way, the reporters reflected the personalities of their specific media. The two primary print reporters focused on different issues. Altman, a physician, is known for his in-depth reporting, as is his newspaper. He was a strong advocate of the public's right to know and be educated about the procedure--in spite of his own training as a physician. King reported on a number of issues, foremost among them the public policy issue of review. His newspaper had battled policy issues in the Louisville community with Humana, Inc., before. As a local reporter, he wrote a saga that varied from local to national in scope. The three broadcast reporters somewhat reflected the personalities of

their networks. Specifically, this could be seen in the reports by Ned Potter of CBS, as his considered reports reflected CBS's role as objective reporter of news using "expert" sources.

No guidelines existed for the public relations office at Humana when it began planning for the Schroeder implant. Many of its activities were based on observations of the events in Utah. The department followed the standard public relations process through research, planning, and communicating but found little time for formal evaluation.

The complex nature of a medical reporting situation requires a model more intricate than that which Grunig proposed for science communication. When the situational variables were explored for individuals, it became clear that different people in the same situation perceived different constraints and problems but, of necessity, responded with active communication and a high level of involvement. The situational theory needs modification because of that observation.

The addition of physicians and patients and families and the factors those relationships bring to media coverage show that the medical reporting situation and the interactions of the communicators are much more complex than those for science communication. Given the preceding study and investigation of other medical reporting situations, a medical communications model would vary from Grunig's model of the relationships to be explored in science communication. Reaction to questions on the situational variables shows that organizational structure makes a difference in perceptions, as do the fundamental conventions of a trade or profession. In the Schroeder case, the organization and the structure

presented the most-readily perceived problems for the public relations practitioners, while the problems for the reporters were those issue problems attached to the conventions and fundamentals of the reporting process.

An examination of the content showed that Schroeder was portrayed consistently as a hero, in that most common mythology of man that Sperry noted. One network followed the drama of the "man with the artificial heart." Others portrayed the struggles. Whatever the problems with the artificial heart program, Schroeder's struggle was not questioned. As Johnson (1984) noted in spite of his concern over the minutiae reported about Schroeder's surgery:

Schroeder has portrayed the finest of human qualities in his ordeal--humor, patience, courage--and a brand of spunkiness and genuineness that is refreshing when so much else seems so phony.

I, for one, and I'm sure I was not only one among millions, felt a personal jolt when the news came that he had suffered a stroke. Without realizing it, I had come to identify with him and his struggle. (Johnson, December 31, 1984, p. 23)

Schroeder as the common man's hero--the plain folk hero--was a pervasive theme in all of the coverage. Two of the networks (ABC and NBC) called him the "man with the artificial heart." Schroeder spoke of himself as a "bionic" man with resemblance to the "Six Million Dollar Man."

In considering the complex network of factors found in the Schroeder coverage, one must ask an essential question which cannot be answered definitively. Who is to say what amount of detail is necessary, or healthy, or enough? To conclude that such detail is an overwhelmingly negative factor would be incorrect. The inclusion of

personal details and features in a story is one of the fundamentals of reporting on an event or person. But is it healthy? When is detail too much detail? When does the detail of a person's life or surgery or recovery occlude the important technological breakthroughs and the fundamental ethical questions about those advances? And when does the detail invade a patient's privacy or the physician-patient relationship? The study provides no easy answers. It does provide a descriptive foundation on which to base further examination of the questions.

In examining the coverage and the actions of Humana and the interwoven sequence of events which occurred, one must sort out the true issues and those which--while communicated through the mass media--grow from those basic issues. In other words, several central issues lie at the heart of any discussion of the heart implant coverage, while others are peripheral.

In the Schroeder case, the question of how much detail is enough or too much grows out of a basic issue of privacy. From that basic issue evolve the questions of featurization, of patient-physician privilege, of the public's right to know. The question of privacy became a conflict that was noted in the coverage (an occasion where the media covered their own actions) when DeVries chose to restrict the detailed information provided on Schroeder's condition. An examination of the February coverage shows a discussion of the physician's motives in taking such an action. Many of the stories speculated as to whether the choice was one of control, not privacy. The issues of patient privacy and physician privacy were central in The New York Times, as Altman

wrote frequently on the public's right to know about the experiment and the educational benefits of such information.

Schroeder had, in fact, signed a consent form which allowed Humana to determine what "privacy" meant. The key phrases in the consent form which came forward as his stroke occurred were "as approved by my physician" and "will protect my modesty and be within generally accepted bounds of good taste." There was no more implicit contract as to what should or shouldn't be released beyond the physicians' opinions and the Schroeder family's opinion. Did "within . . . bounds of good taste" serve as the factor limiting information after the stroke, or did a nexus of factors--concern for a patient's condition and privacy and a concern over AMA criticisms--contribute to the narrowing of the information flow?

The right to privacy can be argued on several grounds--a respect for autonomy, or for a universal human need, or from a right to property. Beauchamp and Childress (1983) took the view that it is "most perspicuously viewed as derived from the principle of autonomy or . . . the principle of respect for persons." They argued that "all persons have a right to privacy that protects unauthorized observation of and reports about their persons" (p. 231). However, Schroeder authorized a significant amount of media attention when he signed the consent form, and later acknowledged that in a televised interview. In effect, he signed over his privacy to his physician, and it is in that act that the considerations of autonomy, privacy, and the patient-physician relationship as covered in the mass media come together.

Other issues are efficacy and availability. From those issues come the questions of commercialization and cost, of Humana's role as a commercial enterprise in the development of medical technology. Some argued that the very existence of the heart program creates a threat to others because it draws funds and attention away from preventive procedures. Others argued that the cost--in money and in quality of life--was prohibitive. Why, they said, spend so much money on one individual while hundreds of others are needy?

This is the clash between individual freedom and limited resources, the "tragedy of the commons" (Gorovitz, 1985). It was a tragedy seldom explored in the coverage, with one exception. When Schroeder received his Social Security check one day after complaining to the President, almost every reporter asked the question: What about the others?

Humana's participation in the program led critics to wonder who would oversee the experiments and what would happen to the technology. As one critic noted, "The technological imperative, particularly when linked to marketability, is powerful. We have . . . almost no effective means to bring such developments to a halt. FDA controls on development are limited and specific" (Jonsen, 1986, p. 11).

One observer felt that the events that occurred were part of the artificial heart team's drive to show benefit, not just to provide information. As he said:

The need to show benefit led to a publicity barrage. Barney Clark was set up as a media event and then cancelled. . . . The same thing with Schroeder. After "prolonging his life," the team was "astounded" by his fast recovery. Schroeder recovered "brilliantly"--how is this done?--from his stroke.

This is not medical research. What a tangled web they weave, when first they practice to achieve. (Preston, March 1985, pp. 5-6)

Some of the issues found in the coverage are somewhat manufactured. The problem of peer review and DeVries' bending to organized medicine's pressures were raised by the very man whose publication would benefit if the operation was done without media coverage and reported by his journal. Criticisms of Humana's actions sometimes overlooked the fact that reporters would have covered the story whether or not the public relations preparations had been made, and probably would have covered it with criticisms of another sort for not providing information.

Coverage of the artificial heart program is one of the factors forcing the technology through a collapsed version of the seven stages in the career of a medical innovation MacKinlay (1981) described. His stages are a heuristic device which highlights the steps in diffusion of a medical innovation. They provide a way to consider the career of the artificial heart as it was affected by the 22 weeks of media coverage.

MacKinlay's stages included (1) the promising report, (2) professional and organizational adoption, (3) public acceptance and third party endorsement, (4) standard procedure and observational report, (5) random controlled trial, (6) professional denunciation, and (7) erosion and discreditation.

It is too soon to forecast what will happen to the artificial heart program as a whole. However, one can make some observations on MacKinlay's stages and the coverage of the Schroeder implant. The heart program went through the first stage of promising reports sporadically

from the 1950s to the 1980s. As MacKinlay said, innovations are launched with an enthusiastic report, increasingly in the mass media because such promises are newsworthy. The heart program achieved the second stage both with its affiliation with NIH and its adoption by first the University of Utah and then Humana. Professional adoption of the program by Humana, in fact, turned out to be a point of criticism. The third-party acceptance and public endorsement of the project came about primarily because of the Humana public relations activities and the media coverage.

For the heart implant as depicted in the media, the public acceptance stage was brief. For a few weeks in November and December of 1984, the public--through media coverage--believed that the innovation was good. Schroeder's stroke and subsequent problems jumped the program to the sixth stage, that of denunciation. Standard procedure and controlled trials were not employed by the Humana team. MacKinlay contends that the acceptance of an innovation has little to do with its intrinsic worth as determined by random controlled trials (a stage DeVries seeks but has not reached in the human experimentation) but more to do with the interests that sponsor and maintain it. In the case of the heart implant, the information available also may have as much to do with the interests that strongly opposed it.

In considering public funding of a new medical technology, MacKinlay (1981) said four criteria should be considered. It is interesting to note that the criteria are also central concerns in the Schroeder implant. The coverage and public relations activities reflect those

concerns--effectiveness, cost efficiency, acceptability, and equality--only in part. However, Humana did note that the issues were topics to be considered in the position paper it issued.

With all the concerns the artificial heart brings to the forefront, it would be easy to say that reporting the condition updates on Schroder's life to the exclusion of reporting the bigger picture was a problem in the Schroeder implant. As Art Caplan said, reporters focus on the human side, not always showing the true issues. But there could be another reason for the focus on the human side--the man and the detail--found in the Schroeder implant coverage.

Social critic John O'Neill (1985) elaborated on his theories about medical technology as he wrote that such technology is a "new frontier, a place for the bureaucratized choreography of professional heroism: one body probing another in the extension of the finest technology in the world" (p. 118). He wrote that such technology "requires us to rethink life, the individual, the family, and society and simply not accommodate its use as we do with television or the automobile" (p. 119).

Using his reasoning as developed in Five Bodies: The Human Shape of Modern Society, one can conclude that Schroeder served as a focus to aid the rest of society in thinking through a relationship to technology, that the increasing ability to "put the body on a machine" requires even more drawing back to the morality of the body and the heritage of anthropomorphism. In the face of the industrialization of the body, the human dimension--the individual--becomes paramount. Within the human dimension, the ethics of patient privacy must be considered.

In conclusion, the public relations activities and media coverage of the Schroeder implant were factors in a complex and constantly intertwining web of events. The heart program itself is partially tied to public acceptance, and that acceptance is tied to Humana's activities and to coverage of the corporation and the Heart Institute. However, it is wise to consider what philosopher Samuel Gorovitz (1984) wrote about the relationship of aesthetics, the media coverage, and the heart program:

Consider Barney Clark once again. One can argue that his story is grotesque, an ugly assault on a gullible, desperate, vulnerable and ill-chosen patient. One can argue that it is a story with great dramatic appeal, and hence with substantial literary merit. Or one can argue that it is a beautiful example of a stage in the process of scientific progress. But no such considerations are relevant to the question of what our policy should be regarding support for an artificial heart program, or even to assessing whether Barney Clark's treatment was justified. Medical care is not provided for the aesthetic satisfaction of witnesses or of health care providers, and it should not be evaluated as if it were. (p. 17)

Although, as Gorovitz said, medical care is not provided for aesthetic reasons, it is imperative that coverage of medical care should be considered and evaluated more carefully. The pervasive nature of coverage can lead it to actual effects on patient care. The study reported here concludes that, from patient to printed page or broadcast story, there are many factors to be considered, factors which have not been considered at length in either the journalistic or medical communities.

Implications for Future Study

The study is rich in its implications for future study. The examination has provided insight into the complexities and nuances of a

medical reporting situation. Those insights provide the basis for future research.

Future research can be suggested in a number of areas. The activities of Humana in providing public relations for the implant have been noted, but few studies have been done on other health care entities and their activities, or across a nationwide sample of health care public relations practitioners. Are for-profit and nonprofit activities discernably different? What protocols and methods for evaluation of public relations activities in the medical sector can be found?

Grunig (1984) called for an examination of sources in the science communication model. Studies of samples of physicians in medical reporting situations need to be done, both to ascertain how the situational variables and how organized medicine's positions on publicity affect them. An examination of the complete communications flow in the manner of the study reported here, but for a sample of institutions and situations, would be an enormous undertaking but would provide more information on the medical model of communication. Such an examination could also take into consideration the situational theory of communication and more fully explore it. As well, the variables could be more fully investigated across a sample of sources in situations where high levels of involvement are mandated.

An entire series of studies is needed on the ethical considerations of medical reporting. In particular, the ethical concerns of patient

privacy, the physician-patient relationship, and the role of the physician as a source should be investigated. The conflict of that nexus of factors and the journalistic tenet of the "public's right to know" is at the basis of the study presented here. Although the study could not focus on that conflict to the exclusion of other factors, it serves as a basis for future consideration of the issue. The issue is one of the central concerns in the burgeoning amount of coverage of medical events or issues today.

What "frames" do public relations practitioners and reporters bring to a medical reporting situation? Erving Goffman (1974) defines a frame as a "scheme of interpretation in which the particulars of the events and activities to which we attend are organized and made sensible." What frames do individuals bring to a medical situation? How do the frames differ? There are many realities in any one event, as the study presented here has shown. What roles do misperception, fabrication or error play in the medical reporting situation?

Another method of analysis that could be more fully pursued is that of dramatistic analysis. The study presented here noted only the primary themes seen for the central character, William Schroeder. A more extensive analysis of this or other reporting situations could identify the roles played by the public relations practitioners and the physicians. Other investigations could follow the methods of Lawrence and Timberg (1979) and others in looking at the dramas and how they are rooted in mythology. An investigation of the mythological roots of the

actors in a drama surrounding an object as culturally significant as the heart would provide rich analogy and detail.

Methodological studies are also needed on the technique of content analysis when it is used in a detailed study. The study reported here used a detailed unit of analysis in an attempt to provide more useful information. Studies on how to increase reliability without sacrificing useful information on a topic would add to the existing literature. Very little literature exists on reliability testing for nominal level data. However, examinations of the manifest content using nominal data can reveal a large base of information, as seen in this study, and more contemporary methods of ascertaining agreement should be investigated.

In Retrospect

Given the conventions of reporting the news and the technological capacities of the media, the continued focus on the artificial heart over twenty-two weeks was an exception to the usual rule. A recent Newsweek (Alter, 1986) article discusses the media's tendency to "skip through the news," evaporating stories almost immediately and doing little follow-through. The artificial heart remained in the news for months, primarily in the Courier-Journal. Although the broadcast media gave the heart story a quicker "half-life," traces of the issues raised by the surgery linger. And the print media followed through, primarily because other events led to a continuing focus on the heart program.

From April to the Present

In the fifteen months since Schroeder left Humana Hospital-Audubon, many events have transpired in his life and in the life of the

artificial heart program. He suffered another stroke on May 6, 1985, and reentered the hospital only weeks after the third artificial heart recipient, Jack Bircham, had died after ten days with the heart.

Recovering slowly, Schroeder visited his hometown of Jasper, Indiana, on August 4, 1985. By August 10, he moved back to the apartment, staying there until he reentered the hospital on November 10 after a third stroke (Hazle, 1986). He is currently a patient at Humana-Hospital Audubon and the only living recipient of a permanent artificial heart.

Murray Haydon, the third recipient of the implant, died on June 19, 1986, of kidney problems and other complications. He never moved out of Humana in the sixteen months he lived with the implant.

The artificial heart program itself stayed in the news. In May 1985, a panel commissioned by the National Institutes of Health recommended that research on the heart continue despite the medical problems that had plagued recipients. It was the first major government report to be issued since Barney Clark's surgery in 1982 (Panel backs, May 24, 1985). A follow-up report said DeVries "was delighted" by the funding recommended by the report (DeVries is, May 25, 1985).

After Schroeder suffered a second stroke and Haydon suffered one in early June, DeVries acknowledged that the strokes could be a "common complication" of the heart (Gil, June 5, 1985). Mike King of the Courier-Journal observed that the setbacks tested DeVries' "tenacity."

In a June 5, 1985, analysis written by King, ethicists Art Caplan and Barton Bernstein call for DeVries to "regroup" before further

experiments. DeVries persists in his belief in the project, King said, and quoted him as he described the experiments as "walking, going slow, taking very small steps."

"Only if it gets to the point where it is not fair . . . it is not humane, not ethical or moral to treat patients like this," DeVries said, will he quit (King, June 5, 1985).

In the fall of 1985, physicians gathered for a conference on the device. Those at the conference "sharply disagreed" on the mechanical heart's use. Of the surgeons who have implanted the heart, Dr. Semb of Sweden thought that design changes should be made before more implants are done and Drs. Denton Cooley and Jack Copeland thought it should only be used as a temporary bridge. DeVries alone remained convinced of its use in either a permanent or a temporary manner. All of the physicians agreed that a human heart transplant was preferable, however, because of the quality of life question (Boffey, October 25, 1985).

On the first year anniversary (November 24, 1985) of Schroeder's implant, questions remained. An AP article explored the other programs that rushed for approval when Schroeder began a quick recovery. Writer Paul Raeburn said that, of the seven implants (temporary and permanent combined), "troubled recoveries are routine."

Even the inventor of the artificial heart, Dr. Robert Jarvik, seemed more willing to consider the use of the heart as a bridge. "We never believed the artificial heart could have been achieved in one device," he said (Raeburn, November 24, 1985). Others worried about the

many issues surrounding the heart program and its support by the FDA. Raeburn said that Barton Bernstein, a historian, raised questions about the whole program when he wrote in an unpublished article:

There are a number of revealing themes in the pursuit of the artificial heart. Great optimism about technology, an emphasis on high-technology solutions, reliance on closed decision-making, a lack of public dialogue, very little attention to social questions and comparatively little attention to costs. (Raeburn, November 24, F1)

By the end of 1985, the FDA still supported the artificial heart program, despite such criticisms, but supported it with stricter controls, including a case-by-case review of the next three implants and a quarterly review of DeVries' data (King, December 25, 1985). The recommendation came about after the committee met with DeVries in private discussions for six hours and with representatives of medical and public groups. It was formally accepted by the FDA in early January of 1986.

In a story the following day, Mike King said the FDA's decision amounted to a "trip to the woodshed" for DeVries, since no other physician testing a new technology had ever had to meet such strict requirements. DeVries did not speak to the media immediately about the ruling. Reporter King remembered that DeVries complained to him only once--about the December 25 "woodshed" story (King, May 6, 1986).

On February 5, 1986, the program was considered before the House Committee on Science and Technology. It was the first time Congress stepped into a consideration of the program. DeVries, Mel Schroeder, and others testified before the committee (King, February 5, 1986).

DeVries and Jarvik both testified that the new FDA restrictions made their job harder, while critics called for a halt to the experiments. Mel Schroeder testified that despite the setbacks his father suffered, the family had a "year that we will cherish forever" (King, February 6, 1986).

With the death of Murray Haydon on June 24, 1986, the worth of the heart program was called into question once more. Altman considered the future of both temporary and permanent implants in a New York Times News Service article on June 20. Both technologies bring their own medical and ethical problems, he wrote, as even temporary "bridge" recipients can become poorer candidates for transplants and the availability question still remains. However, he says:

If nothing else, the publicity about Haydon and the other recipients of the artificial heart has helped educate the public about the complexities, the risks and the nature of the human experimentation that leads to our standard therapies. (Altman, June 20, 1986, p. A2)

After Haydon's death, questions about Humana's role in the project still remained. CBS delivered a scouring footnote to Haydon's death as it criticized the project for drawing attention away from other medical problems and queried why Humana had prepared its physicians to meet the press (CBS, June 19, 1986).

Reporters differed on the future of coverage of the implant. To several, the story is dead. To others, the next patient will make the difference. In any event, DeVries has not done another implant to date.

Humana's public relations efforts for the artificial heart project are now handled by regional director Jeff Hutter and hospital public

relations director, Donna Hazle. The corporate office is available for consultation, but not involved on a daily basis (Hazle, April 29, 1986).

Postscript

Shortly after this study was completed, William Schroeder died, on August 6, 1986, at 1:35 p.m. He lived 620 days with an artificial heart. His family was with him when he died. They had been called from their homes in Jasper, Indiana, on Tuesday after physicians ascertained that Schroeder had suffered a series of strokes which damaged his respiratory capacities. He stopped breathing for a few seconds and the family decided not to revive him if another episode occurred. They had decided several months earlier not to put him on a respirator. On Wednesday afternoon, as the reports said, he just "wore out."

The Courier-Journal covered Schroeder's slip into death from the first notice that his condition deteriorated. A front page story on Wednesday, August 6, said family members were gathering as the patient's condition took a "serious turn for the worse." Spokeswoman Donna Hazle said the family wished no further details released to the media. In an interview a few days earlier, DeVries had called Schroeder "as strong a person physiologically as I've ever encountered in medicine." But he added, "As much as we want him to do well and live forever, he can't. That device has kept him alive for over 600 days, but it will not last forever."

A change in coverage from the early days of the Schroeder implant was immediately noticeable. Initial reports on the man who had been the

center of attention for several weeks in 1984 said only that he died with his family present.

Most of the subsequent reports did not rehash Humana's involvement in the artificial heart program as did the reports following Murray Haydon's death in June of 1986. The reports simply focused on Schroeder as a pioneer. Several noted that DeVries was seeking another candidate and that he stood alone in wanting to implant another permanent artificial heart. Most reports lauded "tough nut" Schroeder as a pioneer. Mark Mayfield of USA Today reported on Schroeder's "stroking show of guts that endeared him to millions like no patient before or since" (August 7, 1986, p. 2A). Altman, in the New York Times story on the day of Schroeder's death, noted the patient's struggle and said that most medical experts agreed that the best use of the heart was as a bridge. He also described a new technique using computer modeling to trace the flow of blood through the heart, a technique which will allow researchers to spot the pools of blood that cause clots to form.

The Courier-Journal, however, covered Schroeder's death extensively, with a front page story and two full inside pages of coverage. The stories told Schroeder's story from the initial days, reported on the reaction of his hometown, and looked at the future of permanent implants. A story by Mike King reported the future was "uncertain," and chronicled DeVries' changing position on the heart as a bridge, or stop-gap measure. The physician said fewer patients were volunteering for a permanent implant, and said those who did would often be better off with an implant. That view, King said, put DeVries at odds with the "heart's

designer, Jarvik" who said that Humana had not been aggressive enough in seeking another patient. Humana, Inc., chairman David Jones said that the company left the decision on the next implant up to DeVries. Jones said he felt bad about "the difficulties those courageous families" had but said also that good information had come out of the Louisville implants.

In the coverage resulting from his death and his funeral, reporters said Schroeder helped pave the way for the use of the artificial heart as a temporary bridge for patients waiting for a heart transplant. As of August 1986, 27 such implants had been tried. Six patients had the bridges and received human heart transplants later. Three patients still have the temporary heart implant: one woman, Bernadette Chayrez, has received two implants (Beissert, August 7, 1986).

At Schroeder's funeral, DeVries delivered the eulogy, calling Schroeder a simple man who "pushed the seeds of a tree into the ground knowing he may never live to see the shade" (AP, August 10, 1986, p. A7). Reporters were allowed at the funeral, in contrast to Haydon's funeral earlier in the summer. Reports covered DeVries' eulogy and the 21-gun salute and military honors given to Schroeder, and did not speculate on the future of the heart program or Humana's role.

At this point, the future of the program for the permanent artificial heart was unknown. Several critics say the experiments with a permanent implant are finished. George Annas said DeVries' inability to find a patient "speaks louder than any order to halt the project." In all probability, if and when the next implant occurs, it will be covered

less by the mass media. There will never be another William Schroeder. As Ned Potter said in his final report on Schroeder, the pioneer "did not go gentle into that good night." He raged against death, and won time, and the attention of a nation.

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APPENDIX

EXAMPLES OF CONTENT ANALYSIS FORMS

Coding form--print coverage of Schroeder implant(condensed)

Newspaper _____

Title of article _____

Date _____ Byline _____

Placement (1) page one (2) section page one (3) other _____

number of paragraphs _____

unit of analysis--content categories by paragraph:

P	CC	S
_____	_____	_____
_____	_____	_____
_____	_____	_____
_____	_____	_____
_____	_____	_____
_____	_____	_____
_____	_____	_____
_____	_____	_____
_____	_____	_____
_____	_____	_____

Coding by entire story: _____

Is total story (1) news
 (2) peripheral
 (3) perspective
 (4) editorial
 (5) a combination (define)

Coding form broadcast coverage (condensed)

Network _____

Date _____

unit of analysis--report within story

content categories by report

R = report cc = content category

R CC

_____	_____
_____	_____
_____	_____
_____	_____
_____	_____
_____	_____
_____	_____
_____	_____
_____	_____

Is total story (1) news
 (2) peripheral
 (3) perspective
 (4) editorial
 (5) a combination (define)

What is visual mode (1) read by anchor
 (2) graphic
 (3) still photo
 (4) film with voice over
 (5) voice on film

Content categories

- (1) William Schroeder's background
- (2) Schroeder's operation details
- (3) Schroeder's treatment details
- (4) Schroeder condition details
- (5) Humana public relations
- (6) Schroeder family details
- (7) Schroeder activity details
- (8) Dr. DeVries
- (9) artificial heart
- (10) Humana finance
- (11) Humana background
- (12) quality of life
- (13) cost of implant
- (14) availability of implant
- (15) Barney Clark
- (16) Symbion, Jarvik
- (17) heart, general or heart disease
- (18) Haydon or Bircham
- (19) transplants
- (20) experimental aspects
- (21) miscellaneous
- (22) Schroeder comment
- (23) informed consent
- (24) ethics
- (25) commercialization
- (26) institutional review boards
- (27) review panels
- (28) Lansing

Source categories:

- (1) William De Vries
- (2) Allan Lansing
- (3) Robert Irvine
- (4) George Atkins
- (5) other Humana spokesperson
- (6) Schroeder family
- (7) Schroeder friends
- (8) "doctors"
- (9) specific physician (name)
- (10) Schroeder
- (11) Other
- (12) No attribution
- (13) Jarvik
- (14) Salb
- (15) Relman
- (16) Gooden
- (17) Heimes
- (18) Boyle
- (19) Fox
- (20) Mudd

Coding directions

Broadcast media

- (1) List the network and date of the story.
- (2) List the reporter of the story or list anchor reading entire story.
- (3) The unit of analysis for the broadcast media is by report within story. The story is the entire segment. A report is one segment within a story on a specific topic. When the topic changes, the change signals a new report.
- (4) Code each report by content categories from the list provided. If the category is OTHER, please describe.
- (7) Code the entire story by type of news.
- (8) Code the visual mode for each story from the categories provided.

Coding directions

Print media:

1. List the name and date of the newspaper.
2. Copy the title of the article and the byline in the space provided.
Note the placement of the article as follows:

 (1) page one (2) section page one (3) other
3. Count the number of paragraphs and record.
4. Read each paragraph and record a content category from the list provided. If the category is OTHER, please describe.
6. Code the sources named in each paragraph.
7. Code the entire story by one of the content categories.
8. Code the entire story by type of news.

EXAMPLE OF QUESTIONNAIRE (condensed)

The questions below use key terms drawn from a science communication model (by Jim Grunig) that I am using in my study. In addition to your response on the questions below, I would welcome any other comments you might have on the case, your role, my study, or medical reporting in general.

Were you involved on a daily basis with coverage of the Schroeder case? Are you still involved?

What were your perceptions of the major issues in the case?

Who were your sources for information in the case? Were they from Humana? What other sources did you seek or use? Did you use the briefing book extensively?

Did you see or read other coverage? If so, what was your perception of that coverage?

What were your feelings and perceptions about the change in Humana's relationship with the media after Bill Schroeder's first stroke? Or do you feel that there has been no change in your ability to obtain information?

Do you perceive that some news stories talked about things better left to the Schroeders' personal life? Please elaborate.

Below are questions drawn from the Grunig model.

1. What did you perceive to be the problem in the case?
What do you think was indeterminate in the case?
(problem recognition)
2. Did you have, or feel that you had, any constraints placed on your actions or input in the coverage of the case? if so, what were they?
(constraint recognition)
3. What references from past events did you use to inform your actions in the Schroeder case?
4. Would you rate your level of involvement (interest and activity) in the case as high, normal or low?

Finally, I am interested in the comments you may have on the criticisms of Humana and the artifical heart program. Also, I am studying the extent to which the coverage is "personalized" at the cost of the discussion of ethical questions concerning the artificial heart and would welcome comments on that topic. Thank you for your time.

EXAMPLE OF LETTER

November 24, 1985

address

Dear _____,

I am doing a dissertation on the public relations activities of Humana, Inc., and the media coverage of the first artificial heart implant at Humana in Louisville. My dissertation includes both a section of interviews with key individuals in the Schroeder case and a content analysis of network television news, the New York Times, and the Louisville Courier-Journal.

You played a key role in the coverage as science correspondent for _____. I hope that in your busy schedule you will have a little time to reflect on the Schroeder case and help me in my academic endeavor. Incidentally, this research is the first to be done, to my knowledge, on the artificial heart and media coverage. I am studying the period from the week of the operation to April 7, Schroeder's first departure for the apartment in Louisville.

I have enclosed a short questionnaire. I appreciate any time you have to give to it. If you have time in your schedule at the end of the year or the first of next year for a personal or telephone interview, I would like to talk with you personally. I am in Lexington, KY but could arrange to be in New York or D.C. if necessary.

My key focus in the study is to discover the actions Humana took prior to the operation, to assess points of communication between individuals at Humana and the media, and to analyze the content of print and broadcast coverage. If you have any questions about the study, I will be glad to answer them. My telephone numbers are _____ (home) and _____ (work).

Thank you. I have enclosed a return envelope and postage. I look forward to hearing from you. I'll be glad to send you a copy of the dissertation when it is finished, if you would like.

Sincerely,

Jan Quarles
Assistant Professor
of Journalism

VITA

Jan Patrice Quarles was born in Jefferson City, Tennessee, on October 16, 1951. She attended elementary and secondary school in that city and graduated from Jefferson High School in May 1969. She attended Carson-Newman College and the University of Tennessee, receiving a Bachelor of Arts degree, with honors, in December of 1972.

In the fall of 1974, she attended the University of North Carolina at Chapel Hill and completed coursework requirements in May of 1976 for the degree of Master of Arts in radio, television, and motion pictures. She left Chapel Hill to work in Washington, D.C. In Washington, she worked for six years in medical public relations and for the Department of Health and Human Services.

In September 1982 she entered the Graduate School of the University of Tennessee, Knoxville. She worked as a research assistant, graduate assistant, and interim instructor for the University and as a copy editor at the Knoxville News-Sentinel. She received the Doctor of Philosophy degree with a major in Communications in December 1986.

The author is a member of Sigma Delta Chi/Society of Professional Journalists, the Association for Education in Journalism and Mass Communication, Kappa Tau Alpha, and the Public Relations Society of America. She is employed as an assistant professor in the Henry Grady School of Journalism and Mass Communication at the University of Georgia in Athens, Georgia.