

Mass media campaigns and organ donation: managing conflicting messages and interests

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Abstract Mass media campaigns are widely and successfully used to change health decisions and behaviors for better or for worse in society. In the United States, media campaigns have been launched at local offices of the states' department of motor vehicles to promote citizens' willingness to organ donation and donor registration. We analyze interventional studies of multimedia communication campaigns to encourage organ-donor registration at local offices of states' department of motor vehicles. The media campaigns include the use of multifaceted communication tools and provide training to desk clerks in the use of scripted messages for the purpose of optimizing enrollment in organ-donor registries. Scripted messages are communicated to customers through mass audiovisual entertainment media, print materials and interpersonal interaction at the offices of departments of motor vehicles. These campaigns give rise to three serious concerns: (1) bias in communicating

information with scripted messages without verification of the scientific accuracy of information, (2) the provision of misinformation to future donors that may result in them suffering unintended consequences from consenting to medical procedures before death (e.g. organ preservation and suitability for transplantation), and (3) the unmanaged conflict of interests for organizations charged with implementing these campaigns, (i.e. dual advocacy for transplant recipients and donors). We conclude the following: (1) media campaigns about healthcare should communicate accurate information to the general public and disclose factual materials with the least amount of bias; (2) conflicting interests in media campaigns should be managed with full public transparency; (3) media campaigns should disclose the practical implications of procurement as well as acknowledge the medical, legal, and religious controversies of determining death in organ donation; (4) organ-donor registration must satisfy the criteria of informed consent; (5) media campaigns should serve as a means of public education about organ donation and should not be a form of propaganda.

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Introduction

Mass media campaigns are widely and successfully used in society to change health decisions and behaviors. The editors of *The Lancet* illustrated the power of the media by pointing out how media have contributed to unhealthy lifestyles, for example in children and young adults:

[T]he American Academy of Pediatrics has issued a policy statement online in *Pediatrics* calling for pediatricians to encourage parents to avoid exposing their children to films, television, or music videos that show cigarette smoking, drinking, or other drug misuse. (The Lancet 2010).

Independent media and government-backed media play important roles in organ donation. There are two important roles for the media in organ-donation campaigns (McGregor et al. 2008). First, government-backed media campaigns (e.g. ads on TV and pamphlets given out at departments of motor vehicles (DMV) or in doctors' offices) should serve as independent portals of accurate medical information with the least amount of bias. Second, independent media should hold organ-donation campaigns responsible for the integrity and truthfulness of content and materials communicated to the general public.

Donate Life America launched the "Donor Designation Collaborative" in 2006 to increase the number of designated donors in state donor registries in the United States (US) (Donate Life America 2010). The Donor Designation Collaborative has established criteria and target goals for state organ-donor registries (Table 1) (Donate Life America

2010). One of the main goals of the Donor Designation Collaborative is to promote DMV offices as point-of-decision and enrollment channel of 97% of donors in most states (Donate Life America 2010). In this article, we comment on the recent use of mass media campaigns at DMV offices to maximize enrollment in organ-donor registries. We address serious concerns raised by these campaigns: (1) the accuracy of materials used in multimedia communication, (2) the appeal to religious and faith leaders for endorsing these campaigns, (3) the public-safety consequences of misinformed potential donors, and (4) the unrecognized and unmanaged conflicts of interests present in organizations that develop, fund, and implement these campaigns. Finally, we outline the public policy implications of governmental funding of media campaigns for organ donation and the obligations towards the welfare of all citizens.

Organ donation: facts versus myths

Researchers and scholars have questioned the conflicting messages between government-backed media and independent media about organ donation. Verifying the facts

Table 1 Donate life America national goals of donor designation collaborative at the local offices of the departments of motor vehicles (DMVs)

Criterion	Target goal
Donor registry ^a	Effective donor registry ^b Donor designation ^c is legally binding consent and constitutes legal authorization for donation with no further requirement for family authorization for organ, eye and tissue Includes consent for tissue donation Individuals can enroll online through a dedicated Web site DMV enrolls donors via driver's license and ID card applications and renewals by all available channels (field office, online, mail) No follow-up step required for DMV or online enrollment DMV donor records are searchable within 1 week of enrollment DMV exports donor records to registry database Organ, eye and tissue recovery agencies can effectively access donor designations 24 h/7 days
Actionable donor designation ^d	≥100 million
Donor designation rate ^e	≥50%
DMV enrollment channel of donor registration in most states	≥97%

Table adapted from original source (Donate Life America 2010)

^a A searchable database of individuals who have designated themselves as donors (Donate Life America 2010)

^b A donor registry with best-practice characteristics that support the donor designation and maximizes opportunities to enroll and streamline donor searches (Donate Life America 2010)

^c A documented, legally binding commitment by an individual to make an anatomical gift that can be revoked only by that individual (Donate Life America 2010)

^d An individual's commitment to donate recorded in a searchable donor registry. The total number of designated donors of all state residents age 18 and over are actionable donor designations (Donate Life America 2010)

^e The number of individuals who joined the state donor registry expressed as a percentage of all driver's licenses and ID cards issued within a specific period of time (Donate Life America 2010)

and scrutinizing the integrity of materials that are communicated in the media about healthcare topics is a shared responsibility in society (Dutta 2010). Scholars and researchers of all disciplines share the responsibilities of interrogating “scientific claims” and scrutinizing “knowledge claims” before embarking on interventions in target communities (Dutta 2010). These responsibilities must be upheld even in the face of opposing external political, governmental, or ideological pressures. Facts must not be confused with myths and vice versa.

[C]ritical health communication scholars have all along been committed to bridging the worlds of theory and practice by fundamentally attending to the political and cultural exigencies within which knowledge claims are made...The value of the proposed intervention is taken for granted, and interventions are carried out on target communities on the basis of “scientific claims.”...Critical health communication theorists interrogate the values intertwined in the knowledge claims made by biomedicine, as well as the values underlying the social scientific theories that are the primary grounds of claims making for health communication scholars (Dutta 2010, p. 535).

Public media campaigns demand the highest standard of transparency and accuracy of information related to healthcare issues so as to enable the general public to make informed decisions about health and lifestyles. Transplant advocates agree on the importance of communicating accurate and reliable information in media and education campaigns so the public can make informed choices on organ-donor registration.

Bad information, education, and communication leads people to ill-informed choices, whereas good information, education, and communication helps people to make good, well-informed decisions...Specifically, a number of myths and fears are widely believed and distinguish donors from nondonors (Harrison et al. 2008, p. 303).

When registering as organ donors, the general public is most concerned about premature and erroneous declaration of death prior to organs being harvested:

[m]istrust of the medical system, including fear that doctors will prematurely declare death to procure organs, fear of medical mistakes in the declaration of death (Morgan et al. 2008).

In campaigns for organ donation, these concerns are dismissed as bad information. Information that is likely to dissuade individuals from donating is labeled as *myths* to allay public fear even when the information provided is correct. For instance, a “Google” search on ‘organ

donation’ and ‘myths’ gives 252,000 results, most of which include a statement that brain death is truly and unequivocally equivalent to human death. Any contrary information on brain death is categorized as ‘myth’ even if scientifically validated. Harrison et al. (2008) and Morgan et al. (2008) focused the multimedia campaigns at the DMV offices to dispel among staff and customers certain myths or beliefs about organ donation: myth #1, misunderstanding of brain death and fear of mistakes in declaring death or premature determination of death and; myth #2, fear of awareness or pain involved with organ donation after death (illusion of lingering life); myth #3, the belief that organ donation is against their religion; and myth #4, mistrust of doctors and the belief that doctors won’t work as hard to save life if they are organ donors. However, pertinent information is available in the scholarly literature that contradicts labeling the above beliefs as myths. This information pertains to: (1) medical and legal uncertainty of death determination in organ donors (myths #1 and #2), (2) growing religious controversies regarding the divergence of secular death from theological death (myth #3), and (3) team huddling of procurement professionals with medical staff responsible for care of potential donors before organ donation (myth #4).

Myths #1 and #2: declaration of death in organ donors

The Uniform Determination of Death Act (UDDA) was introduced in 1981 (National Conference of Commissioners on Uniform State Laws 1981) and has been enacted in all states within the jurisdiction of the United States. Organ donors are declared dead either by a neurological criterion in whole-brain death or a cardiac criterion in cardiorespiratory death. In 2009, the editors of *Nature* examined one myth about organ donation, namely, the myth that organs are procured when the donor is dead (Delimiting death 2009). The editors described substantial evidence that the current practice of organ donation from donors declared dead by the neurological criterion is not in full compliance with the UDDA, i.e., organs are procured from donors who *are not legally* dead (Delimiting death 2009):

The law [UDDA] seems admirably straightforward: “An individual who has sustained either (1) irreversible cessation of circulatory and respiratory functions, or (2) irreversible cessation of all functions of the entire brain, including the brain stem, is dead”. In practice, unfortunately, physicians know that when they declare that someone on life support is dead, they are usually obeying the spirit, but not the letter, of this law. And many are feeling increasingly uncomfortable about it. In particular, they struggle

with three of the law's [UDDA] phrases: *'irreversible'*, *'all functions'* and *'entire brain'*, knowing that they cannot guarantee full compliance. (Delimiting death 2009). [Emphasis added]

The neurological criterion for determining death in organs donors is noncompliant with the legal definition of death set forth in the UDDA (Nair-Collins 2010; Rady et al. 2010; Rodríguez-Arias et al. 2011). Therefore, the fear of harm in some donors from sensory awareness and pain perception cannot be totally dismissed (Verheijde and Rady 2011). This evidence directly challenges the fundamental message of organ-donation campaigns (Harrison et al. 2008, 2010, 2011; Morgan and Harrison 2010), i.e., "organ donation *after death*." Considering that the scientific and medical communities have expressed concerns about noncompliance with the UDDA, the message from organ donation proponents misinforms the general public that there is no controversy over whether donors are dead before organs are extracted. The editors of *Nature* concluded that there was an urgent need for an honest public debate about organ donation. US laws have to be changed, they argued, to make current practice legally permissible: either the definition of death has to change or the law has to permit removing organs from donors *before* death. This would entail legislating physician-assisted death since organ donors are not legally dead and organ donation can be the proximate cause of death (Verheijde et al. 2009).

Ideally, the law should be changed to describe more accurately and honestly the way that death is determined in clinical practice. Most doctors have hesitated to say so too loudly, lest they be caricatured in public as greedy harvesters eager to strip living patients of their organs. (Delimiting death 2009).

The editors of *Nature* also warned that silence of the transplantation practice on this issue would ultimately jeopardize both the public's trust in doctors and the professional integrity of medicine:

The time has come for a serious discussion on redrafting laws that push doctors towards a form of deceit. ...Learning that the law has not been strictly adhered to could easily discourage organ donation at a time when demand for organs already vastly exceeds supply (Delimiting death 2009).

The *Nature* editorial appeared shortly after the publication of a comprehensive report by The President's Council on Bioethics (PCB), "Controversies in the determination of death. A White Paper of the President's Council on Bioethics" (The President's Council on Bioethics 2008). The PCB cited physiologic evidence verifying that brain-dead donors are biologically living human beings (The

President's Council on Bioethics 2008, p. 56). The PCB rejected whole-brain death as a biologic explanation of human death. The PCB inquiry concluded that the current practice of procuring organs from donors can only continue if the general public accepts whole-brain death as a philosophical explanation of human death:

Why do we describe the central question of this inquiry [whole-brain death] as a philosophical question? We do so, in part, because this question cannot be settled by appealing exclusively to clinical or pathophysiological facts...Is a human being with total brain failure dead? But determining the significance of these facts presents challenges for philosophical analysis and interpretation (The President's Council on Bioethics 2008, p. 49).

In addition, the PCB expressed concerns about medical errors when death is clinically determined in organ donors at different institutions:

For both children and adults, some studies have shown that testing for the condition known as "brain death" is not always carried out in a consistent way from one institution to another. In light of the very serious consequences of this diagnosis, it is especially important to ensure that variations in practice do not lead to errors or abuse (The President's Council on Bioethics 2008, p. 35).

Noncompliance with the standard guideline for determining whole-brain death at different US hospitals results in medical errors in declaring death in organ donors (Busl and Greer 2009; Greer et al. 2008; Powner 2009). Nevertheless, media campaigns have consistently dismissed medical errors in determining whole-brain death in donors as a myth. The PCB concluded its White Paper by calling upon US society to re-examine the current definition of death for organ donation in the light of new evidence and values that are intrinsic to human dignity. It is clear that the PCB struggled with the validity of defining human death based on the neurological standard of irreversible coma with apnea (whole-brain death):

[T]he Council believes that it is necessary and desirable to re-examine our ideas and practices concerning the human experience of death in light of new evidence and novel arguments. Undertaken in good faith, such a re-examination is a responsibility incumbent upon all who wish to keep human dignity in focus, especially in the sometimes disorienting context of contemporary medicine (The President's Council on Bioethics 2008, p. 92).

The American Academy of Neurology (AAN) published the "Evidence-based guideline update: Determining

brain death in adults” in the summer of 2010 (Wijdicks et al. 2010). The AAN guideline is intended to minimize medical errors from the inconsistency of determining brain death in organ donors (i.e., irreversible cessation of all function of the whole brain and including the brainstem) at US hospitals. However, the guideline assigned scientific evidence level “U” “(i.e., data inadequate or conflicting; given current knowledge, treatment, test or predictor is unproven)” to several criteria used for determining brain death in organ donors (Wijdicks et al. 2010). In the authors’ reply to correspondences regarding the updated guideline, the authors agreed that “[t]he gold standard [of brain death determination] is not the UDDA” (Machado et al. 2011) (i.e., brain-dead donors are not legally dead as set forth in the UDDA). Medical reports and editorials have also questioned the reliability of the AAN guideline to ascertain that neurological functions in brain-dead donors are indeed irreversibly ceased (Lessard and Brochu 2010; Roberts et al. 2010; Streat 2011; Webb and Samuels 2011).

The knowledge base about the whole-brain death criterion, which is the most fundamental aspect of organ donation, has not been settled scientifically, ethically, or legally (Karakatsanis 2008; Shewmon 2009). Joffe concluded that the medical controversy about the concept, criterion and tests of whole-brain death has yet to be resolved (Joffe 2009). In spite of the medical uncertainty, Morgan et al. without any hesitance, posited that brain death is the “real” death and is irreversible.

Similarly, a better public understanding of the nature of brain death would be very helpful in the promotion of organ donation. There seems to be considerable confusion about the difference between coma and brain death. Brain death is in fact, “real” death, and a dead person can be mechanically maintained only for a very short time for the purposes of organ donation....and misinformation about organ donation promoted by entertainment media must be persistently and aggressively fought. There is much at stake: because of fears fueled by a lack of accurate public knowledge, thousands of people die every year while waiting for life-saving transplants (Morgan et al. 2008, p. 32).

This belief has dominated the main messages in media campaigns at DMV offices (Harrison et al. 2008, 2010, 2011). The Division of Transplantation of the Health Resources and Services Administration at the US Department of Health and Human Services funded the media campaigns at the DMV offices. Therefore, it is premature for some advocates to articulate definitive statements on brain death in government-sponsored campaigns to encourage donor registration.

Myth #3: religious and faith leaders endorsing organ donation

The Lancet published an editorial discussing religious controversies about defining death for the purpose of organ donation (The Lancet 2011). The editorial was written in response to “[a]n intense debate [that] has been rekindled in orthodox Jewish circles on whether brain-stem death is compatible with the definition of death” (The Lancet 2011). Orthodox Jews reject the concept of whole-brain death in the United States and the concept of brainstem death in the United Kingdom, respectively, as traditional death. “The UK’s Chief Rabbi and his rabbinical court—the London Beth Din— rejected the legal and medical definition of death and only accept the traditional halachic definition of cardiorespiratory failure” (The Lancet 2011). The states of New Jersey and New York in the United States have accommodated the theological position of Orthodox Judaism on the determination of death by traditional cardiorespiratory criterion (Verheijde et al. 2009). *The Lancet* editors indicated that religious scholars and faith leaders of other major world religions have expressed similar reservations about the whole-brain criterion of death used for organ donation (The Lancet 2011). Worldwide religions forbid ending a human life for the sake of harvesting organs to save another human life. Many religions also object to physical mutilation of a human body. *The Lancet* recommended that:

Any position and policy at the end of life—religious, ethical, or medical—should fulfill three criteria. First, it must be based on sound scientific evidence and understanding. Second, it must have the best intention for both the person whose life has ended and for the person who needs an organ to prolong life. In other words, it must do no harm. And third, it must be understandable and supported by the individual within his or her cultural and belief context. Judaism is not the only religion in which uncertainty over definitions of death and the lack of a unified interpretation make people hesitate to become organ donors (The Lancet 2011).

The Lancet concluded “With increasingly multicultural nations it is very important that doctors discuss and are educated about the meaning of death and the cultural sensitivities of different religions” (The Lancet 2011). Keown described how traditional Buddhist belief about human death conflicted with the concept of whole-brain death for organ donation and transplantation (Keown 2010). The Buddhist religious conflict stems “from the adoption by contemporary medicine of a concept of death that is scientifically and philosophically flawed” (Keown 2010). Christianity (Tonti-Filippini 2011; Verheijde and

Potts 2010) and Islam (Bedir and Aksoy 2011) have voiced similar opposition to whole-brain death as a criterion of human death and the permissibility of harvesting organs from donors. Religious teachings consider that a person is killed when donating organs if there is uncertainty about whether the donor is truly dead (Bedir and Aksoy 2011; The Lancet 2011; Tonti-Filippini 2011; Verheijde and Potts 2010). Procurement organizations continue to claim that all major world religions approve organ donation from brain-dead persons, while the ethical controversies about organ donation in the context of brain death that are readily available online have not been addressed (Bresnahan and Mahler 2010).

The tension between religious authorities and transplantation practice is growing because of the scientific controversy surrounding the definition of death in organ donation (Glick et al. 2009; Jotkowitz 2008; Padela et al. 2011). In the face of this tension, transplant advocates continue to appeal to religious and faith leaders to articulate positive attitudes toward organ donation in their communities. Religious endorsement is vital to the success of media campaigns in religious communities (Morse et al. 2009). Therefore, transplant advocates have focused their message on faith leaders from different religious affiliations to get their endorsement of mass media campaigns and attract religious people for signing up in organ-donor registries (Morse et al. 2009).

This religious guidance should be of particular concern for health campaigns given that research suggests that most individuals are misinformed concerning their religions' views on organ donation. Research suggests that when individuals are asked whether most religions in the United States favor organ donation, most answer incorrectly (Horton and Horton 1990, 1991; Ryckman et al. 2004). This suggests that the apparent lack of support for organ donation might be based on a false notion as to the attitudes of religions and their leaders (Ryckman et al. 2004), and that the active support of organ donation by leaders in religious communities, if articulated to their constituencies, might lead to increased support among the religious general public (Horton and Horton 1990)...Part of what may account for its role in this context is the comfort that religious guidance provides in offering scripts for religious individuals' organ donation attitudes (Morse et al. 2009, p. 162).

As we have shown, religious scholars have not resolved the controversies about defining death in organ donation. There is no agreement between the medical or secular definition of death for organ donation and the theological definition

of death in Abrahamic religions (Tonti-Filippini 2011). Therefore, it is inappropriate to ask faith leaders to endorse media campaigns for organ-donor registration on religious grounds.

Myth #4: unrecognized conflict of interests in the care of patients and potential donors

In 2003, the US Department of Health and Human Services created the "Organ Donation Breakthrough Collaboratives" (ODBC) (Organ Procurement and Transplantation Network). The ODBC is part of the Division of Transplantation of the Health Resources and Services Administration at the US Department of Health and Human Services (Shafer et al. 2008). Following the creation of the ODBC, the transplantation practice have become politically active within the federal government in matters related to organ donation and transplantation (Festle 2010). The ODBC includes several committees and organizations involved in different aspects of organ procurement and transplantation: the Advisory Committee on Organ Transplantation, the Organ Procurement and Transplantation Network, and the Organ Procurement Organizations.

The ODBC promotes the close partnership between procurement professionals (coordinators) and acute medical care teams in hospital practice to maximize organ-procurement opportunities from dying patients. Full-time in-house procurement professionals are embedded as members of acute care teams in different medical specialties (e.g. emergency, trauma, neurology, neurosurgery, and critical care) at trauma centers and hospitals with high volumes of potential donors (Bratton et al. 2006; Salim et al. 2007). Embedded coordinators ensure early identification of potential donors in US hospitals (Bell 2010). The collaborative partnership between procurement professionals and hospital staff is also known as *team-huddle programs* (Rodrigue et al. 2008). Team-huddle programs grant procurement professionals physical access to patients and healthcare teams, as well as to information on inpatient care and hospital medical records, without prior consent from either patients or families. Embedded (in-house) procurement professionals team-huddle with hospital staff to minimize the likelihood of families' refusal of donation (Salim et al. 2011). Procurement coordinators initiate an early intensive interaction with families of patients who can be potential donors and continue until the families agree to donation (Salim et al. 2011). Team-huddle programs also engage procurement professionals in the medical management of patients, who can be potential donors, in a

[C]ollaborative role with key medical, nursing and hospital leadership...cultivates the strengths and addresses the weaknesses of the donor hospital to which they are assigned. By spending significantly more time with families and ensuring that donation becomes a hospital priority (Salim et al. 2011)

The contact and exposure to procurement professionals is intended to begin at the time when families are emotionally and psychologically most vulnerable because of their loved ones' critical illness. Families are persuaded to donating organs of their loved ones although donation can conflict with cultural, religious, and ethnic customs regarding end-of-life care of dying patients (Table 2). Team huddle and embedding of procurement professionals with hospital staff realign priorities of medical and end-of-life care in hospitalized patients toward achieving a utilitarian goal of maximizing organ supply for transplantation.

The concept of team huddle, which originated from the well-established communication strategy of "gaining early intervention," serves to maximize compliance of family members with donation request (Anker and Feeley 2011a, b). When potential donors are not enrolled in national organ-donor registries, procurement coordinators are instructed to try to persuade families to agree and consent to organ donation. Procurement coordinators adopt several communication strategies in their efforts to dismantle cultural, religious, and ethnic barriers to organ donation (Table 2). Procurement coordinators, who have early access to patients and their families during acute hospital care, are more likely to succeed in approaching families with presumptive consent (i.e., approach families with the assumption that they will agree to donate organs) (Bratton et al. 2006). Shafer describes a presumptive approach to consent (Shafer 2009):

Successful requesters [procurement coordinators] act as advocates for people on the organ transplant waiting list, and they clearly convey the benefits of donation for those on the list to potential donor families. They are presumptive, not neutral...Instead of giving the family an option to donate, the requester gives them the opportunity to donate, with the presumption that donation is a good thing, and that if given the chance to save a life most people will do so. Presumptivity [is] also known as dual advocacy. (Shafer 2009).

The presumptive approach to consent is a variant of presumed consent, it is not voluntary, but it is imposed consent. Nevertheless, procurement coordinators must ask families for consent to donation but they do so assuming that the family will be consenting. To eliminate the need for asking families for consent before organ procurement,

Colorado state legislators proposed presumed consent to make Colorado the first state in which people become organ donors by default and not by choice (Sayani 2011). The ultimate goal is achieving rates of 85% or higher of consent to donation and converting potential donors to actual donors in US hospitals (Bratton et al. 2006). Procurement coordinators are also required to reach certain benchmarks in rates of consent and donor conversion at designated donor hospitals and are faced with penalties for poor performance (Anker and Feeley 2011b). Therefore, team huddle can be an insidious process in a hospital practice because it can skew patients' acute care and medical decisions prematurely in favor of organ donation (Bell 2010). There are no studies that have examined how team-huddle programs affect the quality of medical care given to patients who may also be considered potential organ donors (Rady et al. 2010). An unintended consequence of the ODBC is transforming the process of acute hospital care from "caring for patients" to "caring for organs" (Chapital et al. 2009).

The Division of Transplantation of the Health Resources and Services Administration provides federal funds for media and communication research and campaigns to achieve the ODBC objectives (Morgan and Harrison 2010). The primary interest of ODBC is saving the lives of recipients who are waiting for organs on the transplant list. Maximizing the number of donors registered in national registries and implementing team-huddle programs at US hospitals are elements essential to the success of ODBCs (Shafer et al. 2008). However, it is imperative to ask: Who should be charged with protecting the interests of patients who may become potential donors?

There are real dangers from unrecognized and unmanaged conflict of interests. "A conflict of interest occurs when an individual or organization is involved in multiple interests, one of which could *possibly* corrupt the motivation for an act in the other" (Wikipedia). The organizations that are charged with both aspects of organ-donation activities (i.e., campaigns for organ-donor registries in the community and ODBC programs in hospitals) are the same entities charged with expanding the successful transplantation practice. This is a conflict of interest. Despite the presence of conflicting interests, the interests of the transplantation practice and organ recipients are given a higher priority than the interests of the donors.

Procurement professionals postulate that they can successfully take on a simultaneous dual-advocacy role (i.e., advocating for donors' interests and advocating for transplant recipients' interests) (Luskin et al. 2008). The transplantation division at the Health Resources and Services Administration describes a logistic "firewall" that exists between patient care and donor care, which effectively manages conflicting interests (Stein 2010). It is unclear

Table 2 Communication strategies of procurement coordinators to dismantle cultural, religious and ethnic barriers to organ donation

Learn about the families of potential donors (team-huddle program)

Research a family before approach for donation

Communicate about the family with hospital staff involved in the potential donor's medical care

Read the potential donor's chart

Observe the family from a distance.

Learn about family conflict and identify familial roles,

Gain knowledge of the potential donor (e.g., name, ethnic background, character, religious affiliation, cultural background) before approach.

Educate families about donation

Emphasize the need for donation because of organ shortage

Inform families of a decedent's donor consent (driver's license or organ-donor registry)

Describe donation as a surgical procedure for acceptance of body disfigurement during the procurement process

Describe the potential donor as a medical examiner's case and the autopsy is mandatory to persuade families to agree to donation

Describe benefits of donation to families

Discuss donation as a life-saving gift

Emphasize the benefit of donation to potential organ recipients

Describe the potential donor with positive emotive attributes e.g, hero, leaving a legacy, living on in others

Emphasize that donation lessens the family's experience of grief

Emphasize that donation transforms the family's grieving process into a positive experience

Persuasive tactics to influence donation

Use source homophily (i.e, strategies to make the requester appear similar to the potential donor family):

Sit on the same level as the family

Use more or less complex language to communicate with the family,

Dress similar to the family,

Mention common interests, values and beliefs shared with the family

Use social proof (i.e, identify important individuals who are supportive of donation):

Prominent community figures

Well-known religious leaders

Prior donor families,

Well-known public figures (e.g., the Catholic Pope)

Reapproach families about donation after refusal for a second time request of donation

Scarcity tactics

Emphasize that donation is a rare opportunity and the family should view the option of donation as unique privilege

Data are adapted from multiple sources (Anker and Feeley 2011a; Harrison et al. 2011; Morse et al. 2009). Multifaceted communication strategies are used to seek the compliance of families to donation request. The communication strategies rely on scripted messages and approaches for dismantling cultural, religious and ethnic reluctance of families to organ donation

how this firewall can be effective when procurement professionals are assuming dual-advocacy roles and ODBC programs are dismantling all necessary safeguards of temporal, logistic, and personnel separation of two completely distinct processes in hospital practice: patient care and donor care.

To obtain transplant organs from patients in emergency departments, procurement professionals must expeditiously initiate medical procedures aimed at preserving organs soon after potential donors arrive in emergency departments (Stein 2010). In emergency departments, donors are declared dead by the cardiac criterion of an absent arterial pulse for 5 min i.e, cardiorespiratory death. This cardiac criterion has not been scientifically validated to ascertain

that donors are legally dead and that the residual viability of their brains cannot result in awareness and pain perception (Rady and Verheijde 2010; Rodríguez-Arias et al. 2011).

In the hope of expanding a controversial form of organ donation into emergency rooms around the United States, a federally funded project has begun trying to obtain kidneys, livers and possibly other body parts from car-accident victims, heart-attack fatalities and other urgent-care patients..., the practice remains controversial because of questions about whether organ preservation and removal might begin before patients are technically dead, and because of

fears that doctors might not do everything possible to save patients and may even hasten their deaths, to increase the chance of obtaining organs (Stein 2010).

Stein reported on strict firewalls that have been put into place between patient care and donor care to calm public fears about a new federal project designed to obtain transplant organs from patients declared dead by the cardiac criterion in the emergency department (Stein 2010).

Stein highlighted that media campaigning has successfully increased the number of organ donors in national registries without the public knowing the precise procedures to which they have consented. Patients who are listed in the donor registries have also legally consented to all necessary procedures necessary to preserve organs after the patients arrive in an emergency department and have also obviated the need for consent from family members or next of kin. Organ-preservation procedures can begin before transportation to hospital, if patients are declared dead on the scene and registered in organ-donor registry (Wall et al. 2011).

One concern is that under the program, doctors will take organs from people who have agreed to become donors by checking off a box on their driver's license or by signing up on a state registry, and will not seek a family member's consent if one is not present. "The problem is there's no real informed consent in driver's license designations," said David Crippen, an associate professor of critical-care medicine at the University of Pittsburgh. "The computer asks, 'Would you like to be a donor – yes or no.'... Many people may be consenting to something that they really don't understand. (Stein 2010).

The US approach in the ODBC is in many ways comparable to the Spanish model of organ donation but with slight difference. Rodríguez-Arias and colleagues described several factors to account for the high rate of organ retrieval in Spain (Rodríguez-Arias et al. 2010). They stated that unlike the USA or Canada, the Spanish procurement coordinators are mostly physicians who provide direct patient care in the intensive care unit and who are also employed as part-time in-hospital procurement coordinators. Physicians have dual roles: (1) caring for patients in the intensive care units and (2) managing potential donors as procurement coordinators with the privilege of direct access to patients and families before organ donation. Physicians have no clear separation of their obligations and responsibilities for patient care from their roles for donor management. The dual role of intensive care unit physicians enables them gaining the full trust of families when asking for organ donation. Hospitals also

pay incentive bonuses to physicians depending on the number of donors they can recruit which "could stimulate a more continuous and dedicated search for donors" (Rodríguez-Arias et al. 2010). The Spanish model provides variable (rather than fixed) salaries for intensive care unit physicians who choose to be part-time procurement coordinators (Rodríguez-Arias et al. 2010). This dual advocacy role is both characterized and burdened by conflicting interests that could jeopardize physician's commitment to the protection and pursuit of the patient's best interests. The Spanish model of physicians assuming the dual role of caring for patients and managing organ donors has also been promoted in the United States (Singbartl et al. 2011). However, the findings of a national survey has called into question the willingness of intensivists to shoulder the responsibilities of dual advocacy when caring for dying patients (Kohn et al. 2011). Kohn et al. have reported that the majority of intensivists experienced ethical dilemmas in balancing professional obligations of providing patient care and preserving organs in potential donors. Therefore, US physicians may be unwilling to take on the responsibilities of a dual advocacy role.

Media campaigns for organ-donor registry and public safety

DMV offices are point-of-decision locations for enrolling the general public in organ-donor registries. Organ procurement organizations consider the DMV clerks as the "primary gatekeepers" of organ-donor registries (Harrison et al. 2008). Both the DMV office personnel and location sites have been high-priority targets for intervention with multifaceted communication media to increase public compliance with organ donor registration. It is also important to note that enrollment in an organ-donor registry at a DMV office is a legally enforceable consent for organ donation.

In one interventional study, educators from organ procurement organizations trained DMV desk clerks with scripted information and knowledge that reinforced positive attitudes and behavioral intent toward organ donation (Harrison et al. 2008). The educators organized training sessions to correct "false" personal beliefs and realign the beliefs and attitudes of desk clerks toward organ donation. The desk clerks were also instructed with scripted messages and ways of persuading customers to enroll in organ-donor registries. This type of intervention increased the number of customers joining organ-donor registries at DMV offices by 37% (Harrison et al. 2008). The desk clerks at DMV offices were ideal for this type of intervention because desk clerks (1) had direct contact with a large segment of the general public; (2) could easily enroll

customers into the registry while attending to their business on site; (3) had a time allotment with customers that precluded sufficient time to be questioned about the details of organ donation; (4) were attending to business at the same time as enrolling customers in the registry, the former business could be distracting to customers understanding fully and paying attention to potential consequences of their actions; and (5) were unlikely to disclose all necessary legal aspects of the consent to the customers, or how to rescind a given consent.

In addition to training desk clerks, an intervention with multifaceted communication directly targeted visiting customers at the DMV offices to induce positive attitude and willingness toward organ donation (Harrison et al. 2010, 2011). This intervention included (1) media priming with media channels and radio ads favored by women, and billboards on highways, crosswalks, and heavy traffic roadways; (2) materials communicated on location: footprint stickers in office floors, posters, priming message cards at check-in counters, counter cards and mats at clerks' stations, ribbons worn by office personnel; and (3) direct face-to-face encounter of volunteers and customers at DMV offices. The volunteers were trained educators from community outreach programs of organ procurement organizations. The multimedia materials and face-to-face communication strategies emphasized consistent and uniform messages that were carefully scripted for positive intent to organ donation. The intervention at DMV offices contributed to an increased donor-registry enrollment (Harrison et al. 2010, 2011).

The intervention studies at DMV offices highlighted some of the concerns in conducting such media campaigns. First, organ donation is a personalized healthcare decision that falls under the practice of medicine and does not constitute a part of business activities at DMV offices. Despite the potentially serious consequences of this healthcare decision, the medical background or knowledge of DMV clerks who are enrolling customers in organ-donor registries is unknown. Second, DMV officials who were inviting customers to become organ donors were, in fact, participating in a process that, in healthcare, is called "shared decision making" (Kon 2010). In shared decision making, the two parties (normally the physician and the patient or surrogate) participate in detailed communication with equal responsibilities for healthcare decisions that are consistent with values, beliefs, and preferences of the patient. Similarly, the two parties at the DMV office (the desk clerk and the customer) are, with equal responsibilities, also participating in a healthcare decision for that customer. It is unlikely that DMV officials recognize that they were implicitly engaging in healthcare/medical decision making with their customers, which should be considered beyond their delegated duties or professional scope.

Third, the enrollment in an organ-donor registry is a legal consent to organ donation and, like any other consent in healthcare, must be provided in a voluntary manner by an informed patient who is not coerced or under undue influence. Donor registration is subject to all the legal and ethical requirements of an informed consent applicable to any other type of medical treatment (Woien et al. 2006). In the case of enrollment into an organ-donation registry, consent to donation is presumed to apply to all the medical procedures and tests performed on donors before death for the purpose of preserving organs and deciding on the suitability for transplantation. Fourth, it is unknown if DMV officials were made fully aware of medical, scientific, and religious controversies related to determining death for organ donation. At the peak of media campaigning for organ-donor registration at DMV offices, however, the PCB white paper (The President's Council on Bioethics 2008) was already published and was made accessible on the government web site to the general public and other government agencies, including DMV officials.

Yoo and Tian confirmed that the psychosocial model of stimulus–orientation–response can modify public behavior toward organ donation (Yoo and Tian 2011). The authors found that selective control of the quality and quantity of information communicated in television-based entertainment media (stimulus) changed the participants' attitudes toward organ donation (orientation) and ascertained organ-donor registration (response) (Yoo and Tian 2011). In essence, by controlling the antecedent information through entertainment media communication, the general public can be made to behave in a certain way. Merriam-Webster describes "propaganda" as communicating certain ideas or materials for the purpose of "influencing the attitude of a community toward some cause or position" (Merriam-Webster Dictionary). The purpose of education is to provide someone with information and stands in contrast to indoctrination which is to teach (someone) to fully accept the ideas, opinions, and beliefs of a particular group without considering other ideas, opinions, and beliefs (Merriam-Webster Dictionary). Both indoctrination and propaganda are insidious societal processes of intentionally controlling the quality and quantity of information communicated to a target group to ascertain a specific response or behavior. This is the power of media that can be used for good or for bad.

Public policy implications

Our analysis of media campaigns for education about organ donation and donor registration at DMV offices has implications for public policy. The informational content disseminated through government-funded media

campaigns must be securitized for accuracy because of the impact on the welfare of all citizens and the safety of the general public. The DMV personnel are governmental employees and should not take the duties or responsibilities of active participants in healthcare decision making for the general public. The use of religious endorsement in government sanctioned media campaigns for organ donation intrudes on the intentional separation of government and religion in citizens affairs. Woien and colleagues have previously recommended an independent regulatory oversight of the enrollment process of citizens in organ-donor registry to ensure that donor registration is compliant with legal and ethical standards of informed consent (Woien et al. 2006). Given the conflict of interests that exist in the dual advocacy model promoted by the ODBC and the potential negative consequences on citizens, it is advisable to separate the governmental agency responsible for organ transplantation practice from organ-donation campaigns. A distinct organization should be charged with: (1) education programs about organ donation in the community and (2) inception and implementation of public campaigns for donor registration. This organization should have an authority and independence of transplantation agencies and affiliates to ensure public transparency, to uphold the primary mission of preserving donors' interests and to protect citizens' constitutional rights.

Conclusions

Mass media campaigns are widely and successfully used to change health decisions and behaviors in society. Multifaceted communication and media campaigns at DMV offices have been successful in increasing public enrollment in donor registries nationwide. The conduct of these campaigns have raised serious concerns regarding (1) the accuracy and integrity of the information being communicated to the public, (2) the unintended consequences of uninformed donor registration, and (3) the unrecognized and unmanaged conflicting interests of organizations that develop, fund, and implement these campaigns.

Media campaigns about healthcare should communicate accurate information to the general public and disclose factual materials without bias. Conflicting interests in media campaigns need to be managed with full public transparency. Media campaigns should disclose the practical implications of procurement as well as acknowledge the medical, legal, and religious controversies surrounding the determination of death in organ donation. Organ-donor registration must fulfill the criteria of informed consent. Media campaigns can serve as a means of educating the general public about organ donation and should not be a form of propaganda.

Addendum Organ Procurement and Transplantation Network proposed replacing the term "consent" with "authorization" in deceased organ donation policy. "The public associates "consent" with the medico-legal concept of "informed consent" through which physicians must give patients all the information they need to understand the risks, benefits, and costs of a particular medical treatment" (Organ Procurement Organization Committee 2011). Instead, authorization does not require disclosing any risks including those from antemortem organ preservation procedures.

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