The Canadian Council for Donation and Transplantation

Tissue Donation Potential Beyond Acute Care

Report

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Executive summary

The Canadian Council for Donation and Transplantation (CCDT) was formed in 2001 with a mandate to develop advice for the Conference of Deputy Ministers of Health on issues and strategies related to organ and tissue donation and transplantation in Canada. The principle mandate of the Donation Committee of the CCDT is to ensure that all individuals who wish to give a gift of organ and tissue donation be given the opportunity to do so. To address this mandate, the Donation Committee strives to identify and eliminate barriers that prevent opportunities for families to donate tissues and organs of their deceased relatives.

An analysis of the number of potential tissue donors in Canada undertaken by the Canadian Institute of Health Information (CIHI) under the direction of the Donation Committee determined that approximately half of deaths in Canada occurred outside of the acute care setting, the traditional location for obtaining consent for organ and tissue donation. Recognizing the potential for donation from these non-acute care settings, the Committee established an initiative, *Donation Potential Beyond Acute Care (DPBAC)* and a Steering Committee to guide this work.

As a preliminary step, the DPBAC Steering Committee assessed the current potential for donation beyond acute care in Canada and found such potential to be viable. The Steering Committee then desired an environmental scan be conducted to determine strategies for realizing this potential in the "pre-hospital/in the field" environment, such as the home, scene of a motor vehicle accident, or in the emergency department prior to admission. The focus of the scan was on the following professional groups: paramedics, emergency department staff, coroners/medical examiners, and funeral home directors. A targeted literature search and interviews with stakeholders in these professional groups was undertaken to collect information on current practices, issues and barriers, and possible solutions that would facilitate donation.

This document is the final report of the DPBAC environmental scan. Recommendations arising from the scan include the following options for Canadian jurisdictions:

- Develop awareness and social marketing campaigns that inform the public about tissue donation and stress the importance of informing loved ones about their personal wish to become a donor.
- Provide tissue donation information targeted specifically to professional groups providing end-of-life services outside of acute care settings.
- Establish processes among organ and tissue procurement organizations to ensure that expressed intent for donation routinely includes tissue donation in addition to organ donation, and that tissue donation is offered when families are approached for organ donation.
- Implement policies and procedures to ensure paramedics, emergency department personnel, and medical examiners and coroners routinely provide family contact information of potential donors to tissue procurement organizations.
- Ensure privacy legislation legally protects and enables professionals who share family information of deceased potential donors with procurement organizations (i.e., extend Routine Notification Request or similar legislation to all end-of-life professionals outside of the acute care setting).

To support the above directions, it is recommended that the CCDT:

- Develop a public awareness and social marketing template that includes donation potential beyond acute care, and makes the template available for adoption or adaptation by programs, provincial governments or non-profit organizations across the country. As well as addressing the information needs of the public, end-of-life service providers should be specifically targeted.
- Work with and support the national professional associations of end-of-life service providers to increase knowledge and positive attitudes regarding organ and tissue donation potential among their memberships, and promote routine referral to tissue procurement organizations as standard leading practice for end-of-life professionals.
- Further explore the issue of privacy legislation as it relates to information sharing between end-of-life service providers and tissue procurement organizations and, depending on the results, highlight to the Conference of Deputy Ministers of Health the need for protective and enabling legislation.

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List of Abbreviations

BCTS	British Columbia Transplant Society
CCDT	Canadian Council for Donation and Transplantation
CIHI	Canadian Institute for Health Information
CSA	Canadian Standards Association
CTC	Comprehensive Tissue Centre (Alberta)
DPBAC	Donation Potential Beyond Acute Care
ED	Emergency Department
EMS	Emergency Medical Services
HOPE	Human Organ Procurement and Exchange (Alberta)
HRSA	Health Resources and Services Administration
ME/C	Medical Examiner/Coroner
NOTDAW	National Organ and Tissue Donor Awareness Week
RNR	Routine Notification Request
TGLN	Trillium Gift of Life Network (Ontario)
TPO	Tissue Procurement Organization

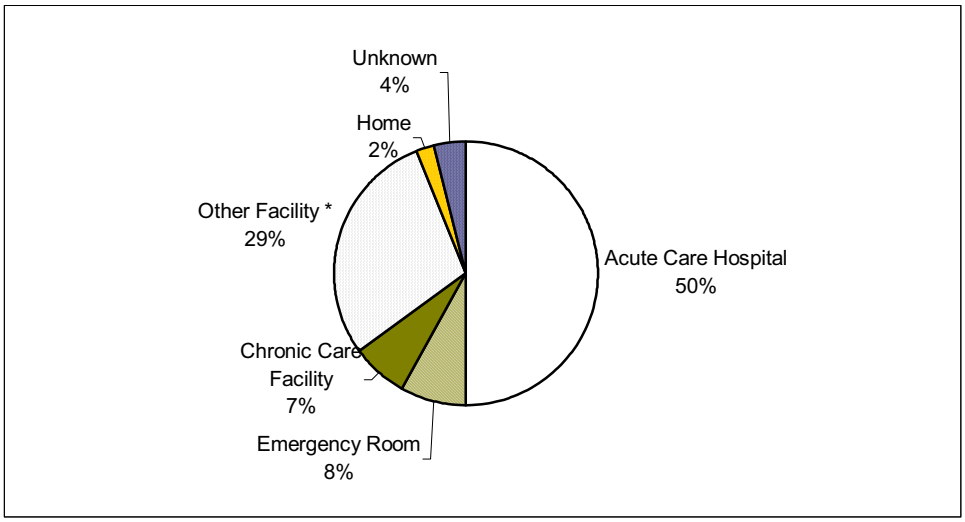
Background

Allograft tissue has the potential to greatly increase the quality of life for many Canadians. Corneas can restore sight, skin can aid in healing of burn patients, bone is used in orthopedic procedures and heart valves can be used in those whose valves have become diseased or infected. One tissue donor can provide health for as many as 50 different recipients (Yucetin et al., 2004).

The Donation Committee of the Canadian Council for Donation and Transplantation (CCDT) has determined there is significant potential for tissue donation in the acute care setting. Results of a study that looked at morbidity data in Canadian hospitals estimate 44% of in-hospital deaths met criteria indicating potential for tissue donation (CIHI, 2004). This study estimated the distribution of deaths in Canada by location and found that hospital data accounted for about 50% of all deaths in Canada. The CCDT Donation Committee then established an initiative entitled Donation Potential Beyond Acute Care (DPBAC) to identify potential tissue/organ donors from the 50% of deaths occurring outside the acute care setting. This work was undertaken with the directive of the DPBAC Steering Committee (see Appendix A for membership list).

The estimated distribution of deaths in Canada is shown in Figure 1. Deaths from the emergency department 8%, home 2%, and "unknown" locations 4% accounted for many of the accidental and unexpected deaths occurring in Canada. These deaths generally occur after an unanticipated cardiac arrest. Organ donation from these types of deaths is referred to as "uncontrolled donation after cardio circulatory death". As such situations of organ donation have not currently been established in Canada, they are not part of this review but do hold immense potential for tissue donation.

Figure 1. Estimated distribution of deaths by location of death, Canada



*Other Facility refers to other institutional short-term care facilities such as convalescent homes, prisons, psychiatric hospitals

(Source: CIHI, 2004, p. 14)

The DPBAC Steering Committee undertook an initiative to assess donation potential by determining the estimated number of eligible donors from some of these non-acute care locations (DPBAC Steering Committee, 2006 – see full report in Appendix B). The Committee focused on deaths in non-institutional rather than institutional settings based on the following assumptions:

- Non-institutional settings are more amenable to potential donor identification and referral practices.
- Professionals in the non-institutional settings are identifiable and receptive to donation strategies.
- Significant numbers of those who die in other facilities may not meet the criteria for tissue donation.
- Provincial medical examiner and coroner statistics provided easily accessible databases for analysis.

The number of potential tissue donors was estimated by analyzing data on unexpected deaths from accidental or natural causes using medical examiner/coroner (ME/C) databases from four provinces: British Columbia, Alberta, Ontario, and Newfoundland. Applying inclusion criteria to ME/C data using Canadian Standards Association (CSA) guidelines for tissue donation (Canadian Institute for Health Information (CIHI), 2004) revealed 43% of accidental deaths (mostly motor vehicle accidents) and 44% of natural deaths (mostly occurring at home) met eligibility criteria for tissue donation (Table 1).

Table 1. Summary of accidental and natural deaths

	Reviewed	Excluded	Eligible
Accidental Deaths			
Alberta	124	52	72 (58%)
British Columbia	260	164	96 (37%)
Newfoundland	90	52	38 (42%)
Ontario	68	42	26 (38%)
Total	**542**	**310**	**232 (43%)**
Natural Deaths			
Alberta	276	154	122 (44%)
British Columbia	140	82	58 (41%)
Newfoundland	296	129	167 (56%)
Ontario	332	222	110 (33%)
Total	**1,044**	**587**	**457 (44%)**

(Source: DPBAC Steering Committee, 2006, p. 4)

Homicides and suicides were not included in the numbers from the DPBAC Steering Committee study due to the possibility that investigations in these situations frequently preclude timely referral. The subsequent literature scan has shown deaths from suicide not only provide potential donors, but the decision to donate can give the family some comfort in dealing with a tragic situation (McCurdie, 1992). Indeed, McCurdie indicated families of suicide victims tend to be even more willing to consent to donation than families of victims of other traumatic deaths. The number of suicide deaths documented in the ME/C data is shown in Table 2. It can be seen from this table that suicide deaths occur in numbers high enough to suggest consideration, especially for the possible benefit of the grieving families.

Table 2. Medical examiner/coroner cases 2003

	AB	BC	NL	ON	Total
Homicide	65	n/a	4	181	**250**
Suicide	456	n/a	45	1,188	**1,689**
Accidental	718	1,212	90	2,924	**4,944**
Natural	1,617	658	296	14,351	**16,922**
Total	**2,856**	**1,870**	**435**	**18,644**	**23,805**

AB = Alberta, BC = British Columbia, NL = Newfoundland, ON = Ontario

(Source: DPBAC Steering Committee, 2006 p. 2)

Whether the death results from homicide, suicide, accidental, or natural causes, the majority of these potential donors' families are not offered the opportunity to donate. It is the goal of this report to understand the reasons for this situation, and to look for strategies that could effect positive change.

Methodology

Literature search

A global scan of the literature relating to tissue donation beyond acute care was conducted using the following search engines and terms.

The following databases were searched:

- Pubmed
- CINAHL
- Ovid MEDLINE (1966-2006)
- Scopus

The databases listed above were searched using combinations of the following key words:

> "tissue procurement", "tissue donation", "potential", "emergency", "funeral home", "EMS", "paramedic", "legislation", "strategies", "issues", "barriers", "chronic care", "coroners", "medical examiners", "donor registry", "systems", "suicide", "outcomes", "cost-benefit", etc.

Websites consulted as part of this review are listed in Appendix C.

Survey and interview participants

Information on current Canadian practices was obtained primarily from key stakeholders and professionals from four professional groups providing end-of-life services: paramedics, emergency physicians, medical examiners/coroners, and funeral directors. Two methods were used to collect this information.

Telephone interviews and/or email correspondence was undertaken with 20 stakeholders representing the four end-of-life professional groups as well as representatives of organ/tissue procurement organizations. Seventeen of these key informants were members of the CCDT DPBAC Steering Committee and provided expert opinion and knowledge of barriers and strategies for realizing donation potential outside of the acute care setting. The interviews were conducted between March and May, 2006.

After the interviews and preliminary literature search, a short survey was designed to collect further information about strategies to increase potential donor referrals beyond acute care. Questions were designed to solicit information about current practices and perceptions about barriers to tissue donation and possible solutions to those barriers (see Appendix D). In May 2006, electronic surveys were sent to members of each of the four end-of-life professional groups in Canada. Attempts were made to include a representative professional for each group from each of the provinces or territories. In all, 36 surveys were sent and responses were received from 16, representing a 44% response rate.

Limitations

Information gathered from the interviews and surveys represents the personal perceptions and observations of the participants. Preliminary results provided by the survey do not represent a complete overview of strategies, practices, and procedures employed by end-of-life professionals in Canada. The number of provinces/territories represented was limited to the surveys that were returned and the specific characteristics of the jurisdiction of the respondents. Due to time constraints on obtaining contact information and responses, there may be less input from some professional groups than from others, as well as lack of information from some provinces or territories.

Organization of report

This report commences with a discussion of the issues and strategies arising from the literature and web search. Then, results of the collection of specific information on Canadian practices are discussed. Based on findings from both of these sources, recommendations specific to each professional group are presented in discussion and table format. Finally, general recommendations are proposed for overall strategies to increase tissue donation potential beyond acute care in Canadian jurisdictions.

Issues affecting all end-of-life professionals

The following topics in the literature provide background information on issues affecting all four professional groups being considered in this study. It is important to understand these overarching issues since they impact the more specific strategies and proposals.

Support for tissue donation

While organ donation has been the focus of research and public awareness campaigns, tissue donation has garnered much less attention in the literature and in the public eye. Many surveys have demonstrated that Canadians strongly support the concept of organ and tissue donation with up to 96% approval (CCDT, 2006). Yet when asked if they would actually donate, 55% said they would donate an organ while only 39% agreed to the possibility of tissue donation. The main reasons stated for indecision were they hadn't thought about it and didn't have enough information. An Ontario survey found 77% of citizens willing to donate an organ while only about half had even heard of tissue donation (Trillium Gift of Life Network (TGLN), 2004).

Health care professionals are also less informed about tissue donation. Hospital staff seemed to focus primarily on organ donation when approaching families whose loved ones have died (Magrath, 1999; Hannah, 2004). This was documented in Canada by a CCDT study indicating families of 96% of neurologically determined deaths were approached about organ donation while only 16% were approached for tissue donation (CIHI, 2005). In another analysis of trauma related deaths (Kennedy et al., 1992), it was found that of 108 deaths, 61 were potential tissue donors but there were no isolated requests for tissue donation. Only in the 22 deaths where organ donation was requested, was there an

outcome of 10 tissues procured. "We conclude the greatest source of underutilization lies in the failure to request tissue for harvesting…" (Kennedy et al., 1992, p. 516).

The limited incidence of tissue procurement for life-enhancing procedures is only part of the problem. Equally concerning is the fact that so many families are not realizing the opportunity to experience a positive outcome from the traumatic experience of losing a loved one.

Donor intent

General awareness of the possibility of donating tissue is limited. Even if awareness and willingness is present, those who wish to donate must communicate this wish to their next-of-kin. At the time of a sudden death, the traumatized family is much less likely to consider donation if they are not aware of the donor's intent.

Several surveys have found that those who state they highly approve of organ and tissue donation are reluctant to give donation consent for a family member. Table 3 summarizes the results of three public opinion surveys on organ and tissue donation.

Table 3. Public opinion survey results

Survey	CCDT, 2006	Trillium Gift of Life Network (TGLN), 2004	Sander & Miller, 2005
Personal support for donation	96%	77%	96%
Have signed a donor card or registered	54%	53%	67%
Have discussed with family	58%	55%	N/A
Likely to consent to family member donation without knowledge of intent to donate	22%	66%	23%
Likely to consent to family member donation with knowledge of intent to donate	88%	94%	80%

N/A = not available

The Ontario survey (TGLN, 2004) reported that while 77% of respondents were willing to donate their own organs and tissue, only 66% were likely to donate those of a family member. This increased to 94% if they had been made aware of the donor's intent. A survey of residents of the state of Ohio also found that 80% of family members stated they would consent to donation if they knew that was the desire of their deceased loved one. Without that knowledge, only 23% would consent (Sander & Miller, 2005).

A recent Canadian survey confirmed these trends (CCDT, 2006). Responses from 1505 participants showed an 88% consent rate from family members who knew of the donor's registration or signature on a donor card, but only 22% would presume to consent for family members in the absence of this information.

It is evident that intent to donate needs to be communicated to one's family members in order to ensure one's wishes are carried out. Signature on a donor card, registration with a transplant organization, or indication of a positive response on a health card or drivers' license do not ensure that wishes will be followed. Canadian practice is that next-of-kin consent is required for donation, and that this consent overrules the potential donor's intent.

Documentation such as a donor card or health care card has the potential to inform the family of the intent of that loved one. One concern with this is that time and procedure constraints for emergency medical personnel generally do not accommodate a search for this documentation. This again demonstrates the importance of not simply registering as a donor but actually telling one's family.

Registries

In Canada and other countries, the signed documentation of intent to donate has been declared a legal document and as such should protect any procurement organization that proceeds to carry out those wishes. One concern with this approach is the argument that potential donors may not commit if they think they cannot change their decision easily. By asking the family, accountability for discerning the donor's final intent is left with the family.

This legal protection for procurement without family consent is also conferred to donor registries. The use of donor registries as advance directives has been proposed by several American states. Even with a legal directive in place, analysis has found that, "…donation is rarely performed without consent of next-of-kin, reflecting a hesitancy on the part of the medical community to use donor cards as advance directives" (The Lewin Group, 2000, p. 4). A large issue is the need for confidence that those who register have enough information to make a well informed consent. These authors suggest that defining informed consent, maintaining up-to-date databases, and establishing access and privacy guidelines are requirements that need to be met in order to establish registries as legally binding documentation for potential donors.

A forum convened in the United States (US) to develop guidelines for registry development again identified the need to distinguish the role of the registry (The Lewin Group, 2002). Does it confer legally binding consent, or does it simply indicate the potential donor's intent at the time of registration? Lack of clarification of this issue was seen as limiting the credibility and effectiveness of any initiatives toward donor registration.

Until these and several other registry issues are resolved, it appears that family consent will still be requested and "…educational efforts should stress the importance of telling one's family what one's wishes are concerning donation rather than anonymously checking off an option on a driver's license at a motor vehicle bureau" (Siminoff et al., 1995 p. 9).

Presumed consent

One concept that has been implemented in several European countries is the idea of "presumed consent". Unlike our Canadian system that requires family consent or a donation will not occur, this system proceeds with donation with every potential donor who has not indicated a reason for refusing. While this policy has the potential to supply needed tissues and organs, there are strong ethical arguments against implementation in Canada.

A team from British Columbia published a bioethical analysis of presumed consent in Canada and concluded the policy "…poses problems of a practical and ethical and medico-legal nature" (Yoshida et al., 1998, p. 335). Another author suggests that presumed consent could be considered coercive and ultimately conflicts with values supporting voluntary donation, altruism, and individual choice (Stoeckle, 1993).

Finally, there is limited evidence that presumed consent actually increases donation (Stiller & Abbott, 1994). Stiller and Abbot indicate there has not been any consensus about the effectiveness of this system in the countries where it has been implemented.

Social marketing

Campaigns that promote discussion among families about donation preferences could be expected to increase donation by increasing next-of-kin knowledge of the wishes of the deceased. Since documentation of intent to donate may or may not be evident at the time of death, marketing that stresses signature of a donor card or registration may have even more value as a tool to promote family discussion.

Surveys have found that willingness to donate was significantly associated with having discussed the issue with family and having accurate information about the topic of donation. Ongoing educational campaigns are suggested by Haustein & Sellers (2004) as willingness to donate is associated with having seen public information within the last 30 days. There is a direct relationship between knowledge and commitment to donate (Sander & Miller, 2005).

Many initiatives for promoting organ and tissue donation can be found through links to the Canadian Transplant Association (www.transplant.ca) and the United States' *Donate Life America* (www.shareyourlife.org). Programs implemented by individual provinces or states provide statistics and examples of current programs to increase public awareness and participation in donation registries.

One example of a program that not only educates the public but also emphasizes the importance of sharing one's wishes with family is *Share Your Life*. *Share Your Decision* (Wolf et al., 1997). The US Advertising Council and a professional advertising agency that volunteered to provide strategic and creative elements to the campaign sponsored this initiative. The objective was three-fold: 1) educate by creating awareness of need for donation; 2) motivate target to make a decision; 3) inform about the importance of making your wishes known to a family member.

The campaign has garnered millions of dollars in media donations as well as voluntary endorsement from a high profile sports celebrity. Results were assessed by a survey that found 59% of respondents recalled the advertising, and 27% of those took some action such as discussing the issue with family or signing a donor card. This outcome reinforced the value of "…a unified, repetitive, highly visible message created by advertising professionals" (Wolf et al., 1997, p. 1478).

Donation awareness programs in Canada range from targeting specific groups such as secondary school students in the London, Ontario program *One Life…Many Gifts* to national programs such as the *Green Ribbon Campaign*. Recommendations published by the CCDT in 2005 provide a framework for structuring an effective donation awareness campaign. This framework emphasizes the need to focus on informing one's family of the desire to become a donor.

Family physicians

Along with media campaigns, the literature documents the potential value of family physicians as a source of information on donation. Canadian and American surveys have found that the public would like to learn about donation from their family physicians (CCDT, 2006; TGLN, 2004; Sander & Miller, 2005). For many respondents, this would be their first choice for trustworthy information and discussion. A survey of Canadian physicians found that while 60% of family physicians did feel it was appropriate to initiate discussion about donation, 74% indicated they rarely or never introduce this topic in an office visit (Hall et al., 2001). Barriers were fear of offending patients, personal lack of knowledge, and lack of time. The provision of printed educational materials for both patients and physicians was proposed as a possible solution.

Internet

One CCDT survey (2006) found that 52% of Canadian respondents would go to the internet for information on donation. A US internet-based educational program was set up to specifically study the effects on donor registry participation and family notification (Merion et al., 2003). With over 10,000 hits providing visitors an interactive education on donation followed by a post-test, it was determined that the visits did increase positive behaviors such as talking with family and enrolling in a registry. The study noted the behaviors were related to attitude change rather than increase in knowledge. It was also noted that those who would participate in this type of activity are probably already quite knowledgeable about donation. The authors suggest that "future efforts to increase donor participation should focus on improving attitudes toward donation by providing rich informational material that goes beyond the provision of factual knowledge, as well as facilitating donation behaviors" (Merion et al., 2003, p. 1178).

Required referral legislation

With an informed and positive attitude toward donation, and knowledge that a recently deceased family member wishes to be a donor, the best scenario would be the family volunteering to meet with a representative from a procurement organization. Yet when dealing with the sudden trauma of the death of a loved one, even motivated next-of-kin may overlook this option. Whether the family is preoccupied or unaware, donation cannot happen unless someone approaches the family of the eligible donor.

Legislation has been implemented in the US and in some Canadian provinces that requires hospitals to have policies and procedures in place to identify all potential donors and routinely inform their families of the option to donate tissues or organs through referral to a procurement organization. Early studies of the effectiveness of such legislation suggested that it did not result in the expected outcome of increased donations (Siminoff et al., 1995). In some states, a temporary rise in referrals occurred but the actual number of donors did not increase over the long run (Stoeckle, 1993). It is noted that these studies were conducted over a decade ago and other studies may be underway but not yet reported on this topic.

Several studies suggest that it may be the attitude of the requester that influences the level of family consent (Stoeckle, 1993; Stiller & Abbott, 1994). Favorable responses occur more often if the health care professional is confident and convinced of the benefits of donation. Some have documented higher consent rates when a member of the clergy or a social worker is involved (Haire & Hinchliff, 1996; Siminoff et al., 1995). Many hospitals have in-house coordinators or "designated requesters" who are trained and experienced in requesting tissues and organs for transplant.

While emergency department (ED) staff may utilize the skills of in-house transplant coordinators, potential donors outside of acute care settings must also be identified and their families approached by someone with the skills and sensitivity to allow for a non-pressured and positive experience in considering donation. The role of designing a referral process and designating trained requesters is one that organ and tissue procurement organizations are well situated to fulfill.

Designated requesters

Allowing the family time to process the death and to separate the donation discussion from the initial shock of an unexpected death is a concept promoted by several experts. "Decoupling" the family's acceptance of the death from the discussion of donation can be accomplished within the time limits for tissue procurement. The US required request legislation indicates the topic of donation should be introduced to the family by a trained "designated requester" who has experience in grief counseling and the request process (Jenkins, 2004).

Whether the information about donation is provided to the family in a face-to-face setting or over the telephone, there is evidence that the attitude, training and experience of the requester greatly impact the

rate of family consent to consider donation. In most of these situations, it is someone who is associated with or designated by the procurement or transplant organization.

It is generally agreed that face-to face contact with the grieving family is the most sensitive way to discuss donation. Factors interfering with this approach include travel distances and unavailability of the family for such a meeting. Success in obtaining telephone consent for the donation of corneal tissue has been demonstrated in several centres (Gain et al., 2002; Geissler et al., 2005). Geissler and colleagues make a compelling case for well-trained and experienced requesters. Over the course of 100 family telephone contacts, the two coordinators progressed from a 30% acceptance rate to over 70%, an average of 60% over 22 months. It is suggested that many studies of consent rates for various approaches do not allow for the significant effect of experience over time.

While most of the literature deals with referrals from acute care settings, telephone utilization may be even more appropriate in situations where the potential donor location is outside of an acute care institution. By having access to a trained coordinator or requester that can contact the family by telephone, professionals providing end-of-life services need simply to provide the contact information to the coordinator. One retrospective study demonstrated great success in obtaining consent for heart valve donation from families of potential donors who died suddenly (Haire & Hinchliff, 1996). Again, success was attributed to the skills applied by sensitive and experienced requesters who were able to meet the needs of the family through provision of counseling and information by telephone.

A feature that is often implemented with success in other countries is 24-hour on-call availability of a designated donor coordinator or team (Milanes et al., 2003).

Involvement of the tissue procurement organization (TPO) with families of those who have died suddenly was retrospectively assessed in a survey of 197 responses from families who consented to donation. Most indicated that donation had been a positive experience (Beard et al., 2002). Information and comfort was provided by a skilled donation professional who was not necessarily a medical professional. The requisite skills for this person included prioritizing the needs of the grieving family and allowing them time to accept the fact of their loved one's death before moving on to the discussion of donation. Providing the right amount of understandable information then allowed family members to make an informed decision about donation. Clear separation of counseling, education, and request for donation was shown to increase actual rate of donation (Sade et al., 2002).

The role of the procurement or transplant community to designate and train these professionals and to provide round-the-clock availability to those involved in end-of-life services would provide the link to potential donors. End-of-life service providers such as emergency medical teams are in a position to identify a potential donor and refer the family to the donation professional for more information.

Barriers and strategies affecting specific groups

The following strategies are specific to each of the four groups of professionals who have been identified as having the greatest potential to increase tissue donation beyond the acute care setting. In most cases, their role is not to discuss donation or seek consent from the family but simply to facilitate contact with the designated requester or coordinator indicated by the local procurement organization.

Paramedics

There is a scarcity of literature that relates specifically to the role of the first person on the scene of an accident or sudden traumatic event. The traditional role of the paramedic is to strive to save the victim and transport them to an emergency department to continue resuscitation efforts. It is seen by some as a conflict of interest for these professionals to be concerned with donation. Yet in many cases, information obtained at the site can be valuable to donation outcomes and timely procurement of tissues.

Required request legislation established by the US *Uniform Anatomical Gift Act* has been adopted by all 50 states. It has since been expanded to involve those outside the hospital setting. A revision of that Act now requires police officers and paramedics to search for any documentation of intent to donate such as a donor card or indication on a driver's license (Winmill, 1990). It is the responsibility of the paramedic to inform the receiving hospital of the donor's intent. Winmill suggests that unwillingness to donate may be indicated on a driver's license and should also be communicated.

In the case of a death that does not go to a hospital but becomes the responsibility of the medical examiner or coroner, the information could be referred directly to the procurement coordinator who would then approach the family. While the TPO would be the expert to determine eligibility for donation, paramedics should be trained in very basic criteria and exclusions for donation. In situations where there are obvious exclusion criteria present, there would be no need for referral.

It has been noted in the Background section of this report that even though the donor card may be a legal document, the family consent is always obtained. It is rare for a family to refuse when confronted with the signed evidence of their loved one's intentions. When there is no indication of intent to donate, it is still recommended that potential be assessed and the TPO be involved if criteria are met for donation. Referral may even take place in an imminent death situation where there is still a chance of recovery. It needs to be understood that this in no way conflicts with life-saving efforts. "Referral merely equates to a required medical consultation as defined within a critical pathway…" (Jenkins, 2004, p. 63).

Donation provides the family with the knowledge that their loved one's wishes were carried out and that something positive came from a tragic situation. "Thoughtful and consistent participation in organ and tissue donation is a final act of caring and should be considered the standard of care" (Winmill, 1990, p. 54).

Emergency department

When looking at donation potential within or beyond acute care, the ED has often been studied as a source for tissue donation. In many Canadian jurisdictions, the patients brought to the ED are only admitted if resuscitation efforts are successful. Because of the large potential for organ and tissue donation, the ED has been the target of several strategies to increase referrals to procurement organizations.

Some authors have concluded the substantial number of potential donors from the ED is not realized due to absence of departmental policies or procedures, and lack of training or experience among the staff (Magrath, 1999; Riker & White, 1991). Required request legislation was expected to improve this situation, yet compliance in the ED has been unreliable at best. Development of donation request forms by many hospitals has not resulted in more referrals (Riker & White, 1991).

Riker used a chart review of ED deaths to look for documentation of request for donation from families of eligible donors. Of 155 charts, 84% had no record of any donation consideration. Standard referral forms were not effective and were found to be blank or incorrectly filled out 92% of the time. The results of this study found only four narrative and two documented donation discussions ultimately led to a single referral to the procurement organization. The authors suggested it might be unreasonable to expect doctors and nurses to deal with donation requests in the context of what they identified as a stressful situation with a grieving family. They recommended a focus on identification and referral of donors, leaving the sensitive discussion of donation to be carried out by procurement or transplant professionals (Riker & White, 1991).

Riker & White (1995) followed up with another chart review completed after ED physicians were trained in identifying, referring, and documenting requests for donation. By implementing two hour-long sessions for emergency medical physicians, it was found that referrals to procurement organizations increased to the point that actual tissue procurement went from 0% to 48%. Education that clarified the role of the emergency physician was encouragingly successful, but the effect dropped over a six-month period, implying the need for repeat sessions on a regular basis (Riker & White, 1995).

Other reviews of the role of emergency medical staff have documented the reasons given by medical staff about their unwillingness to discuss donation (Olsen et al., 1998; Lewis et al., 1993). These include the emotional stress of a sudden death, being a stranger to the family, time limitations and lack of private space for the grieving family. Medical staff are not only uncomfortable with the process, but there is also no time or compensation provided for these efforts (Olsen et al., 1998). One program offered to increase the comfort level by training staff in the specialized skills needed to be a trained requester but very few accepted (Sade et al., 2002).

Several researchers have concluded the best process is to clarify the role of emergency physicians as identifying eligibility of donors and implementing a process to routinely access “trained requesters”, whether from an in-house transplant program or from an independent tissue procurement organization (Olsen et al., 1998; Lewis et al., 1993). Developing policies and processes that facilitate referrals by medical staff and requests by procurement organizations offer methods of clarifying roles and increasing comfort levels of those involved. Specific steps and protocol to take in death notification (Olsen et al., 1998), as well as ensuring 24-hour availability of requesters (Lewis et al., 1993) have the potential to increase tissue procurement from the ED.

Medical examiners and coroners

Medical examiners and coroners (ME/Cs) likely have the greatest potential to influence rates of tissue donation from outside the acute care setting (Health Resources and Services Administration (HRSA), 2003). Unexpected deaths resulting from accidents, violence, sudden illness, suicide or other injury fall under the jurisdiction of ME/Cs. Processes that standardize the release of family contact information to procurement organizations hold the potential to gain tissues from almost half of those for whom the ME/C is responsible (DPBAC Steering Committee, 2006 – see Appendix B).

One of the barriers preventing ME/Cs from allowing procurement of tissues within the necessary time limits is the possibility of loss of evidence needed for accurate determination of cause of death. In cases of homicide or those that may require a second examination as part of a legal prosecution, ME/Cs have been reluctant to allow access to the body. Coroners state they are limited by the decisions of the district attorneys, who in turn demonstrated a lack of information and education surrounding donation (Jaynes & Springer, 1996).

The incidence of referral varies widely among jurisdictions. Often the rates of referral are dependent simply upon the personal commitment of the ME/C and the political influence of the local procurement organization (Jason, 1994). In most situations, surveys have demonstrated no justification for denying donation of tissues. Studies of organ procurement data and law case reviews seem to support the conclusion that there is rarely a situation where the investigation of a death had been hampered by donation (Shafer et al., 2003). A retrospective study of 10 years of autopsy cases in children found only

one case out of 754 where the procurement of heart valves might have prevented an accurate diagnosis of cause of death (Pinckard & Graham, 2003).

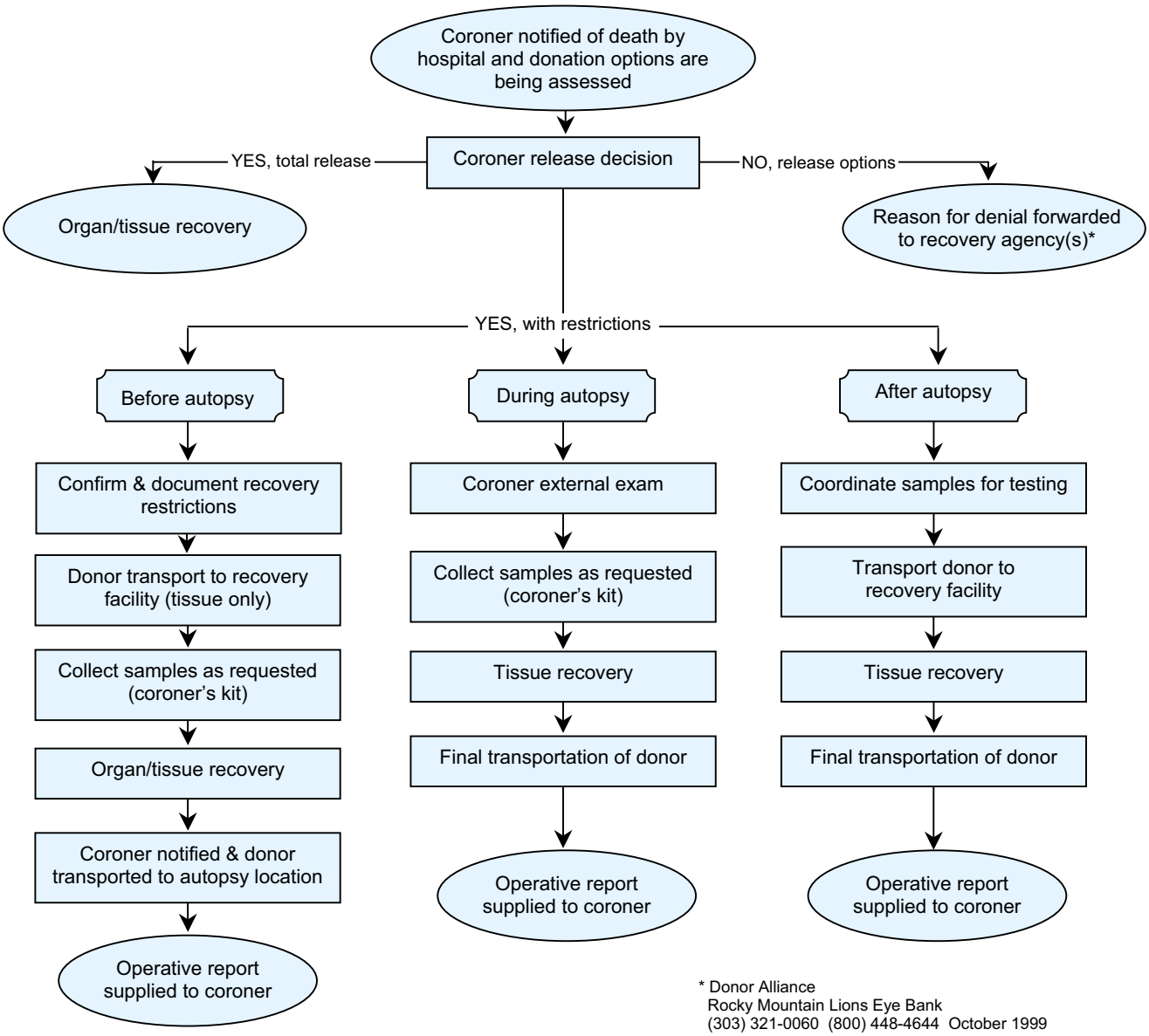
One survey that documented large variability among jurisdictions discovered medical examiners referred donors twice as often as coroners (Jaynes, 1994). In an attempt to standardize and increase the rates of donation, a task force including coroners, district attorneys, and procurement organizations was set up to design a protocol for coroners in the state of Colorado. This protocol was assessed in a later study and found to have resulted in decreased rates of denial for donation from 40% to 16% over three years (Jaynes & Springer, 1996). This success was attributed in part to the fact that the coroners were comfortable with the protocol since they helped develop it. Jaynes and Springer speculated that "these results would not have been accomplished as quickly had the legislative pathway been chosen" (Jaynes & Springer, 1996, p. 31).

Several jurisdictions in the US have begun to implement protocols to facilitate donation of tissues and organs. Examples of these processes are included in the 2003 HRSA document *Death Investigation and Organ and Tissue Donation: A Resource for Organ and Tissue Recovery Agencies, Medical Examiners and Coroners*. One such example of a coroner protocol flowchart, developed by the Donor Alliance and Rocky Mountain Eye Bank in Colorado and Wyoming, is shown in the HRSA document (Figure 2).

Establishment of processes for release and procurement of tissues and organs require channels for regular communication with the procurement organization as standard procedure in ME/C offices. Receiving family contact information allows a designated requester from the procurement organization to approach the family with the information and counseling skills needed to allow a decision to be made about donation.

Ultimately, the ME/C holds the responsibility to balance "…the relative importance of what information must be obtained from a dead body versus the good that donated organs may bring…" (Jason, 1994, p. 198). Even in the tragic case of the death of a child, the benefits of allowing tissue donation not only help other children who may need tissue such as a heart valve, but "…facilitating the families' wishes for tissue donation helps the grieving process as well" (Pinckard & Graham, 2003, p. 252).

Figure 2. Coroner protocol flowchart



(Source: HRSA, 2003, p. 27)

Funeral directors

The role of funeral directors in the donation referral process is a topic that has received minimal attention in the literature. Traditionally, the concern is more related to what occurs after the family has indicated the desire to donate and the procurement has taken place. Research has focused on verifying the assumptions that funeral preparation and expenses will not be adversely affected by procurement of donated organs or tissues. Potential donors and their families want to know that they will still be able to deal with the grieving and burial process in the manner they prefer. Transplant and procurement organizations try to give assurance that donation is compatible with traditions that include open casket viewing or burial within a short time frame and without added financial burden.

The impact of donation was studied by survey of funeral directors following a donation procedure (Savaria & Swanson, 1994). Responses returned from 27 funeral directors indicated that although the procurement procedure did have an impact on funeral preparations, that effect was not negative in most cases. Seventy-eight percent responded that the body was received in acceptable condition after procurement of tissues or organs. The possibility that embalming and preparations would be adversely affected did not emerge as a major problem. The main issue for funeral directors was the need for immediate notification from the family that the deceased was a donor. This allows for proper coordination and timing of funeral procedures. In very few cases, there were additional costs in time and supplies but these were not billed to the families. The policy of the donation organization included reimbursement for extra costs if they had been billed to the family.

With reassurance that the procurement process will not negatively affect their work or their clients' funeral preferences, could funeral directors be involved in initiating the topic of donation? Time constraints for tissue procurement need to be borne in mind. If the body is released to the funeral home within a 15-hour time limit (DPBAC Steering Committee, 2006), there may be time to call in a designated requester and offer the option of donation. Funeral director willingness and rapport with the family might facilitate the referral process. With education on the benefits of donation, assurance that most people support the idea of donation and knowledge of the potentially positive effect on the grieving process, funeral directors may be willing to become involved in referrals to procurement organizations.

Possibly the biggest potential for funeral directors is the discussion of donation when the client is involved in pre-planning of funeral arrangements. Again, education and comfort with the topic would allow funeral directors to provide a positive option with the potential to make the client and their family feel good about their planning. As well, the documentation of intent to donate will help ensure that the referral occurs and the funeral home is informed and prepared when the time comes.

Current Canadian practices, initiatives, and recommendations

In the following discussion, the results of the interviews and surveys aimed at identifying current barriers and solutions to tissue donation from sources outside the acute care setting are discussed. Themes emerging from the interviews and survey process are presented. A primary issue that affects all four professional groups surveyed is general awareness and commitment of Canadians to the principle of donation.

Awareness of tissue donation

Public

Canadians are becoming better informed about donation, especially organ donation. National Organ and Tissue Donor Awareness Week (NOTDAW) in April and various provincial campaigns are informing the public. Probably the biggest need is to ensure that the intent to donate is made very clear to one's family. Some provinces maintain donor registries and all Canadians have the option to carry a donor card or have some indication of their desire to become a donor. But the majority of those responding to the recent CCDT survey (CCDT, 2006) thought their wishes would be followed even if their family members declined to consent.

Although some provinces state that donation documentation is a legally binding directive, the family is allowed the opportunity to refuse consent. One expert has proposed that end-of-life service providers who are aware of a donor's intent ask the family if the loved one has ever had a change of intent. This would assume that there must be a strong reason to refuse consent. The path of least resistance in a difficult death situation then becomes consent rather than refusal. Still, there must be better understanding among Canadians that one's intent to donate can be eclipsed by the family's refusal at the time of death.

The inability to identify a potential donor was seen as a barrier by many of the survey respondents. In many provinces the donor documentation takes the form of a sticker or signed designation on the provincial health care card. Opportunities are missed when the end-of-life professionals do not search for this indication that would provide a compelling reason to refer the family for donation even in a stressful situation. One expert has proposed the use of an identification bracelet that can be worn by those who have made the decision to become a donor. This could be similar to the Medic-Alert system. It was suggested that using the existing Medic-Alert infrastructure could provide a potentially cost-effective implementation of this proposal.

Enrollment in a provincial registry is not an option in all provinces. While the existence of a donor registry in some provinces has not been demonstrated to increase the overall provincial rate of donation (Canadian Organ Replacement Register/Canadian Institute for Health Information statistics as appearing in Fenton, 2006), the act of registering does provide a means of making a firm decision and initiating family discussion. In some provinces there is a duplicate card that can be given to the next-of-kin. The linking of the registry to the provincial health card may be practical in that end-of-life professionals are more likely to access the health care card than a driver's license.

Another issue is the fact that the potential for tissue donation is generally not well known among Canadians. In the absence of eligibility for whole organ donation, the option of tissue donation could provide a positive outcome for the family of someone who wanted to be a donor and help improve the lives of others.

Expert stakeholders who were interviewed and surveyed were fairly unanimous in identifying public lack of awareness as the biggest barrier to increasing tissue donation beyond the acute care setting. Also felt to be critically important was the need for potential donors to inform their next-of-kin.

Health care professionals

There are indications that education about tissue donation is needed for many Canadian health care professionals. A study undertaken by the CCDT in 2003 looked at various aspects of allograft tissue supply in Canada. Interviews conducted as part of the study identified the need to educate physicians and other stakeholders on tissue transplantation, its safety, and its great potential to help meet a wide range of medical needs for Canadians. Awareness of the benefits of tissue donation, and subsequent feedback on its use when it is procured would provide motivation for end-of-life professionals to present this option to families of those who die outside of the acute care setting.

Health care professionals may also have the perception that the infrastructure will not support donation and are therefore not inclined to bring up the topic or to refer potential donor families to the TPO. Costs of procurement in terms of time and resources are a barrier for some health care professionals. In some jurisdictions there is provision for physician billing and hospital reimbursement for procurement, but awareness is limited. Education and communication to heath care professionals could potentially help eliminate this disincentive to approach the subject of donation.

The lack of availability or accessibility of procurement teams is an issue that requires resolution in each province. Canada's population is widely dispersed and most provinces do not have programs to deal with donation outside of the larger centres. In Ontario, procurements generally occur only in the greater Toronto area. Nova Scotia and New Brunswick are the only provinces that provide complete coverage in terms of procurement capabilities. Survey respondents cited infrastructure limitations as a reason for not approaching the topic of donation. It will take a step-wise process to build up the current capabilities and educate the health care community as the procedure progresses in each province.

One of the preferred sources for Canadians who want information on donation is the health care professional, especially one's family physician. Currently, there are some initiatives in Canada where the donation and transplantation organizations are providing workshops for physicians and other professionals. Increased and ongoing training or workshops for medical professionals hold the potential to greatly increase the number of referrals to tissue procurement organizations.

The following table outlines recommendations suggested for increasing awareness and donation intent among Canadians. References include information from websites, literature references, and practices and initiatives cited by the interviewed stakeholders and DPBAC Steering Committee members.

Recommendations

In Table 4, an overview of the barriers to awareness or decision-making as well as possible strategies to overcome them, as reported by those contacted during this review, are presented. References to support the recommendations are listed in the third column. These barriers and recommendations are not specific to any of the four professional groups.

Table 4. Recommendations to increase awareness of donation

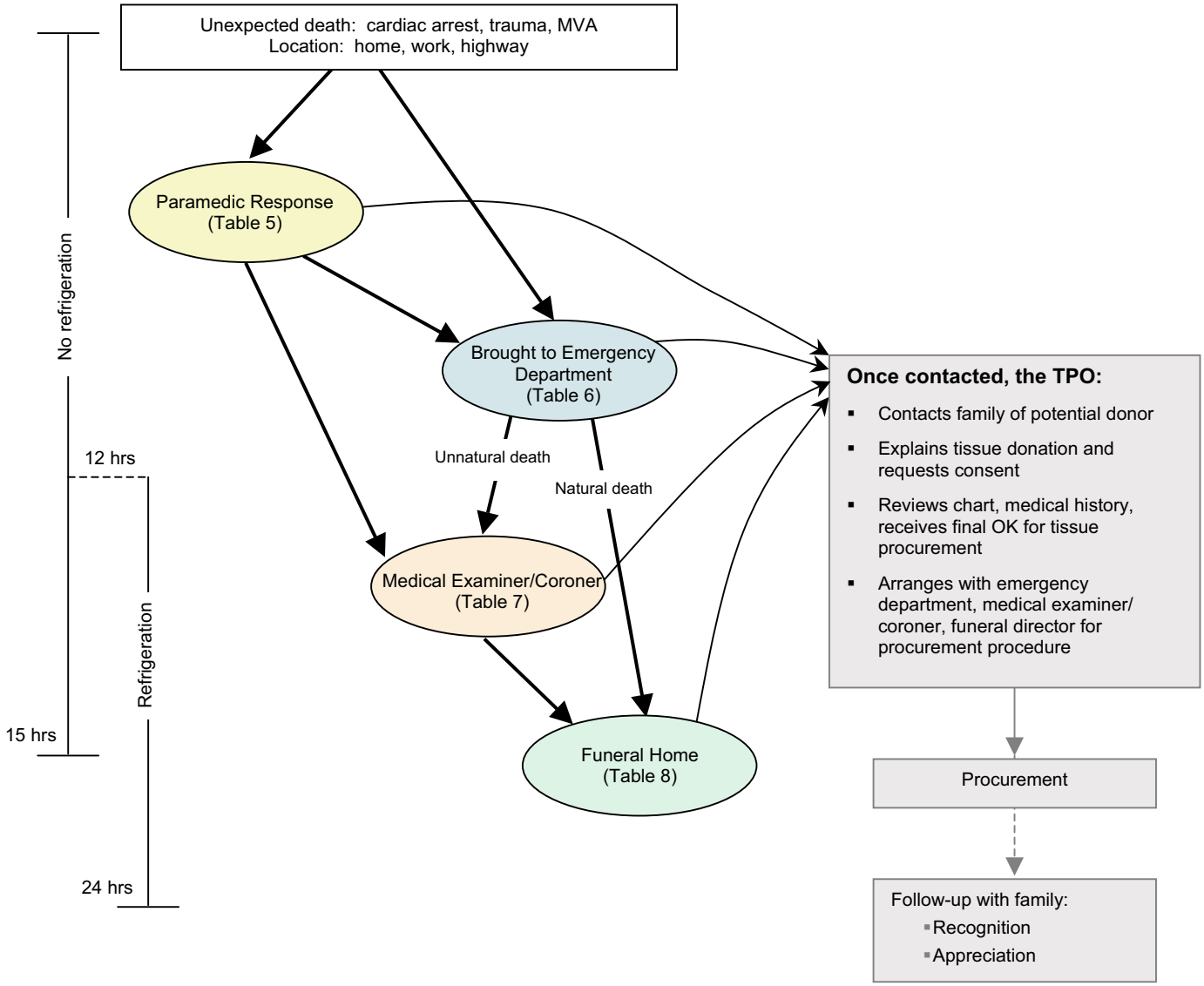
Barrier to awareness or decision to become a donor	Recommendation	Reference
No knowledge of benefits of tissue donation	▪ Media coverage, social marketing, testimonies from tissue recipients ▪ Website education for public and healthcare workers	www.transplant.ca Donor awareness week Wolf et al., 1997
Campaigns not increasing awareness	▪ Evaluate effectiveness of campaigns	CCDT, 2005
No decision made to donate	▪ Mail information and provide/require field in provincial health care renewal form	Allen & Sutherland,1997 Merion et al., 2003 www.transplant.ca
Not enough information to make decision to donate	▪ Informational brochures/posters for GP offices, government waiting areas, workplace reception ▪ Video loops at public health events	www.transplant.ca www.lifegoeson.com www.shareyourlife.org
Need to be sure one's intent to donate is respected	▪ Outline steps required for registration/ documentation that include checklist with family discussion emphasized ▪ Provide form to mail or email to next-of-kin	Siminoff, et al., 1995 www.giftoflife.on.ca
Inability to access a donor registry	▪ Provide specific information on indicating desire to become a donor ▪ Include toll free phone or internet opportunities to enroll ▪ Link national organization website to provincial donor organization	www.transplant.ca Merion et al., 2003 The Lewin Group, 2002 www.shareyourlife.org
No provincial donor registry	▪ Create/Maintain provincial donor registry	The Lewin Group, 2002 The Lewin Group, 2000
Health care professional not motivated/comfortable with topic of donation	▪ Workshops, training ▪ Routine Notification Request legislation	Riker & White, 1995 www.giftoflife.on.ca
Little acknowledgement for the gift of donation	▪ Public recognition of families who have consented to donate ▪ Bereavement package including condolence card, invitation to ceremony, follow-up counseling, etc.	Beard et al., 2002

Specific strategies for end-of-life professional groups

The following discussions will address barriers and solutions that may be specific to the policies and procedures of the four professional groups identified by the DPBAC initiative. It is assumed the local organization responsible for acting upon referral of potential tissue donors will be the TPO. In some jurisdictions in Canada, the first contact for referral of donors outside of acute care may be a network (e.g., TGLN in Ontario), a transplant organization (e.g., BCTS in British Columbia), or an organ procurement organization (e.g., HOPE in Alberta). Effective communication channels to tissue procurement personnel will ensure that all donors have the potential to be tissue donors.

In Figure 3, possible points in the end-of-life service pathway where family contact with the TPO could be initiated are presented. The timelines indicated for eligibility as a potential tissue donor are guidelines utilized by tissue banks in Canada and agreed to by the experts consulted for this review. It is possible to procure tissues for transplantation for up to 15 hours from the known time of death. If the body is refrigerated within 12 hours from time of death, the timeline is extended to 24 hours.

Figure 3. Possible points in end-of-life service pathway



Paramedics

Paramedics are often the first medical personnel called in the situation of a trauma or unexpected death. Life saving is the focus of emergency workers and, currently, training for end-of-life service does not include broaching the topic of donation.

Experts consulted for this study were aware of only two initiatives that had been tried in Canada. In Nova Scotia, paramedics were trained and given resources to screen for donor eligibility and ask the family for interest in speaking to the TPO. After several months of training and reinforcement of this initiative, the approach rate for paramedics reportedly remained at 10%. In Ottawa, screening was followed by placement of a highly visible sticker on the body transport documentation. This designated a potential donor to the ED or ME/C. The strategy of not having paramedics broach the topic of donation is supported by the concepts of decoupling and allowing the family adequate time to adjust to the sudden loss of a loved one.

Whether or not the emergency medical team brings up the topic, there may be potential to gather valuable information at this early stage. It may be possible to look for or ask the family if there is a donor card while collecting other requisite information. Some form of immediate access to the local registry could also accomplish identification of a potential donor. British Columbia ambulance service representatives have proposed a system that would have dispatchers routinely consult the BCTS registry to identify a potential donor.

If some form of Routine Notification Request legislation existed for emergency personnel in the field, standard procedure would include screening and referring family contact information to the local TPO. A small card or “cheat sheet” could be laminated and included in all EMT kits which would outline very basic screening criteria for a donor and the 24-hour phone number of the procurement organization (see Appendix E). Referring eligible donors to the TPO would allow the family time to process the death and to later be approached by a “trained requester” with experience in the sensitive approach required to request consent.

In Table 5, recommendations suggested for increasing donation potential from paramedics and emergency response professionals are presented. References include information from Canadian and other websites, literature references, and practices and initiatives cited by the interviewed stakeholders and DPBAC Steering Committee members.

Table 5. Recommendations to increase tissue donation potential from paramedics

Process steps	Barrier	Recommendation	References
Arrive on site ↓			
Death occurs or has occurred ↓			
Preliminary screen for eligibility as tissue donor ↓	▪ No knowledge of eligibility criteria for tissue donors	▪ Have small laminated cards with basic criteria in all kits and ambulances	Nova Scotia initiative Reference card examples in Appendix E DPBAC Steering Committee, 2006
Look for indication of intent to donate ↓	▪ Not part of process ▪ Not comfortable or not authorized to search	▪ Establish protocol and train in process ▪ Legislation allowing for search as part of medical info for ME/C	Winmill, 1990 Jenkins, 2004
Identify if possible donor ↓	▪ No knowledge of intent to donate	▪ Donor ID bracelet ▪ Ambulance dispatch access to local registry	Medic-Alert model BC ambulance inititative
Permission from family to refer to TPO	▪ Not comfortable asking ▪ Family too upset	▪ Call TPO to send personnel to broach subject at a later time	
Inform local TPO or coordinator OR	▪ Not part of the process	▪ 24-hour phone number on screening card or death documentation	Examples in Appendix E
Indicate donor eligibility and intent on documentation for coroner or ED	▪ Too pressed for time to remember to assess for donation	▪ Required field in death report ▪ Highly visible stickers for paperwork	SK example in Appendix E Ottawa initiative

Emergency department

There exists no common procedure among Canadian EDs to facilitate donation. Practices are as varied as the jurisdictions, geography, and influence of the local transplant and procurement community. Initiatives tend to be the result of promotions and workshops mounted by transplant and procurement organizations. Other issues are the level of support by ED management, and staff knowledge of and comfort with donation.

Survey respondents included four emergency physicians. While these experts identified serious barriers to approaching donation with traumatized families, they concurred with the majority of all survey respondents who indicated that ED staff were the best positioned to bring up the topic of donation. Reasons for this were that the staff had some contact with the family and had built rapport. As well, they were the ones who were consulted about next steps after death notification.

It was noted by some that there was a conflict of interest when those who are providing health care then turn around to discuss donation. One respondent had experienced families calling him names implying he was insensitive and uncaring. This situation can be resolved in the hospital setting by designating one person (a coordinator, social worker, or a unit charge nurse) to be the one to approach the family and ask

if they would like to talk to the TPO. Again, the idea of separating the event of death with the approach, and bringing in an experienced “designated requester” could help alleviate this barrier.

In smaller centres, the family is more likely to be known by the staff and the relationship with the physicians makes the topic easier to approach. One expert from a smaller town in western Canada has had excellent success in procuring corneal tissue because he knew most of the potential donors, and he had also learned from experience how to approach the topic in a way that helped the family gain something positive from the experience of consenting to donation.

The New Brunswick eye bank is reported to have shown substantial increases in cornea donations due in part to the fact that there is a local champion who has worked to ensure that all deaths are referred to the eye bank. Previous attempts requiring end-of-life professionals to approach the family about donation were not effective. Now the initial approach is made by phone after the family has had time to accept the death (at least 2 hours after death notification). Again, the experience and training of the requester has had a positive effect on the consent rate.

New Brunswick has established an infrastructure that allows for procurement to take place in most parts of the province. Survey respondents from other provinces noted a lack of motivation to refer potential donors when they know there is no system in place to accommodate the procurement procedure. Another disincentive cited by one respondent is the frustration of having the procurement organization asking for extensive information on the potential donor. In a hectic ED, staff does not have the time to do more than make a quick phone call. If TPO personnel are not readily available, or not willing and able to perform screening and chart reviews, ED staff may feel it is too much work to refer potential donors.

As of this January 2006, Ontario has adopted Routine Notification Request (RNR) legislation requiring all hospital deaths, including those from the ED, to be reported to the provincial transplant organization. It remains to be seen if RNR legislation and standard procedure of approaching this subject will be acceptable and effective and whether this approach will result in more tissue donations in the long term. One respondent suggested the need to further educate and provide more staff for screening and referral.

In Table 6, recommendations for increasing donation potential from ED medical professionals are outlined. References include information from websites in Canadian and other jurisdictions, literature references, and practices and initiatives cited by the interviewed stakeholders and DPBAC Steering Committee members.

Table 6. Recommendations to increase tissue donation potential from the ED

Process steps	Barrier	Recommendation	References
Death occurs in ED or DOA ↓			
Preliminary screen for eligibility as tissue donor ↓	▪ No knowledge of eligibility criteria for tissue donors	▪ Reference cards with criteria and TPO or hospital coordinator contact information	Examples in Appendix E
Identify if possible donor ↓	▪ Not part of process ▪ No indication of intent to donate ▪ Not comfortable or not enough time ▪ Tissue donation not important	▪ RNR legislation requiring referral to local registry or TPO ▪ Access registry information if available ▪ Establish protocol, make standard procedure ▪ Staff training sessions about tissue donation	www.giftoflife.on.ca www.transplant.bc.ca Riker, 1995
Get permission from family to refer to TPO ↓	▪ Not comfortable asking ▪ Family too upset ▪ Family needs information	▪ Designate specialist in ED ▪ Call TPO to send personnel to broach subject at a later time ▪ Have brochures available	Haire & Hinchliff, 1996 Siminoff et al., 1995 Sade et al., 2002
Inform local TPO ↓	▪ Donation personnel not available ▪ Too pressed for time to remember to assess donation potential	▪ 24-hour TPO phone number on death notification ▪ Required field in death report, process to call TPO or indicate why not	Examples in Appendix E
TPO completes chart review and requests consent from qualified donor family	▪ TPO staff not available ▪ TPO expects ED staff to provide extensive information on donor	▪ 24-hour on-call for evening emergencies ▪ TPO to take responsibility for all assessment beyond the preliminary criteria	

Medical examiners and coroners

Coroners and medical examiners made up the largest portion of survey respondents. With this group there were those who never referred to a TPO and one who said it happened most of the time. While this group identified ED staff as the best suited to refer the family to the TPO, they indicated a willingness to implement changes in their own protocol to allow for donation.

Experts who were interviewed agreed that the practice of referring all potential donors could easily be made standard procedure if there was the desire and consensus among the ME/Cs to do so. Along with establishment of procedures to deal with the logistics of referring families to the TPO, ME/C respondents indicated more training in tissue donation and eligibility criteria is warranted.

Alberta has demonstrated a system to facilitate donor identification. Representatives from the Comprehensive Tissue Centre (CTC) review the ME case list each morning. They identify the potential donors to the ME who then asks the family if they are willing to hear from the CTC. If the family is agreeable, the CTC takes over the donation process.

In Table 7, recommendations for increasing donation potential from medical examiners and coroners are outlined. References include information from websites in Canadian and other jurisdictions, literature references, and practices and initiatives cited by the interviewed stakeholders and DPBAC Steering Committee members.

Table 7. Recommendations to increase tissue donation potential from ME/C

Process steps	Barrier	Recommendation	References
Body received with no information on donation potential or intent to donate ↓	▪ Need to assess for tissue donation criteria – first one being time since death	▪ Eligibility criteria on reference sheet or posted in convenient location	DPBAC Steering Committee, 2006 Examples in Appendix E
TPO allowed to review eligible cases OR	▪ Not informed of eligible donors	▪ TPO representative to go to ME/C office and review cases on a regular basis	Alberta model
Family contact information is given to TPO OR	▪ FOIP, privacy legislation inhibits sharing of information ▪ ME/C too busy to contact TPO ▪ ME/C discomfort with topic	▪ RNR legislation to legally allow ME/C to give family information without asking permission ▪ Required field in death documentation – if not referred, reason must be documented	SK example – Appendix E
ME/C informs family they may be contacted by TPO ↓	▪ ME/C concerned that procurement will interfere with death investigation	▪ Work with TPO to establish procedures for procurement that will not obscure death investigation findings	HRSA, 2003 Jaynes & Springer, 1996 Pinckard & Graham, 2003
TPO completes eligibility assessment and requests consent ↓	▪ TPO staff not available to achieve procurement within time limits of tissue donor eligibility	▪ Establish 24-hour on-call service	
Procurement of tissue	▪ Time and place logistics are difficult	▪ Designate a nearby place for procurement – in ME/C building, nearby health facility, funeral home	

Funeral directors

There is very little information on the involvement of funeral planners in the donation process. Some initiatives were noted by funeral directors who were interviewed. An Ontario funeral planner working in the pre-planning area utilizes reference materials and information from TGLN. Asking the client to consider donation and providing information on becoming a registered donor is part of the funeral planning process. As pre-planning becomes a bigger part of Canadian funeral home practice, there is opportunity to increase donor awareness. An added advantage is that this provides a value added service for funeral directors and raises their profile as concerned citizens.

Survey results demonstrated that most funeral directors were unaware of the benefits and potential for tissue donation and felt that asking about it could be a hard "sell". This is a big opportunity for TPOs to use funeral industry trade publications or business seminars to reinforce the fact that Canadians overwhelmingly approve of donation and would be receptive to the discussion.

Certainly, the biggest barrier for funeral directors to approach donation in the event of an unexpected or sudden death is the timing. Survey respondents from all four groups assumed that by the time the body was released to the funeral home, the maximum allowable time for tissue procurement would have elapsed. Yet funeral directors themselves indicated anywhere from 10% to 50% of potential donors would meet inclusion criteria for tissue donation. One expert stated funeral homes often receive the body within three hours after the time of death. If the home has refrigeration capabilities, criteria can be met.

In cases of sudden unexpected death, the discomfort of bringing up the topic of donation is a barrier that is compounded by the fact that funeral directors have little or no knowledge of tissue donation. The survey respondents were fairly consistent in identifying either the ED or ME/C as having more knowledge, credibility, and rapport with the family. Yet in situations where medical professionals have neglected to ask about donation due to their own discomfort with the traumatized family, there may be opportunity for the funeral director to contact the TPO to initiate the donor process.

The logistics of procurement present a real disincentive to those who need to embalm and prepare a body for a funeral. As with medical examiners, there is the perception that tissue procurement will interfere with the process. This could potentially be addressed by having funeral directors and procurement organizations work more collaboratively so that each understands and accommodates the requirements of the other.

One funeral director indicated that the local coroner who was also an emergency physician had trained him to procure corneal tissue at the funeral home. His experience with the comfort this provides, especially to grieving parents, is incentive to continue this practice. Training for funeral directors could potentially cover the entire range from basic information about tissue donation to learning specific tissue procurement procedures.

In Table 8, recommendations for increasing donation potential from funeral planners and directors are outlined. References include information from Canadian and other websites, literature references, and practices and initiatives cited by the interviewed stakeholders and DPBAC Steering Committee members.

Table 8. Recommendations to increase tissue donation potential from funeral directors

Process steps	Barrier	Recommendation	References
Funeral director discusses donation with pre-planning clients	▪ No knowledge of process and potential ▪ Concern that process will delay funeral preparation ▪ Fear that client will have negative impression	▪ Training, information from TPO, websites, workshops, trade journals ▪ Provide funeral planners and directors with opinion survey results	Savaria & Swanson, 1994 CCDT, TGLN surveys
Indication of intent to donate standard part of pre-planning	▪ Client needs more information ▪ Not part of current process	▪ Access informational literature and resources from local TPO ▪ Include donor field in contract for services or pre-planning checklist	www.transplant.ca www.giftoflife.on.ca
Body received with no approach by ED or ME/C and no information on donation potential or intent to donate ↓	▪ No knowledge of tissue donation criteria	▪ Eligibility criteria on reference sheet or posted in convenient location	DPBAC Steering Committee, 2006 Examples in Appendix E
Ask family if they want to talk to TPO	▪ Uncomfortable with topic	▪ Access to local TPO to contact family or send a designated requester	
If consent for procurement, explain timing and reassure families it will not alter their grieving process ↓	▪ Perception that procurement will add time, costs, and inability to proceed with open casket or other chosen grieving processes	▪ Work with TPO to establish procedures for procurement that will cause the least interference with funeral process ▪ TPO reimburses any extra costs	Savaria & Swanson, 1994
TPO determines eligibility as donor, arranges for procurement	▪ Need to transport body for procurement	▪ Utilize funeral home vehicle, reimbursed by TPO ▪ Procurement performed at funeral home	

Summary and recommendations

The role of the TPO includes final screening for tissue donor eligibility, answering detailed questions about tissue donation, and requesting consent from the family. In stressful situations of dealing with an unexpected death, end-of-life professionals have stated they do not have the time or the training to perform these tasks.

Training for end-of-life professionals recommended by this initiative is basically two-fold. One step is to learn about the potential for tissue donation and how it fits into their responsibilities. The second is establishing a standard procedure that includes initial screening of all deaths for donor eligibility, and then turning the rest of the donation process over to the skills and experience of the designated requester or TPO personnel.

At this time, Canadian privacy legislation limits the ability of some service providers to share family information without first approaching a distraught family member who in many cases has not yet come to terms with the sudden death of a loved one. Separating the approach to the topic of donation from the actual time of death can provide a better experience for the family of a potential donor. An important recommendation for increasing tissue donation opportunities is the implementation of policies to protect, enable, and request sharing of family contact information with the TPO.

A number of key recommendations were identified to address barriers to tissue donation beyond acute care.

- Develop ongoing public awareness and social marketing campaigns that inform about tissue donation and stress the importance of informing loved ones about personal wish to become a donor.
- Provide tissue donation information targeted specifically to professional groups delivering end-of-life services outside of acute care settings.
- Ensure processes among organ and tissue procurement organizations to ensure that:
    - Expressed intent for donation routinely includes tissue donation in addition to organ donation, and
    - Tissue donation is offered when families are approached for organ donation.
- Implement policies and procedures to ensure paramedics, ED personnel, and ME/Cs routinely provide family contact information of potential donors to tissue procurement organizations.
    - Develop quick reference sheets for each professional group to make screening for tissue donor eligibility quick and simple. Include a number to access TPO with any questions and to refer family for request for consent.
    - Provide 24-hour availability of tissue procurement staff to act on referrals within time constraints for eligible donors.
    - Establish communication channels with TPO to inform and support protocols specific to each professional group.
- Ensure privacy legislation legally protects and enables professionals who share family information of deceased potential donors with procurement organizations (i.e., extend Routine Notification Request or similar legislation to all end-of-life professionals outside of the acute care setting).

To support the above directions, it is recommended that the CCDT:

- Develop a public awareness and social marketing template that includes donation potential beyond acute care, and makes the template available for adoption or adaptation by programs, provincial governments or non-profit organizations across the country. As well as addressing the information needs of the public, end-of-life service providers should be specifically targeted.

- Work with and support the national professional associations of end-of-life service providers to increase knowledge and positive attitudes regarding organ and tissue donation among their memberships and promote routine referral to tissue procurement organizations as standard practice in their professions.
- Further explore the issue of privacy legislation as it relates to information sharing between end-of-life service providers and tissue procurement organizations and, depending on the results of the further work, highlight to the Conference of Deputy Ministers of Health the need for each province's privacy legislation to protect and enable end-of-life service providers to provide family contact information to tissue procurement organizations.

Finally, it is recommended that the CCDT monitor and evaluate the impact of changes that may be attributed to the implementation of these recommendations.

Conclusion

In conclusion, previous work undertaken under the direction of the DPBAC Steering Committee and this environmental scan suggested strongly that there exists an unrealized potential for increased tissue donation from individuals whose death occurs outside the acute care setting. In this review, the barriers to achieving this donation potential and strategies for increasing donation were explored for four end-of-life professional groups. Most notably, this review concluded that the most important role for these professionals is to refer possible donors to tissue procurement organizations so that a trained requester can approach the family for consent to donation.

To support donation potential beyond acute care, it is suggested the CCDT, in collaboration with professional groups representing end-of-life services, focus on three main objectives: increase knowledge and encourage buy-in regarding the importance of organ and tissue donation among end-of-life service professionals, encourage the adoption of routine referral policies and practices among these professionals, and encourage provincial governments to ensure privacy legislation protects and enables end-of-life service providers to share family contact information with tissue procurement organization staff.

The present ability of the procurement community to accommodate the increase in referrals that may result from these recommendations will require ongoing study. As recommendations are implemented over time, the hope is that more Canadians will have the opportunity to give the gift of life and health through tissue donation.

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Appendix A:

Donation Potential Beyond Acute Care Planning & Steering Committee Membership

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Appendix B:

DPBAC Steering Committee Report:

Estimating Tissue & Organ Donation Potential Outside the Acute Care Setting

Canadian Council for Donation and Transplantation

Estimating Tissue & Organ Donation Potential Outside the Acute Care Setting

Prepared by:

Karen Hornby
February 27th, 2006

for:

Donation Potential Beyond
Acute Care Steering Committee

Introduction

The mandate of the Canadian Council for Donation and Transplantation (CCDT) is to strengthen Canada's donation and transplantation system through advice to the Federal, Provincial and Territorial (FPT) conference of Deputy Ministers of Health. The CCDT Donation Committee has as its principle mandate to ensure that all individuals who wish to give a gift of organ and tissue donation have the opportunity to do so. The CCDT Donation Committee's strategy is to develop advice based on best evidence provided through: review of existing practices, policies or guidelines (national/international); a review of the scientific literature; and by consultation with experts for development of consensus recommendations.

As a means to fulfill its mandate, the CCDT Donation Committee is focusing on identifying and eliminating barriers that prevent Canadians from donating their tissues and organs. As a first step, an estimation of the number of the potential tissue donors in Canada entitled *Estimating Potential Tissue Donors in Canada from 1995-2000: An Exploratory Analysis Based on Acute Care Hospital Admissions Data*[1] has been produced. To complement this work, an initiative entitled Donation Potential Beyond the Acute Care setting (DPBAC) was established. Its principle objective was to identify potential tissue/organ donors outside the acute care setting and to provide suggestions for strategies to realize this potential through processes of referrals to existing tissue and organ donation programs. This report is a summary of a research project, undertaken as part of the DPBAC initiative, to estimate the number of potential tissue and organ donors that die outside the acute care setting.

Methods

We reviewed a sample of all coroner/medical examiner manual case reports for the year 2003 in Alberta, British Columbia, Ontario and Newfoundland (Table 1). These sites provided geographical and system representation (2 coroners and 2 medical examiners). Given the similarity of reportable deaths between most jurisdictions in Canada, these sites provided a credible base for extrapolation for our estimations. The coroner and medical examiner both collect medical and other evidence in order to determine the medical cause and manner of death. Generally, they are responsible for investigating homicides, suicides, accidental and natural (usually sudden and unexpected) deaths. This study estimated the potential for donation in natural and accidental deaths. Homicides were not considered due to logistical issues that would preclude donation (i.e. delays in accessing bodies at crime scenes etc.). Suicides were not considered, as it was thought that most of these cases would be ineligible due to the extended time period between when a body was found and the last time a person was seen alive (see limitations for further discussion).

Table 1 Coroner's/Medical Examiner's Cases 2003

	AB	BC	NL	ON	Total
Homicide	65	n/a	4	181	**250**
Suicide	456	n/a	45	1,188	**1,689**
Accidental	718	1,212	90	2,924	**4,944**
Natural	1,617	658	296	14,351	**16,922**
Total	**2,856**	**1,870**	**435**	**18,644**	**23,805**

AB-Alberta, BC-British Columbia, NL-Newfoundland, ON-Ontario, n/a – not available

We collected data (Appendix I – Case Report Form) on all accidental and natural deaths that occurred in the following locations: the home, the scene of a motor vehicle accident, "in the field", enroute to the hospital, and in the emergency room. Not included in this study were deaths that occurred in prisons, psychiatric hospitals, chronic care facilities, short-term care facilities (rehabilitation centers), hospices, palliative care facilities, and any other non-hospital healthcare facility. The choice of location of death was based on the assumption that these settings would be more amenable to tissue and organ donation identification and referral practices. It was thought that the key players in these areas were easily identifiable and receptive to donation strategies. This approach was viewed as a relatively rapid way to effect change. In contrast, the other sites were excluded because a significant percentage of people who die in these areas meet standard exclusion criteria for tissue and organ donation.

This study focused primarily on tissue donation as this was the most likely form of donation to occur outside the acute care setting. Organ donation in this setting is known as "uncontrolled donation after cardio circulatory death". Briefly, this type of donation occurs after an unanticipated cardiac arrest. The arrest must be witnessed and cardiopulmonary resuscitation must commence immediately and be applied continuously until an emergency medical team is in place. If the attempts to resuscitate are unsuccessful the deceased is considered a potential organ donor. These donors generally provide kidneys and livers; however lungs have also been successfully procured and transplanted. There are no Canadian programs in place for this type of organ donation at the present time. For further information on donation after cardio circulatory death please refer to *Donation after Cardio circulatory Death: Canadian Council for Donation and Transplantation Forum Recommendations*[2].

The inclusion/exclusion criteria used to determine eligibility for tissue donors (and each type of tissue), and organ donors are provided in Appendix II. The general tissue donation criteria were based on those reported in *Estimating Potential Tissue Donors in Canada from 1995-2000: An Exploratory Analysis Based on Acute Care Hospital Admissions Data January 2004*[1] which in turn were based on the Canadian Standards Association Standards Z900 series as well as feedback provided by experts in the field of tissue banking. For the purposes of this study, the most inclusive criteria were used (i.e. the widest age ranges). We also included criteria for past social history and time after death limitations consistent with criteria presently used to screen potential tissue donors. Criteria for uncontrolled organ donation after cardio circulatory death was based on the Spanish model[3] and consistent with criteria presently used to screen potential organ donors. No assessment of individual organ viability was done in this study.

We piloted the study in Newfoundland by reviewing all the medical examiner's cases (~ 400 cases) for 2003. Based on the pilot it was decided to randomly sample 400 cases from each of the remaining three sites (Alberta, British Columbia, and Ontario). This sample size was felt to be feasible given time and financial considerations as well as sufficiently large to provide an accurate estimate of potential tissue and organ donors. The 400 cases at each of the remaining sites were sampled to reflect the underlying proportions of accidental and natural deaths at each site as well as their monthly distributions.

Results

A total of 1,586 cases (542 accidental and 1,044 natural deaths) were reviewed. Of these, 897 were excluded leaving 689 cases eligible for the study. Table 2 provides a detailed summary of the numbers of cases reviewed, excluded and eligible by study site. Forty-three percent of all the accidental deaths reviewed were eligible for tissue donation. Reasons for ineligibility for accidental deaths include: death occurred in a hospital (33%), drug abuse (22%) and time limitations (19%) (generally, this was due to finding the body too long after the death had occurred). Table 3 provides a detailed breakdown of the reasons for exclusion of accidental deaths by study site. Forty-four percent of all the natural deaths reviewed were eligible for tissue donation. Reasons for ineligibility for natural deaths include: 33% due to time limitations, 27% died in the hospital and 19% were too old to donate tissues or organs. Table 4 provides a detailed breakdown of the reasons for exclusion of natural deaths by study site.

Table 2 Summary of Accidental and Natural Deaths

Accidental Deaths	**Reviewed**	**Excluded**	**Eligible**
Alberta	124	52	72 (58%)
British Columbia	260	164	96 (37%)
Newfoundland	90	52	38 (42%)
Ontario	68	42	26 (38%)
Total	**542**	**310**	**232 (43%)**
Natural Deaths			
Alberta	276	154	122 (44%)
British Columbia	140	82	58 (41%)
Newfoundland	296	129	167 (56%)
Ontario	332	222	110 (33%)
Total	**1,044**	**587**	**457 (44%)**

Table 3 Accidental Deaths - Reasons Excluded

	AB	BC	NL	ON	Total	
Died in Hospital	32	46	13	13	**104**	**(33%)**
Drug Abuse	2	54	8	3	**67**	**(22%)**
Past Time Limit	9	22	24	5	**60**	**(19%)**
Age	2	13	1	12	**28**	**(9%)**
Unable to Use	3	12	4	2	**21**	**(7%)**
Other*	1	15	0	5	**21**	**(7%)**
Died in NHHCF**	3	2	2	2	**9**	**(3%)**

AB-Alberta, BC-British Columbia, NL-Newfoundland, ON-Ontario
*Other includes: Alzheimer's, a combination of cancer & age, hepatitis B & C, HIV, leukemia, missing file, multiple sclerosis, Parkinson's, sepsis.
**non hospital health care facility

Table 4 Natural Deaths - Reasons Excluded

	AB	BC	NL	ON	Total	
Past Time Limit	81	32	30	49	**192**	**(33%)**
Died in Hospital	21	21	54	65	**161**	**(27%)**
Age	17	5	31	61	**114**	**(19%)**
Other*	16	17	11	20	**64**	**(11%)**
Died in NHHCF**	9	0	3	27	**39**	**(7%)**
Drug Abuse	5	6	0	0	**11**	**(2%)**
Unable to Use	5	1	0	0	**6**	**(1%)**

AB-Alberta, BC-British Columbia, NL-Newfoundland, ON-Ontario
*Other includes: ALS, Alzheimer's, a combination of cancer & age, cause of death unknown, chicken pox, died in prison, hepatitis C, high risk sexual behavior, HIV, Hodgkin's lymphoma, idiopathic dementia, insufficient information, leukemia, lupus, meningitis, missing file, multiple sclerosis, Parkinson's, previous transplant, sepsis, viral encephalitis.
**non hospital health care facility

Eligible donors from accidental deaths were primarily male, with a median age of 37.5 years, (ranging from 3 to 85 years of age). The vast majority of these deaths (51%) occurred on the road, followed by in the emergency room (17%) and in the woods/water (14%). The location of death requires consideration when planning for resources to capture this potential. Table 5 provides a detailed breakdown of the location of accidental deaths for eligible donors.

Table 5 Eligible Accidental Deaths – Location of Death

	AB	BC	NL	ON	Total	
Road	44	40	24	10	**118**	**(51%)**
Emergency Dept	6	24	2	7	**39**	**(17%)**
Woods / Water	5	17	8	3	**33**	**(14%)**
Home	4	9	3	3	**19**	**(8%)**
Dead on Arrival	8	2	0	3	**13**	**(6%)**
Work	5	4	1	0	**10**	**(4%)**
Total Eligible	72	96	38	26	**232**	

AB-Alberta, BC-British Columbia, NL-Newfoundland, ON-Ontario

Eligible donors from natural deaths were again primarily male but older than those for accidental deaths, with a median age of 63.5 years (ranging from 4 days to 85 years of age). Sixty-four percent of these deaths occurred in the home, followed by 23% in the emergency room. Table 6 provides a detailed breakdown of the location of natural deaths for eligible donors.

Table 6 Eligible Natural Deaths – Location of Death

	AB	BC	NL	ON	Total
Home	84	29	119	58	**290 (64%)**
Emergency Dept	26	19	13	48	**106 (23%)**
Woods / Water	2	4	10	4	**20 (4%)**
Road	1	2	16	0	**19 (4%)**
Dead on Arrival	3	2	9	0	**14 (3%)**
Work	4	2	0	0	**6 (1%)**
Other*	2	0	0	0	**2 (0.4%)**
Eligible Donors	122	58	167	110	**457**

AB-Alberta, BC-British Columbia, NL-Newfoundland, ON-Ontario
*Other – hotel, unknown

Potential Tissue Donors

Of the 542 accidental deaths reviewed, the percentages eligible to donate each type of tissue were: skin (39%), bone (39%), sclera (38%), cornea (36%), heart valves (35%), soft/connective (32%), saphenous veins (31%) and femoral veins (24%). Eligible donors had the potential to donate more than one type of tissue (depending upon the characteristics of the potential donor); therefore the percentages will not necessarily add up to 100. Table 7 provides a detailed breakdown by study site, of the percentages of reviewed accidental cases which were eligible to donate the various types of tissue. If we project these percentages from the 542 accidental cases sampled, to the 3,826 actual accidental cases that occurred during 2003 within the study sites, the estimated number of eligible donors for each type of tissue would be: skin (1,855), bone (1,843), sclera (1,801), cornea (1,681), heart valves (1,678), soft/connective (1,525), saphenous veins (1,511), and femoral veins (1,149).

Table 7 Accidental Deaths – Eligible Donors by Tissue Type

	AB	BC	NL	ON	Total
Reviewed	124	260	90	68	542
Skin	65	90	35	24	**214 (39%)**
Bone	65	88	35	24	**212 (39%)**
Sclera	61	84	38	24	**207 (38%)**
Cornea	60	78	36	22	**196 (36%)**
Heart Valve	59	77	33	22	**191 (35%)**
Soft/Connective	51	73	30	19	**173 (32%)**
Saphenous Vein	53	69	27	20	**169 (31%)**
Femoral Vein	40	54	21	15	**130 (24%)**

AB-Alberta, BC-British Columbia, NL-Newfoundland, ON-Ontario

Of the 1,044 natural deaths reviewed, the percentages eligible to donate each type of tissue were: sclera (40%), skin (40%), bone (39%), cornea (33%), soft/connective (18%), saphenous vein (18%) heart valves (15%), and femoral vein (6%). Again, it should be noted that eligible donors had the potential to donate more than one type of tissue (depending upon the characteristics of the potential donor); therefore the percentages will not necessarily add up to 100. Table 8 provides a detailed breakdown of the percentages of reviewed natural cases which were eligible to donate the various types of tissue. If we project these percentages from the 1,044 natural cases sampled, to the 5,755 actual natural cases that occurred during 2003 within the study sites, the estimated number of eligible donors for each type of tissue would be: sclera (5,256), skin (5,204), bone (5,048), cornea (4,205), soft/connective (1,944), saphenous veins (1,901), heart valves (1,565), and femoral veins (767).

Table 8 Natural Deaths – Eligible Donors by Tissue

	AB	BC	NL	ON	Total
Reviewed	(276)	(140)	(296)	(332)	(1,044)
Sclera	112	53	155	99	**419 (40%)**
Skin	106	53	160	98	**417 (40%)**
Bone	105	50	153	96	**404 (39%)**
Cornea	85	48	128	79	**340 (33%)**
Soft/Connective	49	31	72	34	**186 (18%)**
Saphenous Vein	52	28	72	34	**186 (18%)**
Heart Valve	45	27	57	27	**156 (15%)**
Femoral Vein	19	13	21	12	**65 (6%)**

AB-Alberta, BC-British Columbia, NL-Newfoundland, ON-Ontario

Potential Organ Donors

Of the 542 accidental deaths reviewed, 6 were determined to be eligible for uncontrolled donation after cardio circulatory death, (i.e. they had a witnessed cardiac arrest with immediate and continuous cardiopulmonary resuscitation). Four of the potential organ donors were from the accidental cases in British Columbia and 2 were from the accidental cases in Ontario. The median age of the potential donors from the accidental cases was 40.5 years (ranging from 19 to 53 years) and five of these potential donors were male. Of the 1,044 natural deaths reviewed, 53 were determined to be eligible for uncontrolled donation after cardio circulatory death. Newfoundland had the most potential organ donors from natural deaths with 22, followed by Alberta (12), Ontario (10) and British Columbia (9). A majority of these donors were male, with a median age of 48.5 years (ranging from 14 to 55 years of age). The projected potential for organ donors (given the percentage of reviewed cases which were determined to be eligible across study sites) would be 112 from the 3,826 actual numbers of accidental cases across study sites and 557 from the 5,755 actual numbers of natural cases across study sites.

Limitations

A principle limitation of this study is that it is based on a retrospective review of manual case reports. Retrospective chart reviews are limited by the content and accuracy of the underlying documents. In this study, the case reports contained limited medical/social history information and therefore the potential may be overestimated if further details had been available that could have excluded the case (i.e. exclusion criteria were met). It is also possible that the potential for Newfoundland was overestimated as there may have been a learning curve for the identification of exclusionary criteria over the duration of the study. The data were not evaluated to detect this potential problem. Further overestimation of the potential occurred because consent was taken into consideration as there is limited information on consent rates for these types of donors. Many practical aspects of the donation process were not taken into account in these estimations such as the availability of next of kin for consent purposes, the location of death as it relates to availability of services, and the resources that would be required to capture this potential.

One source of potential underestimation of the potential for tissue and organ donors outside the acute care setting was the decision not to review suicides. Initially these cases were excluded due to concerns of eligibility (time delays). However, after further discussions with organ and tissue donation experts, this concern was unfounded. Suicide cases should be considered for this type of donation.

Conclusion

This study identified a relatively large number of potential tissue and organ donors that are rarely considered in the present Canadian context. We found 689 potential tissue donors and 59 potential organ donors within our study sample. Although the study had several limitations, using more conservative projections to the relevant coroner's/medical examiner's cases in Canada would still result in a substantial

number of potential tissue and organ donors. Although recent work on tissue supply and demand in Canada[1] suggests that there are more than enough potential donors within the acute care setting, this potential source requires careful consideration. Tissue banks will need to consider these identified potential increases when designing and forecasting their programs. In addition, given the current demand for organs, this may well be a potential source worth pursuing. Most importantly, establishing programs to accommodate this type of donation provides the opportunity to more individuals who wish to give a gift of organ and tissue donation.

Acknowledgements

I gratefully acknowledge the support provided by the Canadian Council for Donation and Transplantation during this study and the production of the resulting report. I would also like to thank Dr Simon Avis, the project lead and Chief Medical Examiner of Newfoundland, for his guidance and leadership on this project, as well as the support and contributions of both the Planning Committee and Steering Committee members of the DPBAC initiative. I appreciate the collaboration of the following coroner's and medical examiner's offices at the study sites: Dr. Graeme Dowling and Kim Borden (Alberta), Terry Smith and Tej Sidu (British Columbia), Dr Simon Avis and Edna Lahey (Newfoundland), Dr Bonita Porter and Dr Barry McLellan. Finally, I would like to thank Lisa McCarthy for her hard work collecting the data at the Ontario study site.

REFERENCES

1. Canadian Institute for Health Information. Estimating Potential Tissue Donors in Canada from 1995-2000: An Exploratory Analysis Based on Acute Care Hospital Admissions Data. Canadian Council for Donation and Transplantation. Edmonton 2004. www.ccdt.ca

2. Shemie SD et al. Donation after Cardio circulatory Death: Canadian Council for Donation and Transplantation Forum Recommendations. Canadian Council for Donation and Transplantation. Edmonton 2005. www.ccdt.ca

3. Nunez J. Policy on Non-Heart Beating Donors, Hospital Clinco San Carlos. Personal correspondence, 2005.

APPENDIX I – Case Report Form

Site:_____ Reviewer:_____Case ID #: _____ Sex:_____ (M/F)

Age at Death:_____ Years / Months / Days (circle one)

	Date	Time	Description
Last Seen/Known Alive:			
Death:			
Found:			
Emergency Services Contact:			

Location: _____

Death Determined By:_____

Cause of Death:_____

Other:_____

Exclusion Criteria Met

	Yes	No	Description
Cornea/Sclera:			
General Tissue:			
Skin:			
Soft/Connective:			
Femoral Vein:			
Bone:			
Heart Valve:			
Saphenous Vein:			
Solid Organ:			

Potential Donor

	Yes	No	Description
Tissue:			
Organ:			

APPENDIX II – DPBAC Inclusion/Exclusion Criteria*

TISSUE

GENERAL EXCLUSIONS FOR CADAVERIC TISSUE DONORS
Applies to all the cadaveric tissue donors, except the cornea/sclera donors.

Exclusions

(1) Time of death ⟶ Time found (how long dead prior to possible approach)
> 14 hours (based on max limit of 15 hours if no refrigeration)

(2) Past Medical History of
Death unknown cause (CSA)
Tuberculosis (CSA)
Active septicaemia (CSA)
HIV/HTLV (CSA)
Acute poliomyelitis (CSA)
Creutzfeldt-Jakob disease (CSA)
Subacute sclerosing panencephalitis (CSA)
Progressive multifocal leukoencephalitis (CSA)
Active encephalitis (CSA)
Herpetic septicaemia (CSA)
Viral hepatitis B (CSA)
Viral hepatitis C (CSA)
Rabies (CSA)
Malaria (CSA)
Active syphilis (CSA)
Active gonorrhea (CSA)
Systemic mycosis (CSA - Clinical decision)
Malignant neoplasms (CSA) (not in remission – DPBAC advisory)
Active disseminated lymphomas
(including Hodgkins, non-Hodgkins, Sezary syndrome) (CSA)
Leukemias (CSA)
Myelodysplastic syndromes including refractory anemia (Advisory)
Meningitis (bacterial/viral) (CSA)
Alzheimer's disease (CSA)
Parkinson's disease (CSA)
Amyotrophic lateral sclerosis (CSA)
Multiple sclerosis (CSA)
Active endocarditis (CSA)
Mixed connective tissue disease (CSA)
Chemotherapy for cancer (CSA)
Teleradiotherapy (CSA)
Pituitary dwarfism (possible marker of receipt of human pituitary growth factor) (CSA)
Previous tissue/organ transplant (CSA)
Idiopathic Dementia (DPBAC advisory)

(3) Past Social History of:
Use of IV drugs, cocaine or crystal methamphetamine – in the last 5 years
In prison > 72 hours in last 12 months
High risk sexual behavior

***Adapted from *Estimating Potential Tissue Donors in Canada from 1995-2000* (CORR/CHIHI, 2004)**

APPENDIX II – DPBAC Inclusion/Exclusion Criteria* Cont'd

SKIN

Inclusions:

Age: 12-85 yrs

Exclusions: General exclusions as above, plus:

Past Medical History of:

Leprosy/Hansen's disease (Advisory)
Herpes simplex (Advisory)
Skin infections (Advisory)
Pemphigus (Advisory)
Bullous pemiphigoid (Advisory)
Urticaria/atopic dermatitis where asthma also occurs (Advisory)
Acute burns (Advisory)

MUSCULOSKELETAL - BONE

Inclusions:

Age: 12-85 yrs

Exclusions: General exclusions as above, plus:

Past Medical History of:

Leprosy/Hansen's Disease (Advisory)
Scarcoidosis (CSA)
Amyloidoisis (Advisory)
Polyarteritis nodosa (CSA)
Rheumatoid arthritis (Advisory)
Osteomyelitis (Advisory)
Clinically significant metabolic bone disease (CSA)
Any past history of breast or prostate cancer (DPBAC advisory)

MUSCULOSKELETAL - SOFT/CONNECTIVE TISSUE

Inclusions:

Age*:* 15-60 yrs

Exclusions: General exclusions as above plus:

Past Medical History of:

Leprosy/Hansen's Disease (Advisory)
Scarcoidosis (CSA)
Amyloidoisis (Advisory)
Polyarteritis nodosa (CSA)
Pemphigus (Advisory)
Bullous pemiphigoid (Advisory)
Osteomyelitis (CSA)

***Adapted from *Estimating Potential Tissue Donors in Canada from 1995-2000* (CORR/CHIHI, 2004)**

APPENDIX II– DPBAC Inclusion/Exclusion Criteria* Cont'd

CARDIOVASCULAR - HEART VALVE

Inclusions:

Age: Newborn-60 yrs

Exclusions: General exclusions as above, plus:

Past Medical History of:

Chagas disease (CSA)
Hashimoto's thyroiditis (Advisory)
Systemic lupus erythematosus (Advisory)
Goodpasture's syndrome (Advisory)
Pemphigus (Advisory)
Graves disease (Advisory)
Myasthenia grave (Advisory)
Autoimmune hemolytic anemia (Advisory)
Autoimmune thrombocytopenic purpura (Advisory)
Rheumatoid arthritis (Advisory)
Mixed connective tissue disease (Advisory)
Idiopathic Addison's disease (Advisory)
Glomerulonephritis (Advisory)
Bullous pemiphigoid (Advisory)
Diabetes mellitus (Advisory)
Vitiligo (Advisory)
Vasculitis (disseminated) (Advisory)
Urticaria/atopic dermatitis where asthma also occurs (Advisory)
Wegner's granulomatosis (Advisory)
Marfan's syndrome (Advisory)
Rheumatic fever (CSA)
History of mitral valve disease/prolapse (CSA)
Semilunar valvular disease (CSA)
Cardiomyopathy of viral or idiopathic etiology (CSA)

CARDIOVASCULAR – FEMORAL VEIN

Inclusions:

Age/gender inclusions:

15-29 yrs for females; 15-49 yrs for males
(as per South Dakota Lions Eye Bank - SDLEB)

Exclusions: General exclusions as above, plus:

Past Medical History of:

Diseases of veins

CARDIOVASCULAR – SAPHENOUS VEIN

Inclusions:

Age/gender inclusions:

15 – 49 for females
(combination of 17-49 yrs for females NEOB &15-29 yrs for females SDLEB)
16-65 yrs for males (SDLEB)

Exclusions: General exclusions as above, plus:

Past Medical History of:

Diseases of veins

***Adapted from *Estimating Potential Tissue Donors in Canada from 1995-2000* (CORR/CHIHI, 2004)**

APPENDIX II – DPBAC Inclusion/Exclusion Criteria* Cont'd

CORNEA/SCLERA

Inclusions:

Age: 18 mos-80 yrs

Exclusions:

(1) Time of death ⟶ Time found (how long dead prior to possible approach)

> 7 hours – Corneas (based on max limit of 8 hours if no refrigeration)
> 14 hours – Sclera (based on max limit of 15 hours if no refrigeration)

(2) Past Medical History of

Death unknown cause (CSA)
Active septicaemia (CSA)
HIV/HTLV (CSA)
Acute poliomyelitis (CSA)
Creutzfeldt-Jakob disease (CSA)
Subacute sclerosing panencephalitis (CSA)
Progressive multifocal leukoencephalitis (CSA)
Active encephalitis CSA)
Herpetic septicaemia (CSA)
Congenital rubella (CSA)
Viral hepatitis B (CSA)
Viral hepatitis C (CSA)
Carcinoma in situ of eye (CSA)
Reye's syndrome (CSA)
Eye disorders/disease (CSA)
Rabies (CSA)
Malaria (CSA)
Active syphilis (CSA)
Active gonorrhea (CSA)
Systemic mycosis (CSA - Clinical decision)
Active disseminated lymphomas
(including Hodgkins, non-Hodgkins, Sezary syndrome)(CSA)
Leukemias (CSA)
Meningitis (bacterial/viral) (CSA)
Alzheimer's disease (CSA)
Parkinson's disease (CSA)
Amyotrophic lateral sclerosis (CSA)
Multiple sclerosis (CSA)
Active endocarditis (CSA)
Mixed connective tissue disease (CSA)
Pituitary dwarfism (possible marker of receipt of human pituitary growth factor) (CSA)
Previous cornea/other/unspecified transplant (CSA)
Eye globe replaced by other means
Lens replaced by other means
States following surgery of eye or adnexa (CSA)
Idiopathic Dementia (DPBAC advisory)

(3) Past Social History of (same as general exclusions on page 1)

***Adapted from *Estimating Potential Tissue Donors in Canada from 1995-2000* (CORR/CHIHI, 2004)**

APPENDIX II – DPBAC Inclusion/Exclusion Criteria* Cont'd

ORGANS

Inclusions:

Age*: newborn – 55 years

Exclusions:

(1) Time of death*:

Witnessed cardiac arrest & CPR started "immediately" & "continuously" (documented CPR started by witnesses & continued by EMS).

(2) Past Medical History of: (standard OPO exclusions criteria)

Systemic malignancy
HIV/AIDS

(3) Past Social History of:

Use of IV drugs, cocaine or crystal methamphetamine – in the last 5 years
In prison > 72 hours in last 12 months
High risk sexual behavior

*based on Spanish model for uncontrolled donation after cardiac death as per Dr Nunez.

Appendix C:

Websites consulted

Canadian websites searched:

- Health Canada (www.hc-sc.gc.ca)
- Canadian Transplant Association (www.organ-donation-works.org)
- Canadian Council for Donation and Transplantation (www.ccdt.ca)
- Give Life (www.givelife.org)
- London Health Sciences Centre (www.lhsc.on.ca/transplant/)
- Multi-Organ Transplant Program (Halifax) (www.cdha.nshealth.ca/transplantservices/)
- BC Transplant Society (www.transplant.bc.ca)
- Canadian Society of Transplantation (www.transplant.medical.org/)
- Canadian Association of Transplantation (www.transplant.ca)
- Alberta Health and Wellness (www.health.gov.ab.ca/)
- Trillium Gift of Life Network (www.giftoflife.on.ca)

US and international websites searched:

- Gift of Life (www.givelife.org)
- United Network for Organ Sharing (www.unos.org)
- Transplant Australia (www.transplant.org.au)
- Eurotransplant (www.eurotransplant.nl)
- International Association for Organ Donation (www.iaod.org)
- James Redford Institute for Transplant Awareness (www.jrifilms.org/)
- Lifeline of Ohio (www.lifelineofohio.org)
- Global Organization for Organ Donation (www.global-good.org)
- Donor Action (www.donoraction.org)
- Centers for Disease Control and Prevention website (www.cdc.gov)
- UK Transplant (http://www.uktransplant.org.uk)
- US Department of Health and Human Services (http://aspe.hhs.gov/_/index.cfm)
- Donate Life America, formerly Coalition on Donation (www.shareyourlife.org)

Library catalogues searched:

- NEOS (www.library.ualberta.ca)
- US National Library of Medicine (www.nlm.nih.gov)
- AMICUS (National Library of Canada) (www.nlc-bnc.ca/amicus)

Other

- CIHI Publications, reports and statistics (www.cihi.ca)
- Statistics Canada (www.statcan.ca)
- Theses Canada Portal (www.nlc-bnc.ca/thesescanada)
- Proquest Dissertations and Theses Fulltext (www.lib.umi.com/dissertations)

Appendix D:

Survey instrument

Canadian Council for Donation and Transplantation
Tissue donation potential beyond acute care -- survey

Deaths occurring outside the acute care setting (i.e., at home, scene of accident, enroute to hospital, in the emergency department prior to admission) offer significant potential to supply tissues such as corneas, skin, heart valves and bone. Professionals involved in end-of-life services in these situations include: Paramedics, ED staff, Coroners/Medical Examiners and Funeral Directors. This survey is sponsored by the Donation Committee of the Canadian Council for Donation and Transplantation (CCDT). The purpose is to assess the current situation in Canada and to identify barriers and possible solutions for optimizing opportunities to refer families to tissue procurement organizations.

Your responses are confidential and will be compiled and presented at an aggregate level. Individual organizations will not be identified in the survey report.

Instructions for electronic completion of questionnaire:

- Click on tab or the arrow keys of your keyboard to move between questions or response fields.
- Left click on the check box to enter your response.
- Enter only one response per question unless directed to check all that apply.
- Enter text responses by clicking on the text box. The box will expand as you type.
- Save the completed form and send as an attachment to an e-mail, or you may print out your response and submit a facsimile copy.

Please submit your response by e-mail or facsimile by **Friday, May 19, 2006** to:

Lynn Diduck
Charis Management Consulting Inc.
#408, 9008 – 99 Avenue
Edmonton, AB T5H 4M6
E-mail address: ldiduck@shaw.ca
Telephone: (780) 433-6073
Facsimile: (780) 988-8705

If you experience any difficulty or have questions about the survey questions, please contact Lynn Diduck, as listed above.

Thank you for taking the time to complete this survey. Your response is greatly appreciated.

Canadian Council for Donation and Transplantation

Tissue donation potential beyond acute care -- survey

Demographics

1. What is your profession?

Check one:

- ☐ Paramedic
- ☐ Emergency room staff
- ☐ Coroner
- ☐ Medical Examiner
- ☐ Funeral home director/planner
- ☐ Other (specify):

2. What is your province/territory of employment?

Check one:

- ☐ Alberta
- ☐ British Columbia
- ☐ Manitoba
- ☐ New Brunswick
- ☐ Newfoundland and Labrador
- ☐ Northwest Territories
- ☐ Nunavut
- ☐ Nova Scotia
- ☐ Ontario
- ☐ Prince Edward Island
- ☐ Québec
- ☐ Saskatchewan
- ☐ Yukon

3. Your jurisdiction is:

Check one:

- ☐ National
- ☐ Provincial
- ☐ Regional
- ☐ Municipal
- ☐ Other (specify):

Current situation

4. Based on the following criteria for referral of potential tissue donors:
   - Less than 15 hours since time of death (24 hours if refrigerated);
   - Less than 85 years of age;

   Approximately how many deaths falling within your jurisdiction in an average month would be eligible for tissue donation?

Number per month: _____

5. What is the most common reason for people in your profession to NOT refer the family to a tissue/organ procurement organization?

Check one:

- ☐ Family too traumatized to be receptive
- ☐ Not proficient in tissue donation eligibility criteria
- ☐ Personal discomfort with topic
- ☐ Perceived to be too busy
- ☐ Not within profession's scope of responsibility
- ☐ Legal implications
- ☐ No indication of intent of deceased to donate (no donor card or registry information)
- ☐ Other (specify):

6. What percent of potential tissue donors do you estimate are referred to a tissue/organ procurement organization by members of your profession?

Percent: _____

7a. Do members of your profession approach families to ask about interest in referral to a tissue/organ procurement organization?

Check one:

- ☐ Yes, families are routinely approached
- ☐ Some families are sometimes approached
- ☐ No *If no, skip to q. 8a*

7b. If you replied *yes* or *some* to q. 7a, what percent of families that are approached consent to referral to a tissue-organ procurement organization?

Percent: _____

Cannot estimate: ☐

8a. Are there any established policies or procedures in your profession regarding sharing of personal information about the deceased with a tissue/organ procurement organization?

Check one:

☐ Yes ☐ No *If no, skip to q. 9*

8b. If *yes* to q. 8a, describe the policy and/or procedure for sharing the information.

Barriers

9. In your opinion, what do you see as the major barriers in your jurisdiction to referring a potential donor who has died outside of the acute care setting?

Solutions

10. Given the need to proceed with tissue procurement within 15 hours from time of death (24 hour if refrigerated), who is best positioned to initiate referral to a tissue procurement organization?

Check one:

- ☐ Paramedic
- ☐ Emergency department staff
- ☐ Coroner/Medical Examiner
- ☐ Funeral director
- ☐ Other (specify):

Please explain the reason for your choice in q. 10:

11. Which of the following would assist those in your profession with referring families to a tissue/organ procurement organization? Please rank those that apply in order of importance with 1 being *most important*. Rank only those you think are important.

Rank:

- Training on obtaining consent for referral _____
- Knowledge of eligibility criteria for potential tissue donors _____
- Legislation that required referral of all eligible deaths _____
- Access to information indicating donor intent _____
- More time and human resources to deal with this process _____
- Standardized protocol for referral _____
- Other (specify): _____

12. In your opinion, what are the best ways to increase the rate of family consent for referral to a tissue/organ procurement organization? Please rank those that apply in order of importance with 1 being *most important*. Rank only those you think are important.

Rank:

- Presence of donor card or some indication of intent to donate _____
- Discussion with family prior to death _____
- Increased awareness and public education around tissue donation _____
- Specific training and education about donation for those in my profession _____
- Financial incentives for donor family (i.e. funeral expenses) _____
- Some form of recognition for family and deceased _____
- Other (specify): _____

14a. What strategies specific to your profession could increase the referral of families of potential tissue donors in deaths that occur outside the acute care setting?

14b. What would be needed to implement the above strategies?

15. How would you like to participate in initiatives in your practice to increase referrals to tissue/organ procurement organizations?

Check all that apply:

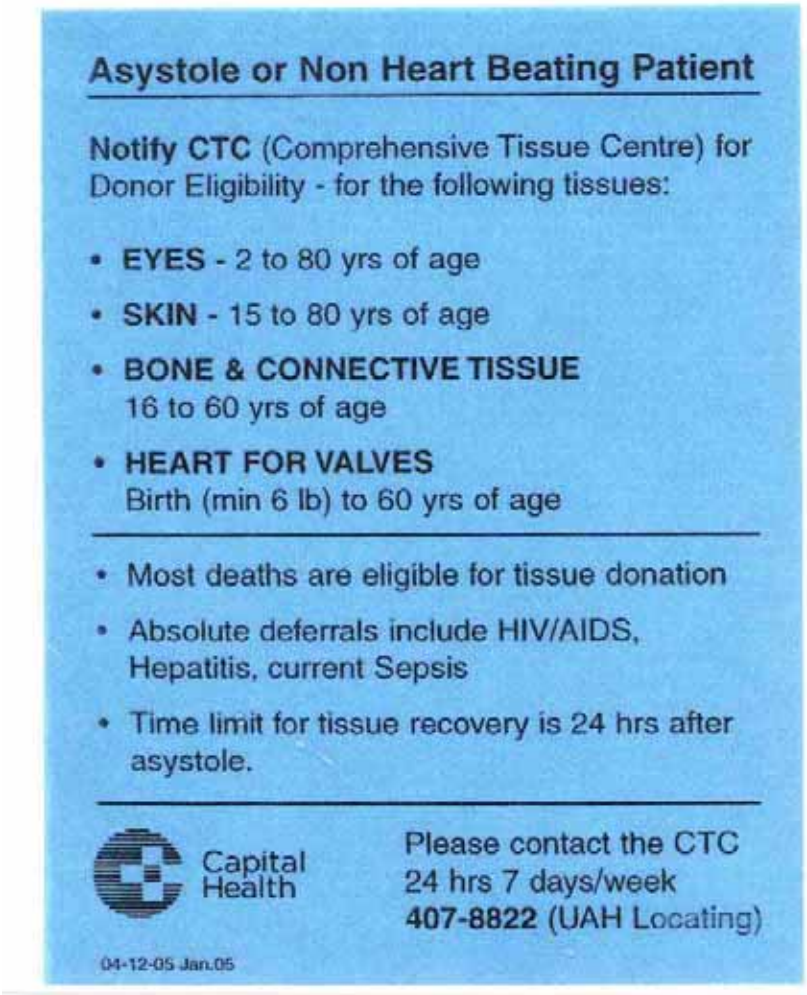
- ☐ I would help with guidelines and protocol for my profession
- ☐ Would implement changes if asked
- ☐ Not interested
- ☐ Other (specify):

16. Please add any other comments and ideas you may have about this initiative:

Thank you. Your participation in this survey is greatly appreciated.

Appendix E: Sample reference cards and death notification forms

Emergency department reference card from Capital Health Region, Edmonton, Alberta.



Asystole or Non Heart Beating Patient

Notify CTC (Comprehensive Tissue Centre) for Donor Eligibility - for the following tissues:

- **EYES** - 2 to 80 yrs of age
- **SKIN** - 15 to 80 yrs of age
- **BONE & CONNECTIVE TISSUE**
  16 to 60 yrs of age
- **HEART FOR VALVES**
  Birth (min 6 lb) to 60 yrs of age

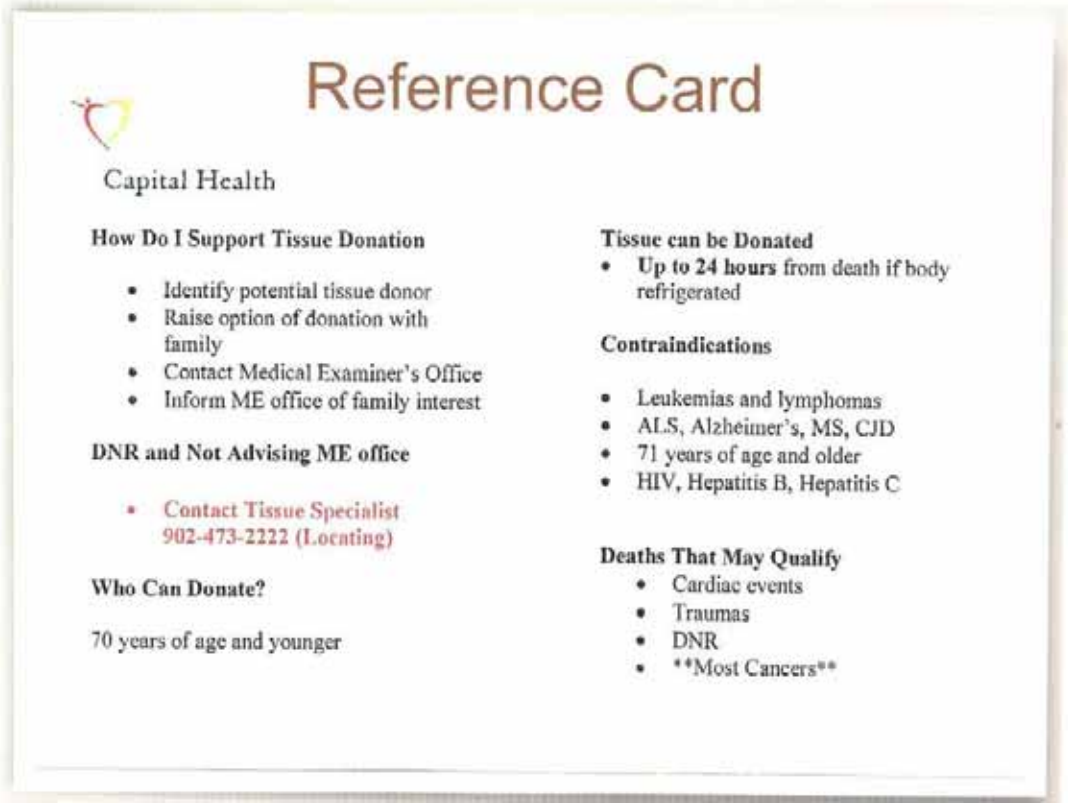
- Most deaths are eligible for tissue donation
- Absolute deferrals include HIV/AIDS, Hepatitis, current Sepsis
- Time limit for tissue recovery is 24 hrs after asystole.

Capital Health

Please contact the CTC
24 hrs 7 days/week
407-8822 (UAH Locating)

04-12-05 Jan.05

Paramedic reference card from Nova Scotia initiative



Reference Card

Capital Health

How Do I Support Tissue Donation

- Identify potential tissue donor
- Raise option of donation with family
- Contact Medical Examiner's Office
- Inform ME office of family interest

DNR and Not Advising ME office

- Contact Tissue Specialist 902-473-2222 (Locating)

Who Can Donate?

70 years of age and younger

Tissue can be Donated

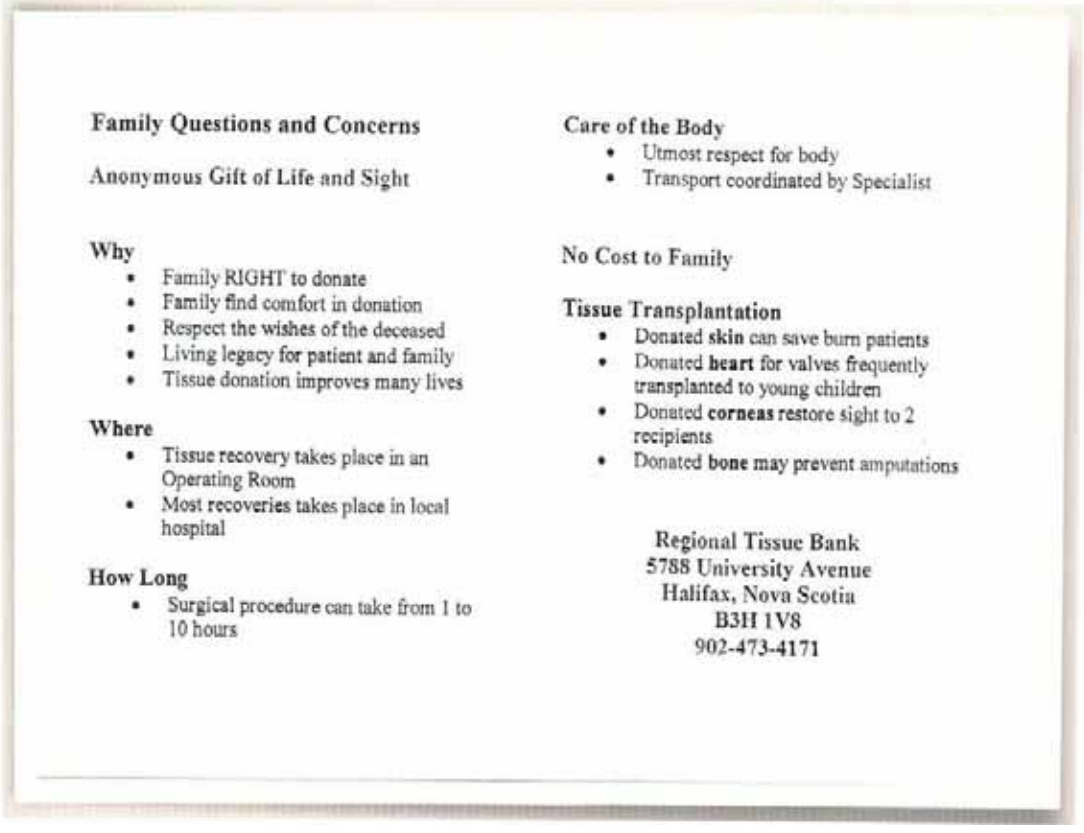
- **Up to 24 hours** from death if body refrigerated

Contraindications

- Leukemias and lymphomas
- ALS, Alzheimer's, MS, CJD
- 71 years of age and older
- HIV, Hepatitis B, Hepatitis C

Deaths That May Qualify

- Cardiac events
- Traumas
- DNR
- **Most Cancers**



Family Questions and Concerns

Anonymous Gift of Life and Sight

Why

- Family RIGHT to donate
- Family find comfort in donation
- Respect the wishes of the deceased
- Living legacy for patient and family
- Tissue donation improves many lives

Where

- Tissue recovery takes place in an Operating Room
- Most recoveries takes place in local hospital

How Long

- Surgical procedure can take from 1 to 10 hours

Care of the Body

- Utmost respect for body
- Transport coordinated by Specialist

No Cost to Family

Tissue Transplantation

- Donated **skin** can save burn patients
- Donated **heart** for valves frequently transplanted to young children
- Donated **corneas** restore sight to 2 recipients
- Donated **bone** may prevent amputations

Regional Tissue Bank
5788 University Avenue
Halifax, Nova Scotia
B3H 1V8
902-473-4171

Death notification form – Nova Scotia

06/02/2006 14:43 9024733886 CRITICAL CARE MSICV PAGE 02

Capital Health

QEII Health Sciences Centre
Department of Emergency Medicine
Summer Street
fax, Nova Scotia
Phone: 473-3383
FAX: 473-4037

FORWARD CHECKLIST WITH CHART TO THE DATA PROCESSING CLERKS DO NOT SEND TO THE MORGUE

Checklist - Death of Patient

☐ Natural Death or ☐ Medical Examiners Case

Organ and Tissue Donation:

Assessed as donor ☐ Yes ☐ No
(cardiac deaths under 70 years for tissue donation, no age restriction for organ donation)

Donor criteria applied ☐ Yes ☐ No

Family approached ☐ Yes ☐ No

Family decision ☐ Yes ☐ No

Call Organ Donor Coordinator or Regional Tissue Bank Specialist through QEII Locating (473-2222)

Autopsy: ☐ Yes ☐ No

Verbal Notification:

Next of Kin: ☐ Yes ☐ No **or** Police Notified: ☐ Yes ☐ No

Nursing Home (if applicable): ☐ Yes ☐ No ☐ N/A

Family Physician by Physician: ☐ Yes ☐ No ☐ N/A

Written Notification:

Death Certificate: ☐ Yes ☐ No

ED Chart Completed: ☐ Yes ☐ No

Copy of chart sent to Family Physician: ☐ Yes ☐ No

Emergency Physician Signature: _____

/mi

June 18, 2002

Death notification form - Saskatchewan

SASKATOON HEALTH REGION
Saskatoon, Saskatchewan

❑ RUH ❑ SCH ❑ SPH Other: _____

NOTICE OF DEATH

Date of Death: _____ _____ _____ _____
Day Month Year Time

❑ MRP notified Dr. _____ Time: _____

❑ Family Physician notified/message left Dr. _____ Time: _____

Next of Kin notified/present: ❑ Yes ❑ No

Name: _____ Relationship: _____ Ph. #: _____

Nursing Home notified: ❑ Yes ❑ No ❑ N/A

Was the family/guardian/spouse/next of kin asked: "It is our standard practice to offer the option of an organ and/or tissue donation as an end-of-life care option. Would you like more information?"

❑ Yes Tissue/Organ (circle one or both) – call Tissue Donor Coordinator through SPH Switchboard at 655-5000

❑ No

Has Physician requested an autopsy? ❑ Yes ❑ No

If yes, has consent been obtained? ❑ Yes ❑ No

Coroner's case? ❑ Yes ❑ No

Has Coroner been notified? ❑ Yes ❑ No

Valuables ❑ No

❑ Yes, given to _____

Belongings ❑ No

❑ Yes, given to _____

Funeral Home if known: _____

Funeral Home to transfer body from: ❑ Ward ❑ Morgue

Signature: _____

❑ **Unit Fax to Registration Services SPH – 5554 SCH – 8759 RUH - 1066**

❑ **Addressograph Shroud Identification Tags**

Word Form # 102683 09/05 Category: Consents/Release/Transport Original - Health Record Copy - Morgue