To The Graduate Council:

I am submitting herewith a thesis written by Courtney Leigh Craig entitled “Comparing Frames of Cancer and Heart Disease in American News Magazines.” I have examined the final electronic copy of this thesis for form and content and recommend that it be accepted in partial fulfillment of the requirements for the degree of Master of Communication, with a major in Communication and Information.

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COMPARING FRAMES OF CANCER AND HEART DISEASE

IN AMERICAN NEWS MAGAZINES

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Abstract

This study compares and contrasts the way cancer and heart disease were framed in three major American news magazines from 1991-1995 and from 2001-2005. It is a partial replica of a 1992 study by Juanne Clarke titled “Cancer, Heart Disease and AIDS: What Do the Media Tell Us About These Diseases?” Every article about cancer and heart disease from these news magazines in these time periods was analyzed and coded into categories. The study concludes that cancer is a much more personal issue than heart disease; it is portrayed in a way that makes it more “serious” than heart disease. In these stories, cancer patients are affected to their very core by their condition, while heart disease patients are just regular people who have problems with a small part of their bodies. Cancer is represented much more often in the media than heart disease, possibly because of this personal aspect.

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Chapter 1: Introduction

In terms of health coverage, the role of the media is to provide vital information to the people who need it to keep the maximum number of people informed about the disease. While there is debate about how well the media achieve this goal, it is impossible to ignore the plethora of health-related stories that appear in the American news and entertainment media every day. These health messages are transmitted via news, public service messages, and through characters in entertainment programming (Corbett & Mori, 1999). Indeed, an American in tune with the media, meaning someone who follows the news and enjoys television shows and movies, could almost find it difficult to avoid learning about health.

Health stories are very prevalent in print media. Several large daily newspapers, such as the *New York Times* and the *Detroit Free Press*, regularly devote sections to health topics and research. News magazines such as *Scientific American*, *Science News* and *Discovery* translate medical reports into lay terms (Yeaton, Smith, & Rogers, 1990). While the information is there, it is often hard to tell how well it has been reported, how accurate it truly is, and what people will do with the information once they have it.

As with all information that appears in newspapers or news magazines, health information must pass through the gatekeepers, or the reporters and editors who decide which stories will make it to print. If a topic is deemed uninteresting or unnewsworthy, it could go unreported in the media. The importance of topics varies according to the publication and the organization that owns it, and the way these topics are reported varies as well (Donohue, Olien, & Tichenor, 1989). Thus, the gatekeepers' opinions of what is important shape the public's opinion of what is important.

The media simultaneously influence and represent society. They create, and in turn are created by, society (Clarke, 1992). As a major source of information, the media reflect and present the prevailing viewpoints of people. Media portrayal of any disease or health topic can affect the social relations, self-image, and financial situation of a person afflicted with that disease, as well as that person's loved ones (Clarke, 1992). Diseases deemed "important" by the media often get much of the attention, which affects many aspects of the health-care industry, including the influx of donations and other funding contributed to fight the disease.

While health issues have the potential to affect everyone, there is a serious problem in the health-care industry: Increasingly, people are wary of the professionals and industries that provide health care (Shore, 2003). This has created problems for both patients and medical professionals. Medical errors are often reported in the media, which erodes the public's trust of their health care system (Shore, 2003). This mistrust compromises the effectiveness of a health care system already fragmented into separate entities that perform separate functions with different objectives (Shore, 2003). Until the medical community can rebuild its reputation for trustworthiness, people are going to look elsewhere for medical information, such as the media.

This means that the media play an even bigger role in people's perceptions of modern medicine. An estimated 80 percent of American web users have used the Internet to search for health information, meaning they may already know a great deal of information even before visiting their doctor (Hong, 2006). In addition, audiences are bombarded with direct-to-consumer advertising for prescription drugs, which further

changes the doctor-patient relationship (Young & Cline, 2005). Rather than wait for a doctor to prescribe a medication, patients often already know what they want to take.

The two diseases causing the most deaths in the United States today are heart disease and cancer. They are the number one and number two respective causes of death in the country (Clarke, 1992). Cancer is one of the most talked-about diseases in the media; indeed, it is common to see news stories about causes and ways to prevent certain types of cancer, and the disease sometimes affects characters in television shows.

Cancer

The National Cancer Institute (2007) estimates approximately 10.5 million Americans with a history of cancer were alive in January of 2003. Some of these are now cancer-free and some are undergoing treatment. The institute expects that 1,444,920 new cases of cancer will be diagnosed in the United States in 2007, and 559,650 Americans will die of cancer in 2007 (American Cancer Society, 2007).

Cancer provides a lot of fodder for the media partially because of the social and economic ramifications associated with it. Certain races, social classes and countries suffer disproportionately compared with others (Viswanath, Breen, Meissner, Moser, Hesse, Steele & Rakowski, 2006). This is partially because cancer risk factors such as tobacco use, obesity, and infections are more prevalent among lower-income groups of people (Viswanath et. al., 2006). However, knowledge about cancer, and the risks associated with it, is more prevalent among people of higher socio-economic status, leading to a knowledge gap (Viswanath et. al., 2006). Through disseminating information about cancer, the media often aim to close this knowledge gap.

However, to properly educate people about cancer, the media must present the information in a way that is accessible and acceptable to the audience. That is, the way in which information should be presented can vary according to the group of people targeted by a media outlet. For example, certain groups of people like information about cancer to be presented in an easy-to-read format with minimal technical detail and simple wording (Friedman & Hoffman-Goetz, 2006). The source of the information also matters; for example, many African-Americans respond better when a black minister, a black doctor, a traditionally black organization, or a black celebrity delivers the information (Friedman & Hoffman-Goetz, 2006). Cultural sensitivity is an important tool for the media to keep in mind when discussing such prominent health information.

However, there are some who say cancer is overrepresented in the media. For example, studies have shown some women believe they are more likely to develop breast cancer than they actually are (Jones, 2004). Many women believe they are at greater risk for breast cancer, even though the mortality rate associated with heart disease for women is nine times greater than that for breast cancer (Covello & Peters, 2002). Surveys have documented that women fear breast cancer more than any other disease, including Alzheimer's, heart disease, or osteoporosis (Covello & Peters, 2002). This likely stems from the "unknowns" regarding cancer in general, the perceived fear of long and painful treatments, and cancer's near-constant presence in the media.

This behavior can be explained using the Extended Parallel Processing Model of persuasion. According to this model, when people perceive a threat, they take action that will reduce their fear (Witte, 1996). This action can take the form of controlling the threat itself or controlling the way they feel about the threat. Those with high self-efficacy

believe they are capable of avoiding the threat through their own actions. Those with low self-efficacy give in to fear control, meaning they give up on trying to control the situation (Witte, 1996). In health communication, people have different forms of self-efficacy depending on the disease being discussed. With most forms of cancer, media reports reflect environmental or biological causes of the disease, so self-efficacy is low. However, with diseases that have a clear-cut cause such as lung cancer, stories reflect a high self-efficacy because people are able to take charge of the situation.

In news magazines, cancer is often described as a disease that affects the person as a whole, and the person is changed entirely because of it. Once diagnosed, a person is changed forever (Clarke, 1992). A cancer patient and his or her family and friends will often use the media to find out more information about the cancer and join support groups (Mohammed & Thombre, 2005). The media are always offering ways to prevent cancer and pointing out possible causes of cancer. This information overload can worry people, which only leads to the need for more information (Clarke, 1992). The fact that ordinary activities people do every day can cause cancer also compounds the uncertainty surrounding the disease. Since society is often unsure about how to cause or prevent many types of cancer, people are scared of the disease. The fact that we know so little about cancer causes people to be afraid of it, and simultaneously fascinated by it.

Heart Disease

Heart disease is not covered in the media nearly as much as cancer is. While heart disease does receive some media coverage, the attention does not match the mortality rates, which are much higher than those associated with cancer (Covello & Peters, 2002). When public figures or television characters have heart problems, it is usually seen as

treatable and not serious. In fact, Vice President Dick Cheney's public experiences with heart problems provided a lot of joke fodder for late-night talk shows (Compton, 2006). Despite the White House's attempts at turning Cheney's condition into a case study that could educate the public, his health instead made him the butt of jokes portraying him as frail and weak (Compton, 2006).

The American Heart Association (2007) estimates that 79.4 million Americans suffered from cardiovascular disease in 2004, and 871,500 of those died from it. Heart disease, or cardiovascular disease, can include specific diagnoses such as coronary heart disease, stroke, high blood pressure, blood cholesterol, obesity, and diabetes, although many of these diseases may overlap (American Heart Association, 2007). Many Americans are unsure what heart disease is, since it can mean so many things. In fact, heart disease, stroke, coronary arterial occlusions, and various other circulatory system diseases are usually called "heart attacks" (Clarke, 1992). It is used as a generic term.

Interestingly, heart disease is often presented as an isolated problem; it does not change the person as a whole. Heart disease is located in one part of the body, as contrasted with cancer, which is seen as an all-consuming disease (Clarke, 1992). Treatment is seen as optimistic and relatively easy in most cases regarding the heart, and since so many people live with heart disease, the mortality rate is somehow overlooked.

Many women are unaware of the true risks of heart disease, as it is traditionally viewed as more dangerous for men. Heart disease was responsible for 30 percent of the deaths of American women in 1998, whereas breast cancer accounted for 4 percent (Covello & Peters, 2002). In news magazines, heart disease is portrayed as strong, painful and mechanical, meaning it is presented in strictly scientific terms (Clarke, 1992).

However, it is also described as very preventable. Many articles concerning heart disease advocate exercise, especially for those middle-aged and older, and warn against high cholesterol, smoking, high blood pressure, obesity and stress (Clarke, 1992).

While many people perceive themselves to be at risk for heart disease, not many believe they are able to combat the threat (Rimal, 2001). Many see conditions such as heart disease as something that just happens to them, not something they can control. However, when stories regarding heart health are reported in the news media, people respond to it, especially when the treatment is something easy that people can do with minimal disruption to their everyday lives (Molitor, 1993). Therefore, while many people see themselves as powerless against heart disease, they will still do whatever they can to keep themselves healthy.

Media Framing of Cancer vs. Heart Disease

All media stories are framed in some way. Frames are the boundaries in which stories are told; they dictate what topics will be discussed and how they will be presented (Clarke & Binns, 2006). Framing is the selection of "some aspects of a perceived reality and make them more salient in a communicating text, in such a way as to promote a particular problem definition, casual interpretation, moral evaluation and/or treatment and recommendation for the item described" (Entman, 1993, p. 51). How a story is framed can determine how salient the issue will be in the media and how the public will react to the topic. Even if a news story does not directly impact an audience member's personal life, that audience member will be more likely to follow the story if it is explained in terms that the audience can relate to. Putting news stories in a perspective that people will

understand can cause them to be more interested in that story than they would if the story were put in a less interesting frame.

Cancer and heart disease are interesting when contrasted with each other in the media (Covello & Peters, 2002). According to previous studies, cancer gets much more attention in the news. While heart disease is a common topic in health news, it is still perceived as less serious than cancer. Cancer changes the person as a whole, while heart disease changes only a piece of a person. Current and former cancer patients identify themselves as cancer survivors, while heart patients describe their ailment as something tangential in their lives (Clarke, 1992). One is not a "heart disease survivor"; he or she is a person with a heart problem.

Part of the reason we should study the ways heart disease and cancer are portrayed in the media is because news reports regarding the two are often inaccurate. One must remember that journalism is a business and news outlets are always vying for who can break the biggest story first. Unfortunately, that sometimes leads to inaccurate reporting, as time is not always given to ensure the accuracy of a story before it goes to print or air (Molitor, 1993). It is an unfortunate truth that the media often oversimplifies complex issues, no matter what the subject matter, and health coverage is no exception.

Often the media, in a daily rush to meet deadlines and "scoop" other news outlets, fail to include the full context of a story about medical treatments (Covello & Peters, 2002). This can leave the public confused and overwhelmed when faced with the choice of what is best for their bodies. Communication plays a critical role in getting the right information to the right people in the right way, and if proper communication prevails, people can make the best decision regarding diseases such as cancer and heart disease.

Once people are properly informed of risk factors and possible treatments of a disease, the health care system can function much more efficiently and hopefully more lives can be saved.

Purpose of This Study

The purpose of this study is to compare the ways cancer and heart disease stories are framed in news magazines. It is a partial replication of a 1992 study done by Juanne Clark titled "Cancer, Heart Disease and AIDS: What Do the Media Tell Us About These Diseases?" Given the prevalence of both diseases in society, the study should bring to light the personal, societal, financial and emotional aspects of cancer and heart disease. In addition, the study should reveal the differences in the way these diseases are portrayed. If different metaphors are used to describe these diseases, if different moral values are assigned to them, if blame is assigned to the victim when talking about the disease, if the same disease is seen differently in different cultures are all questions to be explored when researching heart disease and cancer. They are the No. 1 and No. 2 medical causes of death in the United States, respectively, and to understand their portrayal in the media is to understand more about what makes them so salient in our society.

RQ1: What are the similarities and differences in the way heart disease and cancer are framed in American news magazines?

RQ2: How have these frames changed over time?

Chapter 2: Theoretical Framework

In general, a frame is defined as a way of "rendering what would otherwise be a meaningless aspect of the scene into something that is meaningful" (Goffman, 1974, p. 21). In news, a frame is a way of telling a story that puts the events into a certain perspective for the audience. The way a story is framed defines how it will be told; the frame determines what will be discussed, how it will be discussed, and what will not be discussed (Clarke, 2005). Framing a story can be described as selecting "some aspects of a perceived reality and mak[ing] them more salient in a communicating text, in such a way as to promote a particular problem definition, casual interpretation, moral evaluation, and/or treatment recommendation" (Entman, 1993, p. 52). Frames are used in all media, including print, television, radio and Internet. A frame is also defined by what is excluded from it; the inclusion of some points and the exclusion of others can make a frame what it is.

Framing theory posits that not only do the media tell us what to think about, but they also tell us how to think about it. Choosing a particular frame for a story can affect the saliency of the story and affect the audience's attitude toward it (Dominick, 1998). Frames allow the audience to assign meaning to a story (Littlejohn & Foss, 2005). They put stories in a perspective to which audiences can relate. Frames also help the audience understand the consequences of an event or trend. For example, after the September 11, 2001 terror attacks on the United States, President George W. Bush used the word "evil" 5 times and "war" 12 times in his next State of the Union Address (Entman, 2003). Repeating these words was a White House strategy to promote a frame for the attacks; it was an attempt to unite the country behind his plan for the subsequent invasion of Iraq.

In health stories, the most widely used frames are medicine, political/economy, and lifestyle (Clarke, 2005). The medicine frame highlights the scientific aspect of the disease, without touching on the moral or personal experiences associated with it. Research and medical breakthroughs for the disease are often discussed. The political/economy frame discusses the disease in terms of its causes and implications outside the individual. These stories highlight the ways people with the disease live, such as in poverty. The lifestyle frame focuses most on personal stories and individual responsibility, including diet, exercise and smoking (Clarke, 2005). The same story can be transformed into something completely different simply by using a different frame.

Chapter 3: Literature Review

Cancer

Cancer is a salient issue in American society, permeating all forms of media. Indeed, it is the third most popular topic in the 321 articles published in the journal *Health Communication* in its first 10 years, 1996-2006. Thirteen articles printed over that time were cancer-specific (Freimuth, Massett, & Meltzer, 2006). It is talked about in the news as well as in entertainment media. As advocates of cancer education seek to inform the public about different forms of the disease, they agree that multiple forms of media are necessary for maximum effect (Rimer, 2000). However, they also agree that messages in these different media should be complementary and consistent.

Those seeking information about cancer now have several options in how they can get that information, and more effective communication can lead to diminished mortality rates from that disease (Nelson, Kreps, Hesse, Croyle, Willis, Arora, Rimer, Viswanath, Weinstein, & Alden, 2004). No matter where communication occurs, the message should be tailored in a way that makes it the most effective. Those with a personal or family history of cancer are more likely to seek out information about the disease than those without that history, and women are more likely than men to seek out information about cancer (Shim, Kelly, & Hornik, 2006). The trick to making an effective message is to target the people who don't already know a lot about the disease.

In a study by Sharf, Freimuth, Greenspon, & Plotnick (1996) into the effects of a storyline involving a major character's cancer on "Thirtysomething", it was shown that people took the fictionalized account and applied it to their own lives, using television as a teacher about health issues. Fictional portrayals of diseases can serve as opportunities

for viewers to consider their own attitudes toward those diseases (Sharf et al., 1996). Portraying cancer on television also brings the disease into people's homes and their everyday lives; it increases awareness of the disease. This was also the case on "NYPD Blue" where the main character, Andy Sipowicz, dealt with prostate cancer. The portrayal was accurate in that Sipowicz would be a prime candidate for prostate cancer– he is over 50, overweight, and works in a stressful job (Arrington & Goodier, 2004). The disease took a toll on his work as well as his family life. The mere presence of the story line gives audiences a glimpse into the experience of having such an illness and the importance of family support (Arrington & Goodier, 2004).

The way cancer is portrayed depends on the medium as well as the type of cancer and who it affects. A study of news magazine articles covering children's cancer found that science magazines, such as *Discover* or *Science Digest*, framed the stories in terms of genetics, possible environmental causes of cancer, and treatments. Meanwhile, special interest news magazines such as *Time* and *Newsweek* focused more on social issues surrounding cancer, such as charities and camps for kids with cancer (Clarke, 2005). However, in all types of magazines studied, the children suffering from cancer were described as heroic, brave and physically attractive, with rare mention of the hardships faced during treatment. Research shows that there is a stigma attached with having the disease, yet these media paint a largely rosy picture of childhood cancer (Clarke, 2005). This serves to further the social gap between "normal" children and those with cancer.

News stories also vary according to who the target audience is. For example, a story intended for smokers over 40 will be written and interpreted differently than a story intended for teenage smokers (Lang, 2006). The most effective messages have a clear

target and will be portrayed in a way that appeals to that target. In addition, the way messages are processed varies according to the individual. Studies show that those who are susceptible to smoking habits—that is, those who have previously experimented with tobacco or have a high number of friends who smoke—process anti-smoking messages differently than those who are not as susceptible (Miller, Burgoon, Grandpre, & Alvaro, 2006). Many sensation-seeking behaviors that can lead to cancer, including smoking, alcohol and unprotected sex, should be considered important information for media trying to get across a preventative message (Stephenson & Southwell, 2006). These factors deserve attention when the media are creating messages.

Another study found that the most prominent theme in 336 American newspapers regarding teenage smoking is the adverse health effects associated with smoking, particularly lung cancer (Smith & Wakefield, 2006). Many newspaper articles portrayed tobacco companies as evil, while young smokers were seen as vulnerable and at the mercy of these companies (Smith & Wakefield, 2006). Overall, coverage focused on positive events, such as anti-tobacco education efforts (Smith & Wakefield, 2006). Few serious issues, such as sufferers of lung cancer who began smoking in their teens, are covered.

Colorectal cancer is the second most frequent cause of cancer death in the United States (American Cancer Society, 2005), yet screening rates remain low. A study measuring the effects of print campaigns advocating colorectal cancer screenings found that the number of screenings did not change substantially as more print materials were distributed (Marcus, Mason, Wolfe, Rimer, Lipkus, Strecher, Warneke, Morra, Allen, Davis, Gaier, Graves, Julesberg, Nguyen, Perocchia, Speyer, Wagner, Thomsen, &

Bright, 2005). Upon further examination, researchers concluded that more detailed descriptions of the benefits of screenings may have prompted people to visit their doctors (Marcus et al., 2005). While most people are aware of the different types of cancer, few take the measures to make sure they are not afflicted with it.

This is evident in a study involving Asian-Americans who have a low sense of personal risk for cancer (Nguyen & Bellamy, 2006). Since Asians are actually at higher risk for some cancers than other races, this could be a false sense of security (Nguyen & Bellamy, 2006). Even though most Asian-Americans are aware of the correlation between smoking and lung cancer, they still had lower knowledge than whites about the risk of getting colon cancer by smoking (Nguyen & Bellamy, 2006). This is an example of how messages can be tailored to certain audiences. Similarly, when a communication campaign aimed to get Hispanic women living in the Southwest to get Pap smears was implemented, approximately 10 percent of the women complied (Ramirez, Villarreal, McAlister, Gallion, Suarez, & Gomez, 1999). In a large population, this could significantly lower the number of cancer deaths.

A study of a communication campaign that aimed to lower the number of smokers in Texas found that community-level campaigns combined with a mass media appeal was a successful approach; the smoking reduction rate tripled that of areas receiving no campaign (McAlister, Morrison, Hu, Meshack, Ramirez, Gallion, Rabius, & Huang, 2004). A similar campaign aiming to curb marijuana use among teenagers found that the content of the message could influence the outcome (Stryker, 2003). In any case, appropriate messages must be tailored to each audience.

Breast cancer is one of the most covered forms of cancer in the media. As a result, it is also a popular topic for academic study. Women are educated about breast cancer through many avenues, including television, magazines, newspapers, and information found in doctors' offices (Jones, Denham, & Springston, 2006). Women's magazines contain a great deal of information on breast cancer, although these stories usually focus on personal stories, not medical aspects of the disease. Women also obtain information through interpersonal communication with others, and those who communicate regularly about cancer are more likely to adhere to screening practices (Jones et al., 2006). News about breast cancer can also be found on the Internet. Women may learn about the disease through online forums or blogs (Orgad, 2005). Taking into account all these different sources, news about breast cancer seems to be everywhere. Increased awareness of breast cancer brought about by the news media and celebrity spokespersons has led to increased funding for breast cancer (Corbett & Mori, 1999). This funding provides even more fodder for the media to cover. Thus, media are an essential part of awareness for women about breast cancer.

Part of the awareness takes the form of breast self-exams, although some say the advocacy of these places responsibility for preventing breast cancer on the victims themselves rather than the medical community (Kline, 1999). Even though some say the practice of breast self-exams is disempowering to women because it seems to "blame" breast cancer patients for not catching the lump early enough, it continues to be advocated in the media (Kline, 1999) Women are still often advised to get early and frequent mammograms. Mass communication about breast cancer has been shown to increase the number of women adhering to cancer screening by two percent (Yanovitzky

& Blitz, 2000). Over time, this can translate to a large number of women who could survive breast cancer because they and their doctors detected it early.

Stories about breast cancer can be found in virtually all media. These stories may take the form of news reports, human-interest articles, or "illness narratives," which is how the Australian media chose to portray pop singer Kylie Minogue's struggle with breast cancer in 2005 (Bonner & McKay, 2006). Minogue's story was told in an extremely personal way, focusing more on her feelings about the disease than the disease itself. News stories on breast cancer in Australia are infrequent compared to American media, and the rate of mammograms and other screening techniques in Australia is lower (Jones, 2004). This trend underscores the importance of media in distributing health information.

News about breast cancer may also be included in articles about other things, such as breast implants. A study (Andsager & Powers, 2001) of four women's magazines concluded that stories about implants focused more on the financial aspect of implants rather than the medical dangers. Even after the FDA released information about the possibility that implants cause cancer, articles in these magazines remained mostly positive (Andsager & Powers, 2001). The magazines avoid issues that are controversial and could offend readers.

Surveys have shown women exaggerate perceptions of their risk of getting breast cancer (Covello & Peters, 2002). Breast cancer is more dreaded; it is also a "blameless disease" because its risk factors cannot be attributed to personal choices, unlike heart disease or lung cancer. It is considered the quintessential women's disease (Covello & Peters, 2002). The heightened sense of dread about a disease that affects relatively few

women in relation to heart disease highlights the discrepancy between reality and the media.

The popularity of breast cancer is evident when compared with coverage of other forms of cancer. A study shows there were 10 times as many breast cancer articles as prostate cancer articles in the top 10 circulating magazines reflected in the *Reader's Guide to Periodical Literature* (Clarke, 1999). This could be explained by looking at these magazines' target audiences and seeing how many of them target women. However, there are many similarities between the two diseases. Many of the same themes are there: The camaraderie among patients, the long and painful treatments, and the gender-specific nature of the disease (Clarke, 1999). Yet for all their similarities, breast cancer gets much more attention.

Heart Disease

As heart disease is a major cause of death in the United States, anything regarded as a significant breakthrough in heart disease research is usually pounced on by the media. Such was the case with a *New England Journal of Medicine* report that claimed people who took one aspirin pill a day had 47 percent fewer heart attacks than those who did not (Molitor, 1993). In this case, the media reported the story before physicians or the Food and Drug Administration could corroborate the story. A 1993 study concluded that many news outlets were guilty of oversimplifying the story to sensationalize it (Molitor, 1993). The media often latch on to health-related stories because they are popular among audiences, but sometimes fail to explain the situation in its entirety. Such is the case with many health-related stories.

Most articles in Canadian mass-circulation magazines regarding heart disease focus on treatments, lifestyle choices, or the frequency of heart disease among certain subgroups, such as biological sex or occupation (Clarke & Binns, 2006). Latent themes that emerged in this content analysis included optimism about medicine, the "good" of medicine winning over the "bad" body, and individual responsibility to one's health. In virtually all articles studied, the medical model is never criticized or called into question. Doctors are portrayed as heroes while patients are held responsible for bringing heart disease upon themselves (Clarke & Binns, 2006). It is possible that these themes in the media could cause fear among readers, undermining people's capabilities to take care of themselves. There are times when the call for a change of lifestyle is undermined by criticism of something else, such as the government's cutting back of physical education in schools, but many times the responsibility to avoid heart disease comes down to the individual (Higgins, Naylor, Berry, O'Connor, & McLean, 2006).

In response to the media's call for individual responsibility, consumers have long been changing their dietary habits to be more heart-friendly. A survey of food consumption revealed a decrease in saturated fat, total fat, and cholesterol during the late 1970s and early 1980s, with increased decline in the late 1980s (Ippolito & Mathios, 1994). Another study of nutrition information found that when favorable health information is associated with a certain type of food or restaurant, consumers have a more positive attitude toward it (Kozup, Creyer, & Burton, 2003). For example, Subway restaurant chain launched a diet craze with its advertising campaign featuring Jared Fogle, who lost 245 pounds by eating low-fat Subway sandwiches for every meal (Macarthur, 2004). Since then, Subway has boosted its profits through ads that advocate

healthy lifestyles (Macarthur, 2004). People respond well when they feel their risk of heart disease is lower.

Studies have shown that there is a knowledge gap between different socioeconomic classes when it comes to education about heart disease. However, when information is readily available, the knowledge gap closes (Ettema, Brown, & Luepker, 1982). When heart disease is prominent in the media, people process and retain the information about it more than they do when it is not prominent in the media. Motivation to acquire information is a key element in closing a knowledge gap, and the media can help motivate people to learn by making heart disease a more salient issue (Ettema et al., 1982). In many cases, the desire to seek information comes down to the amount of education that person has.

Communication plays a key role in the medical field because it connects medical professionals with the public (Rogers, 1996). This sort of tie can lead to a better-informed public when it comes to heart disease and other diseases. Education and income strongly influence information-seeking behavior, regardless of whether the person suffers from a certain disease (Ramanadhan & Viswanath, 2006). Age and race also play roles. Certain diseases most often occur to people who have reached a certain age, while others are seen more prominently in people of a certain race.

Even though heart disease is more common, cancer is featured more prominently in the media (Covello & Peters, 2002). Heart disease was responsible for 654,092 deaths in 2004, while cancer caused 550,270 deaths (National Center for Health Statistics, 2004). All the attention given to cancer, especially breast cancer, has skewed perceptions of its risks, while women remain relatively unconcerned about heart disease.

Chapter 4: Methods

Three American magazines in national circulation were chosen based on their news content and high readership. These include *Time*, *Newsweek*, and *U.S. News and World Report*. The Academic Search Premier database was used to locate all articles published in these magazines pertaining to cancer or heart disease from 1991 to 1995 and from 2001 to 2005. These time frames were used to compare the ways cancer and heart disease were framed in the early 1990s in contrast to the way they were framed in the early 2000s. It is important to examine the changes in the frames over time because the science and societal aspects of both these diseases have changed so much.

The articles were obtained using the Academic Search Premier online database. Using the keywords "cancer" and "heart disease," all the articles dealing with these diseases in these three magazines between 1991-1995 and 2001-2005 were printed. The total came to 1,401 articles. Those articles that did not deal directly with cancer or heart disease, i.e. those that mentioned the diseases but did not address them directly, were eliminated. The final number of articles came to 825, although many of them were only short sentences or paragraphs. 383 of these were short snapshot articles on health, while 442 were full-length stories.

The articles were analyzed using content analysis. The analysis was inductive rather than deductive; a research question was inferred as data were collected rather than starting with a research question and seeing if the data did or did not support it. The study was strictly qualitative.

This study was established as a partial replica of Juanne Clarke's 1992 study, "Cancer, Heart Disease and AIDS: What Do the Media Tell Us About These Diseases?".

Clarke analyzed frames of cancer, heart disease and AIDS in six mass-circulating magazines, *Maclean's, Newsweek, Time, Reader's Digest, Ladies Home Journal,* and *Good Housekeeping*, taking articles from 1961-66 and 1980-85. Clarke randomly selected five articles for each year on each of the diseases.

This partial replica focused only on cancer and heart disease because AIDS has changed so much since the 1980s that it warrants a separate study. In an effort to update Clarke's research, the researcher chose to pick articles from 1991-95 and from 2001-05. The researcher also chose to include only articles from *Time, Newsweek,* and *U.S. News & World Report* because the study focuses on news stories and these are the three largest news magazines in the United States, whereas *Maclean's, Reader's Digest, Ladies Home Journal* and *Good Housekeeping* are not widely considered sources of news.

All articles concerning cancer and heart disease from *Time*, *Newsweek*, and *U.S. News and World Report* were read and themes were identified; the researcher then established commonalities and differences between the articles from the early 1990s and the articles from the early 2000s. Coding categories were created by reading all the articles and keeping a list of the themes that could be identified, then marking the most prevalent themes as coding categories. In some instances, two similar themes were combined into one coding category. One article could sometimes include more than one coding category, while other articles could sometimes not fall into any category.

The following coding categories emerged:

1. Personal responsibility for preventing the disease. Whenever an article mentioned something people could do on their own, at home, to prevent a disease, it was coded into this category. This included healthy food and drink, over-the-counter medicine

and vitamins, and exercise. This proved to be the most popular category, emerging more in later articles.

2. New treatments and medical breakthroughs. Whenever an article mentioned something doctors or researchers are doing to combat a disease, it was coded into this category. It is differentiated from the personal responsibility category by being something people cannot do on their own, but that doctors can do for them. These stories are set in clinics or hospitals.

3. Biological or environmental causes of the disease. This category was used when a disease is caused by something other than a personal habit, such as family history or the environment around a person. In many cases this category was represented when the news media reported a contaminant in the air or soil that was caused by a factory or other business, causing disease in the workers or the residents of that area.

4. Financial and/or political aspects of the disease. This category emerged when money and/or politics played a role in the reporting of a disease. This can include hospital bills, insurance bills, government policies, political donations in the name of a disease, etc.

5. Euphemisms and other ways of referring to the disease. Cancer and heart disease are often described using metaphors and similes that help establish the tone of the story. Whenever a disease is compared to something else, this category emerged. Often the comparisons are to something sinister or evil.

6. Who the victims of the disease are and how it affects them personally, financially, and socially. Whenever a story includes a personal interview with a person

who is affected with a disease, it falls into this coding category. This also applies to name-dropping of celebrities or other people who have had the disease.

To calculate inter-coder reliability, one additional coder read and analyzed 96 articles, or roughly 11% of the total number of articles. Eight consecutive articles from each time period from each news magazine were analyzed. Since this came out to more than 10% of the total articles, the researcher believed this to be an appropriate number. The articles were chosen based on their length, as the researcher wished for the second coder to analyze both short and long articles, and how well they exemplified the coding categories.

Approximately one hour of training was conducted by the researcher to educate the second coder on the practice of coding and the definitions of each coding category. The second coder was given a list of the coding categories and then read and assigned categories to each of the 96 articles. The researcher and the coder each identified the one category they felt best exemplified each article. These categories were numbered one through six. The researcher entered her own results into SPSS and then entered the second coder's results into the same program, then used SPSS to calculate Scott's pi for reliability. On the first try, the results came to 77.8% reliability.

Recognizing this as an inadequate rate for inter-coder reliability, the researcher and coder further discussed the categories and resolved their disagreements. Then, the coder re-analyzed the 96 articles. The researcher and coder also decided to allow the use of multiple coding categories for the articles; that is, one article could exemplify more than one coding category, since this was the case in the larger population. Using the new

data, Scott's pi was calculated again using SPSS. This time, the result came to 80% reliability.

Since this study is a qualitative research, the inter-coder reliability rate is not an exact science. However, given that 80% agreement is regarded as an acceptable rate for this type of study, the researcher finds it acceptable.

Chapter 5: Results

The most dominant frames that emerged in this study were personal responsibility and medical breakthroughs, particularly in 2001-2005. More articles were written in the later time period about cancer and heart disease, but these two coding categories appeared more often as well. Biological and environmental causes of the diseases made a strong showing, while financial/political aspects, euphemisms, and identities of victims were not seen as often.

From 1991 to 1995, there were a total of 342 articles in the three news magazines on cancer and 85 articles on heart disease. From 2001 to 2005, there were 366 articles about cancer and 232 about heart disease (Table 1).

Cancer: Prevention/Personal Responsibility

With stories about cancer, the issue of prevention almost always takes the form of what types of food and drink are good for preventing cancer and what could cause it. This is true in articles from both the early 1990s and the early 2000s.

> Take another look in the pantry: it might be a drugstore. Six of the latest hot health foods are common, garden-variety foodstuffs, from garlic to celery and – sorry, George Bush – broccoli, that show uncommon potential for preventing cancer (Horowitz & Donley, 1991, p. 66).

In addition to recommendations about what types of food and drink are healthy, many stories emphasize the importance of exercise and the dangers of smoking.

Table 1: Coding Categories by Year and Publication

	Personal Responsibility	Medical Breakthroughs	Biological / Environmental Causes	Financial / Political Aspects	Euphemisms for Disease	Identities of Victims
Time 1991-95 Cancer	29	38	31	20	16	24
Time 1991-95 Heart Disease	14	6	2	2	3	4
Time 2001-05 Cancer	39	29	19	13	22	21
Time 2001-05 Heart Disease	39	19	13	0	7	15
Newsweek 1991-95 Cancer	9	19	10	7	12	15
Newsweek 1991-95 Heart Disease	4	3	4	3	1	2
Newsweek 2001-05 Cancer	24	25	3	7	21	21
Newsweek 2001-05 Heart Disease	26	14	6	5	9	11
U.S. News 1991-95 Cancer	26	29	16	19	10	19
U.S. News 1991-95 Heart Disease	15	10	5	3	4	2
U.S. News 2001-05 Cancer	29	41	8	8	18	19
U.S. News 2001-05 Heart Disease	26	7	10	4	10	11
TOTAL 1990s Cancer	62	86	57	43	38	56
TOTAL 1990s Heart Disease	34	19	10	8	7	8
TOTAL 2000s Cancer	92	94	30	28	61	61
TOTAL 2000s Heart Disease	91	40	29	9	26	37

> Medical science still has a lot to learn about the best ways to prevent cancer. But the best-known measures include avoiding tobacco products, limiting alcohol to one or two drinks per day, eating a diet full of fruits and vegetables, maintaining a healthy body weight and exercising regularly (LeWine, 2005, p. 66)

Stories about healthy food and drink choices are somewhat common, but for the most part, personal habits are not much of a factor in cancer prevention stories. Stories about healthy foods and drinks usually show only a tenuous indication of a link with cancer prevention (Begley & Springen, 1994, p. 44; Findlay, 1992, p. 63; Song, 2003, p. 149; Underwood, 2005, p. 79). The great exception to this rule, however, is smoking.

> Both [doctors] push the lifestyle recommendations – exercise, weight control, no smoking – for cancer risk reduction (Hobson, 2002, p. 68).

Stories about cancer, whether they are explicitly about lung cancer or not, almost always include a sentence or two about the dangers of smoking (Bjerklie, 2002, p. 91; Hobson & McGrath, 2005, p. 75). Even short snapshot articles on cancer often urge readers to quit the habit.

> Smokers who hope their genes will protect them should think again: The theory that lung cancer is triggered in part by bad genes has been deflated by a new study (Lemonick & Lofaro, 1994, p. 21)

The push to convince people to give up smoking is prominent throughout all the studies, in both the early 1990s and early 2000s.

> If you had resolved to quit smoking this year, you've already probably given up. But a new Cornell study of almost 2,500 smokers ought to

> encourage you to keep trying, especially if you're female. The results show that women are twice as likely as men to get lung cancer (Carmichael, 2004, p. 80).

Another example of personal responsibility is found in stories about skin cancer. Although there are not as many stories about sun exposure as there are about smoking, many articles still encourage readers to use sunscreen and wear protective clothing.

> The best advice? Avoid the sun when it's most intense, and if you must go out, wear tightly woven clothing and a wide-brimmed hat (Harder, 2001, p. 51).

Personal responsibility is certainly a prominent theme in stories about cancer, but it is not as widely represented as some other themes.

Cancer: Medical Breakthroughs

Medical breakthroughs in cancer research are seen as exciting and new, but tentative. This emerged as one of the most popular coding categories, as cancer research is a large field and studies are always being reported (Farley, 1993, p. 20; Rubin, 1995, p. 87; Tyre, 2004, p. 66). It is possible that this is related to another coding category, political/financial aspects of the disease, because of the large amounts of money in the world of cancer research (Sobel, 2002, p. 48). Many of the stories in earlier editions of these news magazines focus on isolating cancer genes so doctors can better understand cancer.

> Researchers have found a faulty gene that may be a cause of most prostate cancer. The defect prevents cells from making an enzyme that fights off

> carcinogenic chemicals. The discovery could lead to better blood tests and even a drug treatment for the disease (Adams & Lemonick, 1994, p. 26).

In other words, there is a large focus on the disease itself as well as the issues surrounding it.

> If researchers can zero in on BRCA1 within the next year, as expected, simple blood tests may soon enable any woman with stricken relatives to gauge her own risk. And by illuminating the mechanics of familial breast cancer, the discovery could expand our general understanding of the disease. Scientists are thrilled by the prospect; James Watson, one of the founders of modern genetics, has called BRCA the most exciting quarry in medical science (Cowley & Spingen, 1993, p. 46).

However, as time goes on, the articles focus increasingly on cancer treatments and how they can be made more comfortable for the patient. Chemotherapy is seen as a lengthy and painful treatment, and any medical breakthroughs to make this process easier are seen as life-saving beacons of hope.

> Yet the drug, which is now the top-selling antitumor medication in the world, actually represents a step back from Levy's original idea and his current project: developing highly specific treatments customized for the unique signature of each patient's disease (Hobson, 2004, p. 126).

Even the techniques used to screen for cancer are becoming easier and less painful for patients, and many stories in the news media focus on that.

> Been putting off that colonoscopy? Plenty of folks do, which helps explain why colon cancer claims 57,000 lives a year. Now there may be an

> alternative. Last week the New England Journal of Medicine published a major study on a new 3-D "virtual colonoscopy." … Unlike the earlier 2-D colon scans, the 3-D version proved just as reliable at detecting polyps as the standard endoscope up the you-know-what (Underwood, 2003, p. 69).

As time goes on, the media's focus shifts more toward how medicine can accommodate the patient more than how it can cure the disease.

Cancer: Biological/Environmental Causes

The causes of different types of cancer are largely attributed to biological or environmental factors, not personal responsibility (Farley & Lange, 1993, p. 17; Gorman, Horowitz, & Park, 2002, p. 80; Howard & Cerio, 1994, p. 6). Again, the exception to this rule is lung cancer – while there are a few stories about secondhand smoke or other causes of lung cancer, cigarette smoking is pinpointed as the most popular cause and smokers are nearly always urged to quit.

> Women who smoke run a 25% greater risk of dying from breast cancer than non- and ex-smokers, according to a new survey. Earlier research had suggested smoking might give a measure of protection against breast cancer as it decreases estrogen levels (Dickstein & Farley, 1994, p. 18).

Sometimes these environmental causes of cancer overlap with political and financial stories, such as in cases where a byproduct of a local business is found to cause cancer in those who work in that business or live nearby.

> Offering the strongest evidence to date, a study of half a million people in 116 cities shows that long-term exposure to tiny soot particles from coal-

> burning power plants and diesel engines raise the risk of lung cancer some 20% -- comparable to the effect of living with a smoker (Horowitz, 2002, p. 74).

Family history plays a small role in the biological causes of cancer, but most stories focus on how to map out a person's likelihood of getting cancer (Andrews, 2005, p. 72; Gelman & Friday, 1993, p. 62; Springen, 2001, p. 43; Watson, 1994, p. 59). However, stories about biological and environmental causes of cancer seem to tiptoe around the issue of personal responsibility.

> After five years, the body become resistant to tamoxifen's effects. At that point, women stop taking it, cross their fingers and hope for the best (Park, 2003, p. 81).

Even in stories that investigate the link between cancer and a personal choice, such as the decision to get breast implants, the blame is placed on the implants themselves, not the person who decided to get them.

> Craft is one of more than 2 million American women with breast implants. Eighty percent just wanted to improve their figures; the others got implants to reconstruct a breast lost after surgery or an accident. Undoubtedly these women assumed their implants had been tested for safety. But the astonishing fact is that breast implants have for almost 30 years enjoyed a completely unregulated history (Seligmann & Yoffe, 1991, p. 56).

Many patients featured in these stories are women who have had reconstructive surgery following a mastectomy, not people who elected to get breast implants for

cosmetic reasons. Whether the woman received implants as reconstructive therapy or for non-medical reasons, the blame is never placed on the patient in these stories.

> Susan Cox, 49, was horrified. After a death-defying battle with breast cancer and a prolonged recovery that included reconstructive surgery, the Chicago nurse learned last week that the very implant used to repair her breast could raise her risk of developing cancer once again. “It hit me like a club,” said Cox. “Am I going to have to lose my breast twice?” (Purvis, 1991, p. 70).

In other words, when given the choice between focusing a cancer story on the choices of the patient or the thing they chose, stories will often focus on the thing rather than the person.

Cancer: Financial/Political Aspects

Cancer has many political and financial aspects. Politics and business are often linked together in the same stories, especially when large amounts of money are involved.

> Radiologists worry loudly that their field is being eviscerated. They point to the growing number of licensed physicians who have abandoned mammography, forced out of their practices by low reimbursement costs and high malpractice costs. They have a powerful ally in Senator Tom Harkin of Idaho, who lost two sisters to breast cancer and is scheduled to introduce a bill in Congress this week that would boost payments for mammograms and provide incentives for radiologists to stay in the field (Gorman, Cray, Park & Thompson, 2001, p. 78).

In these stories, the blame is always placed squarely on the businesses, not the cancer patient (Meyer & Murr, 1994, p. 36; Schultz, Sherrid, & Hobson, 2002, p. 18). This is especially evident in the stories on lawsuits against the tobacco industry, which were numerous in the early 1990s

> The California Democrat's staff placed TV cameras so views of the tobacco seven would include pictures of oral-cancer patients and a placard that read "One American dies every 80 seconds from tobacco use." The CEOs denied claims that cigarettes are "spiked" with nicotine ("Congress puts tobacco on trial," 1994, p. 18).

Some articles concerning business and politics, however, take a more personal approach to cancer patients and business in the form of insurance claims. In these stories, the patients are always the ones courageously facing a life-saving treatment, while the insurance companies are concerned only with trimming costs.

> Patients such as Brenda Miller, a mother of three who lives in Portsmouth, N.H., suffer the consequences. Miller's doctors told her that her best chance of surviving advanced breast cancer would be to bombard her body with large doses of chemotherapy drugs before receiving a bone marrow transplant. But New Hampshire Blue Cross/Blue Shield refused to pay for the $100,000-plus procedure, calling it experimental (Findlay, 1991, p. 80).

Voices of cancer patients are heard loud and clear by politicians. In response, the government steps out with shows of support for cancer awareness and research. One example of this is the establishment of National Mammography Day, which was touted

by politicians everywhere (Gorman & Horowitz, 1993, p. 74). But the political frame appears strongly when a controversial issue is at stake, such as the 1994 study linking abortion to breast cancer.

> But when a study says that having an abortion can increase a woman's risk of getting breast cancer, science cannot be guaranteed silence. Months before the report's scheduled publication this week, pro-life groups laid plans to trumpet the seven-year study's findings. In the opposition camp, pro-choice groups marshaled the statistics they needed to defuse the new findings (Gorman & Weingarten, 1994, p. 61).

Controversial issues make for well-read news stories. However, since the abortion debate is one of the only controversial matters to concern cancer, this frame is not seen as often as others.

Cancer: Euphemisms

Cancer is personified in stories. It is seen as a stealthy, secret, silent, unwanted intruder in the body (Brownlee & Watson, 1994, p. 79; Cowley & Ramo, 1993, p. 68; Lemonick, Park, Cray, & Gorman, 2001, p. 56; Ulick, 2005, p. 46). It is often portrayed as a terrifying, nightmarish invader.

> For several decades now, we've heard that cancer will soon be manageable if not curable, and that future patients will forgo mutilating surgery and toxic chemotherapy in favor of treatments that annihilate tumors without fazing healthy cells (Cowley, Raymond, & Davis, 2001, p. 66).

War imagery is included in nearly every story about cancer; patients and doctors "battle" cancer and victims are "fighting" for their lives against it (Buckingham, 2002, p. 20; Gorman, 1992, p. 50). During his administration in the early 1970s, President Richard Nixon even declared a "War on Cancer" (Sobel, 2001, p. 42). Furthermore, cancer is portrayed as puzzling and mysterious as well as aggressive and menacing.

> Melanoma is the most menacing of skin cancers. Masquerading as a freckle, it can wreak havoc without any symptoms. If it's not caught early, major organs can become riddled with the disease. It's a cancer that usually strikes people in the prime of their lives, and the five-year advanced-melanoma survival rate is grim (Lennon, 2004, p. 14).

"The Big C," as cancer is often called, changes a person forever. Someone who has been diagnosed with cancer is routinely called a cancer survivor. The person is changed forever after a cancer diagnosis, and life is never the same after treatment. These stories become more personal over time.

> If the immune system is the body's defending army against foreign invaders, then cancer cells are Stealth bombers. For reasons not yet fully understood, tumors manage to elude the immune system's radar. Patients must turn to chemotherapy, radiation and surgery to eradicate their cancer (Rubin, 1995, p. 87).

Whereas stories in the early 1990s focused more on prevention, treatment and other scientific aspects of the disease, later stories in the early 2000s really put cancer in a personal light. There are more stories in general in the later years, but these stories are also more about personal stories and less about the science behind the disease itself.

> One cannot underestimate how debilitating cancer and its long months of treatment can be, both physically and mentally. When sturdy muscles melt away and grinding fatigue interferes with everyday tasks, it's easy to get discouraged, even depressed (Healy, 2003, p. 42).

As time moves on, there is a definite change from describing cancer in scientific terms to describing cancer in personal terms.

Cancer: Identities of Victims

Cancer affects all different types of people, but with full-length stories, a personal story is almost always attached to it, often in the lead.

> Until a potluck dinner in 1989, Linda Reyes saw herself as just another angry breast-cancer victim. The San Francisco editor and mother of five had suffered through months of aggressive, nauseating chemotherapy to quell the tumors that had spread to her bones and lungs, and she had grieved as member after member of her support group succumbed (Lord, 1992, p. 67).

Nearly always, these people are in their 30s or 40s, they are parents with young children, and they have respectable, middle-class careers. The stories do their best to make the patients relatable to the audience and make them seem like someone everyone would know. Celebrities who have dealt with the disease, such as Lance Armstrong, Melissa Etheridge, or Katie Couric, often take center stage and urge people to visit their doctors for cancer screenings.

> As he prepares to pursue his sixth consecutive Tour de France title, Lance Armstrong is once again a man in a hurry, which benefits a man who has

> been rushing through life-altering crises and changes. He beat advanced cancer at age 26 and won his first Tour two years later. … Throw in an Olympic gold in August, and Armstrong will have lived a full life in the years since disease threatened to shorten his. His mantra: Don't make any long-term plans (Saporito, 2004, p. 118).

Oncologists are portrayed as heroic and ever-vigilant in the fight against cancer.

> That mission is nothing less than the war against cancer. Leppla's team, armed with the tools of modern molecular biology, is tinkering with the toxin to send it on its next assignment: destroying tumors (Sobel, 2002, p. 58).

Patients are human beings with their personal lives delineated in detail, and they are all good people with families who are deserving of happiness and good health. Childhood cancer is portrayed as unfair and horrible, and children are helpless victims (Quinn & Cole, 1992, p. 73).

Heart Disease: Prevention/Personal Responsibility

With stories about heart disease, prevention is always a prevalent theme. Nearly all stories that mention heart disease also mention the importance of a healthy diet and daily exercise, as well as the dangers of smoking (Elliott, 1995, p. 42; Findlay & Kritz, 1991, p. 57; Spake, 2005, p. 72; Underwood, 2004, p. 72-73). Even short "Focus on Health" snapshot articles in news magazines make sure to urge readers to take personal responsibility for their own health.

> You can, however, decrease your risk of developing an aortic tear the same way you decrease your risk of heart disease – stop smoking, start

> exercising, and if you have either high blood pressure or diabetes, get it under control (Gorman, 2003, p. 78).

With heart disease, personal control is a key theme. In fact, it is nearly ubiquitous in both short and long stories, and it remains a strong theme over time.

> Of course, there would be much less disease if we all exercised more, watched our weight and stopped eating so much food that is high in saturated fat. Public health experts estimate that you can reduce your risk of heart disease as much as 80% by adopting a healthy lifestyle (Gorman, 2001, p. 54).

Heart disease is portrayed as something that can be easily detected, maintained, and treated by each individual person. Even in the midst of a heart attack, the individual is still in control.

> For starters, if you think you are in the midst of a heart attack, chewing a 325-mg aspirin tablet right away may save your live, whether you are a woman or a man. Aspirin also helps many women (and men) who have already suffered a heart attack avoid having a second one (Gorman, 2005, p. 85).

As illustrated by Table 2, personal responsibility and prevention is a major theme in heart disease stories in all three news magazines, outweighing other categories in every time period.

Heart Disease: Medical Breakthroughs

Medical breakthroughs related to heart disease usually are in relation to equipment used to detect blood clots and other maladies (Adams & August, 1995, p. 26;

Noonan, 2005, p. 86-88). Few stories are about discovering the "causes" of heart disease or the disease itself.

> Here's the clincher. Every BiDil study patient was black--and if the drug wins regulatory approval this summer, it will be marketed exclusively to members of one race. Would that make it a breakthrough, or a setback? It depends on whom you ask (Barrett, 2005, p. 24).

Many breakthroughs have to do with predicting who will suffer from heart disease and who won't, and others focus on recovery efforts (Park, 2005, p. 71; Podolsky & Mannix, 1993, p. 75). Nearly all the stories focus on situations that occur before or after a heart attack, not on the attack itself. The emphasis is on how to prevent heart disease before it starts and how to treat it after it happens.

> Recent breakthroughs in imaging technology have given doctors unprecedented access to the insides of our hearts. The latest CT and MRI scanners can spot bulges in our coronary arteries long before they become blockages (Libby & Skerrett, 2005, p. 73).

It is possible that there are fewer stories on medical breakthroughs in heart disease because there simply is nothing new to report. People have been studying the heart for a long time, so there is little to say in terms of new advances in the heart itself. Whereas cancer is still being explored to see how it operates in different parts of the body, the mechanics of the heart have already been fully explored.

Heart Disease: Biological/Environmental Causes

Biological causes of heart disease usually relate back to family history.

> Are you really in the clear? Not according to a small but provocative study of 90 patients, published last week in the journal Circulation, which strongly suggests that family history alone can cause heart problems (Comarow, 2001, p. 60).

Environmental causes of heart disease rarely come into play, although occasionally work-related factors such as stress level are the point of focus. Age, too, is attributed to causing heart disease.

> Age is also a factor in families where heart disease is common. … Heart-disease data from a long-term study in Framingham, Mass., show that people whose parents or siblings had heart attacks before age 60 have twice the risk of early coronaries (Silberner, 1991, p. 61).

While age and family history certainly play a large role in causing heart disease, this is not a new fact. Therefore, there are few stories that exemplify this coding category. Since it is old news, the media do not cover biological or environmental causes of heart disease too often.

Heart Disease: Financial/Political Aspects

There are virtually no frames related to politics or business in relation to heart disease. Specific events, such as Vice President Dick Cheney's heart condition and how it affects his job, are the closest association with politics that heart disease has.

> A nonchalant Dick Cheney portrayed his latest bout with heart disease as more a public relations challenge than a medical crisis. At the same time,

> White House officials concede that his condition, while not an emergency, is troubling (Walsh, 2001, p. 16).

However, unlike cancer, there are no stories about government bills introduced to fight heart disease or other financial associations.

Heart Disease: Euphemisms

Heart disease is seen as a mechanical, treatable condition that can be managed. Although the heart is "the most symbolic of organs" (Hull & McBride, 1994), the heart is still portrayed as a ticking machine.

> The heart is an electrical organ, its beat coordinated by impulses that move across the heart in synchronized rhythm--most of the time. An estimated 2 million Americans suffer from atrial fibrillation: The two upper chambers beat irregularly and rapidly, up to 175 times a minute, causing palpitations and, in severe cases, shortness of breath and other symptoms (Comarow, Healy, & Fields, 2003, p. 42).

However, it is recognized as a respected machine that always does its job except when a mechanical error, such as a heart attack, occurs (Kalb, Springen, & Raymond, 2004, p. 54-61; Podolsky, 1991, p. 54). Heart attacks themselves are described as explosive eruptions that are painful and scary, but manageable.

> Diagnosis comes easy: The heart cries out in pain when it's losing oxygen, pounds the chest when it skips a few beats, and then gives up its secrets to a spaghetti-sized coronary catheter. Arterial blockages can be corrected in a flash with a bypass or a stent, lengthening life. And heart risk factors, spelled out 50 years ago by the Framington Heart Study, have taken hold

> of the public mind with great results: Smoking rates have been cut in half, and our national blood pressure and cholesterol levels have fallen with the help of new and better drugs (Healy, 2005, p. 65).

The heart is occasionally personified, as in the example above, but only when it is in pain. Usually the heart is described in mechanical, scientific terms. It is, however, a well-respected machine.

> Development of the human heart is nothing short of anatomical wizardry. The organ starts out as a narrow tube, then twists and turns during the first eight weeks of gestation to create its elegant final design: four chambers, four valves, two walls or septums and an assortment of veins and arteries. The two lower chambers of the heart operate as pumping stations: the right ventricle squeezes blood out to the lungs, and the left—responsible for the lion's share of the work—pumps to the rest of the body (Kalb, 2005, p. 90-92).

Heart Disease: Identities of Victims

Heart disease patients are personally identified less often than cancer patients are. Often, heart disease stories are straightforward, fact-based stories that involve no interviews with patients (Bjerklie, 2004, p. 97; Cowley & Hager, 1993, p. 62). When patients are mentioned, they are often older than middle-aged.

> There doctors told her that she had suffered a heart attack and that four of her coronary arteries were blocked, and she had to undergo bypass surgery. Two years later McCamey, now 64, remembers her bewilderment over the incident. "I was really shocked," she says. "I thought it was

> mostly men who suffered heart attacks" (Jaroff & Emmermann, 1992, p. 72).

These people are almost always those who have actually had heart attacks and/or heart surgery, not people with less severe conditions such as high cholesterol.

> Five minutes after you meet Joel (Barlow) Davis, it feels as if you've known him for years. As open and affable as a handshake, Davis, a retired country-music bass player and singer, wasn't trying to fool anyone the night before he underwent a quintuple heart bypass at Emory Crawford Long Hospital in Atlanta in March (Noonan & Berrett, 2005, p. 56).

When heart disease patients are identified, they are painted as relatable, everyday people who are simply going through a medical procedure. However, they are still identified far less often than are cancer patients.

Chapter 6: Discussion

When comparing articles about cancer and heart disease, the most first and most obvious conclusion to be drawn is that cancer is a much more prevalent issue in the media. There are far more articles written about cancer than about heart disease. Of the 825 articles analyzed in this study, 564 of them were about cancer while just 261 were about heart disease. This stands in stark contrast to the mortality rates associated with these two diseases, which are much higher for heart disease than for cancer. However, in reading and coding these articles, the reasons for this disparity become clear.

Cancer has many more personal connotations than does heart disease. Given the number of articles that interview specific patients, it can be inferred that the media portrays cancer as a disease that affects a person to their very core. This is especially true with breast and prostate cancer, the quintessential “women’s” and “men’s” diseases. Stories on both these cancers take a very personal angle, interviewing patients about the details of their disease and how it has affected their personal lives. By comparison, heart disease is portrayed as something that affects only one piece of a person. The heart is spoken of as a machine, albeit a very respected, life-giving machine, but stories about it are very mechanical, whereas stories about cancer are much more personal.

Considering how personally cancer is portrayed, there is little personal responsibility associated with it. Occasionally stories about healthy food and drink and the importance of exercise will appear, but for the most part personal responsibility for prevention does not come into play as often as it does with heart disease. Stories about healthy food and drink and the prevention of cancer show a tentative link between the two. By comparison, heart disease stories are full of personal responsibility. Nearly every

article includes a sentence or two about what people can do on their own to keep themselves healthy. According to these stories, people are always in control of heart disease. However, smoking is a common theme in prevention stories about both diseases. Since there is a strong link between smoking and lung cancer, as there is with smoking and heart disease, nearly all prevention stories encourage readers to stop smoking.

Medical breakthroughs concerning cancer are tentative. While many studies are conducted and many stories are written, the stories always include the caveat that the so-called “breakthrough” is not proven to cure anything. As time goes on, breakthrough stories focus more on cancer treatments than the disease itself. With heart disease, breakthrough stories are nearly always about treatments and screening. This stays true over time.

Cancer is attributed to biological or environmental causes much more often than it is attributed to personal choices. The opposite is true of heart disease; it is usually up to the person to prevent it through a healthy lifestyle. Occasionally heart disease stories will focus on family history or age as causes. However, the dangers of smoking are prevalent in stories about both diseases. This is one area in which personal responsibility trumps environmental causes; smoking is proven to cause both diseases.

There is a much more prevalent political edge to cancer, while politics associated with heart disease are virtually nonexistent. In the midst of pink ribbon campaigns and Cancer Awareness Months and Mammography Screening Days, the government finds a way to put its hand in cancer. This often happens when large amounts of money are involved with a certain type of cancer. However, this is not the case with heart disease. The most political stories involved Vice President Dick Cheney’s heart condition and

how it would affect his job, but there no stories about the government pitching in to fight heart disease. It's all about cancer.

The language surrounding cancer and heart disease is quite different. Cancer is often personified; it is an evil, villainous, stealthy invader of the body. Once it takes root in someone, it tricks cells into becoming malignant and slowly overtakes the body like a noxious plant taking root in new soil. Standing in stark contrast to this personification of cancer is the straightforward way in which heart disease is usually portrayed. While painful, a heart attack is a scientific process that is easy to see coming and can be controlled with the right tools.

Treatments for both cancer and heart disease are portrayed as lengthy and painful, but many stories are devoted to delineating the specific hardships associated with chemotherapy. This could be because American society places a great deal of emphasis on personal appearances, and chemotherapy can result in the physical disfigurement of the victim. This is especially true of breast cancer, where the threat of a mastectomy looms large. Meanwhile, the heart is located within the body, and any procedure one undertakes to combat heart disease rarely results in an outward change in appearance.

There is a large difference between the way lung cancer is framed and the way other forms of cancer are framed. With lung cancer, there is nearly always a mention of the dangers of smoking, which is the main cause of lung cancer. In other words, the issue of personal responsibility comes into the forefront with lung cancer much more than it does with other forms of cancer. In fact, one could draw many parallels between the framing of lung cancer and the framing of heart disease, since personal responsibility is a frequently recurring theme with heart disease stories.

This parallel between lung cancer and heart disease begs the question of blame: Are cancer and heart disease framed differently because society can "blame" many aspects of heart disease on the victim's personal lifestyle, while the causes and preventions of cancer remain largely undetermined? The answer seems to be yes. The personification, the political and financial connotations, and the personal identification of the patients in cancer stories all point toward the media defining cancer as a "blameless" disease, whether this observation is rooted in medical fact or not. Meanwhile, society views heart disease as something that can be controlled via a healthy lifestyle, leading to a more detached perspective of the disease in the media. When society can "blame" a victim of a disease, there is less to talk about in terms of medical breakthroughs, political connections, and patient identification. The stories become more about the issues surrounding the disease, such as medical equipment used to treat it, rather than heart disease itself.

As a result of this study, I can conclude that the media, and in turn society, place much more emphasis on cancer than heart disease, even though the mortality rates associated with heart disease are much higher. While heart disease does get a fair amount of attention, more emphasis on it and other diseases besides cancer could help balance out the wealth of emphasis put on cancer.

As previously stated, how the media frames a story defines how that story is received by the public. The Extended Parallel Processing Model posits that when people perceive a threat, they take action that will reduce that fear. This study has established that the media has established cancer as a threat, and consequently, people take the steps to educate themselves and try to prevent cancer. The same attention is not paid to heart

disease because heart disease is not perceived as a threat of the same proportions, even though statistically, it is more prevalent in society.

This conclusion reinforces Clarke's 1992 study, but to a greater extent. Clarke states that cancer gets more attention in the media, which is still supported by this study, but this study takes that observation a step further by establishing that treatments, patients, and social issues surrounding cancer are more prevalent in the media than any themes regarding heart disease. Though Clarke's coding categories were slightly different than the ones identified in this study, the most prominent ones in her study are still the most prominent here: Personal responsibility, causes of the disease, and euphemisms for each disease. Though other peripheral coding categories emerged, these three are highly prevalent in both studies. This reinforces the notion that these frames have stood for a long time and continue to influence society. Until the frames change, or until equal attention is paid to heart disease, cancer will continue to be perceived as a more threatening disease.

Chapter 7: Conclusion

While this study is a partial replica of Juanne Clarke's 1992 study "Cancer, Heart Disease, and AIDS: What Do the Media Tell Us About These Diseases?", the two studies are different in many ways. The omission of AIDS in this study is an obvious difference, but in looking back on Clarke's conclusions about framing of cancer and heart disease in news magazines, it is clear that frames have changed. Clarke identified coding categories including moral worth of the disease, euphemisms, societal views, location, optimism about prevention, preventability, and causes and consequences of each disease. While this study kept the themes of preventability, causes, and euphemisms, this study also added medical breakthroughs, political and financial aspects, and identities of people who suffer from each disease.

The new coding categories that emerged in this study represent a shift in the framing of cancer and heart disease in American news magazines. Cancer and heart disease are now studied more heavily, and the advances made by medical science are reflected in the media. Cancer has become such a salient issue in society that it has garnered government action and a great deal of money. While heart disease does not attract as much financial attention, the medical community continues to develop new equipment for screening and treatment that is often the focus of stories in the media. Finally, cancer is becoming a more personalized issue in the news, often involving first-hand accounts of cancer treatments. Heart disease is not as personal, but when people are identified in these stories, they are seen as good, hardworking people who deserve to be healthy.

Previous studies on cancer and heart disease often focus on one or the other. Few studies have been done that compare how the two diseases are framed in the media. While Clarke makes similar conclusions about how cancer is seen as a life-altering disease and heart disease is a mechanical error, this study has shed new light on the differences between the two.

The question of blame seems to best sum up the difference: Stories about cancer tiptoe around the issue of personal responsibility, instead attributing the causes of cancer to environmental or biological conditions, so the stories do not place blame on anyone who has the disease. Stories about cancer use scary, threatening language to describe a disease that invades the bodies of good people. Consequently, cancer has become so salient in the media that politics has become involved, and with it a great deal of money. Conversely, stories about heart disease do not hesitate to point the finger at people's personal habits. Since science has established a firm link between unhealthy lifestyles and heart disease, the media is okay with making personal responsibility the thrust of many stories. News about the importance of a healthy lifestyle have been in the media for so long that there is simply not much else to say. The media runs fewer stories about heart disease, and when they do run, they always include a reminder about what people can do to take care of themselves. It has become so commonplace that it is now mechanical—just like the heart itself.

It is important to mention that stories about cancer change over time, while framing of heart disease mostly stays the same. Again, although cancer has been in the news for decades, it is still a newer issue than heart disease. It seems as though news about heart disease has run its course and has now settled at a point where new

information is rare. With the exception of new medical equipment, there is not much left to learn or to say about heart disease in the media. Cancer, however, is always changing. The medical community is still figuring out exactly how cancer operates so it can learn how best to fight it. Consequently, there is much more to say about cancer, and so there are more news stories about it. These stories will continue to change as more medical advances are made.

One major limitation of this study is that the different forms of cancer are not differentiated enough. Cancer is a broad term, and picking one type of cancer to compare with heart disease could have resulted in a more focused study. Another limitation is the relatively close proximity of the two time frames selected for this study. It may have yielded more conclusive results if articles from the early 2000s were compared with articles from further back, such as the 1980s or 1970s. Finally, more coders should have been used to more accurately calculate inter-coder reliability.

Possible future studies could include comparing different types of cancer. For example, one could take the quintessential “men’s disease” and “women’s disease,” prostate and breast cancer, and compare and contrast the framing for these two diseases in the media. Another possibility would be to compare one specific type of cancer with heart disease. A type of cancer that doesn’t get as much media attention, such as colon cancer, could be interesting when compared with heart disease. As stated above, many parallels also could be drawn between the framing of lung cancer and heart disease.

While this study compared cancer and heart disease over time, another interesting study would be to compare the way the different news magazines cover the diseases. For

example, one could pull all the articles concerning ovarian cancer from one specific year in many different news magazines, then compare the frames found in each magazine.

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