

# The Challenges of Social Marketing of Organ Donation: News and Entertainment Coverage of Donation and Transplantation

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**ABSTRACT.** While great strides have been made in persuading the public to become potential organ donors, actual behavior has not yet caught up with the nearly universally favorable attitudes the public expresses toward donation. This paper explores the issue by situating the social marketing of organ donation against a broader backdrop of entertainment and news media coverage of organ donation. Organ

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donation storylines are featured on broadcast television in medical and legal dramas, soap operas, and other television serials approximately four times per month (not including most cable networks), and feature storylines that promote myths and fears of the organ donation process. National news and other non-fictionalized coverage of organ donation are even more common, with stories appearing over twenty times a month on average. These stories tend to be one-dimensional and highly sensationalized in their coverage. The marketing of organ donation for entertainment essentially creates a counter-campaign to organ donation, with greater resources and reach than social marketers have access to. Understanding the broader environmental context of organ donation messages highlights the issues faced by social marketing campaigns in persuading the public to become potential donors.

**KEYWORDS.** Media planning, organ donation, social marketing

“...social marketers need to attend to environmental/policy factors as much as individual behavior factors in structuring their research.” (Goldberg, 1995, p. 348)

There are currently 96,964 individuals on the waiting list to receive an organ, since 1995 over 71,000 people have died while waiting for an organ ([www.unos.org](http://www.unos.org), retrieved July 3, 2007). Despite the best efforts by scholars, organ procurement and grass roots organizations, and the favorable attitudes of the public toward organ donation, the results of the social marketing of organ donation is falling short of meeting the needs of those waiting for an organ. Efforts to promote organ donation using a variety of strategies have increased exponentially over the last 10 years. Communication scholars have been at the forefront of developing campaigns to promote organ donation, and have focused their messages, channels of communication, and media planning on many of the principles put forward in social marketing approaches. Through research on the behaviors of donors and non-donors, organ donation outreach and campaigns have been able to focus on segmenting audiences for different messages, and have taken campaigns to locations where people are more likely to be influenced about health related behaviors. Using many of the recommendations of social marketing, and extending social marketing using message

design strategies from the field of communication, these campaigns have exposed people to messages using such creative placement and promotion strategies and channels as voicemail messages from co-workers who were recipients, on-site events featuring recipients and donor families who engage in interpersonal communication about organ donation, email blasts that target specific fears and myths that prevent individuals from registering, hanging the organ donor quilt (similar to the AIDS quilt) and creating stories and posters of individuals touched by organ donation (to foster social norms), and using kiosks to register people at locations away from the DMV (reducing the *price* of seeking out opportunities to become a donor). All of these approaches and message strategies are based on theories of communication, and messages have been crafted to target specific barriers to donation evident in the groups being targeted. Evaluations of these messages, message strategies, and communication campaigns have shown that they do change the behavior and intended behavior of the audiences they are targeting (e.g. Morgan et al., 2007b; Morgan et al., 2003).

While the pro-organ donation marketing campaigns have been successful, they have failed to change the behaviors of many self-reported pro-organ donation individuals who have not yet registered their intent to donate. Additionally, the reach of many of these campaigns is quite small, and as a result, most people only get information about organ donation from the mass media.

Unfortunately, these deliberate social marketing efforts have encountered what is, in effect, a counter-campaign in the mass media, one which exploits many of the same social marketing elements as organized campaigns. The mass media, while not deliberately engaging in a counter-campaign, nonetheless engages in the placement and promotion of organ donation (the product) in ways which have far greater reach and impact than is achievable with the smaller scale campaigns that organ donation related groups are able implement. This study seeks to place social marketing of organ donation in the broader context of extensive media portrayals of organ donation that at best reinforce general beliefs and at worst portray storylines that exacerbate the belief in myths regarding donation for the purposes of entertainment and profit.

It is only by examining the external environment for the messages that people receive about organ donation that we can create more effective social marketing campaigns to promote organ donation.

By focusing on the placement and promotion practices of the mass media (both in entertainment and news) we can engage in more effective communication planning to increase the effectiveness of pro-organ donation social marketing efforts.

### ***The Social Marketing of Organ Donation***

Despite a variety of concerns about the applicability of marketing techniques to health education and behavior, social marketing has emerged as an accepted practice over the past 30 years (Ling et al., 1992). Social marketing campaigns have been used for a wide range of health related issues, including physical activity (Wong et. al, 2004), condom use (Cohen et. al, 1999), breast feeding (Lindenberger and Bryant, 2000), dietary change (Samuels, 1993), and HIV prevention (Dearing et. al, 1996) among many other issues.

While the published literature on organ donation campaigns does not often explicitly use a social marketing framework, taken as a whole, the body of research on organ donation campaigns shows that promotional efforts embody the principles of social marketing advanced by Andreasen (1995) and others (e.g. Walsh et al., 1993) including focusing on consumer behavior, cost effectiveness, product, price, place, and promotion, market segmentation, and design, testing, and evaluation of programs and messages.

The development of social marketing campaigns for organ donation typically follows from theoretical models that provide insight into how the individual makes the decision to be a donor. For example, the Organ Donor Model (Morgan and Miller, 2002), based on the Theory of Reasoned Action (Fishbein and Ajzen, 1975) focuses on knowledge, attitudes, values, and social norms to predict behavioral intent and behavior toward signing an organ donor card and talking to family members about donation. This model, and others like it (e.g. Horton and Horton, 1991; Kopfman and Smith, 1996), has helped in the segmentation of audiences and the development and placement of messages for campaigns.

While a thorough review of organ donation campaigns is beyond the scope of this paper, two short examples should demonstrate how the principles of social marketing are enacted. A recently completed workplace project developed targeted campaigns for 45 different organizations (Morgan et al., 2007b). This project used extensive media planning in the development of the campaign. Organizations

were analyzed for the availability of a variety of media channels, social interaction environments, organizational structure and communication climate, and past experience promoting health related behaviors. While some messages remained constant across organizations, many messages were tailored to the specific needs of the company, reflecting the social norms of the company, or adapting to the demographics of the company. Message channels were analyzed for each company and messages were placed to maximize exposure in mass mediated, private, and interactional settings (including common gathering areas, high traffic areas, personalized voicemail messages, email blasts, posters, and company newsletters). The promotion strategies used theories of social norms, identification, and communication message design principles and theories and included both fact-based educational messages, designed to target barriers to donation that had been identified in previous research, and personal stories from organizational members to invoke social norms. To test different strategies of social marketing, some organizations also received on-site visits from volunteers and paid staff, and incentives were utilized to help promote organ donation. Using these strategies to bring interpersonal interaction to the employees constitutes another element of the “place” concept of social marketing, and providing easy access to join the registry reduces the “price” of declaring intent to donate. Ultimately, changes to attitudes, knowledge, and behavior were evaluated with signed organ donor cards as the primary outcome variable. The findings of this successful campaign suggest that the extensive media and communication planning were worth the investment of time and resources. In keeping with principles of social marketing (Walsh et. al. 1993), taking the message to the public, having staff and volunteers engage in personal selling at events, and incentives as part of the promotion significantly enhances the effectiveness of organ donation campaigns, even when campaigns target diverse populations in a variety of worksite contexts.

A second example focuses on a recently completed project in North Carolina where one of the authors used the organ donor model to develop a successful campaign targeting African Americans. The messages focused on many of the specific knowledge items and barriers to donation specific to the African American community, such as medical mistrust, misunderstanding of brain death, and a desire for bodily integrity. The messages were targeted using primarily African American radio stations, television advertising on shows that

had heavy African American viewership, and through community outreach (including a play focusing on African Americans and organ donation) at African American events, and were ultimately successful in increasing the rate of DMV donor registrations among African Americans relative to the general population (Morgan and Gibbs, 2006). Similar approaches have been successfully used to target other African American populations (e.g. Callendar et al., 1995; Hong et al., 1994; Morgan, 2006), Latino populations (Alvaro et al., 2006), to develop workplace campaigns (Morgan et al., 2002; Morgan et al., under review), develop culturally tailored and delivered messages to American Indians (Fahrenwald and Stabnow, 2005) and to target high school and college populations (Vinocur et al., 2006; Feeley, 2007).

Ultimately, researchers and organ donation professionals have had success applying social marketing approaches to organ donation promotion. However, even with these successes the need for organs far outpaces the availability. Given the public's favorable attitudes toward organ donation (over 95% of the public strongly support or support organ donation, Gallup Organization, 2005) as well as advances in knowledge about how to market organ donation to overcome behavioral barriers, it is surprising that we still only have a national rate of donor designated individuals of just over 50% (Gallup Organization, 2005). One possible reason for this dramatic discrepancy between attitudes and behaviors is the influence of the news and entertainment media on knowledge, attitudes, and behaviors toward organ donation. Additionally, while many of the campaigns promoting organ donation are very ambitious (the largest of these campaigns may reach a population of close to 100,000), the reach of these organized campaigns is still insignificant compared to that of the commercial mass media. These issues will be elaborated in more detail in the following section.

### ***The Media and Organ Donation***

There are three key warrants for the importance of studying the media and organ donation. First, the media reaches vast audiences in ways few social marketing campaigns can. Second, there is ample evidence that media portrayals of organ donation are often sensationalistic and play on the fears of the public. Third, recent studies

suggest that media portrayals of organ donation effect people's attitudes and behaviors toward organ donation.

There have been very few topics on which the public receives so much information and yet knows so little as the topic of organ donation. National polls and academic studies consistently report low levels of knowledge about organ donation and yet an examination of the media reveals that organ donation is nearly ubiquitous as a topic in entertainment television, news media, talk shows, and reality television. The amount of attention paid to organ donation in the media may come as a surprise to most people; even large surveys indicate that only about a third of people believe that they have heard of organ donation from the mass media (Feeley, 2007; Morgan and Cannon, 2003; Rubens and Oleckno, 1998).

Organ donation is only the latest health issue to get so much media coverage in both news and entertainment television. There is a long history of marketing medical drama as entertainment. From the few early dramas such as *Marcus Welby, M.D.*, *Quincy, M.E.*, and *M.A.S.H.*, we have seen a proliferation of medical and medical/legal dramas so that current television and cable offerings include shows such as *E.R.*, *Grey's Anatomy*, *House*, *CSI* and its spin-offs, *NCIS*, *Crossing Jordan*, *Bones*, and even a new but short-lived series about organ donation, *Heartland*. These shows also tend to be tremendously popular. For example, Nielsen ratings for the week of February 12–18, 2007 place *House*, *Grey's Anatomy*, and *CSI* in the top 5, with average viewership for each program in the range of 25 million, beaten in the ratings only by *American Idol* (<http://www.usatoday.com/life/television/nielsen.htm>, February 21, 2007, retrieved July 3, 2007). On any given weeknight, at least one of the major networks airs one or more of these programs during prime-time (<http://www.tvguide.com/Listings/default.aspx>, retrieved July 10, 2007), and these legal and medical dramas frequently contain organ donation storylines. In addition to the reach of the major networks and primetime dramas, medical and legal shows air on cable networks, are often syndicated and run episodes nightly; organ donation storyline also appear frequently in daytime serials, many of which revolve around a hospital setting, such as *General Hospital*. While television can be used as a tool of social marketing to promote various health-related behaviors (Lane, 1997), in the case of organ donation storylines these dramas use the issue merely to sell entertainment, thus working at cross

purposes against those engaged in the social marketing of organ donation to save lives.

In addition to having extensive reach, media coverage of organ donation is seldom flattering. A study by Maloney and Walker (2000) is one of the earliest empirical studies of representations of organ donation in the mass media. Although conducted in Australia, it provides clues as to the nature and frequency of the types of stories being aired on television. Their results demonstrate that early coverage of organ donation (in the 1960's) ranged from early descriptions of Frankenstein-like experiments and the characterization of transplant surgeons as a "gang of vultures" or vampires (Maloney and Walker, 2000, p. 213) and, alternately, as Messiahs for the dying patients in need of organ transplants. In the 1970's news coverage focused on the miracle of transplantation and emphasized stories of children saved by organ transplants. At the same time, however, there were several stories about "organs as spare body parts," including one true story about a family in Michigan discovering their loved one's organs in a bag that was supposed to contain personal effects.

One might question why, when given the freedom to present such stories in a variety of ways, television media continuously portrays sensationalized accounts or stories that represent outliers and anomalies instead of the norm. According to Greenfield (1988), the answer is relatively simple: "[W]hen it comes to news stories, those with a powerful element of human emotion contain much more appeal than a more abstract story, say, on changing patterns of demographics or populations" (p. 1038). And yet, both Greenfield (1988) and Matesanz (2002) point out that the media may be our best hope of educating the public about organ donation. "[T]he best way of influencing public opinion is the media... Misconceptions must be addressed openly, and at the same time emphasizing and highlighting the positive and life-saving aspects of organ donation and transplantation" (Matesanz, 2002, p. 988).

Ultimately, the effect of an uneducated media broadcasting sensationalized organ donation stories is of serious consequence. In the UK, France and Belgium, organ donation rates dropped precipitously when stories aired that questioned brain death criteria or highlighted the number of non-citizens who were on national waiting lists, or discussed rumors of international organ trafficking (Matesanz, 2002). Although it is important to promote public dialogue about many issues regarding donation, it is imperative that existing rumors



of organ trafficking in Western countries, for example, be very carefully and responsibly explored rather than simply fueled by images captured by the media in developing nations that lack enforceable laws preventing human trafficking.

Although it is often said that “there is no such thing as bad publicity,” the sensationalistic treatment of organ donation in entertainment television is also having a negative impact on organ donation-relevant behaviors, including the willingness to register as an organ donor or to donate the organs of a loved one (Morgan et al., 2005). In a close examination of the myths heavily promoted on television for their entertainment value, (Morgan et al., 2007a; Morgan et. al, 2005) show how the storylines presented on entertainment television mirror the reasons individuals give for not becoming potential organ donors, with family members actually reciting storylines from specific television episodes to justify their positions. The theory of social representations provides an explanation for how these media portrayals become the source of misgivings and enters the realm of interpersonal interaction. Social representations theory argues that when individuals lack personal experience with a relatively unknown phenomenon, they rely on the mass media for information (Moscovici, 1998; Morgan, in press). Once this information is shared in interpersonal interactions, we can be sure that particular social representations have formed. These social representations then influence our attitudes and behaviors toward organ donation. In social marketing terms, the price attached to organ donation in many of these plotlines is higher than the average viewer is willing to pay. For example, organ donors in these shows risk having their organs procured before they are dead.

A more recent study (Morgan et al., in press) demonstrates that viewers of shows with negative organ donation storylines report a negative shift in attitude toward the specific topic or theme of that episode. For example, an episode of *Law and Order* portrayed a storyline focusing on a black market for organs. Viewers of that show reported a significant increase in the belief of a black market after viewing the show and a significant decrease in willingness to become a donor. While the entertainment media can have profound negative effects, an episode of *NUMBERS* had a primarily negative storyline, but concluded with a lengthy discussion of the benefits of organ donation, including a scene where one of the key characters shows his driver’s license listing him as an organ donor. Subjects who

viewed this episode reported negative attitudes toward organ donation that reflected the main theme in the storyline, but increased in their willingness to become a donor (Movius, Cody, Huang, Berkowitz, & Morgan, 2007). Ultimately, the framing of organ donation in television episodes can have a dramatic impact on both the way people perceive organ donation, and the behavioral choices that they make regarding organ donation.

The existing body of literature on the media's treatment of organ donation provides a series of important snapshots of the type of information to which the public has been exposed, and the consequences of that exposure. Unfortunately, this small collection of studies provides only a fragmented picture. We know that the media has a vast reach, that organ donation receives frequent coverage in both news and entertainment media, and that the coverage is affecting the public's attitudes and behaviors toward organ donation. What is needed is a comprehensive study of the information coming from television media that holds sources constant over a specific (and preferably) extended period of time. Only then will we be able to fully appreciate where the public has gotten their "crazy ideas" about organ donation and what these ideas may be.

While the body of knowledge surrounding the media and organ donation is growing, little is known about how organ donation is marketed in entertainment and news media. Systematic analysis of the nature (promotion) and frequency (placement) of organ donation coverage will provide key information for media and communication planning to aid in the design of messages, the timing and placement of pro-organ donation messages, and will facilitate more effective social marketing campaigns promoting organ donation. To attain these goals, this study seeks to address the placement and promotion of the product of organ donation. To do so, this study asks the following research questions:

- R1: What is the placement (defined by frequency, type of show, length of coverage) of organ donation in news and entertainment television?
- R2: How is organ donation promoted in the news and entertainment media? In other words, what are the major themes and storylines that appear?

## **METHODS**

### ***Sampling Frame***

Data for this project came from ShadowTV, a media monitoring service that provides streaming video clips and closed caption transcripts based on the search parameters provided by the authors. ShadowTV monitors programming from specific channels and scans all content for specified key words. When key words are identified, ShadowTV captures the relevant clip and provides the clip and closed caption transcripts to the subscriber. ShadowTV monitors only certain channels. During the timeframe of this study, ShadowTV provided monitoring of the following channels for national markets: ABC, CBS, NBC, WGN-WB, FOX, FOXNEWS, CNN, CNN Headline, CNN Financial, MSNBC, Bloomberg, CSPAN, and CSPAN2.

The service monitored for television clips relevant to organ donation and clips were collected from March 5, 2003 through June 30, 2006. We began ShadowTV data in March of 2003 to examine the Jessica Santillan organ transplant tragedy and the amount of media coverage it generated (see Morgan, Harrison, Chewning and Habib, 2006 for details of the case and media coverage). We chose to end monitoring for this project in June of 2006 because we were seeing few new themes and had compelling data to report. The search parameters included the terms organ donor, organ donation, organ transplantation, organ transplant, transplant recipient, kidney transplant, liver transplant, and heart transplant. The terms were selected by reviewing print media coverage, testing search terms using internet search engines, and our observations of televised coverage of organ donation. The initial ten months of coverage did not use all of these terms and we realized we were occasionally missing coverage of a program. We added additional terms, such as kidney and liver, so we could capture coverage of more specialized stories, even though this added to the amount of irrelevant material that had to be viewed and discarded.

### ***Coding***

Coding of the data began by categorizing the show into news, reality/talk show, or entertainment/serials. News shows were defined

as shows that presented news and true stories on a variety of topics or issues. This included programs such as *60 Minutes*, *The Today Show*, broadcast nightly news programs, *Entertainment Tonight*, C-Span, as well as talk related news shows such as *Scarborough Country* on MSNBC, and *Robin and Company* on CNNH. Reality or talk shows were defined as shows that often presented in-depth stories of real people and the serious issues or problems they face, but do not present themselves as a “news” program. Additionally, the truth of the story was not a deciding criterion in placing a program in the reality/talk show category, but rather the telling of a story by real people who were presenting the story as true. This category includes programs such as *Oprah*, *Montel Williams*, *Judge Hatchett*, *The John Walsh Show*, *Crossing Over with Jon Edwards*, *Extreme Makeover Home Edition*, and *Last Call with Carson Daly*. Finally, programs were classified as purely entertainment if they were serial in nature and/or fictional movies, designed for entertainment, and stories were not presented as being true stories. Programs in this category include such shows as *ER*, *Law & Order*, *CSI*, *One Life to Live*, *General Hospital*, *House*, and *Grey’s Anatomy*. Because the nature of the shows is self evident, there were no discrepancies in the categorizing of the programs.

Since our primary research questions focus on the difference in the amount and nature of coverage of real versus fictionalized coverage of organ donation, additional coding and categories arose from analyses of the different types of programs. News programs presented real stories that tended to be focused on only one dimension of the topic of organ donation (e.g. medical crisis, scientific advancements in transplantation), often occupying no more than 1–2 minutes of a program. While talk/reality shows were frequently longer, they also tended to focus on a single theme (e.g. outrage over alleged medical misconduct, the “miracle of life” offered to a transplant recipient). The initial coding scheme for news and reality/talk show programming was drawn from Morgan et al.’s (2006) work on news coverage of the Jessica Santillan story, but was left open to allow for new themes to arise from coverage that was broader in nature than in the Jessica Santillan case. Coding was conducted by the first author. Overall, nine major themes arose in news coverage, and nine major themes arose in talk/reality programming, with some categories having sub-themes as well (see Tables 1 and 2 for complete coding categories and frequencies). The major themes of news shows

TABLE 1. News Media Categories and Frequencies 3/05/2003–6/30/2006

Category	Frequency
Recipients/potential recipients	
Need organs	30
Got organs (adult)	24
Got organs (child/baby)	68
Family problems resulting from needing or getting an organ	2
Potential tragedies/not getting organ or organ failure	33
Donors/donor families	
Family donation (exclusive of living donation)	5
Living donation	84
General donor/donor family stories	12
Family problems resulting from donation: man who was released from prison to donate to his son, but skipped town without donating	32
Donors and recipients	
Reunions	8
Directed donation	2
Matched/triangulated donation/domino	31
Awareness	
Fundraising events for organ donation	4
General awareness/spokespeople: Consider donation/knowledge	52
Books dealing with organ donation	4
Celebrity experiences	
Alonzo Morning	5
George Lopez	11
Steven Cojocarú	31
Larry Hagman	5
Jim Nabors	6
Memorials for recipients who died, celebrities donating at death: Pat Morita, Kirby Puckett, Billy Preston, Mickey Mantle, George Best	18
Miscellaneous celebrity experiences	16
Crises/scandal: West Nile, Jessica Santillan, rodents, black market, transplant hospital scandal, medical tourism, tissue harvesting	72
Religion/spirituality	4
Scientific issues/advances	
Stemcell research	12
Medical processes or advances in OD	39
General health issues related to donation	14
Health implications for recipients	9
Brain death	4
Use of older organs	3
HIV donation	2
Face transplants	39

(Continued)

TABLE 1. Continued

Category	Frequency
Ethics	
Advertising for organs: billboards, websites	16
First-person consent	6
Inmates rights as donors and recipients	7
Medical Mistrust/living wills	1
Incentives for donation	20
Insurance to be on list/cost to public	5
Congressional hearings on policy/ethics/law	33
Myths: Trait transference	2
Miscellaneous	25
Total occurrences	796

were: stories about donors and recipients, awareness of organ donation, celebrity experiences, crises or scandals involving organ donation, religion and spirituality, scientific issues and advances, ethics, congressional hearings, myths, and other miscellaneous stories. Talk/reality programming did not focus on congressional hearings or crises, but did contain jokes and interviews with celebrities about their roles in shows focusing on organ donation.

Coverage of organ donation in entertainment serials did not lend themselves to such easy categorization. These stories were often embedded in the story line or were a major focus of the entire episode (or multiple episodes in the case of several soap operas), and tended to be multi-faceted in their themes. These stories tended to focus on the major myths that people cite as reasons for not wanting to be organ donors (see Morgan and Miller, 2002). For the purposes of this preliminary study, we focused on the frequency of coverage of organ donation on each type of show and the length of each segment in order to highlight the ubiquity of organ donation in the media. Coding of all of the myths presented in the story lines for each of these serials is beyond the scope of this paper, but select examples will illustrate the tenor of coverage and brief examples of plot lines are presented.

Our units of analysis for the content of episodes are different according to the different types of coverage. This is simply because stories presented in entertainment programming seldom have one theme, are often carried over from one week's program to the next, and are embedded in much longer and more complex story lines. The goal of the coding, then, was not to provide systematic analysis

of all of the themes or storylines in entertainment serials, but to demonstrate the prevalence and general nature of the storylines. Additional analysis of the myths and portrayals of organ donation in entertainment television during this timeframe can be found in Morgan et al., (2007a).

## **RESULTS**

Research question one asked about the placement (defined by frequency, type of show, length of coverage) of organ donation in news and entertainment television. The results are broken into sections discussing news coverage, reality/talk show coverage, and entertainment media.

### ***News Coverage of Organ Donation***

Overall, we captured 796 national news segments related to organ donation over 40 months of monitoring, an average of approximately 20 stories per month or 4.6 stories per week. Segments averaged approximately 2½ minutes each (this number is slightly inflated over typical news segments given the inclusion of several hour long in-depth segments on channels such as C-Span). Overall, the most common stories on news programs focused on recipients and potential recipients, donors or donor families, or reunions between donor families and recipients. These accounted for approximately 42% (n = 331) of news stories on organ donation (with approximately 25% of those stories focusing on living donation), not including stories about celebrity experiences which make up an additional 12% (n = 92) of the stories. Almost all of the celebrity coverage focuses on two individuals, George Lopez and Steven Cojocar. Stories focusing on scientific issues and advances about organ donation account for 15% (n = 122) of the segments. A significant number of the stories focused on crises or scandals surrounding organ donation, including stories that focus on recipients catching rare diseases from their transplanted organs, transplant surgeons manipulating the system and causing entire programs to be shut down, or focusing on the international black market in organs. These stories account for approximately 9% (n = 72) of the coverage of organ donation on the news. General stories promoting awareness of organ

donation are the next most common, accounting for approximately 8% (n = 60) of stories. Stories about other ethical issues that may cause people to view organ donation skeptically, such as the use of billboards or online advertising to bypass the transplant waiting list through directed donation, accounts for another 6% (n = 50) of the coverage. The remaining coverage focuses on medical or scientific issues or issues related to law or policy regarding organ donation, with much of this coverage broadcast on C-Span or C-Span2. A complete breakdown of segments appears in Table 1.

### ***Reality/Talk Show Coverage of Organ Donation***

ShadowTV captured 96 stories about organ donation on reality and talk shows over the 40 month period, averaging 2.4 times per month. The average time organ donation was a topic per show averaged approximately 12 minutes and 12 seconds. Coverage of organ donation followed many of the same themes as presented in the news media. Stories of donors and recipients accounted for 35% (n = 34) of the stories with celebrity experiences accounting for another 19% (n = 18). General knowledge and awareness accounted for 14% (n = 13), discussions with actors about plot lines in television shows or movies accounted for 7% (n = 7), scientific issues and ethics accounted for 11% (n = 11), and jokes accounted for 8% (n = 8). The remaining 5 stories dealt with a variety of miscellaneous issues. Overall, stories of organ donation typically focused on one individual who had been touched by organ donation and provided an in-depth profile of that person or their experiences, with donor, recipient, and celebrity stories accounting for approximately half of all coverage. Additionally, many of these stories focus on children who are in serious need or have gone through multiple organ transplantation. Occasionally a show would have a brief mention of organ donation (for example, when a celebrity would appear on shows like *Wheel of Fortune* to play for a charity, or when a talk show host would make a joke about donation). A complete breakdown of segments appears in Table 2.

### ***Entertainment Serials Featuring Organ Donation Plots or Story Lines***

Coverage of organ donation in fictionalized television serials and movies was also ubiquitous, with 153 captured episodes (3.8 per



TABLE 2. Reality/Talk Shows Categories and Frequencies 3/05/2003 – 6/30/2006

Category	Talk/Reality Shows
Recipients/potential recipients	
Need organs	7
Got organs (adult)	5
Got organs (child/baby)	3
Family problems resulting from needing or getting an organ	2
Donors/donor families	
Family donation (exclusive of living donation)	4
Living donation	2
General donor/donor family stories	5
Family problems resulting from donation	3
Donors and recipients	
Reunions	3
Awareness	
Fundraising events for organ donation	1
General awareness/ spokespeople: Consider donation/knowledge	7
Celebrity experiences	
Alonzo Mourning	8
Steven Cojocarú	3
George Lopez	4
Robert Altman	2
George Best	1
Discussions of movies/television series/interviews with actors in movies	7
Religion/spirituality	1
Scientific issues/advances	
Face transplants	10
Ethics	
End of life discussions	1
Myths: Trait transference	1
Jokes	8
Miscellaneous	3
Total occurrences	91

month) featuring organ donation as a major part of the plot line. An additional 52 episodes included at least one scene that mentioned organ donation, but where organ donation was not part of the major plot line. Serials that had plots featuring organ donation had segments that averaged approximately 18 1/2 minutes per episode.<sup>1</sup> While some serials made brief mention of organ donation, the majority of serials featured organ donation as one of the major plot

lines that was embedded throughout the episode. Almost all of these episodes were original episodes, although there were a small number of episodes ( $n = 10$ ) that aired multiple times. Many of the shows that aired episodes about organ donation are successful daytime or primetime shows, regularly performing in the Nielsen Top 20 at some point during their run. For example, for the first half of the 2006–2007 season, shows such as *CSI*, *Grey's Anatomy* and *House* finished third, fifth, and eighteenth, respectively (retrieved January 15, 2007 from: <http://tv.zap2it.com>). The *Law & Order* franchise has run for over 16 years, spawned two successful spin-offs, and runs episodes multiple times daily in syndication on various cable stations. The success of such shows not only lends credibility to the storylines featured therein, but also attests to the audience's interest in and engagement with the programs' characters. Almost without exception these and other entertainment shows feature story lines that play into the major myths and fears that people cite as barriers to becoming organ donors (see Morgan et al., in press, for a content analysis of entertainment media). For example, a recent episode of *Law & Order* focused on a black market for kidney transplants, where a prominent surgeon illegally brokered the buying and selling of organs and performed the transplants in his hospital. A complete breakdown of television shows featuring extended stories lines or brief mentions of organ donation appears in Table 3

Research question two asked how organ donation is promoted in the news and entertainment media. Identification of major themes and storylines, as well as similarities and differences in the coverage of non-fictional and fictionalized accounts of organ donation provide the answer to this question.

### ***News Coverage of Organ Donation***

For news segments, stories come in clusters and tend to focus on sensationalistic stories. When a big story breaks, the story will show up on several or all monitored networks and include frequent or repeat airings on those networks, often leading to 20 or more segments related to one story. Examples of this include a story of infant twins who both needed hearts, a woman in France who received the first ever face transplant, the father released from prison to donate to his son who subsequently skipped out before donation, the transplant of a beating heart in England, “domino” transplants, a teacher who

TABLE 3. Fictionalized Organ Donation Plots and References in Entertainment Television

Serials and Original Movies	Frequency		Sample Themes and Plot Lines
	Major Plot Line	Brief Mention	
Alias	1		Cover story of donation to accomplish secret mission
All My Children	2	3	Donating kidney for information; taking life saving organs
As the World Turns	9	7	Son is in desperate need of a kidney transplant; mom agrees to marry if husband can find a kidney; husband finds a kidney through some shady practices
Betterman	3		A side effect of transplant anti rejection mist turns people into organ eating zombies
The Bold and the Beautiful	22	1	Daughter needs kidney so she can get cancer treatment; daughter dies, but miraculously recovers; in private clinic she gets chemotherapy and gets well enough for a transplant
Bones	1		Illegal "harvesting" of bones; bones are cancerous and give recipients cancer
CSI	4	2	Having children to be donors for other children; brother kills the sister to stop it; kidnapped girl is only donor for brother; man gets killed and doctors take his organs; medical device keeps boy alive while waiting for transplant
CSI Miami	1		Body found on beach may have had a face transplant
CSI New York	1		Surgeon hijacks organ transport and steals organ for his wife
Crossing Jordan	1		Organ broker is on the loose trying to arrange illegal donations
DaVinci's Inquest	1	2	DaVinci investigates a death in prison
Days of our Lives	14	1	Baby needs transplant; character killed in hit-and-run becomes donor
Dharma & Greg		1	Some pieces are missing in old anatomy dolls and the comment is made that the male received a "kidney transplant" from the female doll
Drew Carey		1	Drew Carey survives car accident, but person killed in car accident was an organ donor

(Continued)

TABLE 3. Continued

Serials and Original Movies	Frequency		Sample Themes and Plot Lines
	Major Plot Line	Brief Mention	
ER	23	5	Confusion over brain death; donation between HIV positive individuals; second transplants, chronic vegetative states and donation; downs syndrome patient needs organs but hospital says ineligible; brain dead woman wakes up; patient dies waiting for transplant; woman "moved up" on transplant list
Everybody Loves Raymond		1	Robert's ex girlfriend dates a man who is not a donor
Family Guy	1		Family raising money for liver transplant for child
Frasier	1	1	Mention of a friend who needs a heart transplant
General Hospital	27	2	Woman in need of second transplant has miraculous recovery without it; man put on list without his consent, is moved up the list, and rejects a transplant from his son; son donates liver, father sues hospital
Ghost Whisperer	1		Dead man who was donor haunts his fiancée and wants to know who received his heart
Gilmore Girls		1	Mother uses heart transplant to make an analogy
Grey's Anatomy	9	1	Alcoholic, abusive husband needs transplant; woman brought in as potential donor, upon further investigation, she is found to be still alive, surgeons want to "harvest" her organs anyway; patient needs transplant and doctor games the system to move him up the list and the patient dies; boy needs second transplant but doesn't want it; argument over keeping brain dead patient alive to support her fetus and urge donation instead; doctors argue over who gets a heart to transplant; scene of "organ harvesting"
Guiding Light		1	Pregnant woman's husband makes joke about baby needing kidney transplant in the future
Home Improvement		1	A joke is made about storing a spare liver for a transplant where you store your alcohol
Hope and Faith		1	Comment about needing organs, but about organs being abused

House	4	2	Woman donates kidney to lover she knows is breaking up with her; woman needs second transplant; medical mistake leads to death; transplant of organ infected with hepatitis C; black market; medical mistrust; use of organs that are not viable for transplant
I'll be Home for Christmas	1	1	Organ is transported and delivered on a bus
Just Shoot Me	1	1	Maya dates a politician who not only lies about being married, he claims that his wife is in need of a heart transplant
Killer Instinct	1		Serial killer is removing transplanted organs
King of Queens	1	1	Doug uses kidney transplant to get money from mother and to bail friend out of trouble
Las Vegas	1		Selling and buying kidney for money
Law & Order	3		Surgeons engaged in organ trafficking and illegal transplants; black market; recipients as murder suspects; lawyer attacks mother for signing donation papers for baby seven hours before she was officially declared dead
Law & Order: CI	1		Woman who'd been a kidney recipient is shot in the head in a jewelry robbery and her husband donates her organs; she was killed by a man who donated his kidney to her, but when she changed career plans to become a mother he decided she was no longer deserving; man looks for deserving donors on the internet
Lost	1	1	Man talks about a kidney he had donated to a father who abandoned him
Malcolm in the Middle	1	1	Sister needs transplant; wallet is lost but donor card returned
Mash	1		Experimenting with a heart transplant patient
Medium	1		Psychic helps woman reconnect with family to receive transplant
NCIS	3	1	Father plants cadaver in ambulance to cover up that his Marine son was a kidney recipient; sperm bank calls "father" and says offspring needs an organ
Nicholas' Gift	1		Story of Nicholas Greene who donated organs after being killed in Italy
Numbers	1		Organ brokering ring; organs for money; organ harvesting; donors dying from surgeries gone wrong; doctors murdering donors and taking all of their organs; discussion of need for more donors
One Life to Live	4	1	Woman who received dead husband's heart is having problems "caused by the transplant"; sister is mistaken for recipient and chastised for drinking; woman needs liver transplant

(Continued)

TABLE 3. Continued

Serials and Original Movies	Frequency		Sample Themes and Plot Lines
	Major Plot Line	Brief Mention	
The Practice	1		Mention of donation in conjunction with a case about man who dug up his mother and mounted her head on his wall out of respect
Scrubs	2		Man with liver disease needs transplant, brother volunteers; hospital to perform first heart transplant and doctor tells residents whoever convinces the family to "pull the plug" gets to scrub in
Seinfeld	1		Eileen dates man who has donor marked on his license
Smallville	2	1	Boy straps himself to a bomb and demands a transplant for his brother; masked avenger got her power after a meteor shower killed the girl that was her heart donor
Spin City	1		Mayor sleeps with recipient of his mother's heart
The Simpsons	2	2	Joke about not having any more veins to transplant into heart; boys open cooler and find organ; grandma needs a kidney and Homer volunteers; Homer gets a hair transplant and donor's hair seeks revenge through Homer, kills two people and tries to kill Bart; Marge trades a cool t-shirt to be moved up the transplant list
Stephen King's Desperation		1	Evil police officer comments that person is donor when he pulls them over
Will and Grace		2	Leo mentions kidney transplant surgery; joke about organ being in the cooler
Yes Dear	3	1	Character promotes movie "Spare Parts"; Christine gets a sexy woman to flash Greg by telling her that he is waiting for a kidney
The Young and the Restless		1	Investigator looks at license and comments on donor status
Total	153	52	

donated a kidney to her student, Steven Cojocaru's kidney transplant, and a reverse transplant for a girl whose transplanted heart was failing but still retained her original heart. These eight stories comprise over 20% of the segments. These news stories tend to be very one-dimensional and brief. They typically serve to heighten awareness about one dimension of organ donation and transplantation, but do not ever educate the public about misconceptions surrounding organ donation. Additionally, on 24-hour news stations, such stories are sometimes accompanied by banter between anchors, lending a speculative and opinion-based element to the story.

### ***Reality/Talk Show Coverage of Organ Donation***

Coverage of organ donation on reality and talk shows follows very closely the coverage on news programs. The categories are largely the same, but talk and reality shows often go inot more depth with their coverage. For example, while a news segment may spend 30 seconds or a minute on a simple story of an individual needing a transplant, a reality/talk show may spend 15 minutes on that same story. Additionally, reality/talk show coverage of organ donation often offers the advantage of interviews with one or more of the parties involved in organ donation. These individuals can often provide a face to the cause, as well as serve as grateful advocates for organ donation. However, because these individuals were involved in only one aspect of the transplant process, they are often misinformed on certain aspects of organ donation and thus may unintentionally misrepresent some elements of the organ donation process in their enthusiasm for the cause. Thus, while the coverage of organ donation in reality or talk shows is often more positive or detailed than in news coverage, it often remains sensationalistic and one-dimensional to some extent.

### ***Entertainment Serials Featuring Organ Donation Plots or Storylines***

Entertainment serials are seldom as one-dimensional. They generally contain plot lines embedded in an overall episode, or even season. Whereas news coverage is usually finite and easy to segment, placement of organ donation in entertainment television is often woven into overarching show themes and tied to the actions of major characters, making it difficult to isolate. For example, placement of organ

donation has been as simple as a one-liner (often a joke told in poor taste to no other end) and as prevalent as serving as a major storyline spanning multiple episodes, as in daytime serials, where plotlines can last as long as a month or more. As a result, we primarily focused on capturing the programs on which the stories appeared. While full coding of individual episodes is beyond the scope of this manuscript, a sample of the plot lines should serve to demonstrate the general tenor of these episodes.

A recent episode of *Grey's Anatomy* featured two concurrent story lines related to organ donation. The first plot line focused on a woman who had been declared brain dead and was waiting to have her organs procured. The tension in the story line revolved around a young intern who concluded the woman was not actually brain dead by performing a simple nervous system test (causing the woman's reflexes to engage) and the group of "organ harvesters" (transplant surgeons) who insisted she would be dead by the time they reached the operating room. Finally the young intern persuaded the resident neurosurgeon to examine the patient, and he concluded she had a tumor that was operable and that she would fully recover. The organ harvesters circled, argued, and protested, but eventually left while showing their frustration and anger.

The second story line in this episode revolved around a son and his parents who had been in a car crash that killed the driver of the other car. While the family initially tries to cover it up, it becomes apparent the crash was caused by the father's road rage (making him guilty of murder). The rage was fueled by a fight with his wife, a wife who had suffered long-term physical abuse at his hands. The father had previous liver damage from drinking and was on the organ transplant waiting list. He was also severely injured in the accident and would not survive the surgery without a transplant. There were no available organs for transplant, and the only match was the son. The son, while being pressured by the mother, is forced to decide on the life or death of his abusive, murderous father whom he hates. He eventually donates his kidney, but sets as a condition that his mother must leave his father.

These two story lines clearly play upon many of the fears and issues that influence people not to be donors. The public currently voices fears that surgeons won't try to save the lives of organ donors, do not believe brain death is "real" death, and often view surgeons and transplant teams as vultures waiting to harvest their bodies.



There is also mistrust of the organ allocation system, and issues around the “deservingness” of potential recipients are frequently cited in decisions to not become a donor (Morgan et al. 2005). While this story line is clearly inflammatory, it is by no means an anomaly in the entertainment media.

In a second example, an episode of *Law & Order* begins with the police discovery of a dead body. Upon examination of the body, the coroner declares that the body has had an organ removed, but that it was not the cause of death as the scar had started to heal. This leads the detectives down an avenue of investigation where all possible kidney recipients on the transplant waiting list are suspects in the death. Eventually they uncover a funeral director who is involved in harvesting body parts from cadavers for sale to the scientific community, but also brokers live kidney transplants for \$50,000. The police dramatically burst into an operating room where a kidney has just been removed, but has not been transplanted into the body of a young black male on the verge of death. In the story, the “National Transplant Clearing Center” says the kidney absolutely may not be transplanted as it violates every ethical standard related to donation, but one detective facilitates the operation so the child may live. Implicit throughout the story line is the message that many families on the waiting list know how to illegally obtain an organ. However, this is currently a medial and logistical impossibility in the U.S.

While these are only two examples, they demonstrate fairly typical plot lines that focus on issues of black markets for organ donation, abuse of the system by unethical doctors, an unfair allocation system, individuals committing murder to obtain organs, and a host of other myths that many of the general public believe have some truth to them (see Morgan et al., 2005, Morgan et al., 2007a).

## ***DISCUSSION***

Most people, including those in the organ procurement field as well as academic researchers in the area of organ donation, are likely to be surprised by these findings. The public is inundated with information about organ donation. Morgan and colleagues (2006; Morgan et al., 2007a) have demonstrated that much of this coverage is either sensationalized or outright false. While the news media tends to focus on

factually accurate events surrounding organ donation, the sensationalizing of crises such as the deaths of recipients due to undiagnosed diseases carried by donors, and the manipulation of the evaluation of potential recipients by less-than-ethical doctors promotes public fear and mistrust of a nonetheless strictly regulated organ allocation system. Highlighting the deaths of a few recipients because of diseased organs plays on public fears of contagion which are probably rooted in ancient death taboos—and thus all the more easily exploited. Similarly, widely trumpeting the failure of one hospital to monitor the activities of one transplant surgeon who manipulated the system to obtain a liver for a patient (which resulted in the temporary suspension of the hospital's entire transplant program) plays on public fears that the rich receive organs before the poor, and that both the medical and organ allocation systems are not to be trusted. Of course, we are not the first to point out that media coverage of news events is rarely in proportion to the importance or frequency of those events relative to larger day-to-day reality.

What is most disturbing is the patently false information appearing in entertainment media. Based on the results of Morgan et al.'s (2007a) content analysis of the myths promoted on entertainment television, it appears that at least 90% or more of entertainment programs featuring organ donation contain false information. Unfortunately, most people who do work or research in the area of organ donation believe that such representations are isolated incidents. Sadly for the nearly hundred thousand people waiting for a transplant, this could not be further from the truth. In just 40 months, 33 shows carried 153 episodes with plot lines pertaining to organ donation, most of which, unlike the non-fictional media, are extended and compelling narratives of people being deliberately killed by doctors for their organs, organs being bought and sold on the black market, and so on. Especially troubling are storylines carried by *Law & Order*, partly because of their high frequency of false and exploitive content (black markets for organs leading to the discovery of dissected bodies in stairwells or alleys seem to be a favorite plotline), and partly because of the syndication of the show which allows these stories to be aired over and over again for years, but also largely because of *Law & Order*'s well-known tagline: "Stories Ripped from the Headlines." And indeed, regular viewers can attest to recognizing many plots as parallels of last month's news. It is no jump of logic to conclude that the average viewer

would be likely to believe that there is, at the very least, a kernel of truth to episodes about organ donation.

Taken together, sensationalized news coverage and exploitative entertainment television provide a double-blow against organ donation. It is possible, even likely, that audiences will see a news report of a doctor who manipulates the system, and then see the same thing happen on *Law & Order* or *Grey's Anatomy*. As a result, audiences are not given an incentive to become a potential organ donor by joining the state registry or signing a donor card. Rather, they are left to draw the likely conclusion that the price attached to this behavior is too high. If left to believe what is on television, one might conclude that while organ donation is a "good thing," the risks simply outweigh the benefits. While the placement of organ donation in news and entertainment media has reached a level that brings significant attention to the cause, the tenor and content of its promotion need to be addressed in order to prevent the further spread of misinformation and fear.

### ***Limitations***

Timing the clips in serials running major plot lines focusing on organ donation is a difficult task. The story lines are embedded within the larger plot, and while it is possible to identify clips that focus solely on organ donation, doing so misses the development of the plot that may be relevant but fails to use the terms in our search parameters. As such, when the episode involved a major plot line, we included the entire show in the timing of the clips. A few examples are included for those interested in specific segments. An episode of *Grey's Anatomy* had nine segments in one episode that accounted for approximately 25 minutes of the show. An episode of *House* had 11 segments that accounted for 22 minutes.

There are three other limitations to this study, all of which suggest we are conservative in our report on the extent of organ donation coverage in the media. First, because of concern that we might not be capturing every possible story, we added a few additional terms, such as "kidney", to our search parameters approximately 10 months into the study, which implies that our total number of stories may be a conservative estimate. Second, the ShadowTV monitoring service does not cover many cable television stations. While most news channels and major broadcast channels are covered, stations like TNT,

USA, TBS, and HBO are not. The channels mentioned above air frequent reruns of some of the most serious “offenders” of organ donation coverage like *Law & Order*. The implication of this is that we have fairly comprehensive coverage of national news programming, but we have limited coverage of entertainment media. A final limitation is the lack of inclusion of local television programming. Monitoring of local markets by ShadowTV is limited to about a half a dozen major metropolitan markets. Early monitoring of these local markets revealed there were almost as many local news stories focusing on donors and recipients as there were in the national media, suggesting that local news may contribute substantially to overall coverage of organ donation. The coding and reporting local market data is beyond the scope of the paper and would produce results generalizable only to specific markets captured by ShadowTV.

### ***Application***

There are two potential areas of application suggested by the findings of this research. The first deals with proactive approaches to changing the nature of programming of organ donation. Part of the problem has been a lack of available information made available to media industry professionals (the “place” component of social marketing). Organizations representing other health issues have made expert consultants readily available (at no cost) to television writers and producers, host regular informational events in Hollywood, and reward programs that provide accurate prosocial content. The organ procurement field has only recently begun to take any of these steps,<sup>2</sup> but unfortunately, even simple steps such as including organ donation on the Center for Disease Control’s information clearinghouse website for the media have yet to be taken. The CDC’s website includes more than 130 other health topics, yet organ donation is not among them. Because nature abhors a vacuum, it is not surprising that writers and producers have “filled in the gaps” with whatever creative (albeit destructive) storylines they believe will have the most entertainment value. While this is not marketing to the general public, it is essentially marketing to the marketers. This can also be supplemented by grassroots pressure from recipient organizations through organized letter writing campaigns. This type of grassroots pressure is necessary to break the hegemonic stranglehold of negative media coverage in entertainment media.

Because it is likely to be a long process to get producers and writers to change how they present organ donation, a second application should focus around proactive media planning for those promoting organ donation. Many of the storylines from popular entertainment programming and much of the sensationalized news coverage of organ donation essentially follows a pulsing strategy, with extensive coverage for a few weeks surrounding a dramatic (and frequently negative) story. Pulsing strategies have been shown to be effective (Naik et al., 1998) and grassroots and other transplantation organizations should be prepared to counter their messages. Three approaches toward countering the negative effects of sensationalized news stories include press releases and pressuring news organizations to allow comment by organ transplantation professionals, grassroots organizing among transplant recipients (and organized groups such as TRIO - Transplant Recipients International Organization) to use a network approach whereby they bring the story up in conversation and then provide a counter point to the story, and finally, a targeted campaign by the public education branches of organ procurement organizations (OPO's) that follows a similar bursting strategy that seeks to provide a counterpoint to the damaging stories. This strategy is likely to be more effective than many of the general awareness campaigns that are currently conducted by OPO's.

## ***CONCLUSION***

Ultimately this analysis should provide insight into the challenges faced by those engaged in the social marketing of organ donation. Organ donation makes for compelling viewing in both news and entertainment media. The story lines tend to reflect sensationalistic news or promote storylines that highlight fears about the organ donation process. Those stories that are positive are generally featured in the news media and tend to be one-dimensional and thus will do little to change specific attitudes that will lead individuals to become donors. Additionally, the combination of compelling, embedded storylines placed in highly realistic medical and medical legal dramas, delivered to individuals in their own homes, combined with the reach of entertainment television are likely to provide far more influence in individual attitudes than the often small scale campaigns run by organ procurement professionals and academics. This appears to

be a case where social marketing has met its match in the marketing of organ donation for entertainment.

## NOTES

1. Timing the clips in serials running major plot lines focusing on organ donation is a difficult task. The story lines are embedded in the larger story, and while it is possible to identify clips that focus solely on organ donation, doing so misses the development of the plot that may be relevant but fails to use the terms in our search parameters. As such, when the episode involved a major plot line, we included the entire show in the timing of the clips (45 minutes for one hour programs and 22 minutes for 30 minute programs). For those interested in specific segments, though, we are including a few examples of the number of segments and times for several different sitcoms. An episode of *Grey's Anatomy*, for example, had nine segments in one episode that accounted for approximately 25 minutes of the show. One episode of *House* had 11 segments that accounted for 22 minutes. *Killer Instinct* had nine segments that accounted for over 31 minutes. And *Crossing Jordan* had four segments that accounted for just over 13 minutes of the episode. The exception to this rule is soap operas. Soap operas consistently run ongoing storylines focusing on organ donation. However, given the format of soap operas (that they run multiple discrete story lines) it is possible to isolate story lines focusing on organ donation without having to count the entire episode.

2. The Division of Transplantation and the CDC have recently engaged the services of Hollywood, Health, and Society, a consulting firm affiliated with the Annenberg School of Communication at the University of Southern California, to work with writers and producers to create more accurate storylines.

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