

**BIOETHICISTS IN THE NEWS:  
THE EVOLVING ROLE OF BIOETHICISTS  
AS EXPERT SOURCES IN SCIENCE AND MEDICAL STORIES**

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**Doctor of Philosophy**

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**by  
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The undersigned, appointed by the Dean of the Graduate School, have examined the dissertation entitled:

**BIOETHICISTS AND THE NEWS:  
THE EVOLVING ROLE OF BIOETHICISTS  
AS EXPERT SOURCES IN SCIENCE AND MEDICAL STORIES**

Presented by Marjorie Kruvand

A candidate for the degree of Doctor of Philosophy

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ABSTRACT

Journalists have increasingly used bioethicists as expert sources in stories on science, medicine, and technology with strong ethical ramifications. Yet little is known about how and why reporters select bioethicists as expert sources, which bioethicists are used most often, the perspectives they offer, and the roles they play. This study uses news routines, news values, agenda-building theory, and framing theory to examine the use of bioethicists as expert sources in six newspapers between 1992 and 2006. A quantitative content analysis of 456 stories, a qualitative framing analysis on a subset of that coverage, and interviews with a science or medical reporter at each newspaper provided converging lines of inquiry. This study finds that a single bioethicist is quoted in the vast majority of stories despite the fact that bioethicists have a wide range of backgrounds, religions, biases, and views. In addition, a few media-savvy bioethicists have become habitual sources. A bioethicist who is directly quoted is apt to provide opinion rather than fact and is much more likely to serve as a critic or skeptic on a bioethical issue than as an advocate. Moreover, the findings show that bioethicists are most often included in stories on end-of-life issues; conflict of interest, fraud, and unethical behavior; human stem cell research and cloning; and healthcare allocation than on other topics. This study also indicates that in being more reactive to reporters than proactive, bioethicists and the public relations practitioners who represent them tend to respond to the media agenda on bioethical issues rather than vigorously help to build it.

## CHAPTER I: INTRODUCTION

Scientific discoveries and technological developments have prompted striking changes in the way medicine is practiced and scientific research is conducted in the United States. As a result, Americans are healthier and live longer than ever before and patients with serious illnesses and diseases can be helped in ways that only a decade or two ago would have seemed impossible (Paul, Miller & Paul, 2002). But the benefits of modern bioscience and biomedicine have been accompanied by a host of seemingly intractable ethical issues, such as: Should parents be allowed to genetically manipulate embryos so a child is born with certain traits or features? Should a person be kept alive mechanically when his or her brain function has stopped? Should research on human embryonic stem cells be supported even though embryos are destroyed in the process?

To help resolve these types of ethical dilemmas, the new field of bioethics emerged in the late 1960s at the intersection of science, medicine, and ethics (Glannon, 2005) and soon became a socially recognized source of moral guidance (Engelhardt, 2002; Paul et al., 2002; Wildes, 2002). Within a single generation, bioethics “has become not only established, but also part of the establishment” (Kass, 2002, p. 37). But how did bioethics complement – and in some cases, supplant – religion, law, and philosophy as a source of moral guidance and arbitration within just a few decades (Mepham, 2005)? And what led society to turn to bioethicists, who have been “ordained as secular moral experts,” for help in deciding what is right and wrong (Engelhardt, 2002, p. 60)? “How did bioethics and bioethicists quickly command such authority and influence?” asks bioethicist H. Tristram Engelhardt Jr. (2002, p. 70). According to bioethicist Leon Kass:

“...Lacking a master cultural and moral narrative that can guide us through the minefields of the biotechnological revolution, we turn to the ‘experts’ in bioethics in the hope of gaining clarity about what this all means and wisdom about what we must do to keep human life human” (2002, p. 75).

From “designer babies” and genetic engineering to surrogate motherhood and euthanasia, and from the allocation of scarce organs for transplantation to stem cell research and cloning, bioethical issues touch on many fundamental aspects of life, including birth, reproduction, old age, and death. Bioethics encompasses individual and societal decision making about health and illness, pain and suffering, medical treatment and enhancement, and our often divergent definitions of what it means to have a good life and to be a civil society (Maienschein, 2003). Because bioethics revolves around three critical questions – Who lives? Who dies? And who decides? (Jonsen, 2005) – “bioethics is not a luxury but an indispensable feature of the biosciences in the 21<sup>st</sup> century” (Mephram, 2005, p. 379).

Traditionally, Americans held several beliefs that fostered an almost unwavering trust in, and support for, science and technology (Kass, 2002; Rollin, 2006). First, Americans believed science was tantamount to advancement: “Where we do not foolishly believe that all innovation is progress, we fatalistically believe that it is inevitable” (Kass, 2002, p. 7). Second, Americans extended their belief in freedom to science and technology: scientists have the freedom to inquire, experiment, and develop technologies and people have the right to use technologies. And third, Americans believed biomedical science occupies “the moral high ground of compassionate humanitarianism” because it seeks to cure illness, alleviate suffering, and extend life (Kass, 2002, p. 7).

But some scholars assert that the velocity of modern science, medicine, and technology has outpaced society’s ability to think through the accompanying moral issues (Bryant, Baggott laVelle & Searle, 2005; Hinsch, 2006). Scarcely a week goes by

without the announcement of an experiment or discovery that tugs at the frontiers of bioscience and tests the ability of society to process, absorb, and react to the new information, let alone ponder and evaluate its social, political, and economic implications and ethical consequences (Steinbock, Arras & London, 2003). As a result, modern bioscience is “an ethical minefield” (Jonsen, 1998, p. 167) that has generated disillusionment, cynicism, and trepidation. Media headlines reflect this phenomenon: “Gene for Homosexuality Discovered,” “Dr. Kevorkian Strikes Again,” and “Patients Subjected to Radiation Experiments without Consent” are but a few examples (Steinbock et al., 2003, p. 2).

Ambivalence toward and apprehension about the wonders and dangers of science and technology began to grow during the second half of the 20<sup>th</sup> century (Bryant et al., 2005; Cassell, 1996; Rollin, 2006) after atomic bombs were dropped on Hiroshima and Nagasaki and after Nazi medical experiments on concentration camp prisoners during World War II were revealed. Amid the remarkable successes of science, medicine, and technology of the postwar era, a developing countercurrent began to place science on the defensive (Madden, 1970; Rollin, 2006). By the 1960s, following the publication of two influential books, Rachel Carson’s “Silent Spring” and Gordon Taylor’s “The Biological Time Bomb,” an increasing number of Americans had begun to conclude that “scientists’ ends did not necessarily match their own” (Evans, 2002, p. 60). Since then, the Three Mile Island and Chernobyl nuclear accidents; serious side effects of drugs such as thalidomide, Fen-Phen, and Vioxx; and the Challenger and Columbia space shuttle disasters have hastened the erosion of public confidence in scientific, medical, and technological advancements (Rollin, 2006).

Physician Eric Cassell contends that modern science and technology have become like the sorcerer’s broom, taking on a life of their own beyond the control of their

practitioners (1996). That thought is echoed by Nobel Laureate biologist Max Perutz: “Is scientific research the noblest pursuit of the human mind, from which springs a never-ceasing stream of beneficial discoveries, or is it a sorcerer’s broom that threatens us all with destruction?” (1989, p. 3). Journalists, scholars, and critics draw comparisons between modern science and technology and Aldous Huxley’s dystopian novel, “Brave New World,” in which people are created from embryos grown in factories and socially engineered to fill societal roles (Huxley, 1932/1998).

Part of the reason for the disenchantment and tension is the lack of certainty that often accompanies scientific discoveries:

“If genetic knowledge has been the stuff of dreams and nightmares, it is also the stuff of something even more anxiety producing and perhaps more insidious. Much future genetic knowledge will not give us absolute certainty: it will give us only probabilities and possibilities, leaving it up to individuals and society to know what to do with much ambiguous knowledge” (Callahan, 1996, p. 14).

Bioethics has flourished in this atmosphere of ambiguity and contention (Callahan, 1996). Bioethical controversies have increasingly played out in Congress and state legislatures, in university laboratories, in corporate boardrooms and Internet chat rooms, and in protests outside nursing homes, abortion clinics, and animal laboratories:

“These controversies captivate our attention and engage our imagination. They involve the very ways in which we understand ourselves as humans, the ways in which we understand the proper ways to live, to control disease and illness, and to care for the dying” (Engelhardt, 1986, p. vii).

Social and political conflict over bioethical issues has also been prominently featured in media coverage. The media is a critical vehicle, as well as one of the most accessible, for communicating scientific and medical information (Conrad, 2001) as well as the principal arena in which scientific issues and controversies come to the attention of decision makers, interest groups, and members of the public (Nisbet, Brossard &

Kroepsch, 2003). Ninety-five percent of Americans surveyed say they are “very interested” or “moderately interested” in news of medical discoveries and 92 percent say they are “very interested” or “moderately interested” in scientific discoveries – higher than the percentages who say they are “very interested” or “moderately interested” in the economy, agriculture, local schools, military and defense policy, or international and foreign policy (National Science Board, 2006). More than half of Americans surveyed get information about science and medicine from television, 22 percent from newspapers, 12 percent from the Internet, 8 percent from radio, and 3 percent from magazines (National Science Board, 2006).

Nelkin asserts that the media serve as brokers between science and the public, “framing social relationships for their readers and shaping the public consciousness about science-related events...Through their selection of news, journalists help to set the agenda for public policy” (2001, p. 205). The media also forcefully shape how policy issues related to scientific and technological controversies are defined, symbolized, and eventually resolved (Nisbet et al., 2003). An example is media coverage of human cloning:

“...Just as the majority of people, including policymakers, got their information on the science and technology of cloning from television and print, they got their information on the ethics of cloning from those same sources. The media instructed us on the major ethical concerns of cloning, its social, religious, and psychological significance, and the motivations behind it. Media coverage fixed the content and outline of the public moral debate, both revealing and creating the dominant public worries about the possibility of cloning humans” (Hopkins, 1998, p. 6).

Increasingly, science and medical journalists have augmented their roster of traditional sources – scientists, physicians, and government and industry officials – by turning to a relatively new type of expert, the bioethicist, to help them make sense of the complex topics they cover. But who are the bioethicists featured in media stories? What

are their credentials, experience, training, and qualifications to be considered experts? Why are journalists willing – even eager – to use bioethicists as sources? How are bioethicists used as sources in stories about science, medicine, and technology, and has their role changed over time? What dimensions or perspectives do they add? And how does their use help frame media coverage of bioethical issues? This study will begin to answer these previously unexamined questions.

### ***Overview of Study***

Organizational news routines (Shoemaker & Reese, 1996; Tuchman, 1978), news values (Gans, 1979), framing (Entman, 1991, 1993; Gamson & Modigliani, 1989; Gitlin, 1980; Reese, 2003; Scheufele, 1999, 2000; among others), and agenda building (Berkowitz, 1987, 1992; Cameron, Sallot & Curtin, 1997; Cobb & Elder, 1961; Curtin, 1999; Gandy, 1982; among others) will provide the theoretical framework for this study. News routines and news values will help explain some of the influences on the ways in which journalists gather information for, and write stories on, bioethical issues, including their growing use of bioethicists as expert sources. Agenda-building theory will be useful in examining the role of public relations practitioners in orchestrating the use of certain bioethicists as expert sources in media stories, and, by extension, the promulgation of specific bioethical viewpoints. And framing theory will increase understanding of the end result of newsgathering and newswriting activities by guiding an assessment of the impact of the use of bioethicists as expert sources on how stories on bioethical issues are framed.

Using a trio of qualitative and quantitative research methods, this study examined both the production and content of media stories on bioethical issues. First, a content analysis of stories on bioethical issues in a national newspaper and five regional



newspapers identified trends in the use of bioethicists as expert sources over time as the field of bioethics developed and has become legitimized; it also studied similarities and differences based on the size, and geographic location of the newspapers. The content analysis also looked for evidence that public relations practitioners helped build the media agenda on bioethical issues by advancing the use as expert sources of bioethicists affiliated with the organization or institution they represent.

While the content analysis was under way, a framing analysis on a subset of the content explored the impact of bioethicists used as expert sources on the media framing of bioethical issues. Previous research on media coverage of some bioethical issues, including genetics (Ten Eyck & Williment, 2003), biotechnology (Nisbet & Lewenstein, 2002; Priest, 1994, 2006), and stem cell research (Nisbet et al., 2003), has found that positive framing predominates, with progressive frames, such as those linking science and technology to progress or economic prospects, greatly outnumbering negative frames, such as those portraying science and technology as a Pandora's box or a runaway technology. In this study, media coverage on a much wider range of bioethical issues, including those related to health care, was examined. Do the comments of bioethicists reinforce the dominant framing by affirming the views by other sources used in the story? Or do they help advance counterframes by criticizing or challenging the views of other sources?

Last, the content and framing analyses informed in-depth interviews with medical and science reporters who cover bioethical issues at the same newspapers. In asking reporters where they get their story ideas, how they gather information, how they decide which expert sources to use, how much they rely on public relations practitioners,

and how they write their stories, the findings of the content and framing analyses provided a “mirror” that was held up to the journalists for their reaction and interpretation.

### ***Significance of Study***

This study is significant because scientific and medical advances are likely to continue to make news due to the extraordinary progress of biomedical science and technology (Scott, 2006). Fueled by such high-profile topics as genetically modified food, human cloning, and gene therapy, media stories on bioethical issues have proliferated: “Hardly a science of medical or health policy story now arises without its attendant bioethical issues, instantly aired in the press” (Rosenfeld, 1999, p. 121). In addition, health policy issues, including what to do about the 46 million Americans who lack health insurance, are expected to play a prominent role in the 2008 presidential campaign (Vasko, 2007). An August 2007 poll by the Kaiser Family Foundation found that healthcare was second only to Iraq on the list of issues Americans would like to see presidential candidates address (Vasko, 2007).

Bioethicists are thus likely to remain in the public and media spotlight. “Bioethicists themselves are players in defining the moral issues, bioethicists themselves are interviewed on television, and bioethicists themselves are ‘outing’ moral issues” (Pence, 1999, p. 48). And by using bioethicists frequently and prominently as expert news sources, journalists reinforce and elevate the influence and credibility of bioethicists, thus helping to ensure their continued use.

A study of media coverage of stem cell research in *The New York Times* and the *Washington Post* between 1975 and 2001 found that bioethicists played a much more significant role in coverage at the end of the study period than at the beginning (Nisbet

et al., 2003). The authors noted: “Future research should explore more carefully the emerging role of bioethicists as dominant sources in coverage of science-related disputes” (Nisbet et al., 2003, p. 64).

## CHAPTER 2: LITERATURE REVIEW

### ***Bioethics Defined***

The word “bioethics” first appeared in print in 1969. It was coined by a biomedical researcher, Van Rensselaer Potter, to describe his idea of a comprehensive new field that would link human values with biological knowledge and thus “...build a bridge between the sciences and the humanities, help humanity to survive, and sustain and improve the civilized world” (Potter, 1971, p. 2). Less loftily, bioethics has been described as a “21<sup>st</sup>-century mash of a field bringing together the sometimes conflicting, sometimes connected relationships among biology, medicine, law, politics, philosophy, and theology” (Guthmann, 2006, p. E1).

The “bio” in bioethics is derived from the Greek word for life, *bios*. But bioethics differs from other words with the same prefix, such as biology, biochemistry, and biomedicine:

“The subject of bioethics is life, but not as it is described in the biosciences, which attempt to discern the chemical, physical, and environmental processes that sustain living things. Rather, bioethics is about life as a value, worthy to be fostered by human decisions and actions” (Jonsen, 2005, p. 2).

Thus bioethics approaches questions of whether a human embryo, or a patient who breathes only because he or she is connected to a ventilator, is alive not only in the biological sense but also in the human sense, and, therefore, due the respect and rights recognized by morality (Jonsen, 2005).

The word “ethics” is derived from the Greek word *ethika*. In ancient Greece, ethics commonly meant “customs.” In *Nichomachean Ethics*, Aristotle asked what was the goal or purpose of life. He described his views of a good life, saying that the purpose

of life is happiness – not in the modern sense of enjoyment, but as the fulfillment of all powers of which humans are capable (Jonsen, 2005). In contrast, a modern definition of ethics is:

“The discipline dealing with what is good and bad and with moral duty and obligation; a set of moral principles; a theory or system of moral values; the principles of conduct governing an individual or a group; a guiding philosophy; a consciousness of moral importance; and a set of moral issues or aspects” (Merriam-Webster, 2007).

Ethics and morality (which comes from the Latin word *moralitas*) have the same root (Young, 2001). While the two terms can be – and often are – used interchangeably (Glannon, 2005; Jonsen, 2005), some bioethics scholars distinguish between the two:

“Morality is the attempt of individuals, or of groups, to live out in daily attitudes and actions their vision of the highest good. Moral systems, typically, are tied to religious traditions. Ethics, in contrast, employs a common or public language in justifying assertions about prescribed or proscribed attitudes or actions” (Young, 2001, p. 163).

Bioethics is defined as “the systematic study of the moral dimensions – including moral vision, decisions, conduct, and policies – of the life sciences and healthcare, employing a variety of ethical methodologies in an interdisciplinary setting” (Reich, 1995, p. xxi). The purpose of bioethics is to “...shape amorphous questions into clear ones...to draw out of diffuse concerns the dimensions of a problem that people can see sharply and debate reasonably” (Jonsen, 1998, p. 414).

Bioethics is distinct from medical ethics, which strive to preserve the medical profession’s respectability and reputation. Medical ethics, which date to British physician Thomas Percival in 1803 (Glannon, 2005), establish rules for the practice and conduct of medicine, such as maintaining competence in the use of professional skills, generosity towards patients who cannot pay for care, and etiquette among medical practitioners (Jonsen, 2005).

Bioethics scholars make three general points about bioethics. First, bioethics refers to both a general field of inquiry and a rapidly growing, interdisciplinary academic field (Tuhus-Dubrow, 2006). Second, like the nature of ethical debates in general, bioethics asks more questions than it finds answers. And third, bioethics remains in flux, “racing along as fast as (or perhaps just a bit behind) rapid scientific and medical advances” (Jonsen, 2005, p. 4).

### ***The Roots of Bioethics***

Bioethics stems primarily from two distinct ethical threads, theology and philosophy, which have different vocabularies, purposes, and methods (Jonsen, 1998). Bioethics resembles philosophical ethics in striving for clarity and precision in the way ideas and arguments are formulated. Bioethics has also affected philosophy by prodding it to pay more attention to practical problems (Steinfels, 1989). Bioethics resembles theological ethics in its concern for the rightness and wrongness of actions and in its call for moral ideals in health care, medicine, and science (Jonsen, 2005).

In different periods, theology and philosophy have been the dominant force in bioethics (Jonsen, 1998). Until the late 1960s, religious leaders and theologians dominated public discourse on what was right and wrong in terms of sex, conception, birth, care giving, and death; they were also the opinion leaders who influenced government policy in these areas (Brown, 2005). But the role of theology diminished as secular views were expressed more often and as theological ethics failed to provide the broad moral guidance needed in a multicultural, pluralistic society (Brown, 2005; Wildes, 2002). “Absent either a general conversion to one religion, or the existence of a generally imposed orthodoxy, one will need to search for common grounds to bind rational individuals in a peaceable community” (Engelhardt, 1986, p. 26).

Secular bioethics arose as a way to help people with different moral views navigate choices on appropriate medical care and attitudes toward science and technology (Wildes, 2002). Callahan contends that bioethics became accepted because it “pushed religion aside”:

“In the early days, the theologians were a powerful force. They were articulate and had thought much about the problems...but philosophers, who had started to realize that philosophy should have something to say about real life, brought a different set of concepts and strategies, a different vocabulary than theological ethics” (1993, p. 58).

While religious thought did not become wholly irrelevant to biomedicine, bioethics used a more neutral language of philosophy and law that enabled it to play a larger role in public discourse (Callahan, 1993; Jonsen, 1998). But some bioethicists assert that by the mid-1990s, the pendulum had begun to swing back in the opposite direction:

“The current religious backlash against the secular juggernaut is really a struggle to reassert control over these issues. Bioethics has simply been flung up into the swirl of talking heads because it is a lens through which...the more fundamental debate over the role of religion and the role of government is being debated” (Brown, 2005).

### ***Principles of Bioethics***

Bioethical dilemmas are often framed in ways that involve choices between highly valued but competing goals: Should life be extended or suffering relieved? Should a child be conceived in the hope of becoming a bone marrow donor for an ill sibling? Should scarce organs be transplanted into the patient who has been waiting the longest or the one in most desperate need (Halpern, 2001)? For the last 30 years, bioethics has been guided by three fundamental normative principles – respect for persons (or autonomy), beneficence, and justice – spelled out in the 1978 Belmont Report (National Commission for the Protection of Human Subjects of Biomedical and Behavioral Research, 1978). To

these, the principle of nonmaleficence has been added.

Autonomy. Autonomy, from the Greek *auto* (self) and *nomos* (law), means having the capacity and right to self-determination (Glannon, 2005). This ability to make thought-out choices for ourselves is a distinguishing moral characteristic of humans (Gillon, 1996). The gradual change from traditional medical ethics, which was based on paternalism (“doctor knows best”), to bioethics, with its emphasis on patient autonomy (“patients’ rights”), represented a significant break with the past (Glannon, 2005; Jonsen, 2005).

Autonomy stems from two major philosophical traditions. One is Immanuel Kant’s principle of respect for persons as ends in themselves, not as means to other ends (Mepham, 2005), which is at the root of the deontological tradition (Glannon, 2005). The other is John Stuart Mill’s principle of liberty, which asserts that a person’s freedom can be restricted only if exercising it would harm others (Glannon, 2005). According to Kant, duties flow from the categorical imperative, or respect for the moral law itself and not from the end that is accomplished (Bryant et al., 2005). In contrast, Mill and Jeremy Bentham contend that the moral quality of an act comes from its utility, the end to which it is directed. The rightness or wrongness of an action is thus defined by its consequences.

Nonmaleficence. Nonmaleficence means not harming or causing harm to another person. People may have a moral obligation to nonmaleficence even when they do not believe they have a corresponding obligation to beneficence (Jonsen, 2005). The principle of nonmaleficence in medicine stems from the Hippocratic Oath, written in the 4th century B.C.E: “I will use treatment to help the sick according to my ability and judgment, but never with a view to injury or wrongdoing” (Glannon, 2005). This is the



basis of the key Latin maxim of medical practice, “First, do no harm” (Glannon, 2005).

Beneficence. Beneficence is the moral rule that directs people to act in ways that benefit other people or society (Jonsen, 2005). In a bioethical context, it means benefiting patients, such as bringing about the best outcome of medical treatment (Glannon, 2005). Whenever a person tries to help or benefit another person there is always a risk of harm, so beneficence needs to be considered along with nonmaleficence. Society has adopted a compromise between the two principles in which researchers may impose risk or inflict harm on subjects in the medical interests of others, as long as the risk of harm is very small and the subjects provide informed consent (Gillon, 1996).

Justice. Justice means treating people fairly, equally, and without discrimination. The theory of justice advanced by American philosopher John Rawls focuses on a modern version of the social contract (1972). He defines justice in terms of fairness, and his concept of distributive justice refers to the fair and equitable distribution of resources among members of society. According to Rawls, inequalities in the distribution of social goods are acceptable only if they benefit the least advantaged members of society. In Rawls’ egalitarian view, people whose healthcare needs have not been met should have priority in access to basic care; in a consequentialist view, what matters is who will benefit most from that care in terms of positive health outcomes (Glannon, 2005).

While there is broad consensus in the bioethics community on these four principles, there has been disagreement over whether they should have equal weight or which should have primacy when one principle conflicts with another:

“The four principles approach does not tell us how to choose between conflicting moral obligations when conflicts arise in particular contexts; different moral cultures, even different individual moral stances, will choose differently, a source of great dissatisfaction to those who believe that in any moral dilemma there is only one morally acceptable answer” (Gillon, 1996, p. 107).

Moreover, some bioethicists contend that because the four principles are divorced from any philosophical theory, they are merely a “grab bag of values” that offer no concrete direction for resolving dilemmas (Ainslie, 2002, p. 6; Steinbock et al., 2003).

British philosopher W. D. Ross asserts that an effective way to deal with conflicting principles is to acknowledge that Kant’s categorical imperatives and Bentham and Mill’s attempts to maximize happiness lack flexibility. He calls for conditional moral principles, or *prima facie* principles, which allow a stronger case for a specific principle to overrule a weaker case for a conflicting principle in a particular situation (1930). This compromise does not favor either the utilitarian or the deontological position, but accepts that neither duties nor consequences can be ignored (Mepham, 2005).

Thus bioethics is not a “clean, closed system of rational argument. No single theory dominates bioethics, and no methodology has won universal acceptance” (Jonsen, 2005, p. 20). As a result, many bioethicists are “improvisers who draw from various forms of philosophical and theological ethics the elements that seem suitable for the argument at hand” (Jonsen, 2005, p. 21). They can be utilitarians or deontologists as the occasion demands, resulting in an “eclectic approach” to discourse on bioethical issues (Jonsen, 2005, p. 21).

### ***The Birth of Bioethics***

Bioethics did not “begin with a Big Bang,” but rather, stemmed from a slow accumulation of concerns about the ambiguity of scientific and medical progress (Jonsen, 1998, p. 3). Following World War II, a number of factors converged to accelerate that trend. The Nuremberg War Crimes Trials between 1945 and 1949 focused worldwide attention on Nazi programs to euthanize people deemed “unworthy of life” – the mentally ill, mentally retarded, and physically disabled – and to conduct gruesome experiments on concentration camp prisoners (Tuhus-Dubrow, 2006). As a result, the

Nuremberg Code was developed to guide research on human subjects (Mephram, 2005).

Another factor was the spate of advances in science, medicine, and technology beginning with the discovery of the structure of DNA in 1953. During the 1950s and 1960s, the polio vaccine made the Iron Lung obsolete, amniocentesis allowed prenatal testing for serious fetal defects, the Soviets shot men (and a dog) into space, kidneys and hearts were transplanted, the “Green Revolution” promised to transform world agriculture, and thousands of women in Europe who took a new sleeping pill called thalidomide gave birth to deformed babies (Rollin, 2006). Science and medicine progressed so quickly that it caught some people off guard, leading to increasing ambivalence, concern, and mistrust (Bryant et al., 2005; Steinbock et al., 2003). Medical technology increasingly intervened between physician and patient; the line between benefit and harm sometimes became blurred (Jonsen, 1998).

Other factors included the growth of a pluralistic society (Bryant et al., 2005).

“Moral pluralism and multiculturalism in secular societies like the United States led to the existence of different moral voices and views. This in turn meant there would be different views on appropriate medical care” (Wildes, 2002, p. 118).

The rise of postmodernism, a “patchwork of philosophies” that began to take shape in the 1970s, also contributed to the rise of bioethics (Bryant et al., 2005, p. 27).

Postmodernism denies there are universal values; it states that humans have no external points of reference and that everything is relative.

Some bioethics scholars contend that these forces began coalescing in 1962, when the world’s first outpatient kidney dialysis center opened in Seattle. Because there were not enough dialysis machines to meet patient demand, a panel of community residents, nicknamed the “God Squad,” was given the responsibility for deciding who would have access to the life-sustaining technology (Hinsch, 2006). The “God Squad” was catapulted

into national media spotlight when the physician who developed the center and one of his patients went to a national convention of newspaper editors and publishers in 1962 to try to win public support for more dialysis machines (Pence, 1998). But the physician's description of the Seattle committee, not his plea for more machines, made the front page of *The New York Times* (Pence, 1998). *Life* magazine also published a lengthy story on the committee (Alexander, 1962) and Edwin Newman narrated a 1965 NBC television documentary entitled "Who shall live?"

Some bioethicists maintain that it is no surprise that bioethics was born in the turbulent decade of the 1960s, both in response to problematic new technologies and, more generally, as one of the challenges to authority and established institutions that were a hallmark of that era (Stevens, 2000; Levine, 2007). Others contend that bioethics was not simply the "spontaneous creation" of the 1960s, but rather, a recent manifestation of the longstanding cultural legacy of ambivalence and skepticism toward technological progress in the United States that dates back to Jefferson, Emerson, and Thoreau (Stevens, 2000, p. x, 7).

The first bioethics center in the United States, originally called the Institute of Society, Ethics, and the Life Sciences but later named the Hastings Center for the town in New York in which it was located, was created in 1969 by philosopher Daniel Callahan and psychiatrist Willard Gaylin. According to its founders, the center was established to "fill the need for sustained, professional investigation of the ethical impact of (the) biomedical revolution" (Henig, 2004, p. 66). Two years later, Georgetown University established the first academic bioethics center, the Kennedy Institute of Ethics. Both centers were vital to the new field of bioethics, organizing conferences and task forces, developing publications, offering fellowships and courses, and sparking interdisciplinary discussion (Jonsen, 1998).

### ***The Growth of Bioethics***

The nascent field of bioethics was slow to gain a toehold in the early 1970s, according to Callahan. He wrote in 1973 that “bioethics is not yet a full discipline...(It lacks) general acceptance, disciplinary standards, criteria for excellence, and clear pedagogical and evaluative norms” (p. 66). One bioethical issue that might have been expected to have greater public impact during the fledgling years of bioethics was the revelation in 1972 of the Tuskegee Syphilis Study (Jonsen, 1998; Pence, 1998; Rosenfeld, 1999). An employee of the U.S. Public Health Service who saw records of an unethical study in which treatment was withheld from poor African-American men with syphilis so physicians could monitor the “natural course” of the disease tried for six years to get those in charge of the study to stop or change it (Wigodsky & Hoppe, 1996, p. 264). When nothing was done, the employee turned to a friend at the Associated Press, who passed along the tip to an investigative reporter. The story finally appeared 40 years after the project began (Rosenfeld, 1999).

While part of the impetus for the growth of bioethics was external, driven by acknowledgement that society was unprepared to answer the moral questions stemming from the development and use of new scientific and medical technologies (Stevens, 2000), part also came from within medical and scientific communities as a self-defensive and self-protective move (Rollin, 2006; Stevens, 2000). By 1974, some scientists were publicly expressing reservations about where to draw the bioethical line in their work. A group of leading molecular biologists held a conference at Asilomar, California, at which they discussed the ethical implications of their present and future research and recommended a moratorium on certain kinds of genetic experiments (Jonsen, 1998;

Rosenfeld, 1999). Although the proceedings at Asilomar went largely unnoticed by the media and the public (Rosenfeld, 1999), the birth in 1978 of Louise Brown, the first baby conceived through in vitro fertilization, captured the media spotlight worldwide.

But as “test tube babies,” as they were then called, became increasingly routine, moral concerns about sliding down the “slippery slope” receded at least temporarily. Over the next two decades, a series of neologisms made their way into media headlines and public discourse: the Jarvik heart, surrogate mothers, persistent vegetative state, xenografts, Frankenfoods, sequencing the human genome, the morning-after pill, and physician-assisted suicide are but a few examples. By the time Dolly the sheep was cloned in 1997, bioethics was firmly entrenched in the media (Rosenfeld, 1999). More than 15,500 stories in English about Dolly and cloning appeared in print media outlets in a single year (Rosenfeld, 1999).

One of the ways in which bioethics has been legitimized in the United States is through politics and government (Levine, 2007). The National Endowment for the Humanities, at the request of President Richard Nixon, supported the Hastings Center and the Kennedy Institute, funded workshops, and provided grants to establish bioethics departments at several universities (Jonsen, 1998). Government officials, scientists, and physicians also realized that bioethics could be a policy making instrument (Henig, 2004). Congress and several presidents formed advisory commissions to explore such bioethical issues as experimentation on human subjects, in vitro fertilization, and human cloning (Jonsen, 1998). But because bioethicists have an aura of moral authority that politicians and public officials may lack, some observers are concerned that bioethics may be exploited for “moral cover” (Tuhus-Dubrow, 2006). In addition, some critics contend that bioethics has served policymakers more than patients (Steinfels, 1989).

In 1974, Congress established the National Commission for the Protection of

Human Subjects of Biomedical and Behavioral Research. Its 1975 report, called the Belmont Report, set out the basic principles of autonomy, beneficence, and justice and had a major impact on the development of bioethics (Jonsen, 1998). Between 1979 and 1983, a President's Commission for the Study of Ethical Problems in Medicine and Biomedical and Behavioral Research looked at a wider range of issues, from in vitro fertilization to care for the terminally ill (Steinfels, 1989). And shortly after Dolly was born in 1997, President Bill Clinton asked the National Bioethics Advisory Commission to investigate the ethics of human cloning. The commission's 1999 report recommended federal funding for therapeutic cloning research.

In 2001, President George W. Bush established the President's Council on Bioethics to examine human embryonic stem cell research. The president wanted to put his own stamp on the issue, and the council has been a decidedly conservative force (Gilbert, Tyler & Zackin, 2005). The council's 2002 report, *Human Cloning and Human Dignity: An Ethical Inquiry*, covered much the same ground as the Clinton commission report but reached a different conclusion. A majority of members recommended a ban on cloning to produce children and a four-year moratorium on cloning for biomedical research:

“A world that practiced human cloning, we sense, could be a different world, perhaps radically different from the one we know...It is crucial that we try to understand, before it happens, whether, how, and why this may be so” (President's Council on Bioethics, 2002, p. xviii).

### ***Bioethicists and Their Work***

As modern bioethical issues have emerged, so has “a new class of public expert” who “passes judgment on right and wrong, often on matters of life and death” (Goodman, 1999, p. 189). But distinguishing between right and wrong can be extremely

challenging because “threats to human dignity and our definition of ‘humanness’ posed by modern science and technology are intertwined with the goods we so keenly seek: cures for disease, relief from suffering, preservation of life” (Kass, 2002, p. 3).

Bioethicists first entered the public sphere in the early 1970s:

“For about two decades, they hid shyly in the pages of a few specialized books and articles about the arcane realms of medicine, science, and philosophy. Recently, they have broken into the public media, appearing in stories about whether a doctor should hasten a patient’s death, whether a scientist should create a human embryo in order to do research on it, or whether new knowledge about the genetic makeup of the human race should be used to shape stronger, healthier, smarter persons” (Jonsen, 2005, p. 1).

The elastic designation of bioethicist can refer to someone with a degree in bioethics or someone who studies the relevant issues (Tuhus-Dubrow, 2006). Today, many bioethicists have degrees in other disciplines, such as philosophy, medicine, biology, theology, or law (Tuhus-Dubrow, 2006). Some were trained in the “bio” part and subsequently learned the “ethics” part; others have credentials in the “ethics” part and later learned the “bio” part (Rosenfeld, 1999). But as more universities offer degrees in bioethics, future graduates will share an increasingly common academic background.

Bioethicists may be regarded by the public and the media as interchangeable experts with a unified perspective (Tuhus-Dubrow, 2006). In fact, bioethicists are Balkanized rather than united: there are Catholic bioethicists, Protestant bioethicists, Jewish bioethicists, feminist bioethicists, liberal bioethicists, conservative bioethicists, libertarian bioethicists, and communitarian bioethicists, to name a few categories. Each brings to bioethical issues a distinct background, worldview, and approach to problem-solving.

Bioethicists analyze and assess moral dilemmas raised by scientific research and



pioneering medical treatments. Bioethicists also counsel health care practitioners, patients, and their families, and advise legislative bodies, government agencies, and the courts (Paul et al., 2002).

“Bioethicists are the ones who make sense of such hornets’ nests as the Schiavo euthanasia case and explain them to the media; who mediate in family conflicts involving wrenching medical decisions and bring doctors and families into accord. They’re the ones who analyze the viability of stem cell research, cloning and genetic engineering; who oversee emerging biotechnologies, interpret them for the lay person and place them in an ethical framework” (Guthmann, 2006, E1).

Bioethicists work in universities, secular and religious institutes, and hospitals, and for government agencies and pharmaceutical and biotechnology companies. Some academic bioethicists are skeptical of industry bioethicists because the goal of business is profit making, not intellectual inquiry; if a company doesn’t like the opinion of its bioethicist, it can presumably seek a more sympathetic one (Tuhus-Dubrow, 2006). Other bioethicists contend that industry bioethicists are unlikely to risk their reputation by making ill-considered recommendations (Tuhus-Dubrow, 2006). Some academic bioethicists also consult for industry, a fact reporters may not know and may not mention in their stories. Academic bioethicists may also be influenced by institutional support and external grants (Debruin, 2007). Potential conflicts of interest may thus result in “ethicists struggling with their ethics” (Boyce, 2002, p. 16).

### ***Bioethics: A Current Snapshot***

No longer an informal discipline pieced together by scholars and practitioners in medicine, law, philosophy, theology, and policy who shared common interests, bioethics is now a well-established field with scholarly journals, professional associations, endowed professorships, and government commissions (Steinbock et al., 2003; Steinfels, 1989; Stevens, 2000). Bioethics is “not simply a discernible feature of recent

biomedical practice. It has become a conspicuous American cultural fixation” (Stevens, 2000, p. x). Bioethics is reflected in the way people think and talk about every aspect of the human life cycle (Brown, 2005). There are as many as 2,000 bioethicists in the United States today, and graduate programs in bioethics are offered at more than 75 universities (Guthmann, 2006).

As the pervasiveness and influence of bioethics grows, bioethicists are discussing the proper role for themselves and their field (Tuhus-Dubrow, 2006). Some observers contend that while bioethicists have been engaged in many important bioethical issues, they have largely overlooked some equally pressing ones, such as global health inequalities (Turner, 2007). Others assert that instead of critiquing science, medicine and technology, bioethics has been co-opted by them (Jonsen, 1998), with bioethicists becoming accommodating “insiders” rather than reformers (Debruin, 2007). Bioethics has become a largely uncritical “midwife to technologies and to a medical research community in need of broad social acceptance” (Stevens, 2000, xiii).

Still other critics contend that bioethics has fallen short of its promise by merely expanding the number of experts involved in discussions defined by, and limited to, experts. They suggest that bioethics should be more inclusive, with other actors being allowed to participate in public discourse on important bioethical issues: “Bioethics must be a public activity itself” (Wolpe & McGee, 2001, p. 196). Another bioethicist comments: “Bioethics...is too important to leave to the bioethicists, the scientists or the politicians” (Hinsch, 2006, p. B9).

### ***Bioethicists and the Media***

Bioethicists are sought for their expertise by journalists as much as by clinicians, lawyers, business executives, government officials, and policymakers (Eckenwiler & Cohn, 2007). Reporters covering controversial scientific and medical

issues in the 1960s and early 1970s predominantly used binary sources, contrasting the viewpoints of scientists (as advocates of scientific advancement) with those of clergy members (as appointed moral guardians of society) (Nisbet et al., 2003). But journalists covering similar stories today typically use three genres of sources: scientists, clergy members, and bioethicists “added to the mix to serve as neutral technical interpreters and moral arbitrators” (Nisbet et al., 2003, p. 45). Bioethicists are often quoted alongside scientists, physicians, clergy members, political officials, and sometimes activists. Yet many media consumers – and even reporters– may be unaware of the background, training, credentials, and biases of bioethicists: “Who are these bioethicists? Do their comments carry any authority?” (Jonsen, 2005, p. 2). These questions underlie this research.

The evolving role of bioethicists as media sources is apparent in comparing media coverage of two prominent national end-of-life cases 30 years apart: Karen Ann Quinlan in 1975-1976 and Terri Schiavo in 2005. The Quinlan case was “the breakthrough story for popular bioethics – its first media event” (Simonson, 2002, p. 36). In 1975, Quinlan, who had been in a chronic vegetative state for five months, became the focus of extensive media attention when her father petitioned the court to become her legal guardian so he might have her respirator disconnected. The Quinlans had sought moral advice from their priest and bishop and from a then-novel source as well – a bioethicist. Network television crews camped on the front lawn of the Quinlan home. Quinlan’s lawyer fielded 150 media calls a day and her physicians hired a public relations practitioner. After her ventilator was removed, Quinlan began breathing on her own and lived another nine years.

The Quinlan case was “bioethical dilemma as popular spectacle” (Simonson, 2002, p. 37). Through ubiquitous coverage, journalists gave bioethical issues “new

resonance and legitimacy” (Simonson, 2002, p. 37). But bioethical viewpoints in the Quinlan case were largely provided by lawyers, physicians, and members of the clergy; bioethicists themselves were not yet used widely as news sources (Simonson, 2002). It wasn’t until 1997, when Dolly the sheep was cloned, that bioethicists were courted by the media to demystify the phenomenon of cloning and its consequences: “once obscure figures of academia, they suddenly became recognized public figures” (Guthmann, 2006, p. E1). According to bioethicist David Magnus, “there was a quantum leap after Dolly...the media started to accept that you just can’t do stories on certain kinds of things without going to the bioethicist” (Guthmann, 2006, p. E1). Magnus said there were so many requests for television interviews at the University of Pennsylvania bioethics center, where he then worked, that a studio and satellite uplink were built (Guthmann, 2006).

By the time the Terri Schiavo case erupted in a media frenzy in 2005, Schiavo had been in a persistent vegetative state for almost 15 years. Congress met in a special emergency session to pass legislation aimed at preventing Schiavo’s feeding tube from being removed, and President George W. Bush flew back to Washington from vacation in Crawford, Texas, to sign it (Annas, 2006). Bioethicists were used extensively as news sources on both sides, highlighting “the growing prominence and internal disagreements of bioethics” (Tuhus-Dubrow, 2006). Video of daily protests by right-to-life activists outside Schiavo’s hospice was often balanced by sound bites from bioethicists who helped interpret the drama. After the Schiavo case, “bioethicists seem assured of continued status as media darlings” (Tuhus-Dubrow, 2006).

Today, bioethicists are used as expert sources in media stories on wide-ranging topics, such as the deaths of elderly patients stranded at a New Orleans hospital after

Hurricane Katrina (Tanner, 2006), the use of expensive surgery and high-tech medical equipment to prolong the lives of pets (Nordheimer, 1990), and the case of a postmenopausal woman who decides to have another baby with eggs donated by her grown daughter (McManis, 2003). Some bioethicists criticize the choice of bioethical issues covered by the media, asserting that sensational issues, such as cloning, receive intense coverage while more typical, but no less profound, ethical issues of daily medicine go unreported because they are not promoted to reporters (Pence, 1999). But while some observers contend that the media has set the agenda for bioethics by exposing ethical dilemmas and tragedies, others believe media coverage has just “punctuated a flow of discourse” already in progress within the bioethics community (Jonsen, 1998, p. 371).

Table 1 Chronology of Milestones in Modern Bioethics

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1962	“God Committee” created in Seattle to determine which patients should get outpatient dialysis.
1967	Dr. Christiaan Barnard performs first human heart transplant. The patient dies 18 days later; Dr. Barnard is featured on cover of <i>TIME</i> magazine.
1969	“Bioethics” coined by Dr. Van Rensselaer Potter to describe his idea for a broad field of study to link human values with biological knowledge.  Hastings Center on bioethics founded in New York.
1971	Kennedy Institute of Ethics established at Georgetown University.
1972	Abuses of Tuskegee Syphilis Study revealed in news media.
1973	U.S. Supreme Court rules in <i>Roe vs. Wade</i> that states cannot bar women from getting abortions during the first six months of pregnancy.
1974	Geneticists meet at Asilomar conference to discuss ethics of genetic research.
1975-76	Karen Ann Quinlan, who was in a chronic vegetative state, becomes a media focus after her father petitions the court to have her respirator disconnected.
1978	Birth of Louise Brown, first baby conceived through in vitro fertilization.  National Commission for the Protection of Human Subjects of Biomedical and Behavioral Research issues Belmont Report.
1980	U.S. Supreme Court rules in <i>Diamond vs. Chakrabarty</i> that genetically engineered life forms can be patented.
1982	First artificial heart implanted into patient Barney Clark; he survives 112 days.  National commission report, <i>Splicing Life: The Social and Ethical Issues of Genetic Engineering with Human Beings</i> , presented to President Jimmy Carter.
1983	Parents of Baby Jane Doe reject life-prolonging surgery for child born with spina bifida and other complications, sparking ethical issues and legal disputes.  Presidential commission issues report, <i>Screening and Counseling for Genetic Conditions</i> .

- 1984 Baboon heart transplanted into Baby Fae, a newborn child whose heart lacked ventricle; she died several days later.
- National Organ Transplant Act enacted.
- 1985 Mary Beth Whitehead, paid surrogate mother of “Baby M,” refuses to give up the child after her birth.
- 1990 Dr. Jack Kevorkian begins assisting in the suicides of nearly 100 terminally ill people over a nine-year period.
- 1997 Dolly the sheep cloned.
- 1998 First human embryonic stem cells harvested.
- 1999 Jesse Gelsinger, 18-year-old patient, dies during gene therapy clinical trial.
- 2000 Sequencing of human genome announced.
- U.S. Food and Drug Administration approves use of controversial drug RU-486 to terminate early pregnancy.
- 2001 President George W. Bush announces that federal funding of embryonic stem cell research will be limited to stem cell lines already in existence.
- 2002 President’s Council on Bioethics recommends ban on reproductive cloning and four-year moratorium on therapeutic cloning.
- 2003 President Bush signs law forbidding physicians to perform partial-birth abortions.
- Jessica Santillan, 17, dies after receiving a donated heart and two lungs incompatible with her blood type.
- 2004 President’s Council on Bioethics issues report, *Reproduction and Responsibility: the Regulation of New Biotechnologies*.
- Merck withdraws anti-arthritis drug Vioxx after it is linked to an increased risk of heart attack. More than 10,000 lawsuits filed by patients and their families over the next few years.
- 2005 Controversy over removal of Terri Schiavo’s feeding tube prompts federal legislation, U.S. Supreme Court case, protests outside her hospice, and intensive media attention.
- 2006 President George Bush affirms policy on restricting stem cell research by vetoing legislation to provide federal funding.

## CHAPTER 3: THEORETICAL FRAMEWORK

In selecting what to report on and how to research and write their stories, reporters are influenced by values pervasive in our society (Gans, 1979) and by organizational journalistic routines that help shape the process and content of their work (Shoemaker & Reese, 1996; Tuchman, 1978). They are also influenced by the efforts of public relations practitioners to build the media agenda by working to bring certain issues to the forefront of media and public attention while other issues recede in the background (Berkowitz, 1987; Cameron, Sallot & Curtin, 1997; Curtin, 1999; Tanner, 2004). News routines, news values, and agenda building can provide a theoretical lens through which to examine how and why journalists use bioethicists as expert sources in media coverage of science, medicine, and technology. In addition, framing theory can help illuminate the end result of these influences: how the use of bioethicists as expert sources impacts the framing of media coverage on bioethical issues. Media framing, in turn, can help shape public discourse on these issues.

### ***News Values***

Two enduring news values cited by Gans (1979), social order and moderatism, are most relevant for this study. As Gans notes, U.S. news media have always emphasized stories about social disorder. But two additional categories of disorder, technological and moral, are also highly pertinent to media coverage of science, medicine, and technology:

“Technological disorder concerns accidents which cannot be ascribed to nature. Social disorder news deals with activities which disturb the public peace and may involve violence or the threat of violence against valued institutions, such as the nuclear two-parent family. Moral disorder news reports transgressions of laws and mores which do not necessarily endanger the social order (Gans, 1979, p. 53).

Sources play a substantial role in focusing the attention of journalists on social



order because their values are implicit in the information they provide (Gans, 1979). While journalists do not necessarily adopt those values, neither do they refute them. As a result, media coverage about human cloning experiments or the demonstrations outside Terri Schiavo's hospice tap into deep-seated values Americans hold and many journalists acknowledge, including concerns about "playing God" by tinkering with the processes that create or end life.

The media also look for responsible parties and identify agents of moral and social disorder (Gans, 1979). Thus, in the case of Woo Suk Hwang, the South Korean cloning researcher who falsified his research, the media first praised him as a hero and later castigated his deceit. When Hwang was stripped of his university post, the media portrayed this modern-day morality tale as an example of order restored. As Gans (1979) notes, the media become the guardians of a moral order, but it is a moral order largely reflective of the public, business, and professional, upper-middle-class, middle-aged, and white male sectors of society.

Moderatism is another enduring news value; it discourages extremism and deviance (Gans, 1979). Since the media tell media consumers what is normal by labeling and describing what is deviant, how deviance is addressed is a key aspect of news coverage (Shoemaker & Reese, 1996). Actions and positions perceived as extreme are tacitly criticized through pejorative adjectives, a satirical tone, or omitted altogether (Gans, 1979). For example, when Dr. Richard Seed announced in 1998 that he planned to clone humans, he was depicted in the media as a dangerous eccentric and a modern-day Dr. Frankenstein (Rosenfeld, 1999). The media also increase the prominence of some individuals and groups by including them often in stories and portraying them in a positive way while marginalizing other individuals and groups by disregarding them or depicting them in a less-flattering light (Shoemaker & Reese, 1996). As a result, the

diversity of discourse can be limited. Some scholars believe journalists and their sources may participate in a shared culture resulting from their interaction (Chaffee & McLeod, 1968), in which terms such as “mainstream” are negotiated and defined.

### ***News Routines***

Journalistic news routines also influence and define the social construction of reality portrayed by the media (Shoemaker & Reese, 1996; Tuchman, 1978). News routines are defined as “patterned, routinized, repeated practices and forms that media workers use to do their jobs” (Shoemaker & Reese, 1996, p. 105). As Hall (1983) notes, journalists learn news routines habitually and unconsciously: “When a journalist is socialized into an institution, he or she is socialized into a certain way of telling stories.” Standardized, recurring patterns of news content are significantly shaped by these routine practices (Shoemaker & Reese, 1996), which Tuchman calls “the pragmatics of newswork” (1995, p. 87). As a result, news routines are useful in examining how science and medical reporters gather news and develop stories as well as understanding the influences on those processes and on media content.

To an often large extent, science and medical reporters do not independently decide what topics to cover because they must rely on the scientific and medical communities both as primary sources for information and also to explain that information (Corbett & Mori, 1999). Passive newsgathering techniques, such as press releases, news conferences, journals, and scientific meetings, thus shape much of the work of science and medical reporters (Burkett, 1986). While there may be few true news “events” on the science and medical beats, other occurrences can be elevated to the status of “events” by sources (Shoemaker & Reese, 1996). Publication of peer-reviewed journals and distribution of embargoed news releases on articles in those journals are prescheduled occurrences that have been promoted to events, thus becoming predictable

sources of news. Entwistle (1995) found that 86 percent of medical stories in British newspapers came from research papers published in *The Lancet* and the *British Medical Journal*.

However, science and medical reporters also follow many of the same news routines as other types of reporters. For example, they look for convenient, timely stories that align with their deadlines (Shoemaker & Reese, 1996). They also rely on official sources (Berkowitz, 1987, 1992; Dunwoody, 1987; Dunwoody & Ryan, 1987; Nelkin, 1995; Rubin & Hendy, 1997; Sigal, 1973; Tuchman, 1978) and on public relations sources (Nisbet & Lewenstein, 2002; Stocking, 1985; Tanner, 2004).

### ***Reporters and Sources***

Newsgathering is a “distinctly collective activity” in which journalists depend on others for much of the content in their stories (Conrad, 1999, p. 285). For example, in research on the swine flu vaccination program, Rubin and Hendy found that a reporter, “especially when under deadline pressure and dealing with a complex story, is a captive of his or her sources” (1977, p. 772). According to Maier and Kasoma, “news sources provide information, context, and opinion that define and shape how the news story is presented” (2005, p. 1). Sources are also a key dimension of framing because a reporter’s choice of sources “powerfully influences how that story is told” (p. 1).

Specific types of sources, including government officials (Berkowitz, 1987; Maier & Kasoma, 2005; Sigal, 1973; Tuchman, 1978), industry officials (Berkowitz, 1992), and social elites, including scientists, physicians, lawyers, and celebrities (Cobb & Elder, 1962; Corbett & Mori, 1999), are used more often and are thus likely to have greater influence in setting the media agenda and framing issues than other kinds of sources. Sigal, who examined *The New York Times* and *The Washington Post* over a 20-year period, found that government officials accounted for more than 75 percent of all

sources. Research has also found that in media coverage of scientific controversies, government officials, industry representatives, and scientists are much more likely to be sources (Conrad, 1999; Dunwoody, 1987; Dunwoody & Ryan, 1987; Goodell, 1977; Nelkin, 1995; Nisbet & Lewenstein, 2002; Sumpter & Garner, 2007).

Sources may be proactive, initiating contact with reporters – either themselves or through public relations practitioners – to offer information or comment, or they may passively wait for reporters to call. As Gans notes, “Although it takes two to tango, either sources or journalists can lead, but more often than not, sources do the leading” (1979, p. 116). Reich (2006) asserts that the news initiative is fluid, passing from source to journalist during the process. According to his model, during the discovery phase, when reporters learn about potential news, sources initiate most of the contacts. But during the gathering phase, when reporters collect additional information, journalists initiate most of the contacts (Reich, 2006).

### ***Expert Sources***

Nearly a century ago, Lippmann noted that people construct reality out of stereotypes, or “the pictures in our heads,” and that journalism was practiced by “untrained accidental witnesses” (1922, Chapter 1). It is unsurprising, then, that journalists rely on experts to help explain and interpret events in hopes of enhancing objectivity and authority (Steele, 1995); the experts, in turn, become news shapers by providing comment and context for stories (Conrad, 1999; Soley, 1994).

How journalists define expertise and select experts can have a significant impact on the framing of news (Steele, 1995). But choosing expert sources is more challenging than other types of news sources because deciding who to trust to provide expert information and opinion is a critical issue for journalists: “How are journalists to

understand which sources possess expertise and which simply have information?” (Boyce, 2006, p. 889). In fact, some observers suggest that bioethics is an area in which expertise is difficult to justify (Jonsen, 1998).

In a study of *The New York Times*, *Los Angeles Times*, and *Washington Post*, Soley (1994) found that nearly twice as many experts were quoted in 1990 as in 1978. A study of Danish newspapers also found that the number of expert sources had increased dramatically over the last 40 years (Albaek, Christiansen & Togby, 2003). Paradoxically, there has been a simultaneous decline in public trust in experts and an increasing use of expertise in our society (Boyce, 2006; Limoges, 1993). As Limoges notes, “(w)e believe less and less in experts...(but) we use them more and more” (1993, p. 424). Columnist Ellen Goodman points out:

“Every reporter worth his or her Rolodex has a list of duly and not necessarily legitimately dubbed experts. One of the most ludicrous phrases in modern journalism has become, ‘Experts say’ ...It's almost like a rule of the market economy: The more of them we have, the less they are worth” (1997, p. A19).

To make stories more interesting and relevant, reporters have increasingly highlighted conflict and tension by including more expert sources:

“...Since the requirement of maintaining professional objectivity precluded journalists from personally judging the statements or actions of those involved in news stories, persons having no part in the conflict – ‘persons of authority’ – were brought in as referees and critics. Experts from academia and the research sector were perfect for this role” (Albaek et al., 2003, p. 938).

Journalists use expert sources for three main reasons: to offer facts, increase credibility, and provide objectivity (Boyce, 2006). Most often, expert sources are used to provide and verify facts and background information. As Kovach and Rosenstiel point out, “the essence of journalism is the discipline of verification” (2001, p. 71). Expert sources may not appear in every story but are nonetheless an essential part of a journalist’s working

life (Boyce, 2006).

Several factors have encouraged increased use of expert sources, including greater media competition (Albaek et al., 2003). Reporters have also compensated for low levels of public trust in journalism by depending on experts to augment their own credibility (Albaek et al., 2003). Another factor is the growing complexity of the news; 60 percent of local television health reporters surveyed said they must frequently find a health expert to explain complicated information because of the technical nature of medical news (Tanner, 2004).

While the use of expert sources is on the rise, there is scant research on who they are and how they are used (Conrad, 1999; Soley, 1994; Steele, 1995; Sumpter & Garner, 2007; Turk, 1986), as well as how reporters evaluate their expertise (Boyce, 2006; Martin, 1991; Soley, 1994; Steele, 1995; Stocking, 1985). According to Boyce, “previous academic studies that analyze the use of experts in the media fail to define expertise or provide explanation of the significance or difference of expert sources compared to non-expert sources” (2006, p. 891). This is also the case in media coverage of science, medicine, and technology. Martin notes that there has been “surprisingly little discussion of source selection in science reporting and no discussion of the qualifications of the sources selected as being a factor of selection” (1991, p. 179). Duhe’s study of media sources used after the 2001 anthrax attacks (2005) and Rubin and Hendy’s analysis of sources used in stories on the swine flu inoculation program (1977) are among the exceptions.

In interviews with science reporters, Conrad (1999) found that depending on the length and complexity of the story, journalists may contact between 2 and 40 experts. Among the criteria used to select expert sources are credentials, qualifications, reputation, accessibility, efficiency, reliability, and prior media visibility (Boyce, 2006;

Conrad, 1999; Gans, 1979; Friedman, Dunwoody & Rogers, 1986; Stocking, 1989; Van Dijk, 2004). As Van Dijk notes, “The media tend to use ‘experts’ whose reputations and qualifications add weight to the argument being made, influence the way events are interpreted, and set the agenda for future debate” (2004, p. 161).

A potential problem with experts, however, is how a journalist knows when he or she has identified one (Goodman, 1999). In other words, how can a non-expert identify a genuine expert, especially in an esoteric or highly specialized field? American scientists surveyed about their contacts with reporters indicated that about one-third of the time they were asked about topics tangential or unrelated to their field (Dunwoody & Ryan, 1987). Or does a reporter simply seek out the powerful and prestigious and hope that expertise accompanies stature (Goodman, 1999)? While younger experts may be most willing to be interviewed, science and medical reporters prize expert sources with highly visible names, titles, affiliations, and even a touch of celebrity (Conrad, 1999; Goodell, 1977; Shepherd, 1981).

### ***Why Sources Matter***

Reporters work most efficiently when they know in advance what sources they plan to interview will say (Shoemaker & Reese, 1996). As a result, journalists develop a relatively small roster of trusted sources they know will provide certain information or an opinion needed to flesh out a story (Conrad, 1999; Shoemaker & Reese, 1996; Reese & Danielian, 1994). Reporters “find it easier and more predictable to consult a narrow range of experts than to call on new ones each time” (Shoemaker & Reese, 1996, p. 131). As Gans notes, “eager sources eventually become regular ones, appearing in the news over and over again” (1979, p. 118). As a result, some expert sources amass significant power to define the news (Brown et al., 1987).

For science and medical reporters, expertise is not enough; sources must also be

able to switch off technical jargon and explain information or provide an opinion in plain English (Burkett, 1986). Experts who talk with reporters frequently are better at saying things effectively for stories (Conrad, 1999). As a result, the simplest thing for reporters to do, especially on deadline, is to call the same bioethicist again and again (Goodman, 1999).

When the topic is controversial, reporters are trained to follow the journalistic norms of objectivity and balance by pairing experts believed to represent opposing viewpoints (Boyce, 2006; Conrad, 1999; Steele, 1995). Gamson and Modigliani note that in news stories, “interpretation is generally provided through quotations, and balance is provided by quoting spokespersons with competing views” (1989, p. 86). Reporters “often seek experts who can represent each side of a controversy to present a more balanced picture of the particular scientific finding or claim” (Conrad, 1999, p. 290). Expertise may thus be utilized “as an instrument to carry out a conflict...fought over social and political objectives and means to reach them” (Nowotny, 1981, p. 235). As a result, experts are often called upon “to take sides and to become advocates” (p. 236).

But using expert sources on opposing sides in media stories tends to frame the parameter of scientific debate on an issue (Evans, 2002). And journalistic balance is often misconstrued by reporters as balancing two sides equally, giving the impression that public opinion is evenly divided although this may not be true (Kovach & Rosenstiel, 2001). In examining the use of expert sources in television news coverage of the Persian Gulf War, Steele notes that asking a small group of expert sources to make predictions, analyze motives, and provide commentary and analysis on a narrow set of issues can undercut “the very goal of objectivity that encourages journalists to seek out experts in the first place” (1995, p. 809).

In addition, using multiple expert sources to achieve the journalistic norms of



balance and objectivity may fall short in practice. For example, reporters covering the Columbia shuttle accident did not necessarily present expert sources representing different perspectives in their stories, relying heavily instead on official sources such as NASA (Sumpter & Garner, 2007). The views of some types of experts were marginalized because of their infrequent use as sources, giving news consumers an incomplete account of the disaster (Sumpter & Garner, 2007, p. 470-471).

This may also occur in reporting on bioethical issues, “which seems often to involve seeking out the opinion of one ‘bioethics expert’ and presenting it at least tacitly as representing the views of all who are in this line of work” (Goodman, 1999, p. 193). Yet neither bioethicists nor their opinions are homogenous: while almost any geneticist could explain the human genome to a reporter in much the same way as his or her peers, no two bioethicists may provide exactly the same perspective on the ethical implications of the Human Genome Project or its future consequences. As a result, journalists’ reliance on bioethicists as expert sources is “fraught with shortcomings” (Goodman, 1999, p. 188).

Expert sources are expected to have authoritative opinions that will inspire the confidence of news consumers (Mepham, 2005). But experts rarely admit that they do not know the answer to questions in their field because it would imply incompetence. Thus the comments of experts, “sometimes tentative and sometimes uninformed, tend to get vested with an authority which may not be justified” (Mepham, 2005, p. 326).

Furthermore, bioethicists quoted in the news may perpetuate the impression that there is only one possible correct moral position – theirs – by failing to emphasize that their views are wholly personal (Pence, 1999). An expert source may perceive his or her expertise as neutral and become irked if a journalist seeks to balance what the expert sees as a definitive statement or comment (Boyce, 2006). A bioethicist may thus be

reluctant to suggest other bioethicists who could provide a contrasting position:

“The great danger...is that only a very few media-savvy bioethicists define to the public what ‘bioethics’ says about an issue. Moreover, too often only one side is presented as ‘the’ ethical position” (Pence, 1999, p. 48).

Other bioethicists may insist they are not moral experts and lack any special authority, yet are willing to be expert sources: “There is something disingenuous about a bioethicist who claims to have no special expertise yet happily occupies the seat of an expert on the television news” (Elliott, 2007, p. 45).

### ***A Symbiotic Relationship***

Over the last few decades, a symbiotic relationship has developed between bioethicists and reporters: “Bioethics is a young, interdisciplinary field that owes a considerable debt to the media for its existence. As such, a special relationship has developed between bioethicists and journalists” (Pence, 1999, p. 47). As bioethicists have become more experienced in talking with reporters, they have become “the perfect intermediaries between medicine and journalism” (Pence, 1999, p. 47). While physicians and scientists may be hesitant to talk with reporters, many bioethicists “are eager for attention from real-world journalists. The marriage is a natural” (Pence, 1999, p. 47).

Natural, perhaps, but imperfect. Reporters on specialized beats can become co-opted by their sources (Gans, 1979). Because these reporters popularize technical knowledge, they become very important to sources who value publicity (Gans, 1979). Goodell (1986) notes that the mutually beneficial relationship between journalists and expert sources may be especially strong, and even detrimental, in science journalism. Through “a particular kind of chauvinism,” science reporters and their sources often assume that sources have definitive views on scientific and medical issues based on their expertise and collective wisdom, downplaying the need for the views of other actors in

media coverage (p. 177). Goodell asserts that this often leads to an uncritical and unwarranted boosterism of science, what Nelkin (1995) calls “selling science” to the public.

A key question is whether bioethicists used as expert sources add a fresh dimension to media coverage on bioethical issues: do they provide a unique voice and critical perspective or largely echo and affirm the positions of scientists, physicians, and policymakers? According to bioethicist Daniel Callahan, if bioethics “has not been utterly captured by (the scientific) enterprise, it has mainly stood on the sidelines, wagging its finger now and then” (1997, p. 19).

Bioethicists acknowledge that the media have given bioethical issues greater importance over the last two decades and have bestowed public legitimacy on bioethics (Simonson, 2002). Still, some bioethicists criticize the way in which journalists work: “While talking to the news media is part of the job for many scholarly bioethicists, there is much grumbling about it” (Simonson, 2002, p. 32). Bioethicists are often uncomfortable with or disappointed by coverage:

“...The popular media seem to simplify the complex, reduce deliberation and nuanced argument to sound bite, favor the sensational over the carefully argued, and feature the alluring image instead of the closely considered issue” (Simonson, 2002, p. 32).

Yet despite the complaints, bioethics “can benefit from even the most sensationalized, soundbitten, and superficial portrayal in the mass media” because whenever a story appears, “the public significance of bioethics is reconfirmed” (Simonson, 2002, p. 35).

Conrad notes that science and medical reporters have the difficult challenge of converting “complex and ambiguous scientific findings into nontechnical, compelling, and readable stories. This requires reporters to simplify findings and present them in

ways that are comprehensible” to media consumers (2001, p. 91), sometimes losing the nuanced viewpoints of bioethicists in the process (Levine, 2007). There is also a gulf between the deliberateness of philosophy and the speed of journalism:

“Given their structure, their rapid production schedules, their need to attract the attention of an audience that has a million other things to do, the mass media are necessarily fragmented, hurried, entertaining. They do have a very important function, but it is not the comprehensive, educational one demanded of them by political philosophers and disgruntled intellectuals. Against that standard they will always fail. Instead, their function is to set agendas or to bring issues to our attention. And in that arena they succeed spectacularly” (Dunwoody, 1987, p. 48).

Journalistic brevity can result in short quotes that pass moral judgment without supporting argumentation, which is “a little like telling the punch line without the joke. It produces a cartoon of an ethical issue, not an account” (Goodman, 1999, p. 189, 192). As a result, news consumers may lack needed context for evaluating disagreements among experts or understanding the reasons behind judgments:

“...Reporters aren’t interested in detailed analysis or lengthy qualifications. A short, pithy quote is what’s wanted. Nor are the reporters eager to hear reassurances that alarming events aren’t alarming. That doesn’t make good copy. What makes good copy is the idea that the events being reported are morally troubling, or worse” (Rachels, 1991, p. 67).

Bioethicists may contribute to the problem by making “snap judgments” (Rachels, 1991, p. 67) or by “trying too hard to be pithy when an issue demands reflection” (Goodman, 1999, p. 194). As a result, “it’s easy to see why people may consider a bioethicist just another opinionated talking head,” (Levine, 2007, p. 19).

Communication scholars contend that many experts are willing co-conspirators in the newsgathering process, learning exactly what journalists want and giving it to them: “As part of the cooperative manufacture of news, sources recognize journalists’ preferences for drama and for familiar story themes and actively seek to formulate their

message strategies to accent drama and familiar story formats” (Nisbet et al., 2003, p. 43-44). Arthur Caplan, who is quoted more often than any other bioethicist, clearly understands news routines:

“If a reporter calls you, you can’t say, ‘Let me put some papers together and send them to you in a few weeks’. You have to have the information they want immediately and you have to dispense it in a useful way...I get quoted a lot because I’m quick on my feet when someone calls. I can boil the issues down to plain English readers will understand, and I have a good sense of humor” (Caplan quoted in Berkmoes, 1991, p. 39).

### ***Public Relations Practitioners and Agenda Building***

Journalists often depend on expert sources or their public relations representatives to contact them with story ideas, information, or comments rather than selecting expert sources independently and contacting them proactively. Research has found that 25 to 80 percent of all news content is influenced by the media relations efforts of public relations practitioners (Cameron et al., 1997). This may also be true for science and medical reporting. Slightly more than half of local television health reporters surveyed indicated they got most of their story ideas from public relations practitioners who personally contact them, while press releases were the next-largest source of story ideas (Tanner, 2004). In addition, 60 percent of reporters surveyed agreed that health sources often affect health stories aired on their stations (Tanner, 2004).

Gandy (1982) suggests that journalists enter into relationships of exchange with their sources that resemble the characteristics of economic markets. Through a dynamic and symbiotic interplay, sources and public relations practitioners offer reporters ideas, information, comments, and visuals in the form of “information subsidies” that stretch limited journalism resources while the sources receive publicity. According to Tanner, this “passive news discovery process” aids health reporters in finding story ideas without having to leave the newsroom (2004, p. 360); it also helps shape the way in which

science, medicine, and technology becomes news and is communicated to the public (Nelkin, 1995).

The institutions and organizations for which the expert sources and their public relations practitioners work also benefit because of increasing pressure to elevate their prestige, attract funding, and preserve their viability (Albaek et al., 2003). Being included in media stories can thus have significant practical value:

“The result is that an ever-increasing number of experts see themselves as qualified to comment on an ever-increasing range of topics – and journalists have proved themselves eager to take advantage of this wealth of intellectual resources” (Albaek et al., 2003, p. 939).

But the implications of the dynamics between reporters and sources go beyond a mutual exchange of benefits. According to agenda-building theory (McCombs, 1992, 1993; McCombs & Gilbert, 1986), the media, government, and society reciprocally affect one another. Agenda building holds that journalists do not necessarily set the media agenda; rather, it is constructed by sources that shape the information that ultimately reaches media consumers. By suggesting story ideas, offering information, and orchestrating the use of certain experts, public relations practitioners play an important role in building the media agenda, and, ultimately, in influencing the public agenda (Berkowitz, 1987; Cameron et al., 1997; Curtin, 1999; Tanner, 2004).

### ***Framing of Bioethical Issues***

The sociological concept of framing posits that people actively identify, organize, and classify their life experiences to help make sense of them; schemata of interpretation, or “frames,” enable them to do so (Goffman, 1974). In applying framing to mass communication, Gitlin (1980) notes that media frames are patterns of cognition, selection, and interpretation used to create reality by including, highlighting, and omitting information in stories. According to Gitlin, journalists rely on frames in their

work just as media consumers may come to depend on frames in interpreting the world around them. He also notes that media frames are both routine and persistent, and tend to perpetuate the views and interests of political elites who sponsor the framing of issues and events in certain ways.

Entman (1991, 1993) contends that the hallmarks of framing are salience and selection. Salience means highlighting certain bits of information through their placement, repetition, or association with culturally familiar symbols. By elevating the salience of some information and neglecting or marginalizing other information, frames help promote a certain interpretation of events. Entman points out that frames can help identify problems, diagnose causes, make moral judgments, and propose remedies or solutions. He also asserts that there are four locations of frames: the communicator, the text, the receiver, and the culture. Media consumers may not simply accept media frames but actively engage in “counterframing.”

Iyengar and Simon (1997) characterize news frames as episodic or thematic. Episodic frames focus on specific events or particular cases while thematic frames place issues and events in a broader context. A story that attempts to dramatize the plight of victims and to demonize individuals as villains represents an episodic frame (Gandy & Li, 2005). But the choice of particular examples for dramatic effect may distort understanding of the facts in the story by influencing media consumers to overestimate risk (Gandy & Li, 2005). A story using a particular issue as a way to call attention to a more general problem represents a thematic frame (Gandy & Li, 2005). Both types of frames are used in media coverage of bioethical issues.

McCombs and Ghanem (2001) assert that framing is not a distinct theory but simply an extension of agenda setting. They contend that the first level of agenda setting is concerned with the salience of issues and that the second level is concerned with the

salience of issue attributes. Other scholars are skeptical about subsuming framing within agenda setting; Scheufele (1999, 2000), for example, notes that empirical evidence does not support conflating the two theories. In addition, because agenda setting is concerned primarily with media effects, it overlooks the vital aspects of framing that focus on what occurs before media frames are received by media consumers: how frames are created, sponsored, and contested by competing political and social interests as well as the ideological values, news routines, and organizational issues that influence the development and transmission of those frames (Entman, 1991, 1993; Gitlin, 1980; Gamson & Modigliani, 1989; Reese, 2003). These aspects are highly pertinent to this research.

Framing theory has been used to study the central organizing ideas in media coverage of science, medicine, and technology for almost two decades. Previous research has examined such issues as nuclear power (Gamson & Modigliani, 1989), obesity (Lawrence, 2004), biotechnology (Nisbet & Lewenstein, 2002; Priest, 1994, 2006), stem cell research (Nisbet et al., 2003), genetics (Petersen, 2005; Ten Eyck & Williment, 2003), cloning (Huxford, 2000), SARS (Tian & Stewart, 2005), and nanotechnology (Gorss & Lewenstein, 2005). Some of these studies assert that the media framing of science, medicine, and technology is highly polarized and that while positive frames emphasizing potential benefits dominate, alternative frames that express concerns about potential risks are marginalized (Nisbet & Lewenstein, 2002; Nisbet et al., 2003; Priest, 1994, 2006; Ten Eyck & Williment, 2003; Gorss & Lewenstein, 2005). This supports Nelkin's (1995) assertion that science reporters are engaged in "selling science" to the public. This study extends previous research by examining how the media cover a broader range of scientific and medical topics with bioethical issues as a common denominator.



## ***Research Questions***

Based on insights from the literature on news values and news routines, this study will answer the following questions:

RQ1: To what extent do journalists use bioethicists as expert sources, and has the frequency changed over time?

RQ2: On what scientific, medical, and technological topics are bioethicists most often used as expert sources? Have these changed over time, and if so, how?

RQ3: How often is information or opinion from a single bioethicist included in a story? How often do stories include views from two or more bioethicists? Do the comments of two or more bioethicists in a single story typically represent reinforcing or contrasting views?

RQ4: Which bioethicists appear most often as expert sources in media coverage? Does this vary geographically?

RQ5: How are bioethicists described in media stories in which they are expert sources? How are their credentials, affiliations, and views established and/or qualified?

RQ6: What roles do bioethicists play in media stories? Have these roles changed over time, and if so, how?

Insights from previous studies on agenda building lead to the following research question:

RQ7: What is the evidence from the media content that public relations professionals influence the media agenda on bioethical issues by pitching bioethicists as expert sources, issuing news releases, or orchestrating news events (i.e. news conferences) at which bioethicists speak?

In addition, previous research on framing theory suggests the following research question:

RQ8: How do bioethicists used as expert sources impact the framing of media coverage of bioethical issues?

## **CHAPTER 4: METHODOLOGY**

This research used three data-collection strategies: a quantitative content analysis of media coverage in six newspapers, a qualitative framing analysis of a small subset of that coverage, and in-depth interviews with science and medical reporters at the same newspapers. These data-collection strategies worked together to help answer the research questions by examining two facets of the news: production (interviews with journalists) and product (content and framing analyses of media coverage). The content analysis and in-depth interviews with journalists were designed to answer research questions 1-7. The framing analysis aimed to answer research question 8. Scholars note that having multiple sources of evidence from mixed data-collection strategies can increase construct validity by developing converging lines of inquiry (Yin, 2003), which is also known as triangulation (Denzin, 1989). Triangulation can help create “a more encompassing perspective” in analysis (Jankowski & Wester, 2003, p. 63).

### ***Content Analysis***

The content analysis had two objectives: First, to scrutinize who, when, how, and why journalists use bioethicists as expert sources. And second, to look for evidence of involvement by public relations practitioners in helping to build the media agenda on bioethical issues by issuing news releases, orchestrating news events, and by contacting reporters to offer information or to advance the use of certain bioethicists as expert sources. Content analysis “allows for nonobtrusive observation of the final product” of media agenda-building processes among journalists, sources, and public relations practitioners (Nisbet et al., 2003, p. 65).

One advantage of content analysis is its “potential to identify trends over long periods of time” (Wimmer & Dominick, 2003, p. 142). By systematically analyzing

media coverage of bioethical issues over a 15-year period, this research was expected to illuminate the evolving role of bioethicists as expert sources. This research was informed by previous research using content analyses to examine how the media cover scientific, medical, and technological issues. Examples include stem cell research (Nisbet et al., 2003), breast cancer (Corbett & Mori, 1999), and the 2001 anthrax attacks (Duhé, 2005; Winett & Lawrence, 2005).

Media outlets. Media coverage for analysis was drawn from *The New York Times*, *Atlanta Journal-Constitution*, *Houston Chronicle*, *San Francisco Chronicle*, *Boston Globe*, and the *St. Louis Post-Dispatch*. As an elite national newspaper, *The New York Times* is considered a newspaper of record. Stories have a tendency to filter vertically within the news hierarchy; editors at regional news organizations are often inclined to defer to elite newspapers and newswires to set the news agenda (Gitlin, 1980; Nisbet et al., 2003; Rogers et al., 1991). The *San Francisco Chronicle*, *Boston Globe*, *Atlanta Journal-Constitution*, *Houston Chronicle*, and the *St. Louis Post-Dispatch* were selected because they are large and respected newspapers with roughly comparable circulations in diverse geographic regions. All six newspapers had designated science and medical reporters during the study period. Together they provide an appropriate geographic cross-section of newspaper coverage of bioethical issues in the United States.

**Table 2: Newspapers Included in Content and Framing Analyses**

Newspaper	Circulation*
The New York Times	1,623,697
Atlanta Journal-Constitution	523,968
Boston Globe	587,292
Houston Chronicle	692,586
St. Louis Post-Dispatch	418,262
San Francisco Chronicle	432,957

\*(Audit Bureau of Circulations, 2007)

The prominence and authoritativeness of *The New York Times* also pertains to

science and medical reporting. The *Times* established its Science Times section in 1978; it remains the largest and most authoritative weekly section devoted to coverage of science and medicine in a U.S. daily newspaper (Wilford, 2003). With 16 full-time reporters and five editors (Wilford, 2003), Science Times is regarded as an international model for quality, depth, and breadth of science coverage (Nisbet et al., 2003). Other newspapers responded to Science Times by launching their own section or page of science and medical news (Wilford, 2003). In the past 15 years, however, the number of science sections has dropped from 95 in 1989 to fewer than 40 today because of economic pressures (Helmuth, 2005; Russell, 2006). But while the number of dedicated science pages has shriveled, health coverage has flourished (Helmuth, 2005). Even Science Times now devotes about half of its space to medical and health news (Helmuth, 2005).

Data set. Media coverage involving bioethicists as expert sources was operationalized as all staff-written stories with direct quotes from bioethicists. They were retrieved by searching in the LexisNexis Academic database for the key words “bioethics,” “bioethicist,” “medical ethics,” “medical ethicist,” “biomedical ethics,” and “biomedical ethicist” anywhere in the text. Those six keywords helped ensure that all relevant coverage was retrieved even though titles and terminology used by reporters and editors may vary from newspaper to newspaper or changed over time. Editorials, op-eds, letters to the editor, book reviews, and syndicated or wire service stories and columns were excluded.

The data set included content from 1992 through the end of 2006. This provided a 15-year perspective against which to assess the evolving role of bioethicists as expert news sources. As Wimmer and Dominick (2003) note, the time period of media coverage to be examined should be long enough that the phenomenon being studied has sufficient

time to occur. After screening to eliminate duplicates and to ensure that the stories met the study criteria, a census of 946 stories was defined. Nearly half of the total, or 433 stories, were from *The New York Times*. The *Boston Globe* had the second-highest number of stories, 206, or about half the number of *The New York Times*. The *San Francisco Chronicle* and *Atlanta Journal-Constitution* ranked third and fourth, respectively, while the *St. Louis Post-Dispatch* and the *Houston Chronicle* had the fewest stories. In fact, *The New York Times* published as many staff-written stories in which bioethicists were used as expert sources in a single year, 2005, as the *St. Louis Post-Dispatch* published in 15 years.

**Table 3: Census of Staff-Written Stories Quoting Bioethicists as Expert Sources**

Year	Atlanta Journal-Constitution	San Francisco Chronicle	Houston Chronicle	Boston Globe	St. Louis Post-Dispatch	New York Times	Total
1992	6	3	3	5	4	21	42
1993	5	1	2	14	8	21	51
1994	5	3	1	6	3	30	48
1995	10	2	2	11	---	17	42
1996	4	2	2	10	4	27	49
1997	12	2	3	13	2	42	74
1998	15	---	3	15	2	33	68
1999	3	2	4	25	1	36	71
2000	6	8	1	22	3	19	59
2001	5	15	6	18	6	37	87
2002	4	12	5	13	2	20	56
2003	4	5	---	10	6	20	45
2004	5	11	6	11	2	32	67
2005	2	20	21	21	9	55	128
2006	3	12	6	12	3	23	59
Total	89	98	65	206	55	433	946

An online random number generator was used to obtain a stratified random sample of 456 stories. According to Wimmer and Dominick (2003), stratified sampling ensures that a sample is drawn from a homogenous subset of the population. The sample size of 456 stories was determined to be a manageable size sample to code and analyze.

**Table 4: Data Set of Stories for Content Analysis**

	Atlanta Journal-Constitution	San Francisco Chronicle	Houston Chronicle	Boston Globe	St. Louis Post-Dispatch	New York Times	Total
Census	89	98	65	206	55	433	946
Stratified Random Sample*	43	47	31	99	27	209	456

(\*Numbers rounded to nearest whole)

Coding instrument. A standardized coding instrument and code book (*see Appendix*) were developed. After the two independent coders were trained, they initially tested the coding instrument and code book on a subsample of 10 stories drawn from all six newspapers. After meeting jointly with the coders and reviewing and discussing the results, the coding instrument and code book were substantially revised to clarify several variables and refine some categories to ensure that category boundaries were unambiguous. If the categories are firmly defined, the coding instrument will be more likely to adequately measure what it intends to measure, thus increasing the face validity of the content analysis (Wimmer & Dominick, 2003).

A pilot study was then conducted to check intercoder reliability. The degree of agreement or disagreement between the categorizations of the two coders was determined on a subsample of 30 articles included in the content analysis, or approximately 6.6 percent of the data set. The goal was to help detect poorly defined categories and chronically dissenting coders (Wimmer & Dominick, 2003). Intercoder reliability was calculated using Scott's pi, which corrects for chance agreement among coders (Wimmer & Dominick, 2003). A reliability coefficient of 80 percent or better was sought. The overall reliability for the pilot study was 93.27 percent for the 16 items. Since there was 100-percent agreement between the coders on a number of items that involved

only counting or recording, Scott's pi was also calculated individually for several variables for which intercoder agreement had been identified as challenging during the initial test. The lowest reliability coefficient for an individual variable was 84.14 percent.

Two additional checks of intercoder reliability were conducted at periodic intervals during the content analysis to help ensure that intercoder agreement remained consistently high. Each of these checks involved 10 stories drawn from the data set. Using Scott's pi, the overall reliability coefficients for these tests were calculated to be 92.61 and 91.88 percent, respectively.

Analysis. The coders reviewed the entire story. Units of analysis were direct quotes from bioethicists used as expert sources. Among the factors coded and analyzed:

- Frequency. How many stories quoting a bioethicist or bioethicists were published in each newspaper during each year of the study period?
- Length/placement. How long were the stories? How prominent was their placement?
- Topic. What was the main topic of the story?
  - Reproductive issues (including contraception, in vitro fertilization, surrogate motherhood, and abortion)
  - Human embryonic stem cell research and cloning
  - Health care allocation (including access to organ transplants, medical technology, and health insurance)
  - End-of-life issues (including euthanasia and assisted suicide)
  - Biotechnology and genetics
  - Animal issues (including animal cloning, experimentation on animals, xenotransplantation, and pet surgery)
  - Medical errors, malpractice, and patient safety
  - Fraud, conflicts of interest, and unethical behavior
  - Other (primary topics that do not fit any of the other categories)

- Prominence. How many times was a bioethicist(s) directly quoted in the story? How many other sources were directly quoted in the story? Where did the quotes from bioethicist(s) rank in the order of sources directly quoted in the story?
- Affiliation/qualifiers. How was the title and affiliation of the bioethicist(s) described? How were the credentials and qualifications of the bioethicist(s) as an expert established?
- Balance. Was a single bioethicist used as an expert source in a story? Or were two or more named bioethicists used? If so, did they provide reinforcing or contrasting comments or opinions?
- Primary role. What primary role(s) did the bioethicist(s) play in the story?
  - Explanation/Context. Was the bioethicist(s) primarily used to explain a case, issue, policy, practice, or scientific finding? Was the bioethicist(s) primarily used to help place the case, issue, policy, practice, or scientific finding into historical, social, economic, or scientific context?
  - Implications. Was the bioethicist(s) primarily used to provide an opinion on the implications or consequences of a scientific finding, discovery, or issue?
  - Advocate/Legimator. Was the bioethicist(s) primarily used to advocate a specific view or position on a case or issue? Or was the bioethicist(s) primarily used to provide authority that a decision, practice, position, or policy conforms to social norms or acknowledged moral standards?
  - Critic/Skeptic. Was the bioethicist(s) primary used to criticize a specific view or position on a development, decision, issue, technology, practice, or policy presented in the story? Or was the bioethicist(s) primarily used to raise questions about the ethics of a development, decision, issue, technology, practice, or policy?
  - Arbiter. Was the bioethicist(s) primarily used to adjudicate between opposing viewpoints presented in the story without providing an opinion of his or her own?
  - Other. Other roles not covered by the categories above.
- Involvement of strategic communicators. What is the evidence from the story that public relations practitioners influenced the use of bioethicists as expert sources? Mentions of news releases, news conferences, journal articles or published studies, or other ways in which public relations practitioners may have advanced the use of certain bioethicists as expert sources will be identified and classified.



Frequencies and descriptive statistics were calculated. Chi-Square tests and one-way ANOVAs helped facilitate comparisons of the findings among the different newspapers and over time.

### ***Framing Analysis***

A framing analysis was conducted while the data for the content analysis were being collected and analyzed. The qualitative framing analysis complemented the quantitative content analysis by providing an interpretive window into how journalistic news routines, enduring news values, and agenda-building activities by journalists, sources, and public relations practitioners interact to influence the shape of media coverage on bioethical issues.

According to Hertog and McLeod (2003), researchers have approached the study of frames and framing in a multiplicity of ways. They note that a widely accepted methodological approach has not yet emerged, and that the variety of approaches, “extreme conceptual openness,” and diversity in definitions has been both a blessing and a curse to scholarship (2003, p. 139-140). As Gamson asks, “Is there any use for a concept that every investigator ends up applying in a different fashion?” (2003, p. x). Hertog and McLeod encourage researchers to outline their own approach to framing analysis in detail, which follows.

Objectives. The first objective of the framing analysis was to identify and categorize the dominant media frames, counterframes, and alternative frames in each story in the research subsample. While a counterframe was conceptualized as a frame that challenges and conflicts with the dominant frame, an alternative frame was conceptualized as a subordinate frame that does not conflict with the dominant frame

but promotes an additional aspect of, or perspective on, an issue. In this analysis, a particular frame was defined as the dominant frame, a counterframe, or an alternative frame based on its frequency in a story.

The framing analysis then assessed whether the quotes of bioethicists used as expert sources supported the dominant framing or helped advance a counterframe or an alternative frame. For example, did the quotes of bioethicists affirm or legitimize positions expressed by other sources in the story, thus reinforcing the dominant frame, or did they criticize or challenge positions expressed by other sources in ways that ran counter to the dominant frame? Gamson and Modigliani suggest that frames should be thought of dialectically, noting, “There is no theme without a countertheme” (1989, p. 6).

The third objective was to interpret how frames were symbolized and contested within the story. As Reese notes, “all frames are not equal in their ability to cause information to cohere, making sense out of the world” (2003, p. 13). According to the model developed by Gamson and Modigliani (1989), cultural resonance, sponsor activities, and media practices combine to create “careers” for particular frames. For example, are frames persistent or short-lived, and do they grow or diminish in prominence over time?

Sample. The framing analysis was conducted on a subset of 18 stories on a specific topic included in the census of stories gathered for the content analysis. Eighteen was determined to be a workable number of stories that would allow the author to analyze three stories from each newspaper in depth. A number of scientific, medical, and technological topics on which bioethicists were quoted as expert sources were evaluated for the framing analysis. These included organ transplants, egg donation, and end-of-life issues. But after careful consideration, the closely intertwined issues of embryonic stem cell research and human cloning were selected.

Stem cells are the foundation for every organ, tissue, and cell in the body (Sell, 2004) and have the unique ability to both self-renew and to develop into specialized cells that can form different tissues, such as bone, blood, muscle, nerves, and skin (National Institutes of Health, 2001). Once stem cells are harvested from embryos or adult tissues, they are cloned, or duplicated, and then grown into specialized cells. Proponents assert that much is at stake in advancing stem cell research because human stem cells may one day be used to treat such medical conditions as diabetes, Alzheimer's disease, Parkinson's disease, spinal cord injuries and heart disease, in which cells and tissues have been damaged, destroyed, or no longer work properly (National Institutes of Health, 2001). But opponents contend that using embryonic stem cells for research, which destroys the embryo, is tantamount to taking one life in the hope of saving another (Family Research Council, 2004).

Media coverage of embryonic stem cell research and cloning was selected for the framing analysis for three reasons. First, all six newspapers published multiple stories on these issues in which bioethicists were used as expert sources. This may be due, in part, to the fact that stem cell research and cloning have the ingredients of a good news story: controversy, drama, impact, prominence, relevance, and cultural resonance. Second, stem cell research and human cloning received sustained media coverage throughout much of the study period. And third, the issues of stem cell research and human cloning evolved between 1997 and 2005, with media stories becoming more complex and incorporating more frames as public opinion became increasingly dynamic and political debate grew more polarized.

The three stories from each of the six newspapers selected for the framing analysis represented three distinct milestones over an eight-year period (1997-2005) as human stem cell research and cloning first appeared on the media and public agendas

and escalated and evolved as bioethical issues. Each milestone also prompted a spike in the amount of media coverage of bioethical issues in which bioethicists were used as expert sources. The specific stories were selected based on their fit with the milestones so that similarities and differences in framing could be more accurately assessed. All of the stories featured prominent quotes from one or more bioethicists. Slightly more than two-thirds of the stories were published on the front page of the front section; the average story length was 1,004 words.

The first group of six stories was published in 1997-1998 and addressed the prospects for human cloning. Long a staple of science fiction novels and movies (Huxford, 2000), human cloning was suddenly thrust into the realm of the possible after Dolly the sheep was cloned in 1997 and the first human embryonic stem cells were harvested in 1998, intertwining the two issues. In addition, Dolly was the first technological development on which bioethicists were widely sought after as expert sources to help contemplate the ethical implications for science and society (Guthmann, 2006; Rosenfeld, 1999). Stories about Dolly and the potential for human cloning prompted the first spike in media coverage of bioethical issues in which bioethicists were quoted as direct sources during the 15-year study period (*see Figure 1, p. 67*).

When the first set of stories analyzed was published in 1997-1998, the novelty of – and uncertainty about – embryonic stem cell research and human cloning helped propel these issues onto the media agenda. But these attributes alone did not account for their staying power. By 2001, when the second set of stories was published, stem cell research and cloning had developed considerable cultural resonance in the United States because the issues aligned with the pro-life moral values that dominated the prevailing conservative Republican agenda. Sponsor activities ramped up significantly during this

time period as well, as proponents and opponents lobbied lawmakers, held news conferences, developed Web sites, and recruited celebrities and ordinary people to provide human faces and voices for their positions.

The second group of stories focused on the ascendant national policy debate over whether and how to regulate human embryonic stem cell research and human cloning, which generated a burst of political activity in Congress and the White House in 2001. These political developments – and the divisive rhetoric that fueled them – propelled the second peak in media coverage of bioethical issues in which bioethicists were used as expert sources (see *Figure 1, p. 67*).

The last set of six stories were published in 2004-2005, when a South Korean scientist who claimed to have cloned the first human embryos was transformed from national hero to international disgrace after it was revealed that his research had been falsified. Prominent media coverage of the scientist's achievements fueled the possibility of using stem cells to treat illnesses and injuries and sparked opposition to creating embryos only to destroy them (Kolata, 2004). When the scientific fraud was exposed 23 months later, dashing the hopes of stem cell proponents for imminent medical therapies, opponents asserted that it proved the folly of tinkering with nature (Cook, 2005). Although 2005 was the single largest year for media coverage in which bioethicists were used as expert sources (see *Figure 1, p. 67*), stories about the Terri Schiavo end-of-life case predominated the year's total.

Framing typology. Frames enable reporters to quickly identify and categorize information and package it for news consumers (Gitlin, 1980; Tuchman, 1978). These central organizing devices can be particularly useful when reporters are “thrust into unfamiliar territory” in covering a new topic (Nisbet & Lewenstein, 2002, p. 361).

Embryonic stem cell research and human cloning represented pathbreaking scientific developments and challenging moral issues for even seasoned science and medical reporters. As a result, frames can routinely help reporters navigate, select, organize, highlight, and interpret complex technical information about embryonic stem cell research and cloning as well as classify diverse ethical viewpoints into worldviews identifiable and familiar to news consumers. But if reporters at different media organizations use identical or similar frames in their stories about the same issue, it may lead to hegemonic “pack journalism” in which only one viewpoint is constructed as legitimate and dissenting perspectives are marginalized (Gitlin, 1980).

Although this framing analysis addresses only media frames, frames have at least four locations in the communication process: the communicator, the text, the receiver and the culture (Entman, 1993). As Gitlin (1980) notes, while frames organize reality for reporters, they also help do the same for news consumers. But the frames used by reporters to help present the news may or may not be congruent with the frames used by individuals to process and comprehend the news (Entman, 1993; Scheufele, 1999). In fact, news consumers may engage in “counterframing” against the dominant meanings in stories (Entman, 1993).

The framing typology used in this analysis was informed by a typology developed by Gamson and Modigliani (1989) in their research on media coverage and public opinion on nuclear power. They concluded that there were seven ways in which nuclear power was framed: Progress, Public Accountability, Runaway Technology, Devil’s Bargain, Energy Independence, Soft Paths, and Not Cost Effective. Each of these frames had different sponsors and was associated with different symbols; they ranged from highly supportive to highly opposed to nuclear power. This typology was adapted by Durant, Bauer, and Gaskell (1998), who preserved three of Gamson and Modigliani’s

seven frames – Progress, Public Accountability, and Runaway Technology – and added three others – Pandora’s Box, Economic Progress, and Ethics. It has been used by other scholars to examine the framing of such scientific, medical, and technological issues as nanotechnology (Gorss & Lewenstein, 2005), stem cell research (Nisbet et al., 2003), biotechnology (Priest 1994, 2006), and genetics (Ten Eyck & Williment, 2003).

Since stem cell research and cloning is both technology and biotechnology, these six frames remain appropriate for this study. However, Gamson and Modigliani (1989) and Durant, Bauer, and Gaskell (1998) used only used a single frame to characterize the benefits of a technology – its economic benefits. But media discourse on potential health benefits of stem cell research has greatly overshadowed potential economic benefits. Therefore, a seventh frame was developed by the author to represent these views.

Table 5: Framing Typology for Stem Cell Research and Cloning

1. *Pandora’s box*: Call for restraints in the face of unknown risk; opening of the flood gates of unknown risks as anticipated threats; warnings of catastrophe.
2. *Runaway technology*: Lack of control after the event or technological development; fatalism after the innovation; having adopted a new technology, a price may well have to be paid in the future.
3. *Progress*: Celebration of new scientific or medical development; breakthrough; natural direction of history.
4. *Economic prospects*: Economic potential; likelihood for investment and profits; arguments supporting research and development.
5. *Ethics*: Call for ethical principles, thresholds, and boundaries; distinctions between acceptable and unacceptable risks; ethical dilemmas.
6. *Public accountability*: Call for public participation, involvement, and control; need for regulation; private versus public interests.
7. *Health and hope*: Likelihood of human health benefits; potential to cure disease and debilitating medical conditions; offering hope to seriously ill patients and their families.

### ***In-depth Interviews***

Following the content and framing analyses, in-depth telephone interviews were conducted with one science or medical reporter at each of the six same newspapers. These interviews allowed a close examination of the news values that tacitly guide reporters' newsgathering and newswriting activities as well as the organizational routines that influence those processes and the resulting media content. The interviews also helped verify the findings of the framing analysis by asking reporters what role(s) bioethicists typically fill in their stories; for example, do they primarily reinforce or legitimize a position voiced by other sources (thus supporting the dominant framing), or do they criticize that position (which helps promote a counterframe or alternative frame)? In addition, by asking journalists when, how, and why they use bioethicists as expert sources, the interviews elucidated the agenda-building roles of journalists, sources, and public relations practitioners.

An advantage of intensive interviews is that they can provide a wealth of detailed information about a topic (Berger, 1998). In addition to gathering opinions and facts, they can yield detailed data about the subjects' values, motivations, recollections, experiences, and feelings (Wimmer & Dominick, 2003). However, a disadvantage of in-depth interviews is the possibility of interviewer bias. The goal is to attempt to understand the words, body language, and behavior of the subject without imposing *a priori* categorizations that curtail the field of inquiry (Fontana & Frey, 1998). In addition, the small sample of interviews means the findings are not generalizable (Wimmer & Dominick, 2003).

Sample. Science and medical reporters identified as potential interview subjects were the reporter from each of the six newspapers with the most bylined stories in the



data sets for the content and framing analyses, if that reporter still covered the science or medical beat at that newspaper. If not, the reporter from that newspaper with the next most bylines was contacted, and so on. The reporters were first contacted by e-mail and then followed up with by phone. The reporters were offered a brief summary of the findings of the content and framing analyses from their newspaper and asked for their help in interpreting and understanding the results. This helped pique their interest and encouraged their willingness to participate.

The interview subjects were:

- Todd Ackerman, medical reporter, *Houston Chronicle*
- Alice Dembner, medical reporter, *Boston Globe*
- Carl Hall, science reporter, *San Francisco Chronicle*
- Maryn McKenna, former medical reporter, *Atlanta Journal-Constitution*
- Deirdre Shesgreen, Washington correspondent, *St. Louis Post-Dispatch*
- Nicholas Wade, science reporter, *The New York Times*

Each interview lasted from 25 to 60 minutes.

Questions. Data collected in the content and framing analyses informed the questions about the subject's use of bioethicists as expert sources. Findings from the content and framing analyses were held up as a "mirror" to the subjects for their reaction and interpretation. Other interview questions were designed to elicit the news routines and news values that consciously or subconsciously guide the reporters' newsgathering and reporting activities and the role public relations practitioners play in those processes.

Interview questions were customized for each subject. While a list of open-ended questions was prepared before each interview, the interviewer had the flexibility to ask unstructured follow-up questions to clarify and/or elaborate on a subject's answer. This drew out additional information, details, and anecdotes that enriched the interview.

Each interview was recorded and transcribed.

Questions included:

- How often do you use bioethicists as expert sources?
- Has the frequency of your use of bioethicists as expert sources changed over time? Why or why not?
- Why do you use bioethicists as expert sources? What do bioethicists provide for stories that other types of expert sources cannot?
- How often do you initiate contact with bioethicists who may be potential expert sources?
- How often do bioethicists initiate contact about potential bioethical issues? When that occurs, is it typically to suggest a story idea, provide background information or context, or to offer a comment or opinion?
- How often do public relations practitioners initiate contact regarding stories on bioethical issues? When that occurs, is it typically to suggest a story idea, provide information, propose a specific bioethicist as an expert source, or to invite you to a news event?
- How often do you use a specific bioethicist as an expert source that a public relations practitioner who contacts you has suggested and/or helped arrange an interview?
- What do you see as the role of bioethicists in media and public discourse on scientific, medical, and technological issues?
- How do you evaluate the credentials and expertise of a bioethicist you are considering as an expert source?
- What qualifications and attributes do you look for in choosing a bioethicist as an expert source?
- In selecting a bioethicist as an expert source for a story, how important are the following criteria on a scale of 1-10, where 1 is not at all important and 10 is extremely important?
  - Proximity
  - Accessibility
  - Ability to communicate in a clear, simple, jargon-free way
  - Name recognition
  - Prestige of affiliated institution, government agency, non-profit organization or advocacy group
  - Previous experience with a specific bioethical issue
  - Religious orientation
  - Political orientation (conservative/liberal)
  - Needed to balance viewpoints or opinions of bioethicists in the story

- Helpfulness or responsiveness of public relations practitioner who represents or works with the bioethicist
  - Previously used as a source by you
  - Recommendation of another source, such as a physician, scientist, or government official
  - Previously used as a source by other reporters at your newspaper
  - Previously used as a source in stories on the same topic/issue by other media organizations
- How often do you use the same bioethicist as an expert source in different stories? Why? What do you think about relying on the same bioethicist frequently?
  - How often do you use more than one bioethicist as an expert source in a single story? Why?
  - When you use more than one bioethicist as an expert source in a single story, do their comments and opinions usually support or contrast with each other?
  - Do you think there is a need to balance the views of one bioethicist in a story with the contrasting views of another bioethicist? Or do you think all bioethicists have fairly uniform viewpoints?

Analysis. Through repeated reading of, and reflection on, the interview notes, keywords and themes emerged. The subjects' responses and explanations were interpreted and categorized, and similarities and differences in responses to the same questions by different reporters were examined. Verbatim quotes were used to highlight or reinforce key points in Chapter 7.

## CHAPTER 5: FINDINGS OF CONTENT ANALYSIS

The quantitative content analysis examined the evolving role of bioethicists as expert sources in science and medical stories and helped answer research questions 1-7. The content analysis had twin objectives: to investigate who, when, how, and why reporters use bioethicists as expert sources, and to look for evidence of involvement by public relations practitioners in helping to build the media agenda on bioethical issues.

The use of bioethicists as expert sources was operationalized as staff-written stories with direct quotes from bioethicists. The data set was a stratified random sample of 456 stories drawn from a census of 946 staff-written stories. The stories were published between 1992 and 2006 in an elite national newspaper, *The New York Times*, and in five regional newspapers with roughly comparable circulations and dedicated health and science reporters: the *Boston Globe*, *Atlanta Journal-Constitution*, *Houston Chronicle*, *San Francisco Chronicle*, and the *St. Louis Post-Dispatch*. Two independent coders read and coded the stories, which were then analyzed using descriptive statistics and parametric and non-parametric statistical tests.

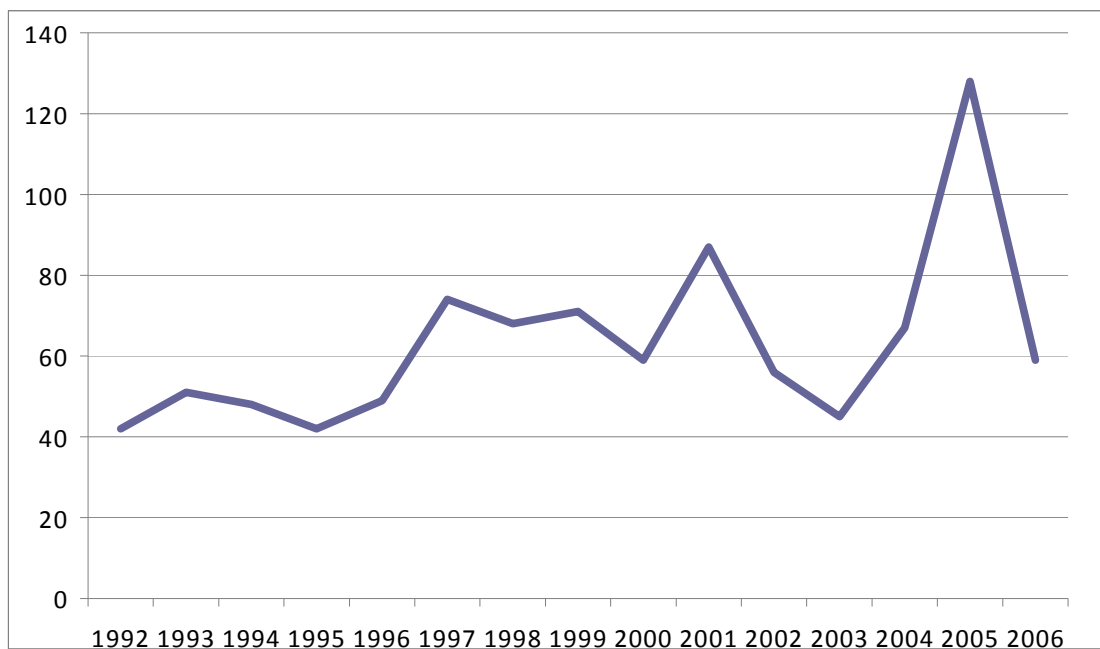
### ***Extent of Use of Bioethicists as Expert Sources***

RQ1 asked to what extent science and medical journalists use bioethicists as expert sources and whether the frequency has changed over time. During 1992, the first year of the 15-year-study period, bioethicists were directly quoted in 42 staff-written stories in the six newspapers included in the data set, the fewest number of any year. Although the number of stories with direct quotes from bioethicists increased over time, the growth was neither steady nor consistent.

As Figure 1 below shows, the greatest use of bioethicists as expert sources

corresponds to specific controversial bioethical issues covered extensively by the news media. Bioethicists were used as expert sources in the most stories (128) in 2005, when the protracted death of Terri Schiavo seized national media attention for several months and the South Korean cloning scandal was front-page news. But in years with fewer newsworthy bioethical issues or less-newsworthy bioethical issues, the frequency with which bioethicists were used as expert sources declined. Each of the three spikes in the use of bioethicists as expert sources was followed by a downturn; these declines were most pronounced in 2006 and 2003.

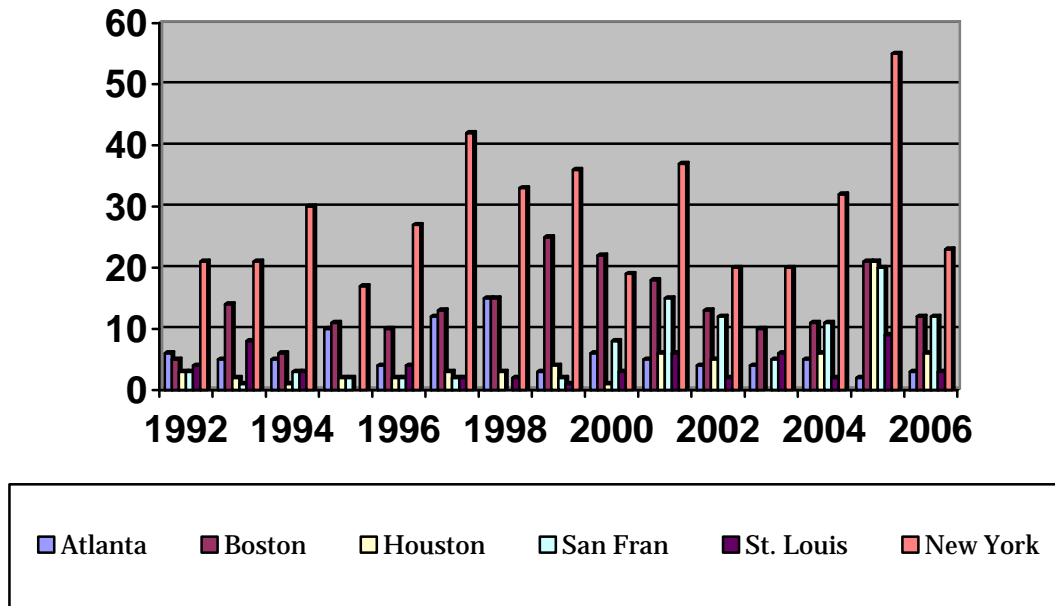
Figure 1: Staff-Written Stories in Which Bioethicists are Used as Expert Sources



The extent to which bioethicists were used as expert sources in the individual newspapers largely mirrored their aggregate use in all six newspapers, with several exceptions. The most frequent use of bioethicists as expert sources during the study period occurred in 2005 in *The New York Times*, the *St. Louis Post-Dispatch*, the

*Houston Chronicle*, and the *San Francisco Chronicle* as well as overall. But the *Atlanta Journal-Constitution* used bioethicists as expert sources most frequently in 1998 (15 stories in 1998 compared to 2 in 2005) and the *Boston Globe* had direct quotes from bioethicists in more staff-written stories in 1999 and 2000 than in 2005 (25 and 22 stories, respectively, compared to 21).

**Figure 2: Number of Staff-Written Stories Using Bioethicists as Expert Sources**



Of the stories in the data set, 33.3 percent were on the front page of the front section. The rest were elsewhere in the newspaper, including the news, business, features, and sports sections.

Another means of evaluating the extent to which bioethicists are used as expert sources was to determine the prominence of bioethicists in the stories in which they were directly quoted. This was measured in three ways. First, prominence was assessed by the number of direct quotes per bioethicist in each of the stories. Bioethicists had a single direct quote in 21.1 percent of the stories, two direct quotes in 41.5 percent, three direct quotes in 17.4 percent, four direct quotes in 9.2 percent, five direct quotes in 5.5 percent,

and six direct quotes in 2.0 percent. No statistically significant differences were found among the means of the numbers of direct quotes from bioethicists in stories in different years of the study period when a one-way ANOVA was performed ( $F=.573$ ,  $df=14$ , n.s.).

A second indicator of the prominence of the bioethicists used as expert sources was the placement of their direct quotes, or the order in which they ranked among all of the sources directly quoted in the story. In 19.4 percent of the stories in the data set, a bioethicist was the first source quoted directly. But a bioethicist was the final source quoted directly in 26.9 percent of the stories. No statistically significant differences were found among the means of the orders in which bioethicists were directly quoted in stories in different years of the study period when a one-way ANOVA was performed ( $F=1.231$ ,  $df=14$ , n.s.).

Third, the prominence of bioethicists used as expert sources was assessed by comparing the number of bioethicists quoted directly in each story with the total number of sources with direct quotes in the same story. A new variable was created to reflect the proportion of bioethicists to total sources with direct quotes in each story. The ratios ranged from a low of .06 (one bioethicist among 16 total sources) to a high of 1 (all of the sources quoted directly in the story were bioethicists) (mean=.285,  $SD=.19$ ). To evaluate potential differences among the means of the proportions of bioethicists to total sources in stories published in different years of the study period, a one-way ANOVA was performed. No statistically significant differences were found ( $F=1.141$ ,  $df=14$ , n.s.).

The number of bioethicists used as expert sources in individual stories is addressed in RQ3, below.

### ***Topics on Which Bioethicists are Used as Expert Sources***

RQ2 asked on which scientific, medical, and technological topics bioethicists are

most often used as expert sources and whether these topics have changed over time. Based on the headline and lead paragraph, the primary topic of the stories in the data set was assigned to one of eight categories: Reproductive Issues; End-of-Life Issues; Healthcare Allocation; Medical Errors, Malpractice, and Patient Safety; Conflict of Interest, Fraud, and Unethical Behavior; Human Stem Cell Research and Cloning; Biotechnology and Genetics; and Animal Issues. There was also an Other category for topics that did not fit any of the other classifications.

Table 6: Primary Story Topics in Six Newspapers, 1992-2006

Primary Topic	Percentage of Stories
End-of-life issues	16.2
Conflict of interest, fraud, unethical behavior	15.8
Human stem cell research, cloning	14.9
Healthcare allocation	14.0
Reproductive issues	10.7
Medical errors, malpractice, patient safety	10.1
Biotechnology and genetics	7.7
Other	7.5
Animal issues	3.1

Overall, End-of-Life Issues was the most prevalent story topic on which bioethicists were directly quoted. Journalists used bioethicists as expert sources in significantly more stories on death and dying than in stories on conception, pregnancy, and birth (Reproductive Issues). The lengthy political, legal, and media drama over Terri Schiavo's death, as well as prominent media coverage of Dr. Jack Kevorkian's assisted suicides and his subsequent trial and imprisonment, added substantially to the total number of stories on End-of-Life Issues.

Conflict of Interest, Fraud, and Unethical Behavior was the next most frequent story topic. While the categories of Conflict of Interest, Fraud, and Unethical Behavior



and Medical Errors, Malpractice and Patient Safety shared similar issues, the key difference was focus. In stories in the more prevalent Fraud, Conflict of Interest and Unethical Behavior category, the focus was primarily on the alleged misbehavior of the doctor, scientist, researcher, pharmaceutical company, health insurer, or hospital. In stories in the smaller Medical Errors, Malpractice and Patient Safety category, the focus was on the alleged risk or harm to the patient(s). Combined, these two categories represented more than one quarter of all the stories in the data set.

Healthcare allocation was the third most common story topic, with two fundamental types of stories in this category. One type was media coverage of the periodic national and state policy debates over access to healthcare, including President Bill Clinton's proposed national healthcare plan in 1993. The second type was local cases of patients who had been given preference for, or denied access to, healthcare resources or whose medical care raised ethical questions about the level, fairness, efficacy, and propriety of treatment provided.

There were statistically significant differences in primary story topics in different years of the study period ( $X^2=239.197$ ,  $df=120$ ,  $p=.000$ ). There were more stories than expected on Reproductive Issues in 1992, 1994, and 1996, but stories in this category declined toward the end of the study period, in 2004 and 2005. There were more stories than expected on End-of-Life Issues in 1992, 1993, 1994, 1996, and 1997. But the largest upswing in stories on death and dying occurred in 2005, principally due to media coverage of the Terri Schiavo case.

There were fewer stories than expected on Healthcare Allocation in 1992, but the number grew with media coverage of President Clinton's proposed national healthcare plan the following year and in 1994. After a decade-long lull, there were more stories

than expected on Healthcare Allocation again in 2005 as the mid-term Congressional elections focused media attention once again on access to healthcare.

Stories on Human Stem Cell Research and Cloning were virtually nonexistent until 1997, when Dolly the sheep was cloned. There were nine stories in 1997 and eight stories in 1998, but the number tapered off in 1999 and 2000. Another increase in stories on Human Stem Cell Research and Cloning occurred in 2001 (15 stories) and 2002 (12 stories) during the national policy debate on stem cell research. The numbers of stories on Biotechnology and Genetics rose in 1998 and 1999, which coincided with the death of gene therapy patient Jesse Gelsinger and ethical questions about the future of gene therapy.

The number of stories on Medical Errors, Malpractice and Patient Safety and Conflict of Interest, Fraud, and Unethical Behavior remained relatively consistent throughout the study period.

There were also statistically significant differences in the primary topics of stories among the different newspapers ( $X^2=69.189$ ,  $df=40$ ,  $p=.003$ ). The *Boston Globe* had relatively fewer stories on Healthcare Allocation but more stories on Medical Errors, Malpractice, and Patient Safety, and on Conflict of Interest, Fraud, and Unethical Behavior. Compared to the other five newspapers, the *San Francisco Chronicle* had more stories on Animal Issues but fewer on End-of-Life Issues and on Conflict of Interest, Fraud, and Unethical Behavior.

The *St. Louis Post-Dispatch* had comparatively more stories on End-of-Life issues but fewer on Conflict of Interest, Fraud, and Unethical Behavior. The *Houston Chronicle* also had comparatively fewer stories on Conflict of Interest, Fraud, and Unethical Behavior. *The New York Times* had more stories on Biotechnology and Genetics compared to the other newspapers but fewer on Animal. The *Atlanta*

*Journal-Constitution* had the most even distribution between the numbers of stories counted and expected in all topic categories.

### ***Number of Bioethicists Used as Expert Sources***

RQ3 asked how often a single bioethicist is directly quoted in a story compared to how often multiple bioethicists are used as expert sources. A single bioethicist was directly quoted in 77.4 percent of the stories in the data set. Two bioethicists were used as expert sources in 15.6 percent of the stories, three bioethicists were used in 6.1 percent, and four or more bioethicists were used in a total of four stories, or .8 percent. The largest number of bioethicists quoted directly in a single story was six, in a 2000 story in the *Boston Globe* on the Human Genome Project. The *Boston Globe* was also the only newspaper in the data set in which four or more bioethicists were used as expert sources in any stories.

The mean number of bioethicists per story in all six newspapers was 1.31 (SD=.659). While the mean number of bioethicists with direct quotes in each story ranged from 1.17 for the *San Francisco Chronicle* to 1.37 for *The New York Times*, the differences between these means were not found to be statistically significant when a Kruskal-Wallis test (the non-parametric version of a one-way ANOVA) was performed. A one-way ANOVA was inappropriate in this instance because the specifications for homogeneity of variance and normality of distribution were not met.

Statistically significant differences were found among the means of the numbers of bioethicists used as expert sources in stories in different years of the study period when a one-way ANOVA was performed ( $F=14.820$ ,  $df=14$ ,  $p=.000$ ). Since the specifications for homogeneity of variance were not met, a Dunnett's C post-hoc test, which does not assume equal variance, was interpreted for multiple comparisons. The

only significantly different variance was in 1994, when the mean number of bioethicists quoted directly in stories was two. In all other years of the study period, the mean was one.

### ***Bioethicists Used Most Often as Expert Sources***

RQ4 asked which bioethicists appear most often as expert sources in media coverage of bioethical issues and whether their use varies geographically. A total of 179 unique bioethicists were quoted directly in the stories in the data set. Of these, 108 (60 percent) were used as an expert source in a single story. Of the 71 bioethicists quoted directly in more than one story, 21 were used as expert sources in one newspaper and 50 were used in more than one newspaper.

Only one bioethicist, Arthur Caplan of the University of Pennsylvania, had direct quotes in stories in all six newspapers. Caplan was also used as an expert source most frequently; he was directly quoted in 151 stories, or about one-third of the stories in the data set. Among the six newspapers, Caplan was used as an expert source proportionately most often in the *Atlanta Journal-Constitution*; he was quoted directly in nearly two-thirds of the newspaper's stories in the data set (28 of 43 stories).

Bioethicist George Annas of Boston University was used as an expert source in the second-largest number of stories – 49, or a third as many as Caplan. Annas was quoted directly in three newspapers: in 31 stories in the *Boston Globe*, 16 in *The New York Times*, and two in the *Atlanta Journal-Constitution*. After Annas, the number of stories and newspapers in which specific bioethicists were quoted directly dropped off sharply. While several bioethicists, including William Winslade and David Magnus, were quoted in multiple stories, it was only in their respective hometown newspapers.

**Table 7: Bioethicists Used Most Frequently as Expert Sources, 1992-2006**

Rank	Name	Affiliation	Number of Stories	Number of Papers
1	Arthur Caplan	Director, Center for Bioethics, University of Pennsylvania	151	6
2	George Annas	Chair, Department of Health Law, Boston University School of Public Health	49	3
3	Leon Kass	Professor, University of Chicago; former chairman, President's Council on Bioethics	17	3
4	Norman Fost	Director, Program in Medical Ethics, University of Wisconsin Medical School	14	3
5	Michael Grodin	Director, Bioethics and Human Rights Program, Boston University	11	2
6	R. Alta Charo	Professor of Law and Bioethics, University of Wisconsin Law School	10	3
7 (tie)	Daniel Callahan	Co-founder and former president, the Hastings Center	9	3
	William Winslade	Professor of Law, University of Houston	9	1
8	Thomas Murray	President, the Hastings Center; former Director, Center for Biomedical Ethics, School of Medicine, Case Western Reserve University	8	2
9 (tie)	Bernard Lo	Director, Program in Medical Ethics, University of California at San Francisco	7	2
	David C. Magnus	Stanford University Center for Biomedical Ethics	7	1

There were wide geographical variations in the use of bioethicists as expert sources. While the *Houston Chronicle*, *San Francisco Chronicle*, and the *St. Louis Post-Dispatch* relied heavily on bioethicists affiliated with local universities and hospitals, the *Atlanta Journal-Constitution* did the opposite. In addition to directly quoting Arthur Caplan, a non-local bioethicist, in two-thirds of its stories in the data set, the *Atlanta Journal-Constitution* used as expert sources a variety of other prominent non-local bioethicists, including George Annas, Paul Root Wolpe, David Magnus,

Robert Veatch, Thomas Murray, Hank Greely, and Jonathan Moreno. Meanwhile, only a few local bioethicists were used as expert sources in the *Atlanta Journal-Constitution* despite the proximity of the U.S. Centers for Disease Control and Prevention, Emory and Georgia Tech universities, the Morehouse School of Medicine, and local hospitals and medical centers.

The *New York Times* used the largest number of unique bioethicists (106) in its stories. As a national newspaper, *The New York Times* used a blend of local and non-local bioethicists as expert sources. These included local bioethicists from the Albert Einstein College of Medicine and the New York-Presbyterian Weill Cornell Medical Center as well as bioethicists from universities, research institutions, and government institutions across the nation.

The *Boston Globe* included George Annas as an expert source in 31 stories and his Boston University colleague, Michael Grodin, in 10 stories. The *Boston Globe* also quoted local bioethicists from Boston and Wellesley colleges and Boston-area hospitals. But the *Boston Globe* also cast a wide geographic net for bioethicists to use as expert sources, especially in stories on Human Stem Cell Research and Cloning and Biotechnology and Genetics. The *Boston Globe* was second only to *The New York Times* in the number of unique bioethicists it quoted directly.

### ***How Bioethicists are Described in Media Stories***

RQ5 asked how bioethicists are described in the stories in which they are used as expert sources. The question also asked how the credentials, affiliations, and views of the bioethicists are established and/or qualified.

More than four out of five bioethicists used as expert sources were identified as academics (82.3 percent). Of the rest, 4.1 percent was affiliated with hospitals or

non-academic medical centers, 3.6 percent with government institutions (such as the President's Council on Bioethics and the World Health Organization), and 2.7 percent with religious groups (such as the National Catholic Bioethics Center). An additional 6.3 percent was identified as affiliated with non-profit bioethics institutions, such as the Hastings Center. Only 1 percent was identified by other affiliations, such as private consultants.

The vast majority (80.8 percent) of bioethicists were identified by their name and affiliation, and, considerably less often, by their title. Additional information about the bioethicist's background, credentials, experience, religion, viewpoints, or basis for expertise was included for only 19.2 percent of the bioethicists quoted directly in stories. This type of information can help news consumers assess the expertise and credibility of an expert source. When the story included additional information about a bioethicist, it was typically brief; for example, mentioning that the bioethicist authored a book on the story topic or was a member of a government commission studying the issue.

There was also scant mention of a bioethicist's specific position on the primary scientific, medical, or technological issue in the story. In some instances that position may have been implied; for example, by the bioethicist's affiliation with a religious organization or university. But a bioethicist's personal views expressed in a story may not necessarily align with the official position of his or her institution. And two bioethicists from the same institution may have differing positions on an issue. Specific descriptive labels for the positions of bioethicists, such as "supporter," "opponent," or "critic," were very rare.

### ***Role of Bioethicists in Stories***

RQ6 asked what roles bioethicists play in media stories and whether these roles

have changed over time. The primary role of bioethicists was classified in one of five categories: providing Explanation or Context, raising or discussing Implications for the future, acting as an Advocate or Legitimator, serving as a Critic or Skeptic, or playing the role of Arbiter among divergent opinions expressed by other sources in the story. There was also an Other category for primary roles that did not fit any of the other classifications, although none of the stories in the data set was coded as Other.

By far, the most common role played by bioethicists was Critic or Skeptic (43.7 percent of the 597 bioethicists with direct quotes in the 456 stories). In contrast, 12.2 percent of bioethicists played the opposite role of Advocate or Legitimator. Even fewer bioethicists (5.0 percent) served as Arbiters, adjudicating among conflicting views expressed by other sources used in the story without offering their own position. Bioethicists played the primary role of providing Explanation of, or Context for, a scientific, medical, or technological issue in 30.3 percent of the stories. The primary role of 8.7 percent of bioethicists was to suggest and/or comment on future Implications of a discovery, development, issue, case, practice, or policy.

When two or more bioethicists were quoted directly in the same story, their comments or opinions supported or reinforced each other in 36.9 percent of the stories and contrasted in 33.0 percent. In 30.1 percent of the stories, the comments or opinions of two or more bioethicists had no relationship to each other.

There were no statistically significant differences among the primary roles played by bioethicists used as expert sources in stories published in different years of the study period ( $X^2=61.879$ ,  $df=56$ , n.s.).

### ***Influence of Public Relations Professionals on Media Agenda-Building***

RQ7 asked what evidence the stories provided that public relations professionals



influence the media agenda on bioethical issues by pitching bioethicists as expert sources, issuing news releases, or orchestrating such news events as news conferences at which bioethicists speak.

Evidence of media agenda-building activities by public relations professionals was found in a total of 6.1 percent of the stories analyzed. A bioethicist's direct quotes were noted as having come from an article, study, or report in 2.4 percent of the stories and from remarks made at a news conference, speech, panel discussion, or symposium in 2.2 percent of the stories. Only .2 percent of the stories indicated that a bioethicist's comments came from a news release. An additional 1.3 percent of the stories included evidence of other media agenda-building activities by public relations professionals, such as interviews during book tours.

## **CHAPTER 6: FINDINGS OF FRAMING ANALYSIS**

While the data were being collected and analyzed for the content analysis, a framing analysis was conducted on a subset of 18 articles on a specific bioethical topic, stem cell research and human cloning. The framing analysis was designed to answer RQ8, which asked how bioethicists used as expert sources impact the framing of media coverage of bioethical issues. As noted earlier, a framing analysis can offer an interpretive window into how journalistic news routines, enduring news values, and agenda-building activities by reporters, sources, and public relations practitioners interrelate to influence the shape of media coverage on bioethical issues. The quantitative content analysis and the qualitative framing analysis provided two different ways to look at how the media cover bioethical issues, thus representing converging lines of inquiry. Each analysis informed the other while both were being carried out.

The first objective of the framing analysis was to identify and categorize in each story in the sample the dominant media frame(s), contrary counterframe(s), and subordinate alternative frames that raised new aspects of the issue or offered other perspectives, based on their frequency. The framing analysis then assessed whether the quotes of bioethicists used as expert sources supported the dominant framing or helped to create counterframing or alternative framing. The third objective was to interpret how frames were symbolized and contested within stories.

The framing analysis was conducted on 18 stories, three from each of the six newspapers, on human stem cell research and cloning in the census of stories collected for the content analysis. The stories represented three milestones over an eight-year period (1997-2005) as human stem cell research and cloning first entered media and public discourse and evolved as bioethical issues.

The milestones were the 1998 announcement by physicist Richard Seed that he planned to clone humans, the 2001 national policy debate over human stem cell research, and the 2004 announcement that a South Korean researcher had cloned human stem cells followed by revelations the following year that his research was fraudulent. The framing analysis used a typology of six frames developed by Gamson and Modigliani (1989) and adapted by Durant, Bauer, and Gaskell (1998): Pandora's Box, Runaway Technology, Progress, Economic Prospects, Ethics, and Public Accountability. The author developed a seventh frame, Health and Hope, to characterize the potential health benefits of stem cell research (*see Table 5, p. 61*).

### ***Richard Seed and Human Cloning***

From the very first coverage about the cloning of Dolly the sheep in 1997, reporters shifted the discourse from animals to humans by immediately raising the prospect of human cloning. While cloning animals appeared to be a leap in the natural progression of farmyard genetics (Hedges, 2008), cloning humans was criticized as an example of science “out of control,” conjuring up visions of modern-day Franksteins, as well as an example of science very much “in control,” in which humans could be engineered like the characters in Aldous Huxley’s “Brave New World” (Huxford, 2000).

Faced with covering a new and complex technology, reporters turned to rhetorical devices to symbolize stem cell research and cloning and to associate it with something familiar. They took their cues from Greek mythology and the Arabian Nights: “opening Pandora’s Box” (Wade, 1998, p. A1) and “letting the genie out of the bottle” (White, 1998, p. A1) were common metaphors that expressed society’s uneasiness about moving forward with this new type of research. Two other negative metaphors were used widely in stories about Dolly to characterize the possibility of human cloning: “slippery

slope” (Nesmith, 1997, p. 18A) and “open the floodgates” (Kolata, 1997, p. A22).

In June 1997, the National Bioethics Advisory Commission formed by President Bill Clinton strongly recommended a legislative ban on human cloning, saying that attempting to clone a human being would be “morally unacceptable” at the present time (Kolata, 1997, p. A22). Such a ban, the commission members said, would provide some “much needed breathing space” to enable both scientists and the nation to “react to the shocking possibility that it might be possible to clone human beings” (Kolata, 1997, p. A22). But Clinton was unable to muster enough support in Congress to pass such legislation.

Enter Richard Seed, a Chicago physicist, who announced plans to clone humans, saying he didn’t consider it to be “a particularly difficult project” (Kim, 1998, p. 14A). After Seed was profiled on National Public Radio in January 1998, other media organizations rushed to do stories of their own (Gerlach & Hamilton, 2005). The *Atlanta Journal-Constitution* sent a reporter to Seed’s hometown to interview him (Kim, 1998), the *Boston Globe* interviewed him by phone (Knox, 1998), and *The New York Times* devoted two stories, including one on the front page, to his claims (Johnson, 1998; Stolberg, 1998). These tabloid-worthy stories about Seed appeared to stem from the inability or unwillingness of reporters and their editors to evaluate whether his claims were solid or suspicious, legitimate news or farce. Rather, journalists seemed to tap into Americans’ “fascination and anxiety over genetic technology at a time when virtually everything seems technologically possible” (Johnson, 1998, p. A1). Arthur Caplan, a bioethicist at the University of Pennsylvania, contended that the news media was “the real Dr. Frankenstein” in this case:

“One of the great subjects for journalistic review will be how this man, with no money, no standing with physicists, no organizational skills – an oddball, really – how this man suddenly turns into this authority chatting on the nightly news. Seed was legitimated by the very people who should have been scrutinizing him” (Caplan quoted in Johnson, 1998, p. A1)

Universally, cloning was framed in the stories about Seed as a “Pandora’s box” to be feared and left firmly closed. Bernard Lo, a medical ethicist at the University of California at San Francisco and a member of the National Commission on Bioethics, expressed this dominant frame when he commented that if even one clinic succeeds in cloning a human being, “the floodgates will be opened and it will be hard to go back” (Kolata, 1997, p. A22). Positive counterframes, such as those expressing Progress or Economic Prospects, were not included in any of the stories. Since frames used in a story are noteworthy because of what they exclude as well as include (Reese, 2003), the absence of contrary viewpoints strengthened the perception that human cloning was risky and morally repugnant.

Given the critical tone of this set of stories, who better to symbolize the “cloning mastermind” (White, 1998, p. 1A) who dared open the lid of a “Pandora’s box” than the archetype of a “mad scientist”? Seed was portrayed as a “renegade” scientist who defied social norms and flouted scientific ethics. Although most of the stories mentioned his doctorate from Harvard, a variety of pejoratives was used to describe Seed and his claims, including *eccentric*, *arrogant*, and *audacious*:

“Some call him a scientist, others, an entrepreneur. But almost everyone calls him eccentric. And some people say he’s crazy. But unless you consider overwhelming confidence a sign of madness, Seed, in person, seems sane” (Kim, 1998, p. 14A).

The reporters also scrutinized the details of Seed’s erratic professional and personal lives as well as his physical appearance to a far greater degree than typical in covering news involving other scientists, including Ian Wilmut, the Scottish researcher

who cloned Dolly (Gerlach & Hamilton, 2005). For example, Seed was denigrated as “an unknown physicist pushing 70” (Kim, 1998, p. 14A) who “failed in the early 1980s in his attempt to commercialize an infertility treatment known as fertilized embryo transfer” (Knox, 1998, p. A3), “tried a variety of get-rich ventures” (Johnson, 1998, p. A1), and was now “a self-employed researcher renting lab space at the University of Illinois-Chicago” (Kim, 1998, p. 14A). Seed’s personal problems, including medical malpractice, “personal financial tangles, including a default on his mortgage and eviction from his Oak Park, Illinois, house,” (Kim, 1998, p. 14A) and the number of his marriages were also revealed, although their only apparent purpose was to further undermine his credibility.

Seed was depicted as motivated by profit, not altruism: a “scientist-entrepreneur” whose goal was to create a profitable clinic whose first clone would cost \$1 million (Knox, 1998, p. A3). But Seed’s reluctance to disclose details of the project, his investors, or the couples he claimed had volunteered to be cloned all painted him as secretive. Several stories also noted that Seed stood morally apart from the 64,000 scientists and physicians who had signed a pledge that they would not attempt to clone humans because they felt it would be irresponsible; the maverick Seed said he would go to Tijuana if he was blocked from doing cloning in America (Knox, 1998). This lack of respect for social and scientific norms and rules helped emphasize Seed’s deviance and branded his proposed work as renegade science.

Bioethicists played the roles of skeptics and critics in these stories, sharply rebuking Seed and firmly establishing the boundaries of ethical scientific research. Their comments strongly reinforced the dominant Pandora’s Box frame and supported the news values of moderatism and social, technological, and moral order. R. Alta Charo, a member of the National Bioethics Advisory Commission, was quoted in *The New York Times* as saying that Seed fed public fear of the rogue scientist: “Along with Dr.

Frankenstein and Dr. Kevorkian, we now have Dr. Seed” (Stolberg, 1998, p. A11). And Caplan, the University of Pennsylvania bioethicist, told the *Atlanta Journal-Constitution* that his reaction to Seed’s claims was “stunned indifference combined with probably unprecedented criticism” and that “Seed announcing that he wants to clone humans is like me announcing that I want to take a space launch to Mars” (Kim, 1998, p. 14A).

Yet as incredible as Seed’s claims seemed, extensive media coverage of his announcement provoked loud and immediate social and political backlash and “revived a near moribund debate” in Congress about human cloning (Stolberg, 1998, p. A11):

“Dr. Seed, branded a ‘mad scientist’ by Donna E. Shalala, the Secretary of Health and Human Services, has managed to accomplish what months of level-headed scientific and ethics discussions could not: he has put cloning back on the political map” (Stolberg, 1998, p. A11).

Bioethicists, political officials, and religious leaders rushed to condemn the plans of this “modern-day Dr. Frankenstein” (Johnson, 1998, p. A1). Seed’s claims were the subject of President Clinton’s weekly radio address (White, 1998), and 19 European nations quickly moved to ban reproductive cloning (Johnson, 1998). James F. Childress, a bioethicist at the University of Virginia and a member of the National Bioethics Advisory Commission, advanced the subordinate Public Accountability frame when he noted in the *Atlanta Journal-Constitution*: “Richard Seed may be doing everyone a favor. He’s exactly the sort of character who might make people say we need a ban on this, at least for now” (White, 1998, p. 1A).

### ***Stem Cell Policy Debate***

After Seed’s plans to clone humans never materialized, he soon faded from the media agenda, and the issues of embryonic stem cell research and cloning simmered just below the surface for the next several years. But in 2001, a series of political and

scientific events rekindled the national policy debate. By August, the U.S. House of Representatives voted to ban human cloning (Dembner, 2001). That same month, President George W. Bush, in a nationally televised speech, declared human cloning to be “morally wrong” (Miller, 2002, p. 19) and announced that federal research funds would be limited to existing embryonic stem cell lines (Scott, 2006). Two new scientific claims – that scientists had harvested stem cells from human embryos created specifically for research (Shesgreen, 2001) and had cloned the first human embryo (Dembner, 2001) – also helped push these issues back to the forefront of the media agenda, where they remained until the terrorist attacks of September 11.

The six stories analyzed focused on the controversy swirling around the “ferocious” (Hall, 2001, p. A1) and “politically dicey” (Shesgreen, 2001, p. A1) national debate over stem cell research and cloning in 2001. A key difference between the 2001 media discourse on these issues and that in 1998 was that public debate had escalated, involved a greater array of sources, and had become decidedly more polarized. No longer largely one-sided issues, stem cell research and cloning now had champions as well as critics, ardent supporters as well as skeptics. Although stem cell research had garnered passionate support from scientists, physicians, patients and their families, patient advocacy groups, and some religious groups, it had sparked intense opposition from some policymakers and religious and anti-abortion groups. In fact, opponents and supporters were described as standing on opposite sides of a “great moral divide” (Scott, 2006, p. 123). By 2001, both sides had mobilized and were conducting intense lobbying campaigns (Shesgreen, 2001). While proponents used images of patients in wheelchairs as symbols of those who might be helped by stem cell research, proponents used images of late-stage embryos with recognizably human features to demonstrate what would be destroyed.



And because they realized the importance of media coverage in shaping the outcome of the stem cell policy debate, these competing interests also targeted the media to help marshal support for their positions (Nisbet & Lewenstein, 2002). Through the media agenda-building process, competing interests act as news sources, subsidizing and supplying packaged information to reporters (Berkowitz, 1992; Gandy, 1982). These competing interests, and the public relations practitioners who represent them, seek to frame issues in certain ways by emphasizing some aspects of an issue and downplaying others and promoting particular policy solutions and disparaging or ignoring others. Following the journalistic norms of balance and objectivity, reporters covered these divergent views in stories with a “on the one hand, on the other hand” structure that reflected the active framing struggle under way.

Five frames were vigorously contested in this set of stories: Pandora’s Box, Runaway Technology, Progress, Ethics, and Public Accountability. In addition, a sixth frame, Health and Hope, appeared for the first time as proponents advanced claims that stem cell research offered great promise for treating patients with debilitating medical conditions. All six frames were given attention and legitimacy. For example, the chairman of the Coalition for the Advancement of Medical Research, a stem cell proponent, promoted the Health and Hope frame in the *St. Louis Post-Dispatch*: “...Whether this research goes forward could mean the difference, literally, between life or death. There are 100 million people who could benefit from this research” (Shesgreen, 2001, p. A1). But in the next paragraph, the chief lobbyist for the Christian Coalition advanced the Runaway Technology and Ethics frames in stating that allowing embryonic stem cell research would “give credence to the argument that it is morally legitimate to kill a human being for the sake of experimental studies” (Shesgreen, 2001, p. A1).

In some stories, claims of supporters and opponents slipped into hyperbole. For instance, *promising research* became *lifesaving research*, stem cell research offered a *universal spare parts system*, potential medical *treatments* were instead called *cures*, and *destroying embryos* became *killing human beings*. There was also scant mention of the amount of time, effort, and money needed to move stem cell research from laboratory bench to medical therapies and the potential obstacles along the way. For example, when a biomedical journal reported in 2001 that the first clone had been created from a human embryo, the journal's publisher told the *Boston Globe*: "This is an enormous breakthrough that has the potential to be life saving" (Dembner, 2001, p. A1). But it wasn't until the end of the seventh paragraph that the story noted that only one embryo had grown to six cells – the size of a dot over the letter "i" – and then stopped dividing (Dembner, 2001). Bioethicists were used to provide a "reality check" on claims such as these. While Lawrence Hinman, a bioethicist at the University of San Diego, described the news as "a milestone" (Hall, 2001, p. A1), Gerard Magill, a bioethicist at St. Louis University, stated: "When people see this in the news they think a breakthrough has been made, when, in fact, it was a complete failure" (Hesman, 2001, p. B1).

As McCombs (1993) notes, even the name applied to an issue can influence its salience. Around 2001, when the second set of stories analyzed was published, scientists renamed human cloning. To sidestep public revulsion over the prospect of cloning humans for scientific or commercial purposes, scientists divided the cloning process in two: therapeutic cloning to create embryos for research and reproductive cloning to create embryos for implantation and birth (Munro, 2003). By doing so, scientists and policymakers could distinguish between "good cloning," or therapeutic cloning for legitimate scientific and medical ends, and "bad cloning," or reproductive cloning – even though the embryo is destroyed either way. Some bioethicists criticized the new

terminology. Magill, of St. Louis University, contended that therapeutic cloning was a misnomer: “Whoever it’s therapeutic for, it certainly isn’t the embryo” (Hesman, 2001, p. B1). And Rebecca Dresser, a bioethicist at Washington University, noted that the word “therapeutic” implies that cloning is close to providing treatments for patients when the research is actually at a very early stage (Hesman, 2001, p. B1).

Nonetheless, the media readily adopted the distinction between therapeutic and reproductive cloning advanced by scientists (Munro, 2003). Goodell (1986) notes that the mutually beneficial relationship between journalists and expert sources may be especially strong in science journalism. This promotes a shared culture between science journalists and their sources and helps establish and perpetuate an unofficial set of ground rules that guides how reporters cover stories (Berkowitz, 1992; Nisbet & Lewenstein, 2002). And once an issue is characterized in a certain way by the media, “it can be very difficult for policymakers or other interests to shift the image of the issue to another perspective” (Nisbet et al., 2003, p. 42).

Bioethicists used as expert sources in stories about the 2001 national policy debate mirrored the wide range of public opinion. Several bioethicists promoted the dominant Public Accountability frame in criticizing recent cloning experiments as reckless. George Annas, a bioethicist at Boston University, stated: “This is irresponsible. I’m not sure it (cloning) should be outlawed, but there should be well-thought-out ethical guidelines and strong oversight. It’s not good enough for researchers to promise they won’t clone a baby” (Dembner, 2001, p. A1). Bioethicist Glen McGee of the University of Pennsylvania also deemed the experiments irresponsible (Abate, 2001), while bioethicist Kenneth Goodman of the University of Miami asserted that they showed the need for federal regulation (Shesgreen, 2001). Even some bioethicists favoring stem cell research,

such as Arthur Caplan, advanced the Public Accountability frame: “The timing of this (the experiments) has been somewhere between disastrous and horrific. (It) throws everything in an uproar and gives ammunition to those who argue that researchers are headed down a slippery slope” (Shesgreen, 2001, p. A1). But bioethicist Hank Greely of Stanford University supported the alternative Health and Hope frame when he noted that “human health is a strong trump card” that can defeat efforts to regulate stem cell research (Hall, 2001, p. A1).

### ***Stem Cell Breakthrough – and Letdown***

In 2004, South Korean researcher Woo Suk Hwang announced that he had cloned the first human embryos (Hwang et al., 2004). Science and medical reporters had heard that claim several times before during the past decade. What was different this time was that the article had appeared in the prestigious peer-reviewed journal, *Science*, and a respected American researcher was among the co-authors. Nine months later, Hwang published a second article in *Science* detailing an even bigger feat: cloning stem cells that were perfect genetic matches of patients’ cells, making more tangible the promise that stem cells may one day be used for medical therapy (Hwang et al. 2005). At first cautious about Hwang’s claims, science and medical reporters soon became caught up in the excitement of U.S. scientists – their routine expert sources – who had been “electrified” by the announcements (Cook, 2005, p. A1). While the tone of the first story in *The New York Times* was guarded, noting that “significant scientific barriers” stood between Hwang’s accomplishment and medical therapy (Pollack et al., 2004, p. A22), later stories moved to the front page and were positive bordering on exuberant. Rather than dwell on the obstacles ahead, *The New York Times* said Hwang’s work had cleared “a significant hurdle” (Kolata, 2004, p. A1).

As a result of Hwang's achievements, the lid was lifted off the "Pandora's box" and reporters turned their attention to the thicket of ethical, medical, religious, and economic consequences of stem cell research and cloning with a blend of anticipation (reflected in the dominant Progress and Health and Hope frames) and wary fatalism (the subordinate Runaway Technology counterframe). In addition, the Economic Prospects frame appeared for the first time in this set of stories. As the promise of stem cell treatments became more tangible, competing interests, including patient advocacy groups, universities, and private companies, focused on the international race to capitalize on stem cell research and who would pay for and who would financially benefit from the commercialization of resulting medical therapies.

When Hwang's research fraud was revealed later in 2005, reporters covered his downfall as a morality tale that emphasized the Ethics and Public Accountability frames. In replaying Hwang's trajectory from little-known researcher to "rock star" scientist to international disgrace over a span of 23 months, reporters juxtaposed his "stunning research papers" and the "rosy future" they promised for stem cell research (Kolata, 2005, p. A4) to losing his university post and becoming symbolized as an scientific outcast and "fallen hero" (Ackerman, 2005, p. A1). Reporters scrutinized the potential impact of the scandal on stem cell science:

"Often touted as the future of medicine but already controversial in the U.S. political arena and hamstrung by the government's limited support, embryonic stem-cell science suddenly faces an even more uncertain future: Can it rebound from the worst body blow it's ever taken?" (Ackerman, 2005, p. A1).

In most of the stories about Hwang's downfall, a single bioethicist was quoted as an expert source as though he or she represented the entire profession. Since neither bioethicists nor their opinions are homogenous, quoting a single bioethicist put a

decided slant on many stories. For example, the *Boston Globe* quoted Tad Pacholczyk of the National Catholic Bioethics Center, who was identified as a critic of embryonic stem cell research:

“It is not just Dr. Hwang’s dishonesty that casts a black eye on the field of embryonic stem cell science. It is also the other researchers in this field, and the other promoters of this renegade branch of science, who have been downplaying the very grave ethical concerns for too long” (Cook, 2005, p. A1).

In describing stem cell research as a “renegade branch of science,” pointing to “grave ethical concerns,” and using the metaphor of a “black eye,” Pacholczyk promoted the Runaway Technology and Ethics frames and painted Hwang’s deceit as a cautionary tale about scientific hubris and tinkering with the natural order.

At the opposite end of the spectrum, bioethicist Arthur Caplan, who was identified by *The New York Times* as an “outspoken supporter” of stem cell research (Kolata, 2005, p. A6), advanced the alternative Progress frame in attempting to deflect the potential damage to stem cell research in the United States from Hwang’s fraudulent work:

“We know that in science, speed kills if you go fast, and that’s what the South Koreans did. At the end of the day, critics of stem cell research will try to use this, but they won’t get very far. People bending the rules in other countries doesn’t reflect badly on us” (Kolata, 2005, p. A6).

The *Houston Chronicle* localized its story of Hwang’s demise, reliving an academic conference in that city at which Hwang had addressed a “rapt audience” earlier that year: “There was probably no bigger moment in medicine in Houston in 2005,” the story began (Ackerman, 2006, p. A1). The story then contrasted Hwang’s enthusiastic reception in Houston with the revelations about his falsified research, which the story described as “one of the greatest scientific frauds in recent history” (Ackerman, 2006, p.

A1). Several scientists provided negative reaction, calling the news a “terrible shame” and commenting that “some people will conclude, erroneously, that the whole field is a hoax” (Ackerman, 2006, p. A1). Caplan was the only bioethicist quoted in the story, and in advancing the Progress, Health and Hope, and Economic Prospects frames he served as the lone cheerleader for stem cell research. Noting that stem cell proponents include “an unprecedented lobby” of patient advocacy groups, industry, and scientists, Caplan stated: “At the end of the day, they can overcome the worst kind of black eye” (Ackerman, 2006, p. A1).

### ***Summary***

As this framing analysis shows, media stories about stem cell research and human cloning became more complex as public discourse became more heated and divisive and as frame sponsors increased their agenda-building activities. While the first set of stories analyzed featured a single dominant frame (Pandora’s Box), two subordinate alternative frames (Public Accountability and Ethics), and no counterframes, the two later sets of stories incorporated more frames, a much wider range of views, and a greater array of competing sources (*see Table 8, p. 94*).

As Reese (2003) notes, frames may grow in complexity and coherence of structure over time. Moreover, changing events, such as political events and scientific developments, can introduce new frames into a policy debate that may mobilize or allow access to interests not previously involved in the media and public agenda-building process (Benford & Snow, 2000; Gamson & Modigliani, 1989; Nisbet & Lewenstein, 2002).

**Table 8: Frames Present in Stories on Stem Cell Research and Cloning**

	Pandora's Box	Runaway Technology	Progress	Economic Prospects	Public Accountability	Ethics	Health & Hope
<u>Set 1:</u> Richard Seed's plans to clone humans (1997-1998)	✓				✓	✓	
<u>Set 2:</u> National stem cell policy debate (2001)	✓	✓	✓		✓	✓	✓
<u>Set 3:</u> South Korean stem cell advance and scandal (2004-2005)		✓	✓	✓	✓	✓	✓

The Ethics frame was present in all three sets of stories but was never the dominant frame. This may be due in part to the fact that proponents and opponents – including bioethicists on either side – interpreted the ethics of embryonic stem cell research and human cloning in antithetical ways, leaving it to journalists to try to ascertain the moral high ground. Bioethicist Thomas Murray, president of the Hastings Center, captured this ethical ambiguity when he told *The New York Times*:

“What we are finding is that there is not such a clear and bright line...because so many people are in that muddled middle, with complex views about what is the moral status of an embryo. The prospect of embryonic stem cells eventually leading to important new therapies is tipping the balance for a lot of people who think that embryos are not just bits of meaningless tissue” (Stolberg, 2001, p. D1).

This analysis also shows that signs and symbols were frequently used to help create and contest the frames used in media discourse on stem cell research and human cloning. As Entman (1993) notes, frames can make certain information more salient



through association with culturally familiar symbols. Abstract concepts such as “reproductive cloning” and “therapeutic cloning” and concrete scientific concepts such as “stem cell” and “embryo” were socially constructed in the stories analyzed. For example, describing a four- to six-day embryo from which stem cells are harvested as a “blastocyst” or a “nascent human being” may evoke opposite mental images by news consumers. Whether those embryos are portrayed as “leftover” or “discarded” from fertility clinics or available for “adoption,” implantation, and birth may create conflicting perceptions. And describing the scientific process of duplicating stem cells as “somatic cell nuclear transfer” (as typically described in the Progress and Health and Hope frames) makes it seem very different from “cloning” (as typically portrayed in the Pandora’s Box, Runaway Technology, and Public Accountability frames), although the two terms mean the same.

## CHAPTER 7: DISCUSSION

Through a quantitative content analysis of 456 staff-written science and medical stories in six newspapers over a 15-year period, a qualitative framing analysis of a subset of that coverage (18 stories on human stem cell research and cloning), and in-depth interviews with a journalist from each newspaper, this research used converging lines of inquiry to investigate the evolving role of bioethicists as expert sources. Specifically, this research addressed the following eight questions:

RQ1: To what extent do journalists use bioethicists as expert sources and has the frequency changed over time?

RQ2: On what scientific, medical, and technological topics are bioethicists most often used as expert sources? Has this changed over time, and if so, how?

RQ3: How often is information or opinion from a single bioethicist included in a story? How often do stories include views from two or more bioethicists? Do the comments of two or more bioethicists in a single story typically represent reinforcing or contrasting views?

RQ4: Which bioethicists appear most often as expert sources in media coverage? How does this vary geographically?

RQ5: How are bioethicists described in media stories in which they are expert sources? How are their credentials, affiliations, and views established and/or qualified?

RQ6: What roles do bioethicists play in media stories? Have these roles changed over time, and if so, how?

RQ7: What is the evidence from the media content that public relations professionals influence the media agenda on scientific and medical issues by pitching bioethicists as expert sources, issuing news releases, or orchestrating news events at which bioethicists speak?

RQ8: How do bioethicists used as expert sources impact the framing of media coverage of bioethical issues?

News routines, news values, and agenda-building theory provided a theoretical lens through which to examine how journalists use bioethicists as expert sources and the

role of public relations practitioners in that process. Framing theory was used to help illuminate the end product of these influences: how bioethicists used as expert sources impact the framing of stories on scientific, medical, and technological issues with ethical ramifications.

The research findings have theoretical implications for the ways in which journalistic news routines and enduring news values influence how science and medical reporters cover bioethical issues, the bioethicists they choose as expert sources, the roles bioethicists play in the stories, and the frames they help create and support. The findings also have practical implications for journalists, bioethicists, public relations practitioners, and news consumers. Highlights of the research findings were shared with a science or medical reporter at each of the six newspapers whose byline appeared on articles in the content analysis. Through in-depth interviews, their explanation and interpretation helped verify the findings. Their comments and insights are woven throughout this chapter.

### ***Overview***

This research finds that journalists at the six newspapers involved in the content analysis have increasingly turned to bioethicists as expert sources to help decipher, explain, interpret, evaluate, comment on, and arbitrate among conflicting ethical views that accompany many scientific, medical, and technological issues. From the research findings, a snapshot of how bioethicists are typically used in media stories has emerged.

A single bioethicist is used as an expert source in a story (77.4 percent of stories) and has one to three direct quotes (80 percent of bioethicists). He is a male (74.0 percent of bioethicists) academic (82.3 percent of bioethicists) who is most frequently one of five or six total sources in a story. He is also more likely to be the last source directly quoted (26.9 percent of the stories) than the first source (19.4 percent). He is used as an expert

source most often in stories on End-of-Life Issues (16.2 percent); Conflict of Interest, Fraud, and Unethical Behavior (15.8 percent); Human Stem Cell Research and Cloning (14.9 percent); and Healthcare Allocation (14.0 percent). He most frequently plays the role of Critic or Skeptic (43.7 percent of bioethicists) in a story or provides Explanation or Context (30.3 percent). His quotes are more likely to support the dominant framing of a story than to help promote counterframes or alternative frames. And when two or more bioethicists are used as expert sources in the same story, their comments are slightly more likely to align with or reinforce each other (36.9 percent of stories) than to contrast (33.0 percent) or have no relationship with each other (30.1 percent).

This research finds that the growth in the use of bioethicists as expert sources in stories in the six newspapers has spurted and waned over time (*see Figure 1, p. 67*). Although the number of stories in which bioethicists were directly quoted rose to a high of 128 in 2005 from a low of 42 in 1992, the number dropped sharply, to 59, in 2006. The findings appear to indicate that the extent to which bioethicists have been used as expert sources has fluctuated based on the presence or absence of highly newsworthy stories on scientific, medical, and technological issues with strong ethical implications. Nicholas Wade, science reporter at *The New York Times*, affirmed that the frequency with which bioethicists are used as expert sources is “needs-driven,” adding: “It’s typically the big stories at the intersection of science, medicine, and public policy.” Examples include the cloning of Dolly the sheep in 1997, the national policy debate over stem cell research in 2001, and the lengthy political and legal battle over the death of Terri Schiavo in 2005.

In addition, the research findings indicate that there are as many similarities as differences in the use of bioethicists as expert sources among the six newspapers.

Although the newspapers differ in circulation and geographic region, the starkest difference among them was the specific bioethicists directly quoted in stories. While the *Houston Chronicle*, *San Francisco Chronicle*, and *St. Louis Post-Dispatch* relied heavily on local bioethicists as expert sources, *The New York Times* and the *Boston Globe* quoted a mix of local and national bioethicists and the *Atlanta Journal-Constitution* used far more non-local bioethicists than local bioethicists. There were also statistically significant differences in the primary topics of stories among the different newspapers.

Similarities in the use of bioethicists as expert sources among the six newspapers include the number of bioethicists directly quoted in each story, the number of direct quotes from bioethicists in each story, the ratio of bioethicists to total sources directly quoted in each story, and the primary role of bioethicists in stories. Moreover, bioethicists were used most often as expert sources in the same year, 2005, in four of the six newspapers.

### ***News Routines***

News routines are “patterned, routinized, repeated practices and forms that media workers use to do their jobs” (Shoemaker & Reese, 1996, p. 105). These routines have a significant influence not only on the ways in which journalists work, but also on the shaping of news content (Hall, 1983; Shoemaker & Reese, 1996; Tuchman, 1978). News routines include looking for convenient, timely stories that align with deadlines; striving for balance and objectivity; and relying heavily on official sources, expert sources, and public relations sources. This research offers insights into how these news routines influence media coverage of scientific, medical, and technological issues with ethical consequences.

Balance and objectivity. By directly quoting a single bioethicist in 77.4 percent of the stories in the data set, this research shows that reporters typically used bioethicists to

bolster or refute a certain ethical position – and to help create or advance a specific frame – rather than to provide a range of perspectives and positions on discoveries, developments, issues, cases, practices, or policies. This finding supports the views of bioethicists who contend that reporting on bioethical issues “often seems to involve seeking out the opinion of one ‘bioethics expert’ and presenting it at least tacitly as representing the views of all who are in this line of work” (Goodman, 1999, p. 193).

Wade, of *The New York Times*, acknowledged that “one bioethicist can’t encompass the range of views around bioethical issues.” But he differentiated between science and medical stories in which bioethics is just an aspect – when a sole bioethicist might be “sufficient to bring bioethical issues to the readers’ attention but you’re not concerned with resolving them at this stage” – and stories in which bioethics is the main focus. Carl Hall, science reporter for the *San Francisco Chronicle*, also said that not all stories require a range of bioethical views:

“In some stories it is important to have a range of perspectives, but not in all. In daily stories – breaking news about a development or discovery – I don’t know that bioethicists add a whole lot and need to be surveyed. I may have one or two in there to make or buttress a point. Sometimes I need someone with a little more heft than just me saying it myself.”

When a topic is controversial, reporters are trained to follow the journalistic norms of objectivity and balance by pairing experts believed to represent opposing viewpoints (Boyce, 2006; Conrad, 1999; Steele, 1995). But the finding that 77.4 percent of the stories included direct quotes from a single bioethicist, reinforced by comments from the journalists interviewed, suggests that balance may be construed more broadly when a bioethicist is an expert source. The reporters indicated that they regard bioethicists as interchangeable with other types of expert sources, such as scientists, physicians, and government officials. Alice Dembner, medical reporter for the *Boston*

*Globe*, said she doesn't feel the need to balance the positions or views of one bioethicist with those of another. Rather, she believes other types of sources can be used for balance. "I don't have time to talk to multiple bioethicists," she said. "I use one person to speak for a community."

But while other types of expert sources are used primarily to provide and verify facts and background information (Boyce, 2006), this research shows that bioethicists are used far more often to provide opinion than fact (*see p. 78*). Thus while two scientists are likely to explain what stem cells are and how they are harvested in much the same way, two bioethicists may have fundamentally different views on the ethics of embryonic stem cell research. Since bioethicists come from a range of educational and professional backgrounds and have diverse religions and perspectives, neither they nor their viewpoints are homogenous (Tuhus-Dubrow, 2006). Moreover, using a single bioethicist as a de facto representative of the entire bioethics profession may mistakenly imply a consensus on an issue.

Dembner said she "couldn't know the political or religious views" of most bioethicists she interviews, adding, "I don't make judgments on that." She also disputed whether a bioethicist's affiliation influences his or her position on a bioethical issue, noting that it was erroneous to think that bioethicists from religious institutions were "likely to have a certain bent." Deirdre Shesgreen, Washington correspondent for the *St. Louis Post-Dispatch*, said she realizes there are bioethicists who are "conservative, liberal, and all across the spectrum." But she believes it is appropriate to use a single bioethicist in a story as long as his or her views are balanced by those of another expert.

Other reporters interviewed said space constraints, deadlines, and difficulty reaching bioethicists were other reasons they typically used direct quotes from a single bioethicist. Maryn McKenna, former medical reporter for the *Atlanta*

*Journal-Constitution*, said her editors' preferences for "short stories, no jumps" left no room for more than one bioethicist in most stories. She added: "It's not the way I would have chosen to write these stories." But Hall, of the *San Francisco Chronicle*, noted that when it comes to quoting bioethicists, "a little bioethics goes a long way." Although bioethicists are "thoughtful people who know a lot," he added that "thoughtful, in-depth explanation may be overly intellectual for a typical newspaper story."

Habitual sources. Reporters do their jobs most efficiently when they know in advance what sources they intend to interview will say (Shoemaker & Reese, 1996). This prompts journalists to develop a relatively small list of trusted sources to which they can turn time and again to provide information or express an opinion needed to round out a story (Conrad, 1999; Shoemaker & Reese, 1996; Reese & Danielian, 1994). Reporters, especially those on deadline, thus "find it easier and more predictable to consult a narrow range of experts than to call on new ones each time" (Shoemaker & Reese, 1996, p. 131). This research supports this proposition.

A total of 179 unique bioethicists were directly quoted in the 456 stories analyzed. While this may seem like a large number, there are as many as 2,000 American bioethicists (Guthmann, 2006). Of the 179 bioethicists, 60 percent were used as expert sources in a single story. Yet two bioethicists, Arthur Caplan of the University of Pennsylvania and George Annas of Boston University, together had direct quotes in 200 stories, Or 44.8 percent of the data set. Caplan alone was used as an expert source in 151 stories in all six newspapers, including about one-third of the stories in *The New York Times* and nearly two-thirds of those in the *Atlanta Journal-Constitution*. These findings support Gans' observation that "eager sources eventually become regular ones, appearing in the news over and over again" (1979, p. 118).

McKenna, formerly of the *Atlanta Journal-Constitution*, said reporters at her



newspaper eventually realized their over-reliance on Caplan and informally agreed to limit his use as an expert source. “Journalists have a responsibility not to overuse sources,” she said. Wade, of *The New York Times*, said he tries to avoid using Caplan as an expert source because other science and medical reporters at his newspaper use him frequently. Reporters should “try to cast the net wider and use other bioethicists – and that’s what I do,” he said.

Is there a potential danger from reporters relying so heavily on such few bioethicists as expert sources? Some bioethics scholars worry that “only a very few media-savvy bioethicists define to the public what ‘bioethics’ says about an issue” (Pence, 1999, p. 48). As Gans (1979) notes, reporters on specialized beats can become co-opted by their sources. Goodell (1986) contends that the symbiotic relationship between journalists and expert sources may be especially strong, and even harmful, in science journalism. Some bioethics scholars have also expressed concern about the close symbiotic relationship between reporters and certain bioethicists (Goodman, 1999; Pence, 1999). Dembner, of the *Boston Globe*, commented: “Using the same bioethicist over and over leads to overload, yes. But whether I will do something about it and find another bioethicist instead will depend on how much time I have.”

McKenna, formerly of the *Atlanta Journal-Constitution*, said reporters at the newspaper were unaware of bioethicists at Emory University in Atlanta until one called to complain about the heavy use of non-local bioethicists in stories. “We didn’t even know you exist,” McKenna said she had responded, adding that she felt it was “not our job to dig deep within an organization” to find potential sources.

None of the reporters said their editors had ever raised the issue of repeated use of certain bioethicists. Hall, of the *San Francisco Chronicle*, contended that quoting certain bioethicists habitually in science and medical stories was no different than other

types of “talking-head journalism” in which reporters use the same political officials, economists, retired military officials, or sports figures as expert sources again and again. But as Steele notes, repeatedly asking the same small group of expert sources to provide analysis and commentary can undermine “the very goal of objectivity that encourages journalists to seek out experts in the first place” (1995, p. 809).

Caplan’s franchise. Consistent with Gans’ observation about habitual sources (1979), some expert sources accrue significant power to define the news (Brown et al., 1987). Caplan, a bioethicist at the University of Pennsylvania who has been a reliable “go-to” resource for science and medical reporters throughout the 15-year study period, fits that description:

“If we survey bioethics over the last 25 years, we go from a time when Art Caplan was an intern at the Hastings Center to today, when he is the most well-known bioethicist in America and, perhaps, the world...In large part, this is because he is able to talk to the media in a way that everybody can understand, because he has the time to do so, and because he really wants to do so” (Pence, 1999, p. 48).

In carving out a franchise as the leading American bioethicist-pundit, Caplan clearly understands news routines, including the importance of returning calls before deadline and translating technical issues into plain English that news consumers can understand (Berkmoes, 1991). “We called him ‘Dr. Soundbite’,” said McKenna, formerly at the *Atlanta Journal-Constitution*. “He was incredibly media savvy and worked very hard at being accessible.” Ackerman, of the *Houston Chronicle*, said he once interviewed Caplan by cell phone when the bioethicist was in Norway.

Wade, of *The New York Times*, called Caplan “an absolute master” of frank, colorful, and pithy quotes. This is true whether the topic is abortion: “What’s depressing is to watch is the geography of politics cover the moral plate tectonics of abortion”

(Toner, 2001, p. D1), cryonics: “(It’s) goofy beyond amusement. It’s a movement that combines...screwy science and a secular lust for reincarnation with large-scale refrigeration technology” (Foreman, 1993, p. 1A), or efforts to ban human cloning: “I think...these people have become susceptible to bogeyman nightmares about cuckoo scientists run amok” (Stolberg, 2002, p. D16). The fact that Caplan does not talk like an academic or an ethicist has made him even more popular with reporters. But bioethics scholars have expressed concern about bioethicists making “snap judgments” (Rachels, 1991, p. 67) or “trying too hard to be pithy when an issue demands reflection” (Goodman, 1999, p. 194).

Caplan was directly quoted on 93 distinct bioethical issues in 151 stories in the data set. These topics ranged from HIV/AIDS to cosmetic surgery to assisted suicide and from organ transplants to the booming use of Viagra to illnesses affecting Gulf War veterans. He was also frequently called upon to comment on controversial local medical cases, such as when scarce or expensive resources or untested treatments were provided to, or withheld from, severely ill patients. In addition, Caplan often played the role of bioethical scold, such as disparaging plastic surgeons that performed different face-lift procedures on either side of patients’ faces without the patients’ consent to determine which was more effective.

Expert sources are expected to have authoritative opinions that will inspire the confidence of news consumers (Mepham, 2005). But Caplan’s predominance as an expert source raises the question of how a single bioethicist, no matter how distinguished, can be an expert on so many scientific, medical, and technological topics and whether that expertise is so superficial as to have real authority. Some bioethics scholars assert that bioethicists used as expert sources may be reluctant to suggest to reporters other bioethicists who could provide a contrasting opinion because they believe

the only correct moral position is their own (Pence, 1999). However, based on the comments of the reporters interviewed, journalists might not have the time, space, or interest to seek a quote from a second bioethicist even if the first bioethicist encouraged it.

Expert sources and their expertise. The number of expert sources used in media stories has increased dramatically over the last 40 years (Albaek, Christiansen & Togby, 2003) even though there has been a simultaneous decline in public trust in experts (Boyce, 2006; Limoges, 2003). As columnist Ellen Goodman noted:

“The irony is that expert deflation has come at the same time as expert proliferation. This is a world in which people seek medical information in Internet chat rooms. Today, as Art Caplan, a bioethicist and certified nonexpert on the subject says, ‘Anybody can get dressed up as an expert and go to the ball’ ” (1997, p. A19).

There has been limited research on how reporters evaluate the expertise of expert sources (Boyce, 2006; Martin, 1991; Soley, 1994; Steele, 1995; Stocking, 1985) and how the qualifications of expert sources factor into their selection (Martin, 1991). This research aimed to extend that knowledge by examining how the expertise of bioethicists used as expert sources was described in the stories analyzed as well as what reporters said about how perceptions of expertise influenced their decisions to select certain bioethicists.

Among the reasons why journalists use more expert sources are greater media competition (Albaek et al., 2003), the growing complexity of medical and science news (Tanner, 2004), declining public trust in journalism (Albaek et al., 2003), and the hope of enhancing objectivity and authority (Steele, 1995). If journalists use more expert sources at least in part to augment their own credibility and that of their profession (Albaek et al., 2003), it would seem logical for them to highlight the expertise of those

expert sources in stories. However, this research finds that news consumers often received limited information from which to assess the credibility and authoritativeness of bioethicists used as expert sources. Almost 81 percent of the bioethicists who were directly quoted were identified only by their name and affiliation, and much less frequently, by their title.

Additional information about a bioethicist's background, training, experience, viewpoints, religion, biases, or basis for expertise was provided for only 19 percent of the bioethicists who were directly quoted. For example, Leon R. Kass, chairman of the President's Council on Bioethics from 2002 to 2005, was used as an expert source in 17 stories in the data set. Five of these stories included the fact that Kass was a professor at the University of Chicago and four stories mentioned that he had moral reservations about human stem cell research – information that would be relevant and useful to news consumers in evaluating Kass' comments and credibility.

Selecting bioethicists as expert sources. The reporters interviewed agreed that the most important criteria for choosing bioethicists as expert sources were accessibility, responsiveness, reliability, and having something worthwhile to say. As Dembner, of the *Boston Globe*, pointed out:

“It's no good to have an expert in your Rolodex if you can't reach them or they don't return your calls until next week. When you find an academic expert who is willing to operate on news deadlines rather than on academic deadlines and who gets what journalism is all about, I latch onto that person.”

Reporters' need for efficiency is the biggest factor in deciding which bioethicists to use, according to Hall of the *San Francisco Chronicle*. “I look for the person who's available with the most cogent, informed point of view,” he said. “It's knowing that if you call this guy in a hurry, you'll probably get a usable quote. The ability to provide a good quote on deadline is a skill in itself.”

Mass communication scholars have asserted that credentials and reputation are among the criteria journalists use to select expert sources, and that science and medical reporters greatly value experts with highly visible names, titles, affiliations, and even a touch of celebrity (Conrad, 1999; Goodell, 1977; Goodman, 1999; Shepherd, 1981; Van Dijk, 2004). This research shows limited support for that proposition. Bioethicists from Ivy League universities and prominent institutions such as the Mayo Clinic and the Hastings Center were among the 179 bioethicists used as expert sources, and Art Caplan is arguably something of a celebrity bioethicist. But bioethicists from less-known universities and institutions were very well represented in stories in the data set. Dembner of the *Boston Globe* said neither name recognition of the bioethicist nor the prestige of the institution with which he or she is affiliated was important in selecting a bioethicist as an expert source. “The most important criterion is whether they have something intelligent and thoughtful to say,” she said.

Four of the reporters interviewed said proximity was not a factor in selecting bioethicists as expert sources. Dembner said that on broader scientific or medical issues, such as those with national or international consequences, “location isn’t an issue.” A local bioethicist might be preferable only if the story deals with a local issue “with complexities only a local bioethicist might know,” she added.

But Ackerman, of the *Houston Chronicle*, and Shesgreen, of the *St. Louis Post-Dispatch*, said their editors value local expert sources. “The mantra now is ‘local, local, local,’” Ackerman said. He said that impetus encouraged him to develop a strong relationship with William Winslade, a law professor specializing in bioethics at the University of Houston, who was quoted in nine stories from the *Houston Chronicle* in the data set. Shesgreen said there were plenty of local bioethicists from which to choose.

“The more you connect the story to the region and to the readers who live there, the better,” she said. Stories from both newspapers had substantially more local bioethicists as expert sources than non-local bioethicists.

Both Ackerman and Hall said they do not believe that identification with a local institution affects readers’ assessment of the credibility of bioethicists used as expert sources. “I don’t know if the average reader pays that close attention,” Ackerman said. Hall pointed out that given the amount of information on the Internet, “local expert sources don’t make sense at all anymore. Who cares if the source is at Harvard or at Cal?” Nonetheless, Hall said he tends to turn to local academic experts first. “Reporters follow the path of least resistance,” he explained. “If there’s no reason not to (use a local expert), it’s pretty harmless. But sometimes I’ll go out of my way to get out of the Stanford-UCSF clique.”

Roles of bioethicists in stories. In analyzing the roles bioethicists play in media stories, this research examined whether bioethicists used as expert sources support an “uncritical and unwarranted boosterism of science” (Goodell, 1986, p. 177), or what Nelkin (1995) has called “selling science” to media consumers. The research findings do not support the concerns of some bioethics scholars that bioethicists tend to echo or affirm the positions of scientists, physicians, and policymakers rather than add a critical perspective on scientific, medical, and technological issues (Callahan, 1997; Debruin, 2007; Jonsen, 1998, Stevens, 2000). The most common role played by bioethicists in the stories analyzed was Critic or Skeptic (43.7 percent of bioethicists). In contrast, only 12.2 percent of bioethicists played the opposite role of Advocate or Legitimator.

Why were bioethicists 3½ times more likely to be used as doubters and naysayers than as fans, promoters, and believers? The research findings suggest that reporters may use direct quotes from bioethicists to help balance the predominantly pro-science and

pro-technology views of scientists, physicians, and some political officials. Since other expert sources are available to be enthusiastic cheerleaders for science, medicine, and technology, reporters seeking balance in their stories may turn to bioethicists to fill the opposite role. According to Hall, of the *San Francisco Chronicle*, “the most valuable quote in any story is that of an informed skeptic who can provide a contrary point of view.” However, this research finds that bioethicists were more likely to be the last source directly quoted in a story than the first source. This placement, whether intentional or unintentional, may marginalize the views of bioethicists who are the final source since fewer news consumers read stories all the way to the end.

Slightly more than 30 percent of bioethicists played the primary role of providing Explanation or Context for a scientific, medical, or technological issue in the stories analyzed. An additional 8.7 percent offered comments on the future Implications of a discovery, development, case, policy, or practice. Only 5.0 percent of the bioethicists served as Arbiters, adjudicating among conflicting views expressed by other sources in the story without providing their own opinion. This finding does not support the assertion of mass communication scholars that reporters covering scientific, medical, and technological stories with strong ethical implications typically use bioethicists “to serve as neutral technical interpreters and moral arbitrators” (Nisbet et al., 2003, p. 45).

Playing up controversy. Since bioethical issues are very often controversial, bioethicists were among the expert sources whose quotes helped create a spirited point-counterpoint of opinions and viewpoints in the stories analyzed. In news stories, “interpretation is generally provided through quotations, and balance is provided by quoting spokespersons with competing views” (Gamson & Modigliani, 1989, p. 86). As a result, expertise may be utilized “as an instrument to carry out a conflict...fought over social and political objectives and the means to reach them” (Nowotny, 1981, p. 235).



In their interviews, several reporters acknowledged that contention over bioethical issues makes science and medical stories more newsworthy. It also helps them sell the stories to their editors and get better placement in the newspaper. As a result, the reporters said they look for expert sources with antithetical positions and tend to select the most provocative quote from what might be a very long interview. Ackerman, of the *Houston Chronicle*, noted, "It's more likely to be newsworthy if the bioethicist disagrees than agrees. That gives you conflict." Hall, of the *San Francisco Chronicle*, said: "These are issues with a lot of dimensions. I look for snappy quotes from either side to create the tension you like to see in a story." His editors, Hall added, "have a fetish for conflict."

### ***News Values***

This study finds support for two enduring news values described by Gans (1979), moderatism and social order (and its companion categories, technological and moral order). As Gans notes, sources play an important role in focusing the attention of reporters on social, technological, and moral order because their values are implicit in the information they provide. The media also look for responsible parties and identify agents of moral and social disorder (Gans, 1979). Thus when bioethicists used as expert sources castigated researchers who allowed low-income Baltimore children to continue to be exposed to lead in their homes for the sake of an "experiment" (Robertson, 2001) or expressed dismay over the "meddling" of politicians into decisions made by Terri Schiavo's husband about her hospice care (Liptak, 2005), they were attempting to preserve a social and moral order they felt had been threatened.

The enduring news value of moderatism was also evident in the direct quotes of bioethicists in the stories analyzed. Because journalists inform news consumers about what is normal by labeling and describing what is deviant, how deviance is addressed is a

key facet of news coverage (Shoemaker & Reese, 1996). People, actions, and positions perceived as extreme are tacitly criticized through derogatory words, a mocking tone, or excluded from stories (Gans, 1979).

As the framing analysis shows, rather than ignoring Dr. Richard Seed's announced plans to clone humans, reporters covered his outlandish claims with gusto. Quotes from bioethicists in these stories helped erode Seed's credibility and brand him as a modern-day Dr. Frankenstein. The content analysis also showed that some bioethicists directly quoted in stories helped label Dr. Jack Kevorkian as a deviant "Dr. Death" for his high-profile assisted suicides while other bioethicists defended Kevorkian's motives if not his methods (James, 1998). Some bioethicists used as expert sources even helped to brand as extreme one of their own: Peter Singer, a philosopher whose appointment to a bioethics professorship at Princeton caused a furor among the disabled and disability activists for his controversial remarks that some severely disabled infants should be allowed to die (Zielbauer, 1999).

### ***Agenda Building***

Agenda-building theory asserts that journalists do not necessarily set the media agenda; rather, it is constructed by sources and public relations practitioners who shape the information that ultimately reaches media consumers. Public relations practitioners help build the media agenda by providing story ideas, expert sources, information, and comments to reporters in the form of "information subsidies" that extend limited journalism resources while the sources and their institutions get publicity (Berkowitz, 1987; Cameron, Sallot & Curtin, 1997; Curtin, 1999; Tanner, 2004). An estimated 25 to 80 percent of all news content is influenced by media relations activities of public relations practitioners (Cameron et al., 1977). This is also the case for health and science news (Tanner, 2004).

This research examined the agenda-building activities of public relations practitioners in two ways. First, the content analysis examined stories for mention of media relations activities, such as news releases or news conferences, in connection with the direct quotes of bioethicists. Second, the reporters interviewed were asked about their reliance on public relations practitioners and how they find and select the bioethicists they use as expert sources. This research finds mixed support for the role of public relations practitioners in building the media agenda, and, ultimately, in influencing the public agenda.

There was scant evidence in the stories of agenda building by public relations practitioners. Slightly more than six percent of the stories in the data set mentioned media relations activities, such as news releases, news conferences, and interviews during book tours. However, this was an incomplete and imperfect way to look for evidence of agenda building after the fact. The use of certain bioethicists in other stories may have been orchestrated through media relations efforts that were less visible and unlikely to be mentioned in stories. Possible examples include phone calls, pitch letters and e-mails, and lists of experts sent to reporters.

Both Dembner, of the *Boston Globe*, and McKenna, formerly of the *Atlanta Journal-Constitution*, said they had never been contacted by a public relations practitioner to suggest a bioethicist to include in a story or a topic on which a bioethicist might make a good source. McKenna believes this is because public relations practitioners at universities have “quite a struggle” to get academics to agree to be media sources. “Whether or not academics get coverage and are lionized in the popular press does not help you win tenure and in some cases may be held against you,” she said.

Ackerman, of the *Houston Chronicle*, said he has been contacted by public relations practitioners from universities and think tanks who were promoting the use of

a certain bioethicist in stories “only when there’s a big ethical controversy in the news.” He cited the Terri Schiavo case and human cloning experiments as examples. “I’d rather have them contact me than not,” Ackerman said, adding that he occasionally uses experts suggested by public relations practitioners.

Hall, of the *San Francisco Chronicle*, said his most frequent contact from public relations practitioners is to tout a breaking story, such as the publication of a research paper, rather than to offer commentary or opinion on an issue. As a result, the expert source being promoted is far more likely to be a researcher, scientist, or physician than a bioethicist. He said the University of California at San Francisco has a “pretty aggressive news bureau” that will line up an expert, provide contact information, and even supply a summary of the expert’s comments or position. “They try to spoon feed it to you,” he said, acknowledging that these efforts “do get some results.” But Hall added: “I don’t want to be spoon fed. I’d rather seek an expert out on my own.”

Dembner said media relations efforts of public relations practitioners play a minor role in her selection of expert sources overall. “If I can go around them, I do,” she said. “I work hard to build relationships with sources, and PR people get in the way or slow the process down.” Wade, of *The New York Times*, said he also prefers to find and contact bioethicists on his own. “It’s always good to cut out the middle person if you can,” he said. But Wade said that on some occasions, “you get better service through PR people. They can be very helpful.”

Dembner said that if she cannot find an available bioethicist, she turns to colleagues at the *Boston Globe* for suggestions. Shesgreen, of the *St. Louis Post-Dispatch*, said she uses a variety of ways to find bioethicists to be expert sources, including hearing them testify at hearings and reading about them in other stories in her newspaper and other papers. “Sometimes I’ll Google them and run search terms on the

Internet,” she said. Wade said contacting bioethicists whose business cards he collects at conferences he covers has also proved fruitful.

As part of the agenda-building process, expert sources may also proactively initiate contact with reporters rather than waiting for journalists to call. As Gans notes, “Although it takes two to tango, either sources or journalists can lead, but more often than not, sources do the leading” (1979, p. 116). But four of the journalists interviewed said bioethicists rarely or never proactively contacted them to suggest stories on bioethical issues or to offer information or comment on an issue already in the news. “I cannot think of a single time in 11 years when a bioethicist called me to offer information or an opinion,” McKenna said. Ackerman said Winslade, a local bioethicist, has been the only bioethicist to call him occasionally with ideas, facts, or opinion.

### ***Framing***

Journalists routinely depend on frames to help them organize the stories they report and write (Gitlin, 1980). Sources are a key dimension of media framing because a reporter’s choice of sources “powerfully influences how that story is told” (Maier & Kasoma, 2005, p. 1). Understanding how bioethicists used as expert sources help advance certain frames in stories on human stem cell research and cloning can therefore extend knowledge of framing theory.

Some previous studies on media coverage of science, medicine, and technology found that media framing of these topics is highly polarized and that while positive frames emphasizing potential benefits dominate, alternative frames that express concerns about potential risks are marginalized (Nisbet & Lewenstein, 2002; Nisbet et al., 2003; Priest, 1994, 2006; Ten Eyck & Williment, 2003; Gorss & Lewenstein, 2005). These studies supported the assertion that journalists frequently engage in uncritical boosterism of science and technology due to their symbiotic relationships with scientists,

researchers, and physicians who serve as frequent expert sources (Goodell, 1986; Nelkin, 1995).

In contrast, this research does not find support for that assertion. Nor does it find support for concerns raised by some bioethics scholars about whether bioethicists provide a unique voice and critical perspective in media stories or largely echo and affirm the views of scientists and physicians (Callahan, 1997). Many of the 18 stories analyzed were framed in a skeptical or negative way, raising questions about, objections to, or concerns over future implications of stem cell research and cloning. Bioethicists who played the roles of Critic or Skeptic thus supported or reinforced the dominant framing by advancing the Pandora's Box, Runaway Technology, and Public Accountability frames (*see p. 61 for framing typology*). They counterbalanced the optimistic views of scientists and researchers who primarily promoted the Progress and Economic Prospects frames. Bioethicists who served as Advocates or Legitimizers of stem cell research and cloning also advanced the Progress, Economic Prospects, and Health and Hope frames. Quotes of bioethicists used to provide Explanation of, or Context for, stem cell research and cloning were largely frame-neutral.

The framing analysis also illuminates how bioethicists used as expert sources are involved in frame contestation. As Gitlin (1980) points out, framing contests routinely favor political elites. The conservative political elite, which associates embryonic stem cell research with abortion and other moral-value issues, has for the last decade been out of step with the U.S. scientific community and with the views of a majority of Americans on stem cell research yet has managed to perpetuate a national policy stalemate that has restricted federal research funding. Bioethicists expressing conservative opinions about stem cell research were directly quoted about as often in the stories analyzed as those

expressing liberal views, suggesting that reporters strive to follow the journalistic norms of objectivity and balance. But Ackerman, of the *Houston Chronicle*, said it was sometimes frustrating to find a conservative bioethicist: “It seems like most bioethicists are liberal these days, at least when it comes to reproductive issues, end-of-life issues, and stem cell research. There’s not that many prominent conservative bioethicists out there.”

At the heart of the framing contest in stories on stem cell research is a fundamental ethical dilemma faced by journalists: whether to frame the issue in terms of potential lives saved (patients helped, as expressed through the Health and Hope frame) or lives lost (embryos destroyed, as expressed through the Runaway Technology frame). This is reminiscent of Kahneman and Tversky’s 1984 experiment in which subjects were asked to choose between two programs that were identical but one was framed in terms of likely deaths rather than in likely lives saved. According to Entman (1993), this is one of the most widely cited examples of the power of framing and the way it operates by selecting and highlighting some features of reality while omitting others.

Since proponents and opponents frame the ethics of embryonic stem cell research in antithetical ways, journalists are left trying to referee the framing struggle. Hall, of the *San Francisco Chronicle*, that in covering stories on stem cell research, he sometimes feels as though he is “picking my way through a minefield” of emotionally charged language, symbols, and experts used by either side. This research finds that stories framing stem cell research in terms of potential lives saved were especially likely to use episodic frames to showcase the plight of patients with serious medical conditions who might be helped by future stem-cell therapies.

## CHAPTER 8: CONCLUSION

As this research shows, bioethicists have been increasingly used as expert sources in media coverage of science, medicine, and technology since the early 1990s. But through triangulation afforded by the three research methods used in this study, the picture that materializes of how, when, and why bioethicists are used as expert sources, as well as which bioethicists are used most often, has a number of disconnects and paradoxes that deserve further exploration.

First, the reporters interviewed said a key reason why they frequently use bioethicists as expert sources is that they perceive bioethicists to be keen thinkers and irreproachable philosophers – “thoughtful people who know an awful lot,” according to Carl Hall of the *San Francisco Chronicle*. The reporters indicated that they believe bioethicists have a unique type of expertise and accord them special status among expert sources. As Deirdre Shesgreen, of the *St. Louis Post-Dispatch*, explained: “Even their job title suggests that bioethicists do something special in trying to bring a moral code to science.”

Yet the content analysis suggests that bioethics has been transformed from philosophy to punditry in journalism. For example, bioethicist Art Caplan of the University of Pennsylvania, who was directly quoted in 151 stories, or one-third of all the stories in the data set, has been extremely popular with reporters precisely because he doesn’t talk in measured and scholarly tones, but in vibrant, folksy soundbites. Bioethics scholars assert that “reporters aren’t interested in detailed analysis or lengthy qualifications. A short, pithy quote is what’s wanted” (Rachels, 1991, p. 67) even though it “produces a cartoon of an ethical issue, not an account” (Goodman, 1999, p. 192) and risks oversimplifying complex issues.



Second, just as Goodell (1977) noted that there are “visible scientists” who play influential roles in media coverage of science, so it appears there are “visible bioethicists” who help mold media coverage of bioethical issues. This study finds that Caplan and a few other bioethicists have become habitual expert sources due to their succinct quotes, accessibility, and understanding of journalistic news routines. Over time, they become news shapers by providing comment and context for stories (Conrad, 1999; Soley, 1994). The backgrounds, credentials, religions, views, and biases of this handful of bioethicists may have an indelible impact on stories in which they are quoted and on media discourse on bioethical issues overall. This is because stories tend to cascade vertically within the news hierarchy as elite newspapers and newswires play the leading role in setting the news agenda (Gitlin, 1980; Nisbet et al., 2003; Rogers et al., 1991). Yet this study shows that background information about bioethicists used as expert sources, which could help news consumers assess their credibility and expertise, is seldom provided. In fact, news consumers may have only a fuzzy understanding of who bioethicists are or what they do, let alone know whether to believe their comments have any authority (Jonsen, 2005).

Third, despite the often integral role of bioethicists in science and medical stories, journalists appear to have a casual and sometimes even haphazard approach in selecting bioethicists as expert sources. The reporters interviewed said they strongly prefer to identify and contact bioethicists themselves rather than rely on public relations professionals. They also indicated that their methods for finding bioethicists to be potential expert sources include reading about them in other newspapers, searching for them online, and meeting them at hearings and conferences. But as the content analysis shows and the reporters interviewed acknowledged, reporters nonetheless tend to use the same few bioethicists over and over in a deadline-fueled search for a “dial-a-quote,”

as Todd Ackerman of the *Houston Chronicle* put it. This can lead to bioethicists being asked to comment on a broad range of issues – in Caplan’s case, on 93 distinct bioethical issues in 151 stories – whether the issues are within their scope of expertise or not.

Fourth, agenda-building theory asserts that public relations practitioners play an important role in working to bring certain issues to the media’s attention through media relations activities. In so doing, public relations professionals help build the media agenda and influence the public agenda as well (Berkowitz, 1987; Cameron, Sallot & Curtin, 1997; Curtin, 1999; Tanner, 2004). However, the reporters interviewed said public relations practitioners rarely offer information subsidies on bioethical issues, such as suggesting story topics or promoting the use of certain bioethicists as expert sources. Nor do bioethicists themselves typically contact reporters proactively to offer story ideas, information, or opinion. Moreover, the zigzag pattern in the number of stories over the 15-year study period in which bioethicists were directly quoted appears to correspond with the presence or absence of highly newsworthy science and medical stories with strong ethical implications. Together, these findings suggest that bioethicists and public relations professionals have reacted to the media agenda on bioethical issues rather than playing a vigorous role in building it.

However, the reporters interviewed were well aware that Caplan was overused as an expert source; three of them brought up his name even before the questions turned to which bioethicists were used most often in stories. This could present an opportunity for public relations professionals if the institutions they represent see value in helping to build the media agenda on bioethical issues and if bioethicists at those institutions are willing to accommodate journalistic news routines. But some bioethicists may need considerable persuasion to take on this role. For example, after FOX television network talk show host Bill O’Reilly blasted Stanford University bioethicist David Magnus during

a broadcast in 2005 by calling him a “pinhead” for his comments about the Terri Schiavo case, a chagrined Magnus told the *San Francisco Chronicle* that it had been his biggest exposure outside the bioethics community thus far (Guthmann, 2006, E1).

Fifth, the reporters interviewed seemed genuinely surprised by the finding that a sole bioethicist was directly quoted in 77.4 percent of all the stories analyzed. The reporters said they realized that bioethicists have different backgrounds, training, credentials, religions, ideologies, and biases that create a spectrum of views on specific bioethical issues. But the reporters seemed unconcerned whether a story might be skewed if the perspective of a single bioethicist serves as a stand-in for the entire profession. The reporters rationalized that using a single bioethicist was appropriate as long as his or her viewpoint was balanced by that of another genre of expert source. However, the reporters acknowledged that these other sources were likely to be scientists, researchers, physicians, or industry or government officials – experts whose backgrounds, training, and expertise are not necessarily analogous to those of bioethicists.

Sixth, a previous study stated that bioethicists enhanced science and medical stories by serving as “neutral technical interpreters and moral arbitrators” (Nisbet et al., 2003, p. 45). However, this research finds that while bioethicists play a variety of roles in stories, their most prevalent use is as critics or skeptics. Several of the reporters interviewed said they seek contrary comments from bioethicists to counterbalance the optimistic views of scientists and physicians on scientific, medical, and technological discoveries and developments and thus highlight the controversy intrinsic to many bioethical issues. This was also manifested in the framing of many of the stories examined in the framing analysis. Through direct quotes promoting the Pandora’s Box, Runaway Technology, Public Accountability, and Ethics frames, bioethicists served to

warn, criticize, and sound the moral alarm:

“...Reporters (are not) eager to hear reassurances that alarming events aren’t alarming. That doesn’t make good copy. What makes good copy is the idea that the events being reported are morally troubling, or worse” (Rachels, 1991, p. 67).

As critics and skeptics, bioethicists offer a perspective once marginalized in science and medical reporting. For several decades during and after World War II, the media contributed to an environment of almost unbridled enthusiasm over scientific and medical advances in which scientists, physicians, and policymakers tended to downplay intractable risks or potential problems (Kass, 2002; Rollin, 2006). But events such as the Three Mile Island and Chernobyl nuclear accidents, the serious side effects of drugs such as thalidomide and Fen-Phen, and the Challenger and Columbia space shuttle disasters shook public confidence in scientific and medical progress (Bryant et al., 2005; Cassell, 1996; Rollin, 2006) and served as a wake-up call to journalists that covering science and medicine required greater scrutiny (Nelkin, 1995). Bioethicists used as expert sources help ensure that bioethical issues get a more critical airing in media and public discourse.

Finally, bioethicists were directly quoted in 59 stories in the six newspapers in 2006, down from 128 stories in 2005 and 67 stories in 2004. This variation could be cyclical, the result of fewer highly newsworthy stories with strong ethical implications in 2006. But financial pressures on the newspaper industry, which have resulted in less news space, fewer reporters, and a greater reliance on wire service and syndicated stories, may also be a factor. Since the end of the study period, the *St. Louis Post-Dispatch* no longer has a designated science reporter. And the content analysis shows that the number of stories in the *Atlanta Journal-Constitution* in which bioethicists were directly quoted has declined since the late 1990s. Maryn McKenna,

formerly of the *Atlanta Journal-Constitution*, explained that after the weekly health and science page folded in 1999, science and medical news has had to compete for space within an ever-shrinking front section. Waning science and medical coverage in these two newspapers is part of a trend affecting other media organizations in the United States as well (Helmuth, 2005; Russell, 2006).

Nonetheless, scientific and medical progress will continue to make news in the 21<sup>st</sup> century (Scott, 2006). And just as many scientific, medical, and technological discoveries and developments over the last 15 years were accompanied by challenging bioethical issues, some future advancements will also be likely to straddle the blurry ethical line between what humans *can* do and what society *should* do (Steinbock, Arras & London, 2003). While this study cannot make predictions, journalists may continue to turn to bioethicists to help explain, interpret, evaluate, and comment on bioethical issues. If so, bioethicists will remain in the media spotlight and will continue to help socially construct the reality of science, medicine, and technology.

### ***Future Research***

How the media cover bioethical issues is a rich and largely untapped area for mass communication research. In examining the use of bioethicists as expert sources in six newspapers between 1992 and 2006, this study represents only a narrow first slice. The focus on newspapers instead of other types of media organizations, the number of newspapers included, the newspapers selected, the number of stories analyzed, the length of the study period, and the specific journalists interviewed may have influenced the findings. And although the combination of quantitative and qualitative research methods used in this study provided converging lines of inquiry, other research methods may have produced different outcomes. This study is not generalizable and cannot

predict how journalists will use bioethicists as expert sources in the future.

In addition, while this research focused on journalists – their work routines, the enduring values that influence them, and the stories they report and write – bioethicists, public relations professionals, and news consumers are equally important parts of the equation. Although the quotes of bioethicists are scrutinized in this study, they have no active voice. Interviewing or surveying bioethicists about their perspectives on how and why bioethicists are used as expert sources in media coverage of science, medicine, and technology thus seems a logical next step. The findings of this research could be held up to bioethicists for their explanation and interpretation in much the same way that the findings were used to spark elucidation and verification by the reporters interviewed. This could extend understanding of the complex “tango” between journalists and sources described by Gans (1979) and probe the extremely strong symbiotic relationships between science reporters and expert sources posited by Goodell (1986).

The obvious choice would be to interview bioethicists who are frequently used as expert sources in media stories. But it may also be enlightening to interview some bioethicists who, although they command great respect within their field, are rarely if ever quoted in media stories. This may be because these bioethicists decline to talk to reporters, have not been asked, or have been challenging for reporters to work with in the past. A combination of bioethicists from both groups might provide interesting insights.

The work of public relations practitioners in helping to build the media agenda on bioethical issues was addressed only obliquely in this study. Examining stories included in the content analysis for mentions of media relations activities such as news releases and news conferences produced limited results. And while reporters were interviewed about their reliance on public relations professionals in connection with

developing stories on bioethical issues, they may have wanted to avoid the appearance of lacking independence and initiative. Interviews, focus groups, or a survey could be used to directly examine the role of public relations professionals who represent universities and other institutions at which bioethicists work. And in the hope of extending knowledge of agenda building, it would be interesting to explore the differences between tactical information subsidies public relations professionals provide to science and medical reporters and the more strategic agenda-building role of public relations in shaping media coverage of bioethical issues.

What news consumers take away from the use of bioethicists as expert sources in media stories is another area for future research. Focus groups or a survey could investigate what news consumers know about who bioethicists are, what they do, and the types of education, training, and credentials they have. News consumers could also be asked whether they believe the opinions of different bioethicists are consistent or divergent. They could also be asked whether they believe bioethicists to have authoritative opinions and whether they find bioethicists to be more or less credible than other types of experts quoted in stories. It would also be interesting to learn what dimensions, if any, news consumers believe the perspectives of bioethicists add to science and medical stories.

## Code Book

### **Bioethicists as Expert News Sources**

- 1) **Story ID:** Enter the combination letter and number written in the upper right-hand corner on the first page of the story.
- 2) **Coder number:** Enter your assigned coder number.
- 3) **Date:** Enter in the spaces provided the date in numerals on which the story was published (month, day, year)
- 4) **Page:** Enter the page and section (if provided) that the story was on. This appears on the printout. Example: 1A, B12.
- 5) **Length:** Enter the length of the story in words. This appears on the printout.
- 6) **Title:** Enter the title of the story as it appears on the printout. Do not include subheads or kickers.
- 7) **Byline:** Enter the reporter's name. If there is no byline, write "none." If two reporters share the byline, include both names. If there are more than two reporters, include all names. If the byline is a combination of a staff reporter and another source (for example, a wire service), include both: for example, "Staff reporter T. Christian and wire service reports" or "Jan Foster of the Houston Chronicle staff and the Knight-Ridder News Service").
- 8) **Primary story topic:** After reading the story, identify the primary topic. This should be suggested by the headline and the first several paragraphs of the story.
  - ***Human stem cell research and cloning*** – Includes stories on:
    - Human embryonic stem cell research in the U.S. and abroad
    - Human cloning (including claims by Dr. Richard Seed, the Raelians, and Clonaid to have cloned humans)
    - Congressional debate over funding stem cell research, and response from President Bush, including his 2001 stem cell policy announcement and 2006 veto
    - Creation, discussion, activity, and reports of the President's Council on Bioethics and its predecessor, the National Bioethics Advisory Commission
    - State legislative discussion or activity to advance or restrict stem cell research, including Proposition 71 in California and Amendment 2 in Missouri



- ***Animal issues*** – Includes stories on:
  - Stem cell research involving animals
  - Cloning of animals and pets (including the cloning of Dolly the sheep)
  - Ethical issues involving experimentation and research on animals (including animal rights)
  - Transplanting animal organs into people (xenografts)
  - Medical treatment (including surgery) to save or prolong the lives of pets
  
- ***End-of-life issues*** – Includes stories on:
  - Right-to-die and right-to-life issues, including cases such as Terri Schiavo's
  - Issues and cases about ending medical treatment or care for terminally ill adults and children, including infants with severe and incurable birth defects
  - Euthanasia
  - Assisted suicide (including Dr. Jack Kevorkian)
  - Living wills or advance medical directives
  - If and when to tell patients they are dying
  - Pain relief and palliative care
  - Conducting experiments or surgery on dead patients without the knowledge and/or consent of the family
  - Executions of Death Row inmates (including which method to use and who will be involved)
  
- ***Health care allocation*** – Includes stories on:
  - Who gets scarce health care resources such as transplant organs (such as baseball player Mickey Mantle's transplanted liver), flu vaccines, and access to sophisticated medical equipment and technology
  - Patients seeking transplant organs via the Internet, advertising, or abroad
  - Organ donations (including living organ donors, directed donation, and paying for organs)
  - Rationing of drugs, surgery, or other healthcare services
  - Lack of access to healthcare services (including medicines) among the poor, minorities and/or uninsured
  - "Boutique" or "concierge" health care services (including special hospital facilities) for wealthy patients

- Access to and use of expensive and/or risky “heroic” measures to save or prolong the lives of certain patients, such cases as the separation of Siamese twins
- Which patients are allowed to participate in clinical trials for new drugs or medical procedures
- Patients “shopping” to participate in clinical trials because they have no other hope for treatment and/or cannot afford medicines otherwise
- Health care services (including transplants and medical castration) given (or not given) to prisoners
- **Reproductive issues** – Includes stories on:
  - Sterilization
  - Contraception, including the morning-after pill (RU-486, Plan B)
  - Fertility and infertility
  - Artificial insemination
  - In vitro fertilization
  - Pregnancy in older (post-menopausal) women
  - Egg donation
  - Surrogate motherhood
  - Using frozen embryos or sperm without consent of ex-spouse
  - Using the banked sperm of dead men
  - Tests to determine the gender of fetuses
  - Medical procedures to increase the likelihood of having a baby of a certain gender (i.e. sperm sorting)
  - Abortion
  - Tests for fetal defects
  - Fetal surgery (surgery on fetus while still in the womb)
  - Premature births
  - Multiple births
- **Biotechnology and genetics** – Includes stories about:
  - Sequencing the human genome (also called the Human Genome Project)
  - Genetic screening and testing (including tests for such genetic disorders such as Tay-Sachs disease, Marfan syndrome, and genetic mutations believed to increase the risk of certain types of breast cancers)

- The promise of fetal tissue transplants and gene therapy (*note: stories on gene therapy that went wrong, including the Jesse Gelsinger case, belong in the Medical Errors, Malpractice, Patient Safety category*)
- Medicines produced through biotechnology
- Genetically engineered crops and food
- Issues involving the safety and risks of biotechnology and the products of biotechnology

*Note: Stories about human stem cell research and human cloning, or animal stem cell research and animal cloning, belong in other categories.*

- **Medical errors, malpractice, patient safety** – Includes stories on:
  - Botched surgery, such as the Jessica Santillan case or amputating the wrong limb
  - Giving patients the wrong medication or the wrong dose
  - Failing to provide full, clear information to patients so they can provide informed consent before clinical trials, surgery, or other medical treatment
  - Patients being harmed by experimental drugs, new medical devices, or medical procedures (including new types of surgery)
  - Failed gene therapy (including the Jesse Gelsinger case)
  - Violating patients' right to privacy and/or the confidentiality of medical information
  - Government investigations and/or recalls of prescription and over-the-counter medicines or other healthcare products that have been found to present serious risks to patients
- **Fraud, conflict of interest, unethical behavior** – Includes stories on:
  - Research fraud involving published scientific or medical studies (such as the fabricated results of the South Korean cloning experiments)
  - Doctors or scientists accepting lavish gifts or trips from pharmaceutical, medical device, or biotechnology companies
  - Allegations of conflict of interest involving scientists or doctors who consult for, or get research funds, from industry
  - Doctors who develop their own consumer products (such as diet pills or anti-wrinkle creams) and “push” them on patients
  - Scientists or doctors who become entrepreneurs by starting their own businesses or selling to industry the drugs, medical devices or other products of knowledge they developed while working at a university or hospital

- Researchers or companies continuing to give experimental drugs to clinical trial subjects after significant health risks have been found during the trial or continuing to give subjects placebos to subjects after the drugs being tested have been found to be effective
- Allegations of companies conducting unethical clinical trials of new drugs or medical devices (including clinical trials in Third World countries)
- Allegations of hospitals and/or health insurers jeopardizing the health of patients by shortening hospital stays to save money (including bonuses to doctors for sending patients home)

*Note: The difference between the categories of Medical Errors, Malpractice and Patient Safety and Fraud, Conflict of Interest and Unethical Behavior is largely one of focus. In stories in the Medical Errors, Malpractice and Patient Safety category, the focus is on the alleged risk or harm to the patient(s). In stories in the Fraud, Conflict of Interest and Unethical Behavior category, the focus is primarily on the behavior of the doctor, scientist, researcher, drug company, health insurer, or hospital.*

- **Other** – Primary story topics that do not fit any of the other categories. Write in the primary topic.

- 9) **Total number of sources quoted in story:** Enter the total number of individuals directly quoted in the story (as evidenced by quote marks). Organizations, institutions, agencies, reports, articles, or studies should not be counted as sources. However, an individual should be counted as a source if statements from a report, study, or article he/she authored are directly quoted and attributed in a story. Example: *Dr. Bruce Barnhart, a bioethicist at the University of Missouri, wrote in an article in Biotechnology Today that “ethanol produced from genetically engineered soybeans could reduce America’s reliance on foreign oil by at least 15 percent by 2018.”* Sources that are mentioned or paraphrased only (no direct quotes) should not be counted.
- 10) **Number of bioethicists quoted in story:** Enter the number of bioethicists quoted *directly* in the story (as evidenced by quote marks). Bioethicists who are mentioned or paraphrased only (no direct quotes) should not be counted.
- 11) **Order of sources:** Count and enter the order among directly quoted sources in which the first direct quote(s) of a bioethicist appears in the story. For example, if there are two sources that are directly quoted before the first direct quote of a bioethicist, the number entered in column 1 would be “3”. If there are two bioethicists directly quoted in the story, follow the same procedure for the second bioethicist in column 2 (if the second bioethicist is quoted directly immediately after the first bioethicist, the number placed in column 2 would be “4”). If there are three bioethicists quoted directly in the story, use column 3 for the third bioethicist, and so on. *Count each source only once* even though he or she may have multiple quotes in different places in the story.

12) **Number of direct quotes from each bioethicist:** Count and enter the number of direct quotes from each bioethicist in the story in the appropriate space (1, 2, 3, or 4) based on the order in which the first quote appears. A direct quote is defined as one or more words, part of sentence, a full sentence, or several sentences contained within quote marks. Do not count paraphrased thoughts or comments (no quote marks). Quotes separated by attribution are counted as separate quotes. For example:

- Blume contended that prisoners deserve the same access to high-quality medical care as do other members of the population. (not a quote, do not count)
- Dr. Brown said that every serious medical error is “*heartbreaking to everyone at the hospital*” as well as to the patient’s family. (1 quote)
- Maria Vega, sister of the San Antonio man who received a donated liver two days after posting family photos and a touching story on the Internet, said her brother did so only after doctors told him he would probably wait two years for a new liver. “*My brother was very frail and he was very worried he wouldn’t live to see his children grow up,*” she said. (1 quote)
- Dr. Black said that staph infections “*have become increasingly resistant to antibiotics*” and “*have the potential to harm people who live, work or play in close proximity,*” such as hospitals, classrooms, college dorms, gyms, and offices. (1 quote).
- Sen. Edward M. Kennedy said that while he sympathized with Terri Schiavo’s parents, it was important for members of Congress not to exploit her tragedy for “*partisan political gain.*” He added: “*I really hope this case can be resolved fairly and quickly.*” (2 quotes)
- “*Dolly the sheep did not live to a ripe old age, but died early from a host of medical problems,*” said Dr. Allyson Pratt, a biomedical ethicist at the University of Illinois School of Medicine. “*This should be a cautionary tale for scientists trying to clone other animals.*” (2 quotes)
- “*This amendment is really about bringing help and hope to the thousands of Missourians who suffer from serious illnesses and injuries,*” said Bruno Farelli, a medical ethicist at the University of Missouri Medical Center in Kansas City. “*These are people who are desperate for a cure, and stem cell research offers that promise.*” Farelli pointed out that several hundred physicians around the state had signed petitions supporting the amendment. “*They feel, as I do, that they want to be able to do more to help their patients.*” (3 quotes)

13) **Identification:** Enter the name, title (if any), and affiliation (if any) of each bioethicist quoted directly in the story. Information for the first bioethicist (in order quoted) should be listed in column 1, the second (if applicable) in column 2, the third (if applicable) in column 3, and the fourth (if applicable) in column 4. Examples:

- Patricia G. Saffron, associate professor of biomedical ethics, Case Western Reserve University (*title, affiliation*)
- John L. Smith, bioethicist, the Hastings Center, Hastings, NY (*title, affiliation*)
- Paul A. Sloan, who specializes in bioethics at the University of Chicago School of Law (*affiliation but no title*)
- The Rev. Francis Updike, a Methodist minister and chairman of the medical ethics committee, St. Mary's Medical Center in Dallas (*2 titles, 1 affiliation*)

14) **Credentials, experience, expertise:** Enter any additional descriptive information provided about a bioethicist's background, education, training, credentials, experience, expertise, personal viewpoints, or biases. Information for the first bioethicist (in order quoted) should be listed in column 1, the second (if applicable) in column 2, the third (if applicable) in column 3, and the fourth (if applicable) in column 4. Examples:

- Author of four books about bioethical issues
- Established the medical ethics advisory committee at the University of Miami Medical Center
- Spent several years researching end-of-life cases in Texas
- A noted bioethicist
- A leading medical ethicist
- An expert on organ transplants
- A critic of the blood donation practices of the American Red Cross

15) **Primary role of bioethicists.** Determine the *primary* role of each bioethicist quoted directly in the story. Put a check mark in the box that best corresponds to each bioethicist's primary role. While a bioethicist may play more than one role in a story, identify the dominant role based on the content of the direct quote(s) and their placement within the story. Categories and examples follow:

- Explanation/Context.

To **explain a discovery, development, issue, case, practice, or scientific finding.** Example: "*Sequencing the human genome is like putting together a gigantic jigsaw puzzle. Instead of hundreds of different puzzle pieces, however, sequencing the human genome involves carefully fitting together four amino acids that can be combined in an almost infinite number of ways.*"

Or

To help **place the discovery, development, issue, case, practice, or scientific finding into historical, social, economic, or scientific context.** Example: "*Biotechnology is just a natural extension of the work Gregor Mendel began centuries ago to perpetuate the best characteristics of plants through selective propagation. Any time you eat a tangelo or seedless watermelon or admire a hybrid rose, you come face to face with a product of biotechnology.*"

- **Implications.** To **provide a future-focused opinion or speculation on the implications or consequences** of a scientific discovery, development or finding; a new technology; or an issue, case, or practice discussed in the story. This opinion may be positive or negative. Example: *“If our society allows the cloning of human beings, we may find ourselves at the edge of a slippery slope – without any clue as to what might lie at the bottom.”*

- **Advocate/ Legitimater.**

To **advocate a specific view or position** on a decision, case, issue, technology, discovery, or policy presented in the story. Example: *“Terri Schiavo should be allowed to die with dignity.”*

Or

To **provide authority** that a discovery, decision, practice, product, case, or policy **conforms to social norms or acknowledged moral standards.** Example: *“The health department’s decision to reserve the limited supplies of flu vaccine for the elderly, the very young, and the infirm makes good sense. Other people who get a flu shot anyway will prevent those who need it most from getting one.”*

- **Critic/Skeptic.**

To **criticize a specific view or position** on a discovery, development, decision, case, issue, technology, or policy presented in the story. Example: *“Political officials have no business interceding in the Schiavo case. This is a matter for the courts under the separation of powers established in the U.S. Constitution.”*

Or

To **raise questions or potential problems** about the ethics of a case, discovery, development, decision, issue, technology, practice, or policy. Example: *“What will happen if human embryonic stem cell research goes forward? Who will fund the research? And how many patients will be able to afford to cures they have been promised from stem cell research?”*

- **Arbiter.** To **adjudicate between conflicting viewpoints** presented in the story about a discovery, decision, case, practice, policy, or issue **without the bioethicist presenting his/her own position.** Example: *“While both sides in the debate over human embryonic stem cell research make convincing arguments, the view that cloning embryos for therapeutic research should be allowed to proceed while cloning of embryos for reproduction should be prohibited seems the most rational approach.”*

- **Other.** Other roles not covered by the categories above.

15) **Role of quotes.** If *two or more bioethicists* are quoted directly in a story, do their statements, comments or opinions support or reinforce each other, do they provide contrasting views, or is there no relationship between them? Mark the corresponding space. Leave the space blank if only one bioethicist is quoted directly in the story. Examples:

- *Support/alignment/reinforcement*: Two bioethicists are quoted as saying (in different words) that the benefits of stem cell research outweigh the risks and should be allowed to proceed.
- *Contrast*: One bioethicist is quoted as saying that the benefits of stem cell research outweigh the risks and should be allowed to proceed. A second bioethicist is quoted as saying that stem cell research is moving forward so quickly that society hasn't had enough time to consider the ethical consequences and that a moratorium makes sense.
- *No relationship*: One bioethicist is quoted as saying that the benefits of human stem cell research outweigh the risks and should be allowed to proceed. Another bioethicist is quoted as saying that stem cells were first discovered 100 years ago but were first harvested from human embryos only in 1998. *(Both quotes concern stem cell research, but they don't relate to each other. One offers an advocacy position and the other provides historical context).*

17) **Evidence of involvement by strategic communicators**: In connection with the direct quotes from a bioethicist(s), is there any mention in the story that his/her statements, remarks, or opinions were made:

- In a news release?
- At an event such as a news conference, panel discussion, meeting, conference, symposium, or hearing?
- In a study, report, or journal article?
- Through another communication channel or venue?

If so, put a mark the appropriate box.



## Bioethics as Expert News Sources Coding Sheet

1. Story ID \_\_\_\_\_ 2. Coder number \_\_\_\_\_ 3. Date \_\_\_\_/\_\_\_\_/\_\_\_\_  
 4. Page/Section \_\_\_\_\_ 5. Length \_\_\_\_\_  
 6. Title \_\_\_\_\_  
 7. Byline \_\_\_\_\_

### 8. Primary story topic

Reproductive Issues	
End-of-Life Issues	
Healthcare Allocation	
Medical errors, malpractice, patient safety	
Conflict of interest, fraud, unethical behavior	
Human stem cell research, cloning	
Biotech & genetics	
Animal issues	
Other (explain)	

9. Total number of sources quoted in story \_\_\_\_\_  
 10. Number of bioethicists directly quoted in story \_\_\_\_\_  
 11. Order among sources in which bioethicist(s) is/are directly quoted:  
 #1 \_\_\_\_\_ #2 \_\_\_\_\_ #3 \_\_\_\_\_ #4 \_\_\_\_\_  
 12. Number of direct quotes per bioethicist:  
 #1 \_\_\_\_\_ #2 \_\_\_\_\_ #3 \_\_\_\_\_ #4 \_\_\_\_\_

### 13. Identification

	Bioethicist #1	Bioethicist #2	Bioethicist #3	Bioethicist #4
Name				
Affiliation				
Title				

14. Credentials, experience, expertise

	Bioethicist #1	Bioethicist #2	Bioethicist #3	Bioethicist #4
Background, education, training, credentials, experience, expertise, personal viewpoints, or biases				

15. Primary role of bioethicist(s)

	Explanation, Context	Implications	Advocate, Legitimater	Critic, Skeptic	Arbiter	Other (specify)
#1						
#2						
#3						
#4						

16. If two or more bioethicists are directly quoted, do their quotes:

- Align with, support or reinforce each other \_\_\_\_\_
- Contrast \_\_\_\_\_
- No relationship \_\_\_\_\_
- Other (explain) \_\_\_\_\_

17. Evidence of involvement by strategic communicators

Article/study/report	News release	News conference/ presentation/panel discussion/symposium	Other (explain)

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## VITA

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