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A Content Analysis of Cancer Survivorship Coverage in a Representative Sample of U.S. News Outlets

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Abstract

Background—Media are popular sources of cancer information, yet little is known about how survivors are depicted.

Methods—This study analyzes coverage of cancer survivors in a nationally representative sample of newspapers and television newscasts. Stories were coded for cancer type, gender, age, survivorship length and status, treatment types, and spirituality, among other variables.

Results—Media provide limited information about survivors. Also, while breast cancer coverage was close to survivorship rates, nearly every other cancer type was underreported for both incidence and survivorship rates.

Conclusions—Inaccurate media coverage may be contributing to public misunderstanding about cancer survivorship.

Introduction

The mass media are popular sources of cancer information.[1,2,3] Consequently, media coverage of cancer survivorship may be useful in demystifying the cancer experience for the more than 10 million Americans in cancer survivorship and their loved ones.[4] Media content may influence what patients derive from their encounters with health care providers,[5,6] influence risk perceptions, promote empowerment in health care decision-making, and reduce stigma about certain cancers.[7] Such coverage may also help chip away at the dominant "cancer = death" mentality that remains despite major treatment advances.

Previous studies of how the media cover cancer have paid limited attention to the depiction of survivors. These studies often note the extent to which media stories employ human interest angles to cover cancer,[8,9] but they do not provide details on survivors, such as their age, gender, type of cancer, type of treatment and treatment status, or length of time since diagnosis.

Some studies have gone a little further and noted an emphasis on coverage of prominent people with cancer.[10] These studies are interesting from a survivorship standpoint because evidence suggests that coverage of prominent people may influence others to get cancer screenings[11] or choose certain cancer therapies.[12] Overall, however, the characteristics of cancer survivors in media stories have not been well documented. Likewise, while some studies have found

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discrepancies between media coverage and cancer incidence and mortality rates,[13,14] no study has compared coverage to survivorship rates.

The current study expands on previous work by documenting cancer survivorship coverage in a nationally representative sample of daily newspapers and local television news programs. It is the first study to use the "person with cancer" as the unit of analysis and the first large-scale analysis of local TV news coverage of survivors. The study investigates differences in survivorship coverage as a function of media type, and media market size. Furthermore, this study compares media coverage to cancer incidence and survivorship rates. For this study, "survivorship" is defined as an individual's experience with cancer from diagnosis onward, which is similar to the NCI's Office on Cancer Survivorship definition.

This study also investigated whether media coverage differed by cancer type. For example, breast and prostate cancers have heightened visibility not only because they are the most diagnosed cancers for females and males, respectively, but also because they have attracted large advocacy efforts. On the other hand, some survivors may be less visible because of stigmas associated with their cancers. Lung cancer may be less acceptable because of society's increasing distaste for smoking. Media may avoid covering survivors with reproductive organ cancers because of dominant social mores about sex. Colon cancer survivors may also receive less media coverage because of stigmas associated with screening methods.[15]

Traditional news values may also affect coverage by encouraging media to cover short-term survivors (less than 5 years), who are closer to their diagnosis and treatment and thus may be perceived as providing more compelling stories, more than long-term survivors (5 or more years). News values may also encourage more coverage of prominent people with cancer.

Methods

Media Outlet Sampling Strategy

The study analyzed a nationally representative sample of daily newspapers and local television newscasts from 2002 and 2003. The sample also included national television newscasts (*ABC*, *CBS*, *NBC*, and *CNN*) and one national newspaper, *USA Today*.

To create the sample, U.S. media outlets were stratified based on their designated market areas (DMA®), the most widely used approach to defining electronic media markets. The country's 210 DMAs were divided into six strata, with each stratum representing approximately 1/6th of U.S. households. One constructed month was created for each year in the sample.

In 2002, on each day of the constructed month, one DMA was randomly selected from each of the six strata. Then, one local, nightly, network-affiliated news program was randomly selected from each selected DMA; national TV newscasts were sampled on that day too.

Three daily newspapers, representing different circulation categories (small, medium, large), were also randomly selected from each sampled DMA. *USA Today* was chosen as well.

In 2003, another constructed month was chosen. However, because of the large effort involved in constructing the list of daily newspapers in any given DMA, we used the same DMAs in 2003 as were chosen in 2002. Nonetheless, while the same DMAs were used in both years, the individual media outlets in a selected DMA were randomly chosen each year.

The sampling strategy used in this study resulted in a sample that had reasonable regional representation in all strata and reasonable homogeneity of market size within each stratum.[16] Furthermore, the final newspaper sample was representative of all newspapers within the

sampled DMAs.[16] The final sample contained approximately 560 television newscasts and 1,064 daily newspapers.

News Story Selection and Story Coding

Six trained coders determined whether news, feature, and opinion items mentioned cancer in the beginning of the piece. Intercoder reliability for identifying cancer stories was acceptable; Cohen's kappas for print stories ranged from .64 to .86, and kappas for TV story identification ranged from .77 to .90 (a range is provided because multiple pairs of coders tested the scheme's reliability). Kappas in the .61 to .80 range indicate substantial agreement, and kappas above .80 indicate almost perfect agreement.[17]

Because stories were selected over a two-year period, intercoder reliability was re-checked at three points. The kappas at these checkpoints were reliable: kappas ranged from .74 to .98, with only one kappa below .80.

Cancer news items were then coded for mentions of at least one specific cancer survivor. Reliability for finding cancer survivors was good (kappa =.91). Of the 706 newspaper stories that mentioned cancer, 358 mentioned at least one cancer survivor. Of the 83 television news stories that mentioned cancer, 54 mentioned at least one survivor.

Each story was coded for the following survivor characteristics: cancer type, age, gender, prominence of survivor, survivor status (i.e., active treatment, post-treatment, discontinued treatment, dead), length of time since diagnosis, types of treatment (i.e., traditional, complementary, or both), symptoms experienced, spirituality of survivor, mention of family and important others to survivor, vocation, information-seeking behavior, financial impact of cancer, hobbies, end-of-life issues, and hospice.

To test the reliability of the coding scheme for these variables, two trained coders independently coded 15% of the sample. Scott's pi and Cohen's kappa statistics for the 15 categorical variables ranged from .64 to 1.0, all within the "substantial agreement" range.[17] The Pearson's correlation for the age variable was .89, indicating reliability for that variable as well.

Results

The most common survivorship elements reported were gender (98%), survivor status (85%), family/important other (75%), cancer type (70%), vocation (60%), specific age (55%), and length of time since diagnosis (48%). Notably, nearly 41% of stories mentioned someone who had died of cancer. Several survivorship variables were seldom reported: chronic or late effects of cancer (10%), end-of-life issues (10%), hobbies (8%), financial issues (6%), spirituality (5%), information seeking (5%), hospice (3%), and complementary therapy use (2%).

While newspapers (M = 4.77) and TV (M = 4.57) did not differ in the average number of survivor elements they presented in stories, (t(410) =.72, n.s.), the two media emphasized different survivor elements. A notable difference occurred for gender, with television favoring male survivors over females by a 2:1 ratio ($\chi^2(1) = 6.00$, $p < .05$), while newspapers covered each gender equally ($\chi^2(1) = 1.39$, n.s.).

Another difference between newspaper and TV coverage was for length of time in survivorship ($\chi^2(1) = 5.05$, $p < .05$). TV coverage heavily favored short-term survivors (93%) over long-term survivors (7%). Newspapers provided a more balanced picture of survivorship with 72.5% of people in short-term survivorship and 27.5% in long-term survivorship.

There was no significant difference across media market size ($F(5) = .86$, n.s.) for number of survivorship elements reported. The mean number of elements ranged from 4.4 to 5.0 elements per survivor per market stratum.

News coverage of survivors also did not differ by the visibility of the cancer nor by the stigmatization of the cancer. News stories about survivors who had breast or prostate cancer did not contain more survivorship information ($M = 4.9$) than those about survivors with other cancers ($M = 4.7$) ($t(410) = .71$, n.s.). Likewise, stories about survivors who had stigmatized cancers (i.e., lung and colorectal cancers, and reproductive organ cancers defined as cervical, ovarian, uterine, vaginal, testicular or penile) did not have less survivorship information ($M = 5.6$) than stories about survivors with other types of cancer ($M = 4.5$) ($t(410) = 4.8$, n.s.).

To assess whether news media coverage favored short-term survivors over long-term ones, we compared media coverage to U.S. survivorship data. For this analysis, we defined short-term survivorship as less than five years since diagnosis. This definition corresponds to the clinical measure often used by oncology professionals to predict a prior-treated individual's risk for recurrence. While survival rates varied greatly based on the cancer type, 66.3% of people with cancer at five years were still alive in 2002, according to the National Cancer Institute. A chi-square analysis that used this expected five-year survival rate showed that the media reported significantly more on short-term survivors than long-term ones ($\chi^2(1) = 151.7$, $p < .05$).

Data also indicated that news media were more likely to mention prominent individuals with cancer than non-prominent individuals ($\chi^2(1) = 4.28$, $p < .05$). For this analysis, a prominent survivor was defined as someone who had received national attention as an individual, was related (through blood, marriage, or a recent personal relationship) to someone who had received such attention, or was associated with an organization that had garnered national attention. More than half (55%) of the survivors in the stories were prominent individuals or those related to them.

To investigate whether media coverage of survivors' cancer types differed from U.S. cancer incidence rates, cancer prevalence rates for 2002 were obtained from the American Cancer Society. A descriptive analysis is provided because there were so few data points that a statistical analysis would not have been meaningful.

With the exception of breast cancer, media coverage of the top 10 cancer types for females was below incidence rates (Figure 1). For males, coverage of the top 10 cancer types was slightly more mixed, with media coverage below incidence rates for eight of the top 10 cancers, most notably for prostate cancer, the leading cause of cancer among males.

To investigate whether media coverage of survivors' cancer types differed from U.S. survivor rates for different cancers, National Cancer Institute data from 2005 was used; this was the best available data.[18] A descriptive analysis is provided because there were so few data points that a statistical analysis would not have been meaningful.

As Figure 3 shows, media coverage of breast cancer survivors closely reflected real-world conditions. For other cancers, however, coverage was well below real-world survival rates. For example, 10% of female cancer survivors have uterine cancer, yet less than 1% of media stories covered these survivors. Likewise, female skin cancer survivors made up 6% of 2005 survivors but constituted less than 2% of media survivors.

Coverage of male cancer survivors compared to survivorship rates revealed an even greater deficit in media coverage of prostate cancer than was found for incidence rates (Figure 4). In contrast, testicular cancer received media coverage at a proportion higher than its survivorship rate.

Discussion

Based on our data, the typical female survivor in a news item was in her mid-to-late 40s and was a short-term survivor of breast cancer. The typical male survivor was in his late 50s/early 60s and was a short-term survivor of prostate cancer. Information on family/important others, vocation, and survivor status (i.e., active treatment, post-treatment, discontinued treatment, or dead) was also likely to be included, but little else. Among other deficits, the media provided little coverage of treatment effects, complementary therapy, information-seeking behavior, spirituality, financial issues, and end-of-life issues.

The comparison of media coverage to cancer incidence rates showed discrepancies for nearly all cancer types, which is similar to what others have found.[13,19] However, this study's additional comparison of media coverage to survivorship rates helps to put the media's propensity to cover breast cancer in a different light—the emphasis may be justified.

Results also show that media focus on the short-term survivor. This emphasis may reflect journalistic news values. Treatment stories provide the opportunity for media to cover new drugs or interventions, scientific advances, or the conflict of "human struggle."[20] Also, a new diagnosis is a high-emotion moment. Stories about long-term survivorship, in contrast, may fit less easily into traditional news values, thus garnering less media attention. With the overall rise in survivorship rates for almost all cancers, an updated approach to what constitutes "newsworthiness" in cancer experiences is required. The ranks of the long-term cancer survivor will swell as cancer treatment and monitoring improve; these long-term survivors have much to share with others about living with cancer.

Journalistic news values also help explain the media's focus on the cancer experiences of prominent individuals that we found in our study and that replicates what others have found.[3,10] Prominence is a traditional news value, and more than half of the cancer survivors in this study were prominent people. The extent to which media consumers identify with prominent cancer survivors deserves further attention, given the media's penchant to cover these individuals. Some evidence suggests prominent people can influence others to get screenings[11] and choose specific therapies.[12]

Coverage of prominent individuals may also affect people's understanding of cancer incidence and survivorship rates. In this study, coverage of Sharon Osbourne's colorectal cancer diagnosis, John Gotti's death from pharyngeal cancer, and testicular cancer survivor Lance Armstrong's 4th and 5th Tour de France titles increased media coverage of these three cancers. For example, 12 of the 16 stories about females with colorectal cancer were about Osbourne. Media attention on the cancer diagnosis, treatment, and death of prominent people may cause media consumers to overestimate the incidence of these cancers.

Finally, while media market size did not affect cancer survivorship coverage, the study did uncover some intriguing differences between newspaper and television coverage. For example, television heavily favored male, short-term cancer survivors. The emphasis on male survivors is surprising, given that research indicates women are more likely to search for health information than men.[21]

It is beyond the scope of this study to assess whether improved media coverage of cancer survivorship leads to decreased uncertainty and an attitude of hope or resilience for people with cancer. However, it is difficult to overstate the importance of finding better ways to help the public access information about cancer. Recent studies affirm that a large part of an individual's understanding of cancer stems from incidental exposure, narrative, and media coverage.[6,22]

There is great potential for media advocates and journalists to work together to provide more depth to cancer survivorship reporting. Media advocates should help reporters to understand that cancer survivor profiles draw audiences.[23,24] Lists of topics and sources (including long- and short-term survivors) could also be provided to journalists. Such efforts would encourage reporters to not only cover a larger variety of survivors, but could encourage reporters to provide a more in-depth picture of cancer survivorship.

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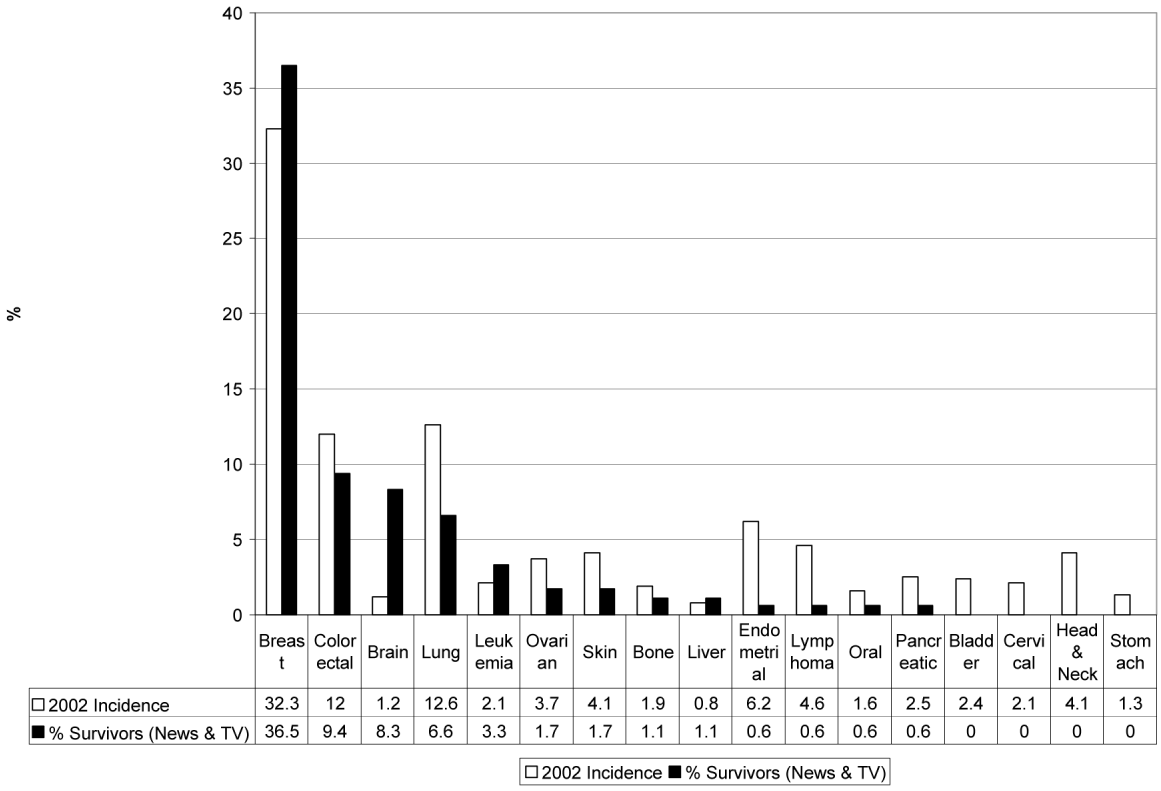


	Breast	Colorectal	Brain	Lung	Leukemia	Ovarian	Skin	Bone	Liver	Endometrial	Lymphoma	Oral	Pancreatic	Bladder	Cervical	Head & Neck	Stomach
2002 Incidence	32.3	12	1.2	12.6	2.1	3.7	4.1	1.9	0.8	6.2	4.6	1.6	2.5	2.4	2.1	4.1	1.3
% Survivors (News & TV)	36.5	9.4	8.3	6.6	3.3	1.7	1.7	1.1	1.1	0.6	0.6	0.6	0.6	0	0	0	0

Figure 1.
Comparison of 2002 Female Cancer Incidence Rates to Female Survivor Cancer Types in Media Coverage

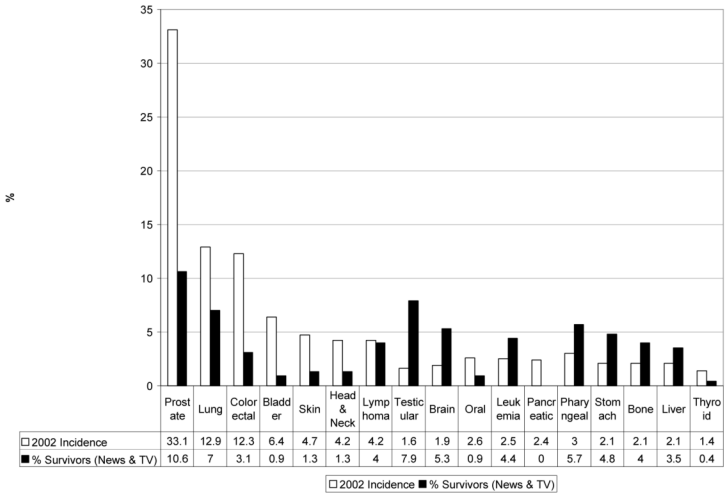


Figure 2.
Comparison of 2002 Male Cancer Incidence Rates to Male Survivor Cancer Types in Media Coverage

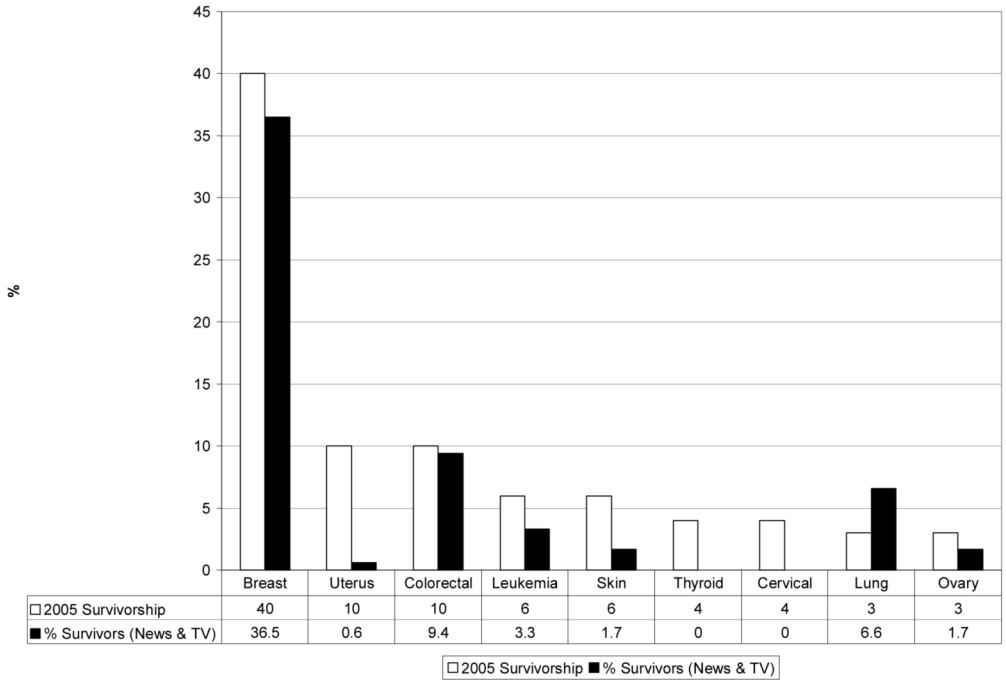
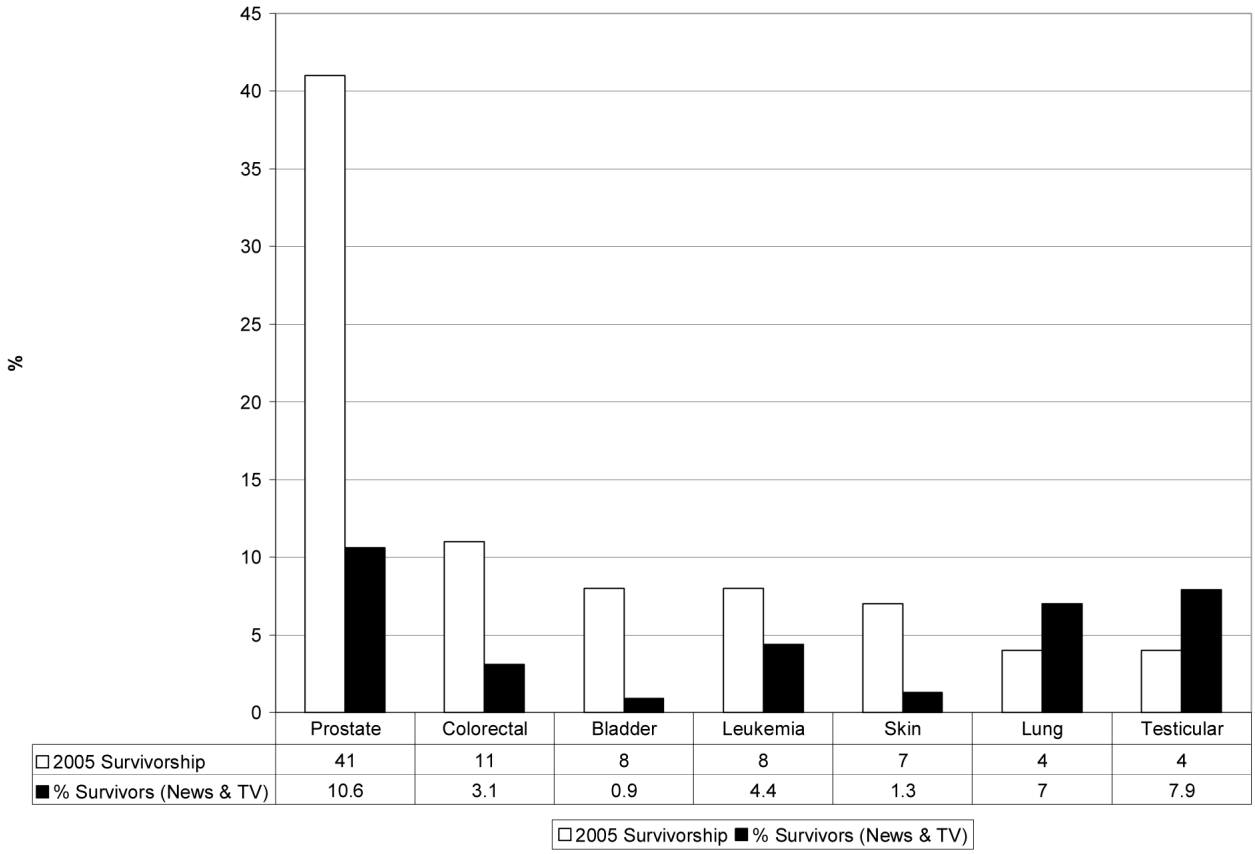


Figure 3.
Comparison of 2005 Female Survivorship Estimates to Females Survivors in Media Coverage



	Prostate	Colorectal	Bladder	Leukemia	Skin	Lung	Testicular
□2005 Survivorship	41	11	8	8	7	4	4
■% Survivors (News & TV)	10.6	3.1	0.9	4.4	1.3	7	7.9

Figure 4.
Comparison of 2005 Male Survivorship Estimates to Male Survivors in Media Coverage