

CANADIAN COUNCIL FOR  
DONATION AND TRANSPLANTATION



CCDT CONSEIL CANADIEN POUR  
LE DON ET LA TRANSPLANTATION

# **Health Professional Awareness and Attitudes on Organ and Tissue Donation and Transplantation**

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**Including Donation after Cardiocirculatory Death**

Health Professional Awareness and Attitudes  
on Organ and Tissue  
Donation and Transplantation  
Including Donation after Cardiocirculatory Death

Canadian Council for Donation and Transplantation

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## FOREWORD

The Canadian Council for Donation and Transplantation (CCDT) is pleased to present in this report the findings of a health professional survey conducted in 2006. The focus of the survey was on health professionals' current beliefs and attitudes on organ and tissue donation, and in particular towards the possibility of donation after cardiocirculatory death (DCD). The participants were from health professional organizations whose members have knowledge of and involvement in, organ and tissue donation. The survey was conducted following the February 2005 Donation after Cardiocirculatory Death Forum sponsored by the CCDT in collaboration with the Canadian Critical Care Society (CCCS), the Canadian Society of Transplantation (CST) and the Canadian Association of Transplantation (CAT).

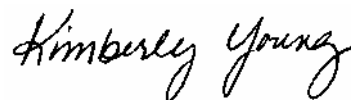
The mandate of the CCDT is to provide the Federal/ Provincial/ Territorial Conference of Deputy Ministers of Health (CDM) with advice on organ and tissue donation and transplantation in Canada. As part of meeting this mandate, the CCDT is committed to working with all stakeholders to optimize the potential for organ and tissue donation in Canada and to help diminish wherever possible the gap that exists between those who need organ and tissue transplants and the number of organs and tissues available to meet this need. Reducing the gap requires us not only to optimize current practices, but also to consider alternative approaches to organ and tissue donation within sound ethical and legal frameworks.

As part of developing recommendations on donation after cardiocirculatory death it is important to understand the views and opinions of healthcare professionals who are intricately involved in organ and tissue donation.

The CCDT hopes that the findings of the health professional survey presented in this report will be of broad interest to all those who are working to optimize organ and tissue donation and transplantation.



Dr. Sam Shemie  
Chair, CCDT Donation Committee



Ms. Kimberly Young  
Chief Executive Officer, CCDT

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  - **Sam Shemie MD**, Division of Pediatric Critical Care, Montreal Children's Hospital, McGill University Health Centre, CCDT Council Member and Chair of the CCDT Donation Committee. His expertise with critical care and broad understanding of donation and related CCDT initiatives provided important contributions to the project.
  - **Kimberly Young BN, RN**, Chief Executive Officer, Canadian Council for Donation and Transplantation. Her expertise in the donation process and understanding of donation related CCDT initiatives were very beneficial in framing the project to successfully consult health care professionals.
  - The success of this project is the result of a team effort of the CCDT staff. **Carole Loiseau BSW, RSW, MSc**, Director of Corporate Services for the CCDT, worked with experts to implement the project and provided project management. **Margo Charchuk MSc**, Research Coordinator for the CCDT, analyzed the survey results and compiled the report.
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## INTRODUCTION AND SUMMARY

In Canada in 2005, there was a discrepancy between the number of individuals requiring organ and tissue transplants and the numbers of organs and tissues available for transplantation. According to recent statistics from the Canadian Organ Replacement Register (CORR), at the end of 2005 there were 4025<sup>1</sup> Canadians waiting for a transplant, 1905<sup>2</sup> organs were transplanted and 283<sup>3</sup> individuals died while waiting for a transplant.

There are several actions that Canadians can take to help to improve this situation. They can sign a donor card or register in their province (where registries exist). They can discuss their decision to donate with loved ones and their chosen medical advocates. They can also donate the organs and/or tissues of a deceased loved one.

While it remains essential to optimize current strategies to improve organ donation rates in Canada, consideration also needs to be given to alternative approaches that might lead to increasing numbers of 'other' potential donors.

In Canada, deceased donor organ donation is currently only possible if neurological determination of death has occurred. However, other countries such as Spain, the United States and the United Kingdom have introduced donation after cardiocirculatory death (DCD) or non-heart beating donation (NHBD). DCD could potentially occur in a brain injured and critically ill patient who has no realistic chance for survival and for whom there has been agreement between physicians and family that life-support can be withdrawn.

DCD is currently being explored by healthcare providers and professionals, including the Canadian Council for Donation and Transplantation (CCDT). The CCDT is a national, not-for-profit organization mandated to provide the Federal/Provincial/Territorial Conference of Deputy Ministers of Health (CDM) with advice on organ and tissue donation transplantation in Canada. In 2005, Environics was contracted by the CCDT to conduct a general population survey of 1,505 Canadians on their attitudes, beliefs and opinions on organ and tissue donation, and DCD. The findings from this survey can be found at [www.ccdt.ca](http://www.ccdt.ca).

In early 2005, the CCDT co-hosted a national multi-disciplinary forum to address issues, and to build expert consensus, on donation after cardiocirculatory death. During the forum, experts developed recommendations for the practice of DCD based upon medical, ethical and legal frameworks. Forum consensus included the recommendation, that in Canada, individual programs, regional health authorities and jurisdictions considering DCD begin with controlled DCD ie. after a planned withdrawal of life support. These recommendations were intentionally not shared with members of the health professional organizations surveyed in this report in order to prevent potential bias.

As part of the exploration of issues related to DCD, the CCDT also surveyed members of several health professional organizations on issues pertaining to organ and tissue donation and

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<sup>1</sup> Canadian Organ Replacement Register, Canadian Institute for Health Information, (2005) Patients Waiting for Transplant on December 31, 2005, Canada and Provinces.

<sup>2</sup> Canadian Organ Replacement Register, Canadian Institute for Health Information, (2005) Transplants by Organ and Donor Type, Province of Treatment, Canada.

<sup>3</sup> Canadian Organ Replacement Register, Canadian Institute for Health Information, (2005) Patients Who Died While Waiting for a Transplant, Canada and Provinces, Summary Statistics, January 1 to December 31, 2005.

transplantation in Canada. The goal of the survey was to understand health professional's personal beliefs and attitudes regarding organ and tissue donation and transplantation and, in particular, DCD. The results will be used to formulate advice to the CDM regarding the potential implementation of DCD in Canada.

The specific goals of the health professional survey were:

- To develop an understanding of Canadian healthcare professionals' awareness, attitudes, and beliefs surrounding organ and tissue donation;
- To discover Canadian healthcare professionals' views on donation after cardiocirculatory death including family/legal/ethical issues.

The specific topics addressed in this survey included:

- Professional affiliation
- Personal beliefs and attitudes regarding donation
- Awareness of organ donation issues
- Awareness and approval of DCD
- Views of family and legal considerations regarding DCD
- Views and acceptance of medical interventions that include medications and specific procedures before and after death in cases of DCD
- Views regarding the support for the potential implementation of DCD
- Healthcare professional's information needs in diagnosing DCD
- Potential methods to increase awareness and support of DCD

The CCDT hosted the web-based survey from November 28, 2005 until February 1, 2006. Members from ten health professional organizations were invited to participate in the survey: Canadian Anesthesiologists' Society, Canadian Association of Critical Care Nurses, Canadian Association of Emergency Physicians, Canadian Association of Neuroscience Nurses, Canadian Bioethics Society, Canadian Critical Care Society, Canadian Neurological Society, Canadian Neurosurgical Society, National Emergency Nurses Affiliation and Operating Room Nurses of Canada.

The survey consisted of 43 questions and a final comment option. The survey was estimated to take respondents 20 minutes to complete. A total of 720 members from the healthcare professional associations completed either all or parts of the survey. The margin of error for a sample of this size is +/- 3.5 percentage points, 19 times out of 20.

This report presents the findings of this survey and a methods section which discusses research limitations in detail. The survey questions are included in the appendix.

The responses to this survey are based on a non-random sample of members of ten specific health professional organizations chosen for their knowledge of and involvement in donation practices. The report presents the survey answers in the present tense as they represent opinions in a certain time frame. Due to rounding, some responses may equal +/- 100 percent. The varying proportion of respondents from health professional associations and the low response rate of some, limits the generalization of results. Caution is always required in extrapolating the findings of the survey research beyond the parameters of the survey itself. It was not the intention of the CCDT that this survey would provide data sufficient to indicate significant differences between respondents in various health professional associations. Where any statement is made in regard to the specific membership of specific health professional associations and their beliefs, perceptions or opinions,

these statements are descriptive and should not be interpreted as representing statistically significant differences between any such groups.

The major findings of the survey are:

### General Attitudes and Beliefs Regarding Organ Donation

Almost all (99%) respondents from the healthcare professional organizations approve of organ and tissue donation. When asked about donating their own organs and/or tissues upon death, more than half (68%) agree to donating any/all organs while almost two in ten (16%) agree to donating only specific organs or tissues. In addition to agreeing to donate their organs, the majority (75%) of healthcare professionals have also signed their organ donor cards or are planning to sign (11%). Although slightly more than half of healthcare professionals (54%) are aware of organ and tissue registries in their province, only two in ten have registered (19%).

In regards to their knowledge and/or beliefs of the organ donation process, the majority (77%) of healthcare professionals believe that anyone can be an organ and tissue donor while a vast majority (97%) believe “*that doctors are committed to providing high quality care to dying patients and their families*”. Slightly more than eight in ten (83%) healthcare professionals do not believe that the rich are more likely than the poor to receive a donation; and most (88%) do not believe the process could exploit minority groups. Similarly, respondents also believe (94%) that doctors would not prematurely declare someone dead for the purposes of organ and/or tissue donation.

### Need for Organ and Tissue Donations

Awareness surrounding the need for more organ and tissue donation is almost unanimous among the surveyed healthcare professionals as 95 percent see a great need, 4 percent perceive some need and 1 percent answering “do not know.”

### Family/Legal Considerations Regarding Donation

Most (88%) of the surveyed healthcare professionals have discussed their intention to donate their organs and/or tissues upon their death and are very confident (67%) or somewhat confident (26%) that their views and intentions will be respected.

More than half (69%) of healthcare professionals believe that the wishes of the family or next-of-kin are respected over the wishes of the deceased donor and 11 percent believe that the donor’s wishes are followed.

When asked their opinion about what should occur, eight in ten (80%) healthcare professionals believe that the donor’s wishes should be respected and one in ten believe the family’s wishes should be honoured.

When asked their views about specific laws and regulations being changed in Canada so that presumed consent or donation would occur unless a person opted out, healthcare professionals are somewhat divided. The majority are either strongly supportive (33%) or somewhat supportive (26%) while a minority strongly oppose (22%) or somewhat oppose (16%) the adoption of such a regulation or law.



## Donation after Cardiocirculatory Death (DCD)

This survey included detailed and specific questions regarding organ/tissue donation issues that were tailored to healthcare professionals' knowledge. Given the complexity of DCD, questions were designed to explore both levels of intervention and stages of patient and/or family consent.

Many (72%) of the surveyed healthcare professionals were very (31%) and somewhat (41%) familiar with the topic of donation after cardiocirculatory death prior to participating in the survey. Another 28 percent were not very (20%) or not at all (8%) familiar.

Healthcare professionals were asked to consider how acceptable they believed organ and tissue donation to be after neurological determination of death with the vast majority (98%) viewing it as acceptable. Of the surveyed healthcare professionals 84 percent view DCD following withdrawal of life-support as acceptable and 78 percent view DCD following unsuccessful attempts at resuscitation to be acceptable.

The majority (93%) of surveyed healthcare professionals express confidence that the determination of neurological death is accurate. The majority are also confident in the accuracy of the determination of cardiocirculatory death following withdrawal of life-support (91%) and following unsuccessful attempts at resuscitation (92%).

### DCD: Consent and Interventions **Before** Death

A majority (81%) of surveyed healthcare professionals do not believe it is acceptable to perform specific medical procedures **before** the patient has died and before donation consent has been obtained, in order to increase the likelihood of successful recovery of organs for transplantation. However, there is a division among respondents when there is **general** consent to organ donation but not for **specific** consent for additional procedures. A small majority (52%) believe that the practice is not acceptable while a notable minority (35%) believe that it is acceptable. Healthcare professional's beliefs shift after the patient and/or family provide **general** consent and **specific** consent for procedures with the vast majority (90%) of healthcare professionals finding the practice to be acceptable.

When questioned about their acceptance of the administration of medication before consent to donation has been obtained, the majority (80%) of surveyed healthcare professionals find this practice to be unacceptable. Respondents' opinions shift almost equally (47% acceptable / 40% unacceptable) when there is **general** consent to organ donation but not **specific** consent for medications. Again their beliefs shift when consent for both organ donation and additional medications has been obtained. Nine in ten (90 %) respondents find this to be acceptable.

### DCD: Consent and Interventions **After** Death

The majority (84%) of surveyed healthcare professionals do not believe it is acceptable to perform **specific** medical procedures, **after** the patient has died and before donation consent has been obtained. Once again, the healthcare professionals are divided after **general** consent is obtained for organ donation but in the absence of **specific** consent to other procedures (48% acceptable / 40% unacceptable). Once consent has been obtained for both organ donation and additional medical procedures, the vast majority (93%) of healthcare professionals find the performance of medical procedures to be acceptable.

## DCD: Hospital Procedures

Based on a scenario in which the declaration of death is made following the defined 5 minute period in which at least one physician has continuously observed the absence of palpable pulses, blood pressure and respiration, healthcare professionals were asked to consider how acceptable it is that surgical procedures to retrieve organs begin immediately. Many (74%) of the surveyed healthcare professionals believe it is acceptable that surgical procedures to retrieve organs begin immediately after death has been declared (i.e., after this 5 minute period of continuous observation).

## DCD: Ethical Standards and Practices

Overall, surveyed healthcare professionals are confident (88%) that strict standards will be put into place for DCD and are also confident (90%) that healthcare professionals will follow these standards. The majority (87%) are confident that the best interests of the dying patient would be the motivating factor in the case of DCD. They are also confident (85%) that the process of organ and tissue donation would not affect the patient's end-of-life care and that the patient's dignity (89%) would be respected at the time of death.

## DCD: Implementation, Tools and Resources

When asked how comfortable they would be if Canadian hospitals decided to start a program that offers DCD, the majority (86%) of surveyed healthcare professionals would be comfortable. Alternatively, 42 percent of respondents would also be comfortable if hospitals decided not to offer DCD, while 51 percent would not be comfortable with the decision not to offer DCD.

Surveyed healthcare professionals believe that the following tools would be helpful in diagnosing cardiocirculatory death for the purposes of donation. Almost eight in ten (77%) healthcare professionals believe that a standardized medical definition of cardiocirculatory death and seven in ten (70%) believe a checklist would be useful in diagnosing cardiocirculatory death for the purposes of DCD. A further five in ten (58%) would find a written policy, guideline or document to be useful and almost four in ten (38%) believe that seminars, training sessions or a legislated medical definition of cardiocirculatory death would be useful.

In order to help increase understanding and support for DCD, 63 percent of healthcare professionals believe that lectures and/or presentations would be beneficial. Other suggestions include a hospital donation committee (37%); pocket reference cards (32%); a how-to booklet (25%) and sample DCD policies or Web-based learning tools (24%).

# METHODOLOGY

## **Survey Design and Implementation**

The health professional survey consisted of 43 questions with options for a few additional comments or opinions, and was designed by both CCDT staff and health professional experts. In order to gain an understanding of health professionals' attitudes towards cardiocirculatory donation after death, many questions were designed to explore three types of declaration of death and stages of consent before and after death related to various levels of intervention.

A draft survey was provided to experts for feedback at a Donation after Cardiocirculatory Death Forum in February 2005. The draft was provided to 130 forum participants and revised based on feedback from 47 participants. Ten specific health professional organizations were invited to participate based upon their members' knowledge of, and involvement in, organ and tissue donation. In order to gain access to the members of the organizations, CCDT staff first contacted the presidents of each association. The request for their members' participation was then brought forward to the board or executive at which time a sample questionnaire was provided. Each organization was offered the opportunity to speak with either CCDT staff or the expert health professionals involved in the project.

The survey was uploaded to the Internet using Zoomerang, an on-line survey software tool. Requests were made to each organization to provide a hyperlink to the web based survey via email blasts to their members. Discussions took place regarding access issues at which time the CCDT ensured that it would be adaptive to any technological issues that may have arisen. The survey was only accessible to members from the chosen health professional organizations, and could only be accessed once by IP address. Respondents did not have to answer each question before moving to the next and could indicate if they belonged to more than one health professional organization.

The survey results are based upon questions asked of members of ten specific health professional organizations in an on-line survey that was available from November 29, 2005 until February 1, 2006. There were 720 survey respondents out of a potential 9038 members from the surveyed health professional organizations. This produced an overall response rate of 8 percent. However, there were many on-line accessibility issues so we have also included the response rate of three health professional organizations that had response rates greater than 10 percent. The adjusted response rate is 33%. The margin of error for a sample size of 720 respondents is +/- 3.5 percentage points, 19 times out of 20. The margin of error is greater for results pertaining to healthcare professional subgroups of the total sample. The response rates included in the tables are for the total number of respondents by individual health professional organizations and not the total number of respondents by individual question.

A few questions provided an option for additional or final comments. Although only 6 percent of the respondents chose to provide additional comments to questions 15 and 16, and 12 percent provided final comments, we believed it important to include them in the report to highlight some of the respondent's beliefs and/or experiences. The comments were reviewed independently by two researchers for content and similar themes emerged. These themes are presented according to frequency of responses and are not representative of all the respondents to this survey. As themes were similar for questions 15 and 16, it was decided to combine questions to avoid redundancy or repetition.

The opinions in this survey are based upon a non-random sample of members of specific health professional organizations and may not represent the opinions of all health professionals. The results of this survey are not an endorsement of an association's opinion, rather they are a snapshot of the members who responded. These results reflect responses and attitudes that were given in a certain period of time. Based upon the low overall response rate it is important to note that this is a purely descriptive survey and caution is required in interpreting these results beyond the parameters of the survey itself. It must also be noted that these results are not intended to be generalized to all healthcare professionals.

## **Limitations**

There were several limitations to this survey. The primary limitation concerns the small sample size which was largely the result of accessibility issues. As outlined in the following table, one health professional association was only willing to notify members of the survey as part of the regular newsletter rather than sending a specific email and hyperlink. Several associations experienced difficulty sending blast emails to their members. In almost all cases, email lists were not up to date and some members were missed due to incorrect email addresses. Finally, regarding the low response rate, many associations voiced concerns over the frequency with which their members are requested to complete healthcare surveys.

Another limitation was the potential for respondents to complete the survey more than once by filling in the survey on multiple computers. As a result, some respondents who might have biased opinions may have been able to complete more than one survey.

A related limitation was the nature of the non-random sample that was composed of only specific health professional organizations. The sample might have been composed of healthcare professionals who may have had an informed and biased opinion based upon their experiences with organ and tissue donation and transplantation.

Members from the following organizations participated in this survey:

<b>Professional Organization</b>	<b>Number of Respondents</b>	<b>Number Accessed*</b>	<b>Response rate (%)</b>	<b>Accessibility Issues</b>	<b>Margin of Error (%)</b>
Canadian Association of Critical Care Nurses	236	500	47	Association included the survey on their website and through email blasts to members.	4.6
Canadian Critical Care Society	73	225	32	Association included the survey through an email blast to a limited list of their members. Two letters were also sent.	9.5
Canadian Bioethics Society	51	375	14	Association included the survey through email blasts to their members.	12.8

Canadian Association of Neuroscience Nurses	36	431	8	Association included the survey on their website and through email blasts to members.	
Canadian Neurological Society	32	484	7	Association included the survey through an email blast to their members and experienced some technological challenges during the process.	
Canadian Association of Emergency Physicians	103	1615	6	Association included the survey through an email blast to members but they were extremely delayed in their launch of the project and members only received one emailing.	
Operating Room Nurses of Canada	70	1500	5	Association included the survey on their website and through email blasts.	
Canadian Neurosurgical Society	5	189	3	Association was unable to participate due to technological challenges.	
National Emergency Nurses Affiliation	32	1005	3	Association included the survey through an email blast to their members and experienced some technological challenges during the process.	
Canadian Anesthesiologists' Society	10	2714	0.4	Association only willing to announce the survey in their newsletter to members.	

\*Note: Numbers accessed are estimates

# GENERAL ATTITUDES AND BELIEFS REGARDING DONATION

## Decision To Donate

*Healthcare professionals unanimously approve of organ and tissue donation. Many have also decided to donate their own organs and tissues and have signed organ donor cards.*

The vast majority (99%) of healthcare professionals either strongly (86%) or somewhat (13%) approve of organ and tissue donation and (1%) somewhat disapprove.

There is strong approval for organ and tissue donation among all professional organizations; however, respondents from the Canadian Bioethics Society (79%) and the Canadian Critical Care Society (82%) are slightly less likely to strongly approve than other organizations.

### Decision to donate

	Total #	% Response rate	% Strongly approve.	% Somewhat approve.	% Somewhat disapprove.	% Strongly disapprove.	% Don't know.
HPO	659		86	13	1	0	0
CACCN	236	47	87	13	0	0	0
CCCS	71	32	82	16	3	0	0
CBS	48	14	79	19	2	0	0
CANN	36	8	86	8	3	0	3
CCNS	32	7	88	9	0	0	3
CAEP	100	6	92	8	0	0	0
ORNAC	69	5	86	13	1	0	0
CNSS	5	3	100	0	0	0	0
NENA	32	3	88	13	0	0	0
CAS	9	0.4	89	11	0	0	0

Response rate based upon total number of respondents by individual health professional organization.

HPO: Health Professional Organization, CAS: Canadian Anesthesiologists' Society, CACCN: Canadian Association of Critical Care Nurses, CAEP: Canadian Association of Emergency Physicians, CANN: Canadian Association of Neuroscience Nurses, CBS: Canadian Bioethics Society, CCCS: Canadian Critical Care Society, CCNS: Canadian Neurological Society, CNSS: Canadian Neurosurgical Society, NENA: National Emergency Nurses Affiliation, ORNAC: Operating Room Nurses of Canada

*Q. 1 How do you feel about organ and tissue donation, that is, people donating their organs or their tissues after death?*

## Decision about Organ/Tissue Donation

Regarding their intent to donate, more than half (68%) of healthcare professionals have decided to donate their organs, almost two in ten (16%) have decided to donate specific organs and tissues, 5 percent are not donating any organs or tissues and 12 percent have not yet made a decision.

### Decision about organ/tissue donation

	Total #	% Response rate	% Yes, any/all organs or tissues.	% Yes, but only specific organs or tissues.	% No, I am not donating any organs or tissues.	% I have not yet made a decision about this.
<b>HPO</b>	<b>655</b>		68	16	5	12
<b>CACCN</b>	235	47	71	15	4	10
<b>CCCS</b>	70	32	70	7	9	14
<b>CBS</b>	48	14	60	25	8	6
<b>CANN</b>	36	8	61	14	8	17
<b>CCNS</b>	32	7	63	9	0	28
<b>CAEP</b>	100	6	72	15	3	10
<b>ORNAC</b>	69	5	64	23	6	7
<b>CNSS</b>	5	3	60	20	0	20
<b>NENA</b>	30	3	73	10	0	17
<b>CAS</b>	9	0.4	78	11	11	0

Response rate based upon total number of respondents by individual health professional organization.

HPO: Health Professional Organization, CAS: Canadian Anesthesiologists' Society, CACCN: Canadian Association of Critical Care Nurses, CAEP: Canadian Association of Emergency Physicians, CANN: Canadian Association of Neuroscience Nurses, CBS: Canadian Bioethics Society, CCCS: Canadian Critical Care Society, CCNS: Canadian Neurological Society, CNSS: Canadian Neurosurgical Society, NENA: National Emergency Nurses Affiliation, ORNAC: Operating Room Nurses of Canada

*Q. 3 Have you decided to donate your organs and/or tissues at the time of your death?*

## Signed an Organ Donor Card/Registered

Three quarters (75%) of the healthcare professionals surveyed have signed their organ donor cards and another one in ten (11%) are planning to sign. Almost one in ten (9%) professionals are still deciding on whether or not to sign and 5 percent will not sign their organ donor cards.

Respondents from the Canadian Association of Emergency Physicians (83%) are considerably more likely to have signed their organ donor cards than respondents from the Canadian Neurological Society (57%).

### Signed an organ donor card/registered

	Total #	% Response rate	% Yes, I have signed.	% No, but I am planning to sign.	% No, I am still thinking about whether to sign.	% No, I will not sign.
HPO	636		75	11	9	5
CACCN	230	47	74	13	9	4
CCCS	69	32	67	12	12	10
CBS	46	14	80	9	4	7
CANN	35	8	63	14	17	6
CCNS	28	7	57	18	18	7
CAEP	96	6	83	8	7	1
ORNAC	67	5	81	5	8	8
CNSS	5	3	80	0	0	20
NENA	31	3	74	10	16	0
CAS	9	0.4	78	11	0	11

Response rate based upon total number of respondents by individual health professional organization.

HPO: Health Professional Organization, CAS: Canadian Anesthesiologists' Society, CACCN: Canadian Association of Critical Care Nurses, CAEP: Canadian Association of Emergency Physicians, CANN: Canadian Association of Neuroscience Nurses, CBS: Canadian Bioethics Society, CCCS: Canadian Critical Care Society, CCNS: Canadian Neurological Society, CNSS: Canadian Neurosurgical Society, NENA: National Emergency Nurses Affiliation, ORNAC: Operating Room Nurses of Canada

*Q. 4 If you have made a decision to donate, have you signed an organ donor card that gives permission for organs and/or tissues to be donated after death?*



## Anyone can Become an Organ/Tissue Donor

*Many healthcare professionals are aware of organ and tissue registries but few have registered. Most believe that anyone can become an organ and tissue donor and the majority believe that doctors are committed to providing quality care to dying patients. They do not believe that the rich have quicker access to organ and tissue donations or that minority groups could be exploited by the process. They also do not believe that doctors would prematurely declare someone dead in order to procure their organs and tissues.*

Just over half (54%) of healthcare professionals are aware of an organ and tissue registry in their province, just under half (42%) are not, and a further 4 percent indicated that there is not a registry in their province. Two in ten (19%) healthcare professionals have put their name on a registry and the majority (81%) have not registered.

Most (77%) healthcare professionals believe that it is definitely (53%) and probably (24%) true that anyone can become an organ and tissue donor. Two in ten (21%) healthcare professionals do not believe that it is definitely (15%) and probably (6%) true that anyone at any age can be an organ and tissue donor.

Respondents from the Canadian Association of Neuroscience Nurses are slightly less likely to believe it is definitely (36%) true that anyone can become an organ and tissue donor than members of other healthcare professional organizations.

### Anyone can become an organ/tissue donor

	Total #	% Response rate	% Definitely true.	% Probably true.	% Probably not true.	% Definitely not true.	% Don't know.
<b>HPO</b>	<b>651</b>		53	24	6	15	3
<b>CACCN</b>	234	47	59	20	6	13	3
<b>CCCS</b>	71	32	60	21	0	19	0
<b>CBS</b>	48	14	46	29	6	17	2
<b>CANN</b>	36	8	36	31	3	22	8
<b>CCNS</b>	32	7	41	22	19	13	6
<b>CAEP</b>	100	6	50	26	5	15	4
<b>ORNAC</b>	68	5	49	27	7	16	2
<b>CNSS</b>	5	3	100	0	0	0	0
<b>NENA</b>	29	3	18	31	7	14	0
<b>CAS</b>	9	0.4	44	44	0	11	0

Response rate based upon total number of respondents by individual health professional organization.

HPO: Health Professional Organization, CAS: Canadian Anesthesiologists' Society, CACCN: Canadian Association of Critical Care Nurses, CAEP: Canadian Association of Emergency Physicians, CANN: Canadian Association of Neuroscience Nurses, CBS: Canadian Bioethics Society, CCCS: Canadian Critical Care Society, CCNS: Canadian Neurological Society, CNSS: Canadian Neurosurgical Society, NENA: National Emergency Nurses Affiliation, ORNAC: Operating Room Nurses of Canada

Q. 7 *Anyone at any age can become an organ and tissue donor.*

## Care of the Dying Patient

The vast majority (97%) of surveyed healthcare professionals believe that it is definitely (75%) and probably (22%) true that doctors are committed to providing high quality care to their dying patients. Very few healthcare professionals believe that it is probably (3%) and definitely (1%) not true that doctors are committed to providing high quality care to their dying patients.

Respondents from the nursing associations (Canadian Association of Critical Care Nurses, Canadian Association of Neuroscience Nurses, National Emergency Nurses Affiliation, Operating Room Nurses of Canada) and the Canadian Bioethics Society are less likely to believe it is definitely true and slightly more likely to believe it is probably true that doctors are committed to providing high quality care to their dying patients than members of the other organizations.

### Doctors are committed to their dying patients

	Total #	% Response rate	Definitely true.	Probably true.	Probably not true.	Definitely not true.	Don't know.
<b>HPO</b>	<b>651</b>		75	22	2	1	0
<b>CACCN</b>	234	47	69	28	2	0	0
<b>CCCS</b>	71	32	83	17	0	0	0
<b>CBS</b>	48	14	60	35	2	2	0
<b>CANN</b>	36	8	72	25	0	0	3
<b>CCNS</b>	32	7	91	3	3	3	0
<b>CAEP</b>	100	6	85	13	2	0	0
<b>ORNAC</b>	68	5	75	25	0	0	0
<b>CNSS</b>	5	3	100	0	0	0	0
<b>NENA</b>	29	3	72	24	3	0	0
<b>CAS</b>	9	0.4	89	0	11	0	0

Response rate based upon total number of respondents by individual health professional organization.

HPO: Health Professional Organization, CAS: Canadian Anesthesiologists' Society, CACCN: Canadian Association of Critical Care Nurses, CAEP: Canadian Association of Emergency Physicians, CANN: Canadian Association of Neuroscience Nurses, CBS: Canadian Bioethics Society, CCCS: Canadian Critical Care Society, CCNS: Canadian Neurological Society, CNSS: Canadian Neurosurgical Society, NENA: National Emergency Nurses Affiliation, ORNAC: Operating Room Nurses of Canada

*Q. 8 Doctors are committed to providing high quality care to dying patients and their families.*

## Organ Allocation

Healthcare professionals almost all agree that rich people would not be more likely to receive a needed transplant than poor people: 83 percent of healthcare professionals either believe it is (57%) definitely not true or (26%) probably not true. A minority (15%) of healthcare professionals believe that it is definitely (1%) and probably (14%) true that rich people would be more likely to receive a needed transplant than those who are poor; 2 percent do not know.

Respondents from the Canadian Neurological Society are slightly less likely to believe that this is definitely (31%) not true and more likely to believe it is probably (59%) not true than respondents from the other organizations.

### Rich people are more likely to receive a transplant

	Total #	% Response rate	% Definitely true.	% Probably true.	% Probably not true.	% Definitely not true.	% Don't know.
<b>HPO</b>	651		1	14	26	57	2
<b>CACCN</b>	234	47	1	9	22	67	1
<b>CCCS</b>	71	32	0	20	23	55	3
<b>CBS</b>	48	14	2	38	23	38	0
<b>CANN</b>	36	8	3	6	33	58	0
<b>CCNS</b>	32	7	0	9	59	31	0
<b>CAEP</b>	100	6	0	19	34	43	4
<b>ORNAC</b>	68	5	0	10	18	68	4
<b>CNSS</b>	5	3	20	0	20	60	0
<b>NENA</b>	29	3	0	7	28	62	3
<b>CAS</b>	9	0.4	0	0	22	67	11

Response rate based upon total number of respondents by individual health professional organization.

HPO: Health Professional Organization, CAS: Canadian Anesthesiologists' Society, CACCN: Canadian Association of Critical Care Nurses, CAEP: Canadian Association of Emergency Physicians, CANN: Canadian Association of Neuroscience Nurses, CBS: Canadian Bioethics Society, CCCS: Canadian Critical Care Society, CCNS: Canadian Neurological Society, CNSS: Canadian Neurosurgical Society, NENA: National Emergency Nurses Affiliation, ORNAC: Operating Room Nurses of Canada

*Q. 9 Rich people who need organ and tissue transplants are more likely to receive them in this country's hospitals than are poorer people who need transplants.*

When asked if they believe that minority groups could be exploited by the organ and tissue donation process, the majority (88%) of surveyed healthcare professionals definitely (63%) and probably (25%) did not believe this to be true. Only 7 percent of healthcare professionals believe that it is definitely (2%) and probably (5%) true and 6 percent do not know.

Respondents from the Canadian Bioethics Society were less likely than respondents from the other healthcare professional organizations to indicate that it was definitely not true (29%) that minority groups could be exploited.

### Minority groups could be exploited by donation process

	Total #	% Response rate	% Definitely true.	% Probably true.	% Probably not true.	% Definitely not true.	% Don't know.
HPO	650		2	5	25	63	6
CACCN	235	47	0	1	17	76	5
CCCS	71	32	1	4	25	65	4
CBS	48	14	6	21	35	29	8
CANN	36	8	3	11	17	58	11
CCNS	32	7	3	3	44	45	3
CAEP	99	6	0	4	34	58	4
ORNAC	68	5	2	6	22	63	7
CNSS	5	3	0	0	20	80	0
NENA	29	3	7	0	24	62	7
CAS	9	0.4	0	0	22	67	11

Response rate based upon total number of respondents by individual health professional organization.

HPO: Health Professional Organization, CAS: Canadian Anesthesiologists' Society, CACCN: Canadian Association of Critical Care Nurses, CAEP: Canadian Association of Emergency Physicians, CANN: Canadian Association of Neuroscience Nurses, CBS: Canadian Bioethics Society, CCCS: Canadian Critical Care Society, CCNS: Canadian Neurological Society, CNSS: Canadian Neurosurgical Society, NENA: National Emergency Nurses Affiliation, ORNAC: Operating Room Nurses of Canada

*Q. 10 The organ and tissue donation process could exploit people of colour, First Nations or other minority groups.*

Almost all (94%) of the surveyed healthcare professionals appear to agree that it is definitely (81%) and probably (13%) true that doctors would not prematurely declare a person to be dead in order to procure any potential organs or tissues. Five percent of the respondents believe that it is definitely (1%) and probably (4%) true that this would occur.

## NEED FOR ORGAN AND TISSUE DONATIONS

*The overwhelming majority of healthcare professionals believe that there is a great need for more organ and tissue donations in Canada.*

Surveyed healthcare professionals believe that there is either a great (95%) or some (4%) need for more organ and tissue donations and 1 percent do not know. There appears to be wide agreement among members of all the healthcare professional organizations surveyed in this regard.

### Need for more organ and tissue donation

	Total #	% Response rate	% A great need.	% Some need.	% Little need.	% No need at all.	% Don't know.
<b>HPO</b>	<b>649</b>		95	4	0	0	1
<b>CACCN</b>	235	47	97	2	0	0	0
<b>CCCS</b>	71	32	92	7	1	0	0
<b>CBS</b>	48	14	90	8	0	0	2
<b>CANN</b>	36	8	97	3	0	0	0
<b>CCNS</b>	32	7	91	6	0	0	3
<b>CAEP</b>	100	6	95	4	0	0	1
<b>ORNAC</b>	67	5	94	5	0	0	1
<b>CNSS</b>	5	3	100	0	0	0	0
<b>NENA</b>	29	3	97	3	0	0	0
<b>CAS</b>	9	0.4	89	11	0	0	0

Response rate based upon total number of respondents by individual health professional organization.

HPO: Health Professional Organization, CAS: Canadian Anesthesiologists' Society, CACCN: Canadian Association of Critical Care Nurses, CAEP: Canadian Association of Emergency Physicians, CANN: Canadian Association of Neuroscience Nurses, CBS: Canadian Bioethics Society, CCCS: Canadian Critical Care Society, CCNS: Canadian Neurological Society, CNSS: Canadian Neurosurgical Society, NENA: National Emergency Nurses Affiliation, ORNAC: Operating Room Nurses of Canada

*Q. 12 As far as you know, is there a need for more organ and tissue donations in Canada?*

# FAMILY/LEGAL CONSIDERATIONS REGARDING DONATION

## Donation Decision

*The majority of healthcare professionals have discussed their donation decision with the person who would act on their behalf in a medical emergency. The majority also believe that their views and intentions would be respected after their death.*

The majority (88%) of surveyed healthcare professionals have discussed their decision regarding organ and tissue donation with family members or someone who would act on their behalf in a medical emergency. Approximately one in ten (12%) healthcare professionals have not discussed their donation intentions with the person who would act on their behalf in a medical emergency.

Respondents from the Canadian Neurological Society (76%) are slightly less likely to have discussed their donation intentions.

### Donation discussion

	Total #	% Response rate	% Yes	% No
<b>HPO</b>	<b>640</b>		88	12
<b>CACCN</b>	233	47	91	9
<b>CCCS</b>	70	32	91	9
<b>CBS</b>	48	14	85	15
<b>CANN</b>	36	8	78	22
<b>CCNS</b>	29	7	76	24
<b>CAEP</b>	99	6	86	14
<b>ORNAC</b>	67	5	91	9
<b>CNSS</b>	5	3	100	0
<b>NENA</b>	29	3	83	17
<b>CAS</b>	9	0.4	89	11

Response rate based upon total number of respondents by individual health professional organization.

HPO: Health Professional Organization, CAS: Canadian Anesthesiologists' Society, CACCN: Canadian Association of Critical Care Nurses, CAEP: Canadian Association of Emergency Physicians, CANN: Canadian Association of Neuroscience Nurses, CBS: Canadian Bioethics Society, CCCS: Canadian Critical Care Society, CCNS: Canadian Neurological Society, CNSS: Canadian Neurosurgical Society, NENA: National Emergency Nurses Affiliation, ORNAC: Operating Room Nurses of Canada

*Q. 13 If you have made a decision either to donate or not to donate, have you discussed this decision with the person who would act on your behalf in the event of a medical emergency?*

## Donors Views

Healthcare professionals are very (67%) and somewhat (26%) confident that their views and intentions regarding their donation decision will be respected. Some healthcare professionals are somewhat not confident (3%) and not at all (1%) confident that their views and intentions will be respected while 2 percent do not know.

### Views and intentions will be respected

	Total #	% Response rate	% Very confident.	% Somewhat confident.	% Somewhat not confident.	% Not at all confident.	% Don't know.
HPO	642		67	26	3	1	2
CACCN	234	47	65	18	3	0	3
CCCS	71	32	78	18	1	3	0
CBS	48	14	63	27	8	0	2
CANN	36	8	58	31	0	3	8
CCNS	30	7	63	37	0	0	0
CAEP	97	6	68	27	2	1	2
ORNAC	67	5	70	25	5	0	0
CNSS	5	3	100	0	0	0	0
NENA	29	3	76	14	7	0	3
CAS	9	0.4	89	11	0	0	0

Response rate based upon total number of respondents by individual health professional organization.

HPO: Health Professional Organization, CAS: Canadian Anesthesiologists' Society, CACCN: Canadian Association of Critical Care Nurses, CAEP: Canadian Association of Emergency Physicians, CANN: Canadian Association of Neuroscience Nurses, CBS: Canadian Bioethics Society, CCCS: Canadian Critical Care Society, CCNS: Canadian Neurological Society, CNSS: Canadian Neurosurgical Society, NENA: National Emergency Nurses Affiliation, ORNAC: Operating Room Nurses of Canada

*Q. 14 How confident are you that your views and intentions with regard to organ and tissue donation after death will be respected?*

## Legal Precedence: Wishes of Deceased or Family?

*Many healthcare professionals believe that the wishes of the family or next-of-kin are respected over the wishes of the deceased donor, but many believe that the wishes of the deceased donor should be followed.*

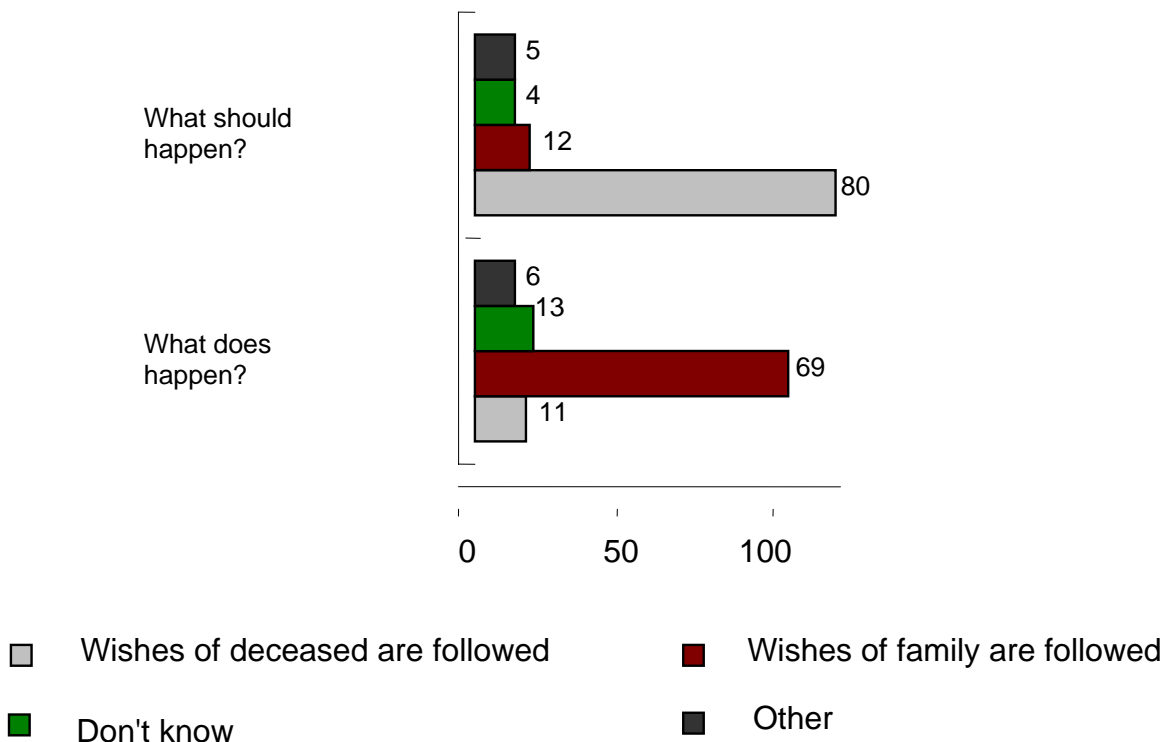
Healthcare professionals were provided with a clinical example in which a dying person had indicated their donation wishes by signing a donor card or registering with an organ and tissue registry. In this example the family did not want donation to occur and the healthcare professionals were asked what they believe would happen in this situation.

Most (69%) of the surveyed healthcare professionals believe that the wishes of the family or next-of-kin would be respected over the wishes of the deceased person. A minority (13%) either did not know whose wishes would be respected or believe (11%) that the wishes of the deceased person who had signed a donor card or registered with an organ and tissue registry would be followed.

When asked their opinion of what *should* happen, 80 percent believed that the wishes of the deceased person who had signed their donor card or registered with the donation registry should be followed. One in ten (12%) healthcare professionals believe that the wishes of the family or next-of-kin who oppose the donation should be followed and 4 percent do not know what should happen.

Respondents from the Canadian Anesthesiologists' Society are more likely (33%) than members of other organizations to believe that the wishes of the family or next-of-kin should be followed. However, there were only 10 respondents for this health professional organization.

Legal Precedence





Legal precedence: wishes of deceased  
or family – what does happen

	Total #	% Response rate	% The wishes of the deceased person who has signed a donor card or registered with a donation registry are followed.	% The wishes of the family or next-of-kin who oppose the donation are followed.	% Don't know.	% Other; please specify:
<b>HPO</b>	<b>644</b>		73	446	85	40
<b>CACCN</b>	234	47	8	77	11	4
<b>CCCS</b>	71	32	10	69	6	16
<b>CBS</b>	48	14	23	56	4	17
<b>CANN</b>	36	8	8	61	28	3
<b>CCNS</b>	29	7	24	55	10	10
<b>CAEP</b>	100	6	13	61	19	7
<b>ORNAC</b>	67	5	15	66	18	2
<b>CNSS</b>	5	3	20	80	0	0
<b>NENA</b>	29	3	7	76	17	0
<b>CAS</b>	9	0.4	0	78	22	0

Response rate based upon total number of respondents by individual health professional organization.

HPO: Health Professional Organization, CAS: Canadian Anesthesiologists' Society, CACCN: Canadian Association of Critical Care Nurses, CAEP: Canadian Association of Emergency Physicians, CANN: Canadian Association of Neuroscience Nurses, CBS: Canadian Bioethics Society, CCCS: Canadian Critical Care Society, CCNS: Canadian Neurological Society, CNSS: Canadian Neurosurgical Society, NENA: National Emergency Nurses Affiliation, ORNAC: Operating Room Nurses of Canada

*Q. 15 What happens in a situation where someone has signed a donor card or registered with an organ and tissue donation registry, but his/her family does not wish any donation to take place?:*

Legal precedence: wishes of deceased  
or family/ what should happen

	Total #	% Response rate	% The wishes of the deceased person who has signed the donor card or registered with the donation registry are followed.	% The wishes of the family or next-of-kin who oppose the donation are followed.	% Don't know.	% Other; please specify:
HPO	645		80	12	4	5
CACCN	234	47	80	12	3	5
CCCS	71	32	73	16	1	10
CBS	48	14	75	15	0	10
CANN	36	8	81	14	6	0
CCNS	30	7	77	13	7	3
CAEP	100	6	83	8	7	2
ORNAC	67	5	81	10	5	5
CNSS	5	3	80	20	0	0
NENA	29	3	79	10	3	7
CAS	9	0.4	67	33*	0	0

*\*\*Note: There were only ten respondents*

Response rate based upon total number of respondents by individual health professional organization.

HPO: Health Professional Organization, CAS: Canadian Anesthesiologists' Society, CACCN: Canadian Association of Critical Care Nurses, CAEP: Canadian Association of Emergency Physicians, CANN: Canadian Association of Neuroscience Nurses, CBS: Canadian Bioethics Society, CCCS: Canadian Critical Care Society, CCNS: Canadian Neurological Society, CNSS: Canadian Neurosurgical Society, NENA: National Emergency Nurses Affiliation, ORNAC: Operating Room Nurses of Canada

*Q. 16 In your opinion, what should happen in a situation where someone has signed a donor card or registered with an organ and tissue donation registry, but his/her family does not wish any donation to take place?*

Healthcare professionals were provided with an option to include any further comments on what they believe happens and what they believe should happen when there is disagreement between the wishes of the dying patient and the family. The following themes emerged:

- Healthcare professionals believe that there is open communication between the family and the healthcare team to try and reach a consensus or to respect the

wishes of the donor. One respondent believes that “discussion [is] held with [the] family to resolve [the] conflict”. Others noted that “after discussion, wishes of the deceased should follow” or the “family should be convinced of [the] deceased wishes”

- In cases where there is disagreement, healthcare professionals believe that advice is sought by a bioethicist, legal expert, or medical physician. One respondent commented that “[a] bioethicist should discuss [the patient’s] wishes with [the] family”.
- There is a belief that the context of the situation is taken into consideration and that at times the wishes of the patient are followed. Respondents commented that it is “context-specific; sometimes the situation changes” and that it “depends on multiple variables” and is “worked out on an individual basis”.

## Presumed Consent

*Healthcare professionals are somewhat divided in their views on the idea of presumed consent.*

The following scenario was presented to the healthcare professionals:

In some countries when a person dies, that person's organs and tissues, if considered suitable, are donated unless that person has specifically indicated that he/she does NOT want donation to occur (also known as presumed consent). In Canada, a person or his/her family members must specifically agree to donation before it will take place.

When asked if they oppose or support laws and regulations being changed in Canada so that organ and tissue donation would occur unless specified otherwise, almost six out of ten (59%) of surveyed healthcare professionals surveyed supported presumed consent either strongly (33%) or somewhat (26%). Almost four out of ten (38%) healthcare professionals are either strongly (22%) or somewhat (16%) opposed to changes being made. A few (3%) members did not know.

It is interesting to note that surveyed members were all somewhat divided in their responses to introducing the concept of presumed consent.

### Presumed consent

	Total #	% Response rate	% Strongly support.	% Somewhat support.	% Somewhat oppose.	% Strongly oppose.	% Don't know.
HPO	644		33	26	16	22	3
CACCN	234	47	32	25	19	19	5
CCCS	71	32	21	23	21	34	1
CBS	47	14	19	21	19	40	0
CANN	36	8	22	19	19	33	6
CCNS	30	7	30	33	17	20	0
CAEP	100	6	51	31	13	5	0
ORNAC	67	5	37	24	5	31	3
CNSS	5	3	40	0	60	0	0
NENA	29	3	35	38	7	21	0
CAS	9	0.4	33	44	11	11	0

Response rate based upon total number of respondents by individual health professional organization.

HPO: Health Professional Organization, CAS: Canadian Anesthesiologists' Society, CACCN: Canadian Association of Critical Care Nurses, CAEP: Canadian Association of Emergency Physicians, CANN: Canadian Association of Neuroscience Nurses, CBS: Canadian Bioethics Society, CCCS:

*Q. 17 In some countries when a person dies, that person's organs and tissues, if considered suitable, are donated unless that person has specifically indicated that he/she does NOT want donation to occur (also known as presumed consent). In Canada, a person or his/her family members must specifically agree to donation before it will take place. Do you oppose or support the laws and regulations in Canada being changed so that organ and tissue donation occurs unless a person specifies otherwise?*

It is also interesting to note that, although 99 percent of surveyed healthcare professionals approve of organ and tissue donation, less than one half (37%) would also strongly support the laws being changed so that organ and tissue donation would occur unless otherwise specified.

### Support for organ and tissue donation and presumed consent

How do you feel about organ and tissue donation, that is, people donating their organs or their tissues after death? Do you?					
	Total #	Strongly Approve	Somewhat approve	Somewhat disapprove	Strongly disapprove
Total %	100	86	13	1	0
% Strongly oppose	22	18	51	50	0
% Somewhat Oppose	16	16	18	17	0
% Somewhat support	26	26	23	17	0
% Strongly support	33	37	6	17	0

Do you oppose or support the laws and regulations in Canada being changed so that organ and tissue donation occurs unless a person specifies otherwise?

## DONATION AFTER CARDIOCIRCULATORY DEATH (DCD)

### Familiarity with DCD

*Healthcare professionals are familiar with donation after cardiocirculatory death (DCD).*

A majority (72%) of surveyed healthcare professionals were very (31%) and somewhat (41%) familiar with DCD prior to participating in this survey. A further 28 percent of healthcare professionals were not very (20%) and not at all (8%) familiar with DCD prior to participating in this survey.

Respondents from the Canadian Anesthesiologists' Society (67%) and the Canadian Critical Care Society (51%) were more likely to be very familiar with DCD than members from other organizations.

#### Familiarity with donation after cardiocirculatory death

	Total #	% Response rate	% Very familiar.	% Somewhat familiar.	% Not very familiar.	% Not at all familiar.
HPO	642		31	41	20	8
CACCN	234	47	28	42	20	10
CCCS	70	32	51	39	7	3
CBS	47	14	27	26	17	11
CANN	36	8	25	44	22	8
CCNS	30	7	20	33	30	17
CAEP	100	6	24	40	30	6
ORNAC	66	5	24	58	12	6
CNSS	5	3	20	60	20	0
NENA	29	3	31	35	28	7
CAS	9	0.4	67*	33	0	0

\* Note: There were only ten respondents

Response rate based upon total number of respondents by individual health professional organization.

HPO: Health Professional Organization, CAS: Canadian Anesthesiologists' Society, CACCN: Canadian Association of Critical Care Nurses, CAEP: Canadian Association of Emergency Physicians, CANN: Canadian Association of Neuroscience Nurses, CBS: Canadian Bioethics Society, CCCS: Canadian Critical Care Society, CCNS: Canadian Neurological Society, CNSS: Canadian Neurosurgical Society, NENA: National Emergency Nurses Affiliation, ORNAC: Operating Room Nurses of Canada

*Q. 18 In Canada, physicians can declare death in one of two ways – after brain death (neurological determination of death) or after the heart has stopped (cardiocirculatory death). Sometimes patients might not be brain dead, but they cannot survive their injuries or illness. They are usually on life-support and, in these circumstances, families and physicians might agree to withdraw life-support. The patients then die from a cardiocirculatory death because the heart stops. Sometimes patients or their families ask*

*about donating organs after life-support has been removed. This is called donation after cardiocirculatory death (DCD), also known as non-heart-beating donation. Prior to participating in this survey, would you say you were familiar with DCD?*

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## **Acceptability of Donation after Cardiocirculatory Death (DCD)**

*Healthcare professionals appear to believe that organ and tissue donation is acceptable after neurological determination of death, after cardiocirculatory determination of death following withdrawal of life-support and after cardiocirculatory determination of death following unsuccessful attempts at resuscitation.*

Using a 7 point scale health professionals were asked about the acceptability of organ donation following different determinations of death: neurological determination of death; cardiocirculatory determination of death following withdrawal of life-support, and; cardiocirculatory determination of death following unsuccessful attempts at resuscitation.

For reporting purposes responses from seven, six and five (7-5) are grouped as acceptable, four (4) is considered neutral and three, two and one (3-1) are grouped as being unacceptable.

Surveyed healthcare professionals were first asked about donation after neurological determination of death and the vast majority (98%) believe that it is acceptable. Only 2 percent of healthcare professionals find that donation after neurological determination of death is not acceptable.

They were then asked their opinion about donation after cardiocirculatory determination of death following withdrawal of life-support. The majority (84%) of healthcare professionals believe it to be acceptable, while 10 percent do not find it acceptable and 7 percent are neutral.

Finally, almost eight in ten (78%) healthcare professionals find donation after cardiocirculatory determination of death following unsuccessful attempts at resuscitation to be acceptable. Just over one in ten (13%) healthcare professionals do not find it acceptable and 9 percent are neutral.

As shown in the table below, when comparing acceptability for organ and tissue donation, members of healthcare professional organizations are generally more likely to find neurological determination of death more acceptable than either cardiocirculatory determination of death following withdrawal of life-support or after cardiocirculatory determination of death following unsuccessful attempts at resuscitation.

### Acceptability of organ donation by various determinations of death

	% Total	CAS	CACCN	CAEP	CANN	CBS	CCCS	CCNS	CNSS	NENA	ORNAC
% acceptable Q. 19 Neurological determination	<b>98</b>	100	98	99	94	93	98	100	100	100	95
% acceptable Q. 20 DCD following withdrawal of life-support	<b>84</b>	77	84	94	86	78	80	79	60	85	77
% acceptable Q. 21 DCD following unsuccessful attempts at resuscitation	<b>78</b>	66	75	90	69	86	67	66	80	85	78

HPO: Health Professional Organization, CAS: Canadian Anesthesiologists' Society, CACCN: Canadian Association of Critical Care Nurses, CAEP: Canadian Association of Emergency Physicians, CANN: Canadian Association of Neuroscience Nurses, CBS: Canadian Bioethics Society, CCCS: Canadian Critical Care Society, CCNS: Canadian Neurological Society, CNSS: Canadian Neurosurgical Society, NENA: National Emergency Nurses Affiliation, ORNAC: Operating Room Nurses of Canada

*Q. 19, 20, 21 Assuming that patients and/or their families have given consent, how acceptable is organ and tissue donation in each of the following situations? After neurological determination of death (brain death). After cardiocirculatory death following withdrawal of life-support. After cardiocirculatory death following unsuccessful attempts at resuscitation.*

### Accuracy of Declaration of Death

*Healthcare professionals are very confident in the accuracy of declaration of death following neurological determination of death, in the declaration of death after cardiocirculatory death following withdrawal of life-support, and in the declaration of death after cardiocirculatory death following unsuccessful attempts at resuscitation.*



Using a 7 point scale, health professionals were asked how confident they are in the accuracy of three different determinations of death: neurological determination of death; cardiocirculatory determination of death following withdrawal of life-support and; cardiocirculatory determination of death following unsuccessful attempts at resuscitation.

For reporting purposes responses from seven, six and five (7-5) are grouped as acceptable, four (4) is considered neutral and three, two and one (3-1) are grouped as being unacceptable.

When asked their opinion about the accuracy of neurological determination of death nine in ten (93%) of surveyed healthcare professionals are confident, 5 percent are not confident, and 3 percent are neutral.

Nine out of ten (91%) are also confident in the accuracy of the determination of cardiocirculatory death following withdrawal of life-support; 6 percent are not confident and 4 percent are neutral.

Nine out of ten (92%) healthcare professionals are confident in the determination of cardiocirculatory death following unsuccessful attempts at resuscitation. Five percent are not confident and 3 percent are neutral in the determination of cardiocirculatory death following unsuccessful attempts at resuscitation.

#### Accuracy of various declarations of death

How confident are you in the accuracy of the declaration of death in each of the following? After...	% Confident (3-1)	% Neutral (4)	% Not confident (7-5)
Q. 22 Neurological determination of death (brain death).	93	3	5
Q. 23 Cardiocirculatory death following the withdrawal of life-support.	91	4	6
Q. 24 Cardiocirculatory death following unsuccessful attempts at resuscitation.	92	3	5

As shown in the table below, there appears to be little variation among members of the surveyed healthcare professional organizations when comparing confidence in the accuracy of the declaration of death following neurological determination of death, after cardiocirculatory determination of death following withdrawal of life-support and after cardiocirculatory determination of death following unsuccessful attempts at resuscitation.

## Comparisons in the accuracy in the determination of death by health professional association

	% Total	CAS	CACCN	CAEP	CANN	CBS	CCCS	CCNS	CNSS	NENA	ORNAC
% confident Q. 22 Neurological determination	93	100	97	85	91	85	96	100	100	100	90
% confident Q. 23 Cardiocirculator y following withdrawal of life-support	91	100	95	93	86	77	83	97	100	89	87
% confident Q. 24 Cardiocirculator y following unsuccessful attempts at resuscitation	92	89	96	92	89	83	88	94	100	96	89

## DCD: CONSENT AND INTERVENTIONS BEFORE DEATH

### Acceptability of Medical Procedures

*In general, the surveyed healthcare professionals do not think it is acceptable to perform medical procedures before death and before there has been patient and/or family consent in order to increase the likelihood of being able to successfully recover organs for transplantation. However, they do think that it is acceptable to perform medical procedures before death and after patient and/or family consent has been obtained for these specific procedures.*

In order to gain an understanding of health professionals' acceptability of certain procedures being performed on the deceased donor, a series of scenario based questions that explored various levels of consent were asked. For reporting purposes responses from seven, six and five (7-5) are grouped as acceptable, (4) is considered neutral and three, two and one (3-1) are grouped as being unacceptable.

First, survey participants were asked if it was acceptable to perform medical procedures **before** death to increase the likelihood of successful organ recovery. The majority (81%) of healthcare professionals do not believe that it is acceptable to perform medical procedures **before** death and **before** the patient and/or the family has given **specific** consent. One in ten (12%) healthcare professionals believe it to be acceptable and 6 percent are neutral.

Second, respondents were asked how they would feel about medical procedures being performed **after** there has been patient and/or **general** consent but **before** there had been **specific** consent for additional procedures. Just over half (52%) of the respondents find the practice to be unacceptable and just under half (35%) find it to be acceptable; just over one in ten (13%) are neutral.

Third, surveyed healthcare professionals were asked how they would feel about medical procedures being performed after patient and/or family consent to both organ donation and additional procedures. A strong majority (90%) believe that it is acceptable for medical procedures to be performed **after specific** consent has been obtained from the patient and/or family for both organ donation and additional procedures. Seven percent of healthcare professionals do not agree with the practice and 4 percent are neutral.

## Acceptability of Medical Procedures

Please think of a situation in which a patient is on life-support with no realistic chance of recovery. The family has agreed to the withdrawal of life-support.	% Acceptable (3-1)	% Neutral (4)	% Not Acceptable (7-5)
Q. 25 A physician might recommend medical procedures, such as preparation for vessel cannulation, to be performed <b>BEFORE</b> death to increase the likelihood of being able to successfully recover and transplant the patient's organs. How acceptable is it that these procedures might be performed-- <b>BEFORE</b> there has been patient and/or family <i>general</i> consent to organ donation?	12	6	81
Q. 26 A physician might recommend medical procedures, such as preparation for vessel cannulation, to be performed <b>BEFORE</b> death to increase the likelihood of being able to successfully recover and transplant the patient's organs. How acceptable is it that these procedures might be performed-- <b>AFTER</b> there has been patient and/or family <i>general</i> consent to organ donation, but <b>BEFORE</b> there has been <i>specific</i> consent to additional procedures?	35	13	52
Q. 27 A physician might recommend medical procedures, such as preparation for vessel cannulation, to be performed <b>BEFORE</b> death to increase the likelihood of being able to successfully recover and transplant the patient's organs. How acceptable is it that these procedures might be performed-- <b>AFTER</b> there has been patient and/or family <i>general</i> consent to organ donation, and <b>AFTER</b> there has been <i>specific</i> consent to additional procedures?	90	4	7

## Acceptability of Administering Medications

*Healthcare professionals do not believe that it is acceptable to administer medications before death and before there has been patient and/or family consent in order to help maintain a patient's organs for transplantation. They do believe that it is acceptable to administer medications before death after the patient and/or family has consented to these medications.*

In order to gain an understanding of health professionals' acceptability of certain medications being administered to the deceased donor, a series of scenario based questions that explored various levels of consent were asked. For reporting purposes, responses from seven, six and five (7-5) are grouped as acceptable, four (4) is considered neutral and three, two and one (3-1) are grouped as being unacceptable.

First, respondents were asked if it was acceptable to administer medications **before** death to increase the likelihood of successful organ recovery. The majority of members of healthcare professional organizations do not believe that it is acceptable (80%) to administer medications **before** death and **before general** consent for organ donation has been received. Thirteen percent find the practice to be acceptable and 7 percent are neutral.

Second, the surveyed healthcare professionals were asked how they would feel about medications being administered **after** there has been patient and/or **general** consent but **before** there had been **specific** consent for additional procedures. Almost half (47%) of the respondents believe it to be unacceptable to administer the medications and just under half (40%) believe that it is acceptable; a further 13 percent are neutral.

Third, healthcare professionals were asked how they would feel about medications being administered **after** patient and/or family consent to both organ donation and additional procedures. It appears that the majority (90%) of healthcare professionals believe that it is acceptable to administer medications. Six percent of healthcare professionals do not believe that it is acceptable and 4 percent are neutral.

## Acceptability of Administering Medications

Remember the same situation in which a patient is on life-support with no realistic chance of recovery. The family has agreed to the withdrawal of life-support.	% Acceptable (3-1)	% Neutral (4)	% Not Acceptable (7-5)
<p>Q. 28 A physician might recommend medications, such as anticoagulants, to be administered <b>BEFORE</b> death to help maintain a patient's organs for transplantation. These medications will not benefit the patient directly and might have a small risk of causing harm. How acceptable is it that these procedures might be performed-- <b>BEFORE</b> there has been patient and/or family <i>general</i> consent to organ donation?</p>	13	7	80
<p>Q. 29 A physician might recommend medications, such as anticoagulants, to be administered <b>BEFORE</b> death to help maintain a patient's organs for transplantation. These medications will not benefit the patient directly and might have a small risk of causing harm. How acceptable is it that these procedures might be performed-- <b>AFTER</b> there has been patient and/or family general consent to organ donation, but <b>BEFORE</b> there has been <i>specific</i> consent to additional medications?</p>	40	13	47
<p>Q. 30 A physician might recommend medications, such as anticoagulants, to be administered <b>BEFORE</b> death to help maintain a patient's organs for transplantation. These medications will not benefit the patient directly and might have a small risk of causing harm. How acceptable is it that these procedures might be performed--<b>AFTER</b> patient and/or family consent to <b>BOTH</b> organ donation and to additional medications?</p>	90	4	6

## DCD: CONSENT AND INTERVENTIONS AFTER DEATH

### **Acceptability of Performing Specific Medical Procedures**

*In general, healthcare professionals do not believe that it is acceptable to perform specific medical procedures in order to increase the likelihood of successful organ retrieval for donation, after death and before there has been specific consent from the patient and/or the family. They do believe that it is acceptable to perform specific medical procedures after death and after the patient and/or family have given specific consent to these procedures.*

In order to gain an understanding of health professional's acceptability of specific medical procedures being performed after death, a series of scenario based questions that explored various levels of consent were asked. For reporting purposes responses from seven, six and five (7-5) are grouped as acceptable, four (4) is considered neutral and three, two and one (3-1) are grouped as being unacceptable.

First, surveyed healthcare professionals were asked if it was acceptable to perform specific medical procedures **after** death but **before** the patient and/or the family had given **specific** consent in order to increase the likelihood of successfully recovering organs for transplantation. The majority (84%) of healthcare professionals do not believe this is acceptable. One in ten (10%) healthcare professionals believe it to be acceptable and 6 percent are neutral.

Second, surveyed healthcare professionals were asked how they would feel about specific medical procedures being performed **after** there has been **general** consent for donation but **before** **specific** consent for additional procedures has been obtained. Almost half (48%) do not find the practice to be acceptable and just under half (40%) do find the practice to be acceptable; one in ten (12%) healthcare professionals are neutral.

Third, surveyed healthcare professionals were asked how they would feel about specific medical procedures being performed **after** patient and/or family consent to both organ donation and additional procedures. Healthcare professionals generally agree (93%) that the practice is acceptable. A small number of healthcare professionals find the practice to be unacceptable (3%) or are neutral (3%).

Respondents from the Canadian Association of Emergency Physicians (56%) are somewhat more likely than other groups to find the practice of performing medical procedures to be acceptable; whereas respondents from the Canadian Anesthesiologists' Society (78%) are more likely to find the practice to be unacceptable.

## Acceptability of Performing Specific Medical Procedures

Remember the same situation in which a patient is on life-support with no realistic chance of recovery. The family has agreed to the withdrawal of life-support.	% Acceptable (3-1)	% Neutral (4)	% Not Acceptable (7-5)
<p>Q. 31 A physician might recommend procedures, such as in-situ cold perfusion of organs, to be performed <b>AFTER</b> death that will increase the likelihood of being able to successfully recover and transplant the patient's organs. How acceptable is it that these procedures might be performed-- <b>BEFORE</b> there has been patient and/or family <i>general</i> consent to organ donation?</p>	10	6	84
<p>Q. 32 A physician might recommend procedures, such as in-situ cold perfusion of organs, to be performed <b>AFTER</b> death that will increase the likelihood of being able to successfully recover and transplant the patient's organs. How acceptable is it that these procedures might be performed-- <b>AFTER</b> there has been patient and/or family <i>general</i> consent to organ donation, but <b>BEFORE</b> there has been <i>specific</i> consent to additional procedures?</p>	40	12	48
<p>Q. 33 A physician might recommend procedures, such as in-situ cold perfusion of organs, to be performed <b>AFTER</b> death that will increase the likelihood of being able to successfully recover and transplant the patient's organs. How acceptable is it that these procedures might be performed-- <b>AFTER</b> patient and/or family consent to <b>BOTH</b> organ donation and to additional procedures?</p>	93	3	3



## DCD: CONSENT AND INTERVENTIONS

The following table compares responses to the acceptability of medications or medical procedures being performed **after** general consent but **before specific** consent. It is interesting to note that members from each organization are likely to vote in a similar way to each question. It is also interesting to note that members from some healthcare professional organizations are slightly more likely to believe that it is sufficient to receive **general** consent rather than **specific** consent. Members were asked to rate, using a seven point scale, how acceptable is it that these procedures might be performed. Responses 1 -3 were grouped as not acceptable.

### Acceptability of medical procedures, medications and procedures AFTER *general* consent but BEFORE specific consent

	% Total	CAS	CACCN	CAEP	CANN	CBS	CCCS	CCNS	CNSS	NENA	ORNAC
% not acceptable Q. 26 Medical procedures	52	78	51	31	60	75	68	40	80	41	46
% not acceptable Q. 29 Medications	47	68	45	32	65	66	61	37	80	45	36
% not acceptable Q. 32 Procedures	48	78	47	30	69	54	58	40	80	43	44

HPO: Health Professional Organization, CAS: Canadian Anesthesiologists' Society, CACCN: Canadian Association of Critical Care Nurses, CAEP: Canadian Association of Emergency Physicians, CANN: Canadian Association of Neuroscience Nurses, CBS: Canadian Bioethics Society, CCCS: Canadian Critical Care Society, CCNS: Canadian Neurological Society, CNSS: Canadian Neurosurgical Society, NENA: National Emergency Nurses Affiliation, ORNAC: Operating Room Nurses of Canada

*Q. 26. A physician might recommend medical procedures, such as preparation for vessel cannulation, to be performed **BEFORE** death to increase the likelihood of being able to successfully recover and transplant the patient's organs. How acceptable is it that these procedures might be performed-- AFTER there has been patient and/or family general consent to organ donation, but BEFORE there has been specific consent to additional procedures?*

*Q.29. A physician might recommend medications, such as anticoagulants, to be administered **BEFORE** death to help maintain a patient's organs for transplantation. These medications will not benefit the patient directly and might have a small risk of causing harm. How acceptable is it that these procedures might be performed-- AFTER there has been patient and/or family general consent to organ donation, but BEFORE there has been specific consent to additional medications?*

*Q. 32. A physician might recommend procedures, such as in-situ cold perfusion of organs, to be performed **AFTER** death that will increase the likelihood of being able to successfully recover and transplant the patient's organs. How acceptable is it that these procedures might be performed-- AFTER there has been patient and/or family general consent to organ donation, but BEFORE there has been specific consent to additional procedures?*

## DCD: HOSPITAL PROCEDURES

*Healthcare professionals find it somewhat acceptable for surgical procedures to begin immediately after death has been declared in order to retrieve organs for donation.*

Healthcare professionals were asked how acceptable it is to perform surgical procedures immediately following death to recover organs for transplantation. Using a 7 point scale responses from seven, six and five (7-5) are grouped as acceptable and three, two and one (3-1) are grouped as being unacceptable.

Respondents from the healthcare professional organizations find it somewhat (74%) acceptable for surgical procedures to begin immediately following death. Almost two in ten (17%) healthcare professionals do not find it to be acceptable and 8 percent are neutral.

Respondents from the Canadian Association of Emergency Physicians (88%) are more likely than respondents from other organizations to find it acceptable for surgical procedures to begin immediately following death.

	Total #	% Response rate	% Acceptable.	% Neutral	% Not acceptable.
HPO	613		74	8	17
CACCN	223	47	75	10	15
CCCS	67	32	65	5	30
CBS	46	14	66	4	30
CANN	33	8	67	15	18
CCNS	29	7	80	10	10
CAEP	93	6	88	5	7
ORNAC	65	5	72	11	17
CNSS	5	3	60	20	20
NENA	27	3	85	0	15
CAS	9	0.4	100*	0	0

\* There were only 10 respondents

Response rate based upon total number of respondents by individual health professional organization.

HPO: Health Professional Organization, CAS: Canadian Anesthesiologists' Society, CACCN: Canadian Association of Critical Care Nurses, CAEP: Canadian Association of Emergency Physicians, CANN: Canadian Association of Neuroscience Nurses, CBS: Canadian Bioethics Society, CCCS: Canadian Critical Care Society, CCNS: Canadian Neurological Society, CNSS: Canadian Neurosurgical Society, NENA: National Emergency Nurses Affiliation, ORNAC: Operating Room Nurses of Canada

*Q. 34 Please consider the following scenario where consent has been given for DCD and cardiac arrest has occurred. The declaration of death has been made following a 5-minute period of observation during which at least 1 physician has continuously observed the absence of palpable pulses, blood pressure and respiration. How acceptable is it that surgical procedures to retrieve organs begin immediately following the declaration of death?*

## DCD: ETHICAL STANDARDS AND PRACTICES

### **Confidence in Standards**

*Healthcare professionals are confident that strict standards to ensure ethical conduct in regards to DCD will be put in place and that they will be followed by healthcare professionals.*

Healthcare providers were asked a series of questions around the ethical standards and practices regarding donation after cardiocirculatory death.

When asked how confident they are that strict standards will be put into place to ensure ethical conduct in DCD, the majority (88%) of surveyed healthcare professionals are very (48%) and somewhat (40%) confident. A minority are not very (7%) and not at all (3%) confident and 1 percent do not know.

In general, surveyed healthcare professionals are confident (90%) that healthcare professionals will follow these standards. As above, most members are divided between being very and somewhat confident that healthcare professionals will follow ethical standards. A small minority of healthcare professionals are not very (7%) and not at all (2%) confident and 1 percent do not know if ethical standards will be followed by healthcare professionals.

### **Care of the Dying Patient**

*The majority of healthcare professionals are confident that the best interests of the dying patient would be most important to their healthcare providers rather than the organ and tissue donation process. They also believe that the dying patient's end-of-life care would not be affected and that their dignity would be respected.*

Almost nine out of ten (87%) surveyed healthcare professionals are very (47%) and somewhat (40%) confident that healthcare providers caring for the dying patient would not be motivated by the possibility of organ donation. One in ten (12%) healthcare professionals are not very (9%) and not at all (3%) confident and 1 percent do not know if healthcare professionals would be motivated by the best interests of the dying patient.

Just over eight out of ten (85%) respondents are very (46%) and somewhat (39%) confident that optimal end-of-life care would not be affected by the organ and tissue donation process. Fifteen percent of healthcare professionals are not very (11%) and not at all (4%) confident that the donation process would not affect end-of-life care.

Respondents from all of the healthcare professional organizations seem to be fairly equally divided between being very and somewhat confident that the patient's dignity will be recognized at the time of death when donation follows.

Nine out of ten (89%) survey participants are very (50%) and somewhat (39%) confident that the patient's dignity would be respected. Eight percent are not very confident and 3 percent are not at all confident that a patient's dignity would be recognized when donation follows.

## DCD: Ethical Standards and Practices

<i>In the case of DCD</i>	% Very confident	% Somewhat confident	% Not very confident	% Not at all confident	% Don't know
Q. 35 How confident are you that strict standards will be put into place to guide all practices related to DCD and to ensure ethical conduct regarding DCD?	48	40	7	3	1
Q. 36 Health care professionals will follow these ethical standards or practices?	49	41	7	2	1
Q. 37 Health care professionals would be motivated by the best interests of the dying patient and not the possibility of organ donation?	47	40	9	3	1
Q. 38 That the process of providing optimal end-of-life care would not be affected by the organ and tissue donation process?	46	39	11	4	0
Q. 39 A patient's dignity will be recognized at the time of death when organ and/or tissue donation follows?	50	39	8	3	1

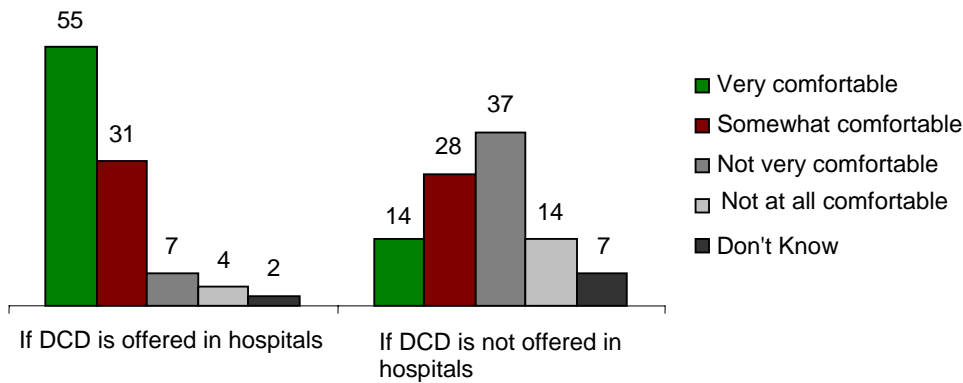
# IMPLEMENTATION OF DCD PROGRAMS

## Comfort of DCD in Canadian Hospitals

*If Canadian hospitals decided to start DCD programs, the majority of healthcare professionals would be comfortable. If Canadian hospitals decided not to offer DCD programs, some healthcare professionals are comfortable while others are not comfortable.*

Most (86%) surveyed healthcare professionals are very (55%) and somewhat (31%) comfortable if Canadian hospitals were to offer a program of DCD; a further 11 percent are not very (7%) and not at all (4%) comfortable and 2 percent do not know.

Comfort with DCD in Canadian Hospitals



It appears that if the DCD program were offered, respondents from both the Canadian Bioethics Society (27%) and the Canadian Critical Care Society (27%) would be slightly more uncomfortable than members of the other organizations.

	Total	% Response rate	% Very comfortable.	% Somewhat comfortable.	% Not very comfortable.	% Not at all comfortable.	% Don't know.
HPO	612		55	31	7	4	2
CACCN	224	47	54	37	8	0	0
CCCS	68	32	44	29	9	18	0
CBS	45	14	40	27	20	7	7
CANN	33	8	52	39	3	3	3
CCNS	28	7	54	29	7	7	4
CAEP	91	6	74	22	1	0	3
ORNAC	66	5	56	30	7	3	3
CNSS	5	3	40	20	20	20	0
NENA	27	3	70	22	4	0	4
CAS	9	0.4	56	22	0	22	0

Response rate based upon total number of respondents by individual health professional organization.

HPO: Health Professional Organization, CAS: Canadian Anesthesiologists' Society, CACCN: Canadian Association of Critical Care Nurses, CAEP: Canadian Association of Emergency Physicians, CANN: Canadian Association of Neuroscience Nurses, CBS: Canadian Bioethics Society, CCCS: Canadian Critical Care Society, CCNS: Canadian Neurological Society, CNSS: Canadian Neurosurgical Society, NENA: National Emergency Nurses Affiliation, ORNAC: Operating Room Nurses of Canada

*Q. 40 If Canadian hospitals started a program offering DCD, how comfortable would you be with that decision?*

When the question was phrased “*If Canadian Hospitals decided to **not** offer DCD, how comfortable would you be with that decision?*” there was a division between 42 percent being comfortable (14% very comfortable and 28% somewhat comfortable) and 51 percent being uncomfortable (14% not at all and 37% not very comfortable). A further 7 percent of healthcare professionals do not know.

	Total	% Response rate	% Very comfortable.	% Somewhat comfortable.	% Not very comfortable.	% Not at all comfortable.	% Don't know.
HPO	613		14	28	37	14	7
CACCN	224	47	12	30	34	15	10
CCCS	68	32	29	34	24	10	3
CBS	45	14	16	24	42	11	7
CANN	33	8	15	36	36	3	9
CCNS	28	7	4	21	46	25	4
CAEP	93	6	4	22	52	17	5
ORNAC	65	5	20	26	40	11	6
CNSS	5	3	20	40	40	0	0
NENA	27	3	15	30	33	19	4
CAS	9	0.4	22	33	22	11	11

Response rate based upon total number of respondents by individual health professional organization.

HPO: Health Professional Organization, CAS: Canadian Anesthesiologists' Society, CACCN: Canadian Association of Critical Care Nurses, CAEP: Canadian Association of Emergency Physicians, CANN: Canadian Association of Neuroscience Nurses, CBS: Canadian Bioethics Society, CCCS: Canadian Critical Care Society, CCNS: Canadian Neurological Society, CNSS: Canadian Neurosurgical Society, NENA: National Emergency Nurses Affiliation, ORNAC: Operating Room Nurses of Canada

*Q. 41 If Canadian hospitals decided not to offer DCD, how comfortable would you be with that decision?*

## **Tools for Diagnosing and Understanding DCD**

*Healthcare professionals are somewhat in agreement that of the several tools that were identified to support them in diagnosing cardiocirculatory death for the purposes of DCD, a standardized medical definition, and a checklist of elements would be among the most helpful.*

Based on a list of six choices, healthcare professionals were asked to identify which tools would be most useful in the diagnosis of cardiocirculatory death for the purposes of DCD. Almost 8 in 10 (77%) of healthcare professionals chose a medical definition of cardiocirculatory death, and 70 percent chose a checklist of elements that constitute cardiocirculatory death. Almost six out of ten healthcare (58%) professionals chose a written policy or guideline, almost four out of ten (38%) chose seminars or training sessions and three out of ten (35%) chose a legislated medical definition. Finally one out of ten (12%) believed a process to report the incidence of cardiocirculatory death would be useful.

A number of themes regarding tools to aid in the diagnosis of cardiocirculatory death for the purposes of DCD emerged through additional commentary provided by survey participants:

1. Healthcare professionals believe that there should be a consensus among a group of medical professionals in order to help them diagnose cardiocirculatory death for the purposes of DCD. Some forms of this consensus should be done by “committee agreement” or the “diagnosis [should be] verified by (X) physicians” and that it should “require the agreement of two or more (MD and RN)”.
2. Other suggestions from healthcare professionals include reviews being done by outside parties in which “[a]n independent review board...” or an [i]ndependent 3rd party review[s] the cases”.
3. Ethics was an element that some believed would be an important part in supporting healthcare professionals in diagnosing cardiocirculatory death for the purposes of DCD. They responded that it should include an “ethics driven policy” or “ethicist support”.



*Several tools were identified as ways to promote knowledge transfer to increase healthcare professionals understanding and support for DCD.*

Healthcare professionals were provided with a list of 14 knowledge transfer tools that could help to increase understanding and support of DCD. Of these tools, 63 percent of healthcare professionals chose lectures and/or presentations. Others (37%) believe that there should be a hospital donation committee, 32 percent believe there should be pocket reference cards, 24 percent would like there to be web-based learning tools and sample DCD policies.

A further 22 percent chose an annual refresher course and interestingly, testimonials by either donor families or hospital staff are found to be helpful to 20 percent of healthcare professionals to increase their understanding and support for DCD. Perhaps these testimonials would provide firsthand experience in addressing questions and/or concerns. One in ten (12%) healthcare professionals chose a self-study booklet with a post-test component, E-mail list serve for updates/questions (9%), videotapes (9%) brochures (8%). Less than one in ten chose newsletters (5%) and on-line message boards (3%).

A number of themes regarding knowledge transfer tools that would help to promote understanding of the diagnosis of cardiocirculatory death for the purposes of DCD emerged through additional commentary provided by survey participants:

1. Various forms of education were among the most common responses from healthcare professionals and include ideas on “inserts into professional journals,” the use of “ PDS downloadable criteria” or more interactive forms of education: “[t]raining of medical housestaff” and a “regular refresher course (bi- or tri-annually)”.
2. Communication among healthcare professionals was also seen as playing an important role in increasing understanding and support for DCD. One respondent stated that “personal contact goes the furthest”. Another believes that “on unit support from existing participating centre” and another states that “rounds discussion” would be important.

## FINAL COMMENTS RE: DCD

*Healthcare professionals were given the opportunity for final comments at the end of the survey and the most common theme to emerge surrounded the issue of ethics and DCD.*

1. The respondents believe that it is important that **ethical/legal issues** are addressed and that the care of the dying patient and their family is at the forefront. There were also comments relating to the need for consensus to occur before policies are implemented in individual hospitals and at the time of patient death. There were concerns regarding the need to maintain public confidence and trust in the current organ and tissue donation and transplantation system.
2. Healthcare professionals are interested in **ongoing education as well as communication** on DCD – for themselves and for the general public. They believe that continued education of both the general public and healthcare professionals are essential if DCD is to proceed in Canadian hospitals.
3. The importance of **optimal end-of-life care** for the dying patient was also voiced as an important component of organ and tissue donation that needs to remain the primary focus. Communication between healthcare professionals and the families of dying patients also continues to be an important aspect of organ donation and will continue to be if DCD is implemented.
4. Some responded that **resource restrictions within the healthcare system** may be a major impediment to the implementation of DCD. Resource restrictions in hospitals make the implementation of DCD a troublesome situation for some healthcare professionals as they believe that resources are already stretched.

## CONCLUSION

The intent of the survey was to explore attitudes and beliefs regarding organ and tissue donation: specifically, donation after cardiocirculatory death among healthcare professionals involved in donation.

The overwhelming majority of surveyed healthcare professionals approve of organ and tissue donation and many have also agreed to donate their own organs and/or tissues upon their death. Surveyed healthcare professionals are more likely than the general public to have signed their organ donor cards or to have registered with an organ and tissue registry in their home province. There is high awareness among the respondents surrounding the need for more organs and tissues, and they also believe that anyone at any age can become a donor. While healthcare professionals support organ and tissue donation, only a small minority would also strongly support laws being changed in Canada that would enable donation to occur unless otherwise specified – also known as presumed consent.

Surveyed healthcare professionals were somewhat familiar with donation after cardiocirculatory death prior to the survey and also believe that it would be acceptable to introduce it in Canadian hospitals. They expressed similar opinions in regards to donation procedures not commencing until *specific* consent had been obtained by the patient or family. The majority would be comfortable with DCD and believe that strict standards would be put into place and followed by all involved healthcare professionals. The majority also believe that the best interests of the dying patient and end-of-life care would not be affected by organ donation.

Among a selection of various tools that would be helpful in diagnosing cardiocirculatory death for the purposes of donation, surveyed healthcare professionals chose a standardized Canadian medical definition and a checklist of elements that constitute cardiocirculatory death. They also believe lectures and/or presentations would be among the best ways to increase understanding and support for DCD among healthcare professionals.

While respondents supported DCD, final comments highlighted the need for ongoing education, ethical concerns, public approval, a need for consensus among staff and the importance of the respect for the patient and their family. Other important concerns included lack of resources in hospitals, and the need for guidelines and policies.

## APPENDICES

## **Appendix A: Questions 22-34**

**Q. 22 How confident are you in the accuracy of the declaration of death in each of the following? After Neurological determination of death (brain death).:**

**To which professional body do you belong? Please select only 1 choice.:**

	Total	Canadian Anesthesiologists' Society	Canadian Association of Critical Care Nurses	Canadian Association of Emergency Physicians	Canadian Association of Neuroscience Nurses	Canadian Bioethics Society	Canadian Critical Care Society	Canadian Neurological Society	Canadian Neurosurgical Society	National Emergency Nurses Affiliation	Operating Room Nurses of Canada
<b>Total Not at all confident</b>	<b>636</b>	9	230	99	36	47	70	30	5	28	66
<b>1</b>	5	0%	0%	2%	0%	4.30%	1.40%	0%	0%	0%	0%
<b>2</b>	8	0%	0.90%	2%	0%	2.10%	1.40%	0%	0%	0%	1.50%
<b>3</b>	11	0%	0.40%	4%	5.60%	6.40%	0%	0%	0%	0%	0%
<b>4</b>	21	0%	2.20%	7.10%	2.80%	2.10%	1.40%	0%	0%	0%	7.60%
<b>5</b>	45	11.10%	5.70%	13.10%	2.80%	10.60%	1.40%	3.30%	0%	7.10%	9.10%
<b>6</b>	122	33.30%	16.10%	26.30%	11.10%	23.40%	21.40%	10%	20%	21.40%	21.20%
<b>Very confident</b>	<b>424</b>	55.60%	74.80%	45.50%	77.80%	51.10%	72.90%	86.70%	80%	71.40%	60.60%

**Q. 23 How confident are you in the accuracy of the declaration of death in each of the following? Cardiocirculatory death following the withdrawal of life-support.:**

**To which professional body do you belong? Please select only 1 choice.:**

	Total	Canadian Anesthesiologists' Society	Canadian Association of Critical Care Nurses	Canadian Association of Emergency Physicians	Canadian Association of Neuroscience Nurses	Canadian Bioethics Society	Canadian Critical Care Society	Canadian Neurological Society	Canadian Neurosurgical Society	National Emergency Nurses Affiliation	Operating Room Nurses of Canada
<b>Total Not at all confident.</b>	<b>636</b>	9	231	99	36	47	70	29	5	28	66
<b>1</b>	5	0%	0.40%	1%	0%	0%	4.30%	0%	0%	0%	0%
<b>2</b>	19	0%	0%	0%	5.60%	14.90%	7.10%	0%	0%	7.10%	3%
<b>3</b>	11	0%	0.90%	0%	8.30%	2.10%	4.30%	0%	0%	3.60%	1.50%
<b>4</b>	26	0%	3.90%	6.10%	0%	6.40%	1.40%	3.40%	0%	0%	7.60%
<b>5</b>	38	11.10%	5.60%	4%	13.90%	6.40%	5.70%	3.40%	0%	3.60%	7.60%
<b>6</b>	93	0%	11.30%	13.10%	16.70%	21.30%	11.40%	31%	0%	10.70%	21.20%
<b>Very confident.</b>	<b>444</b>	88.90%	77.90%	75.80%	55.60%	48.90%	65.70%	62.10%	100%	75%	59.10%

**Q. 24 How confident are you in the accuracy of the declaration of death in each of the following? Cardiocirculatory death following unsuccessful attempts at resuscitation.:**

**To which professional body do you belong? Please select only 1 choice.:**

	Total	Canadian Anesthesiologists' Society	Canadian Association of Critical Care Nurses	Canadian Association of Emergency Physicians	Canadian Association of Neuroscience Nurses	Canadian Bioethics Society	Canadian Critical Care Society	Canadian Neurological Society	Canadian Neurosurgical Society	National Emergency Nurses Affiliation	Operating Room Nurses of Canada
<b>Total</b>	<b>634</b>	9	229	99	36	47	70	29	5	28	66
<b>Not at all confident.</b>	9	0%	0.40%	1%	0%	0%	7.10%	3.40%	0%	0%	1.50%
<b>2</b>	11	0%	0.40%	0%	2.80%	6.40%	2.90%	0%	0%	3.60%	3%
<b>3</b>	10	11.10%	0.90%	1%	5.60%	4.30%	1.40%	0%	0%	0%	1.50%
<b>4</b>	20	0%	1.70%	6.10%	2.80%	8.50%	1.40%	3.40%	0%	0%	4.50%
<b>5</b>	40	0%	6.60%	2%	8.30%	8.50%	7.10%	10.30%	0%	3.60%	9.10%
<b>6</b>	103	22.20%	13.10%	9.10%	25%	25.50%	17.10%	27.60%	0%	14.30%	18.20%
<b>Very confident.</b>	441	66.70%	76.90%	80.80%	55.60%	46.80%	62.90%	55.20%	100%	78.60%	62.10%

Please think of a situation in which a patient is on life-support with no realistic chance of recovery. The family has agreed to the withdrawal of life-support.

**Q. 25 A physician might recommend medical procedures, such as preparation for vessel cannulation, to be performed BEFORE death to increase the likelihood of being able to successfully recover and transplant the patient's organs. How acceptable is it that these procedures might be performed-- BEFORE there has been patient and/or family *general* consent to organ donation?**

**To which professional body do you belong? Please select only 1 choice.:**

	Total	Canadian Anesthesiologists' Society	Canadian Association of Critical Care Nurses	Canadian Association of Emergency Physicians	Canadian Association of Neuroscience Nurses	Canadian Bioethics Society	Canadian Critical Care Society	Canadian Neurological Society	Canadian Neurosurgical Society	National Emergency Nurses Affiliation	Operating Room Nurses of Canada
<b>Total</b>	<b>633</b>	9	229	99	35	47	68	30	5	29	66
<b>Not at all acceptable.</b>	395	88.90%	60.70%	42.40%	65.70%	85.10%	79.40%	63.30%	60%	51.70%	62.10%
<b>2</b>	80	11.10%	12.20%	21.20%	5.70%	6.40%	8.80%	13.30%	20%	13.80%	10.60%
<b>3</b>	41	0%	8.70%	6.10%	2.90%	2.10%	4.40%	6.70%	20%	10.30%	6.10%
<b>4</b>	40	0%	5.70%	11.10%	8.60%	2.10%	2.90%	3.30%	0%	10.30%	6.10%
<b>5</b>	28	0%	3.90%	10.10%	2.90%	0%	0%	3.30%	0%	10.30%	6.10%
<b>6</b>	17	0%	1.30%	4%	8.60%	0%	4.40%	3.30%	0%	3.40%	3%
<b>Very acceptable.</b>	32	0%	7.40%	5.10%	5.70%	4.30%	0%	6.70%	0%	0%	6.10%

**Q. 26 A physician might recommend medical procedures, such as preparation for vessel cannulation, to be performed BEFORE death to increase the likelihood of being able to successfully recover and transplant the patient's organs. How acceptable is it that these procedures might be performed-- AFTER there has been patient and/or family *general* consent to organ donation, but BEFORE there has been *specific* consent to additional procedures?**

**To which professional body do you belong? Please select only 1 choice.:**

	Total	Canadian Anesthesiologists' Society	Canadian Association of Critical Care Nurses	Canadian Association of Emergency Physicians	Canadian Association of Neuroscience Nurses	Canadian Bioethics Society	Canadian Critical Care Society	Canadian Neurological Society	Canadian Neurosurgical Society	National Emergency Nurses Affiliation	Operating Room Nurses of Canada
<b>Total</b>	<b>632</b>	9	229	99	35	47	68	30	5	29	65
<b>Not at all acceptable.</b>	207	55.60%	32.80%	13.10%	45.70%	53.20%	50%	23.30%	20%	17.20%	30.80%
<b>2</b>	56	11.10%	8.70%	7.10%	2.90%	12.80%	14.70%	3.30%	20%	10.30%	6.20%
<b>3</b>	60	11.10%	9.20%	11.10%	11.40%	8.50%	2.90%	13.30%	40%	13.80%	9.20%
<b>4</b>	83	11.10%	14.80%	21.20%	2.90%	8.50%	7.40%	13.30%	0%	6.90%	13.80%
<b>5</b>	63	0%	10.50%	12.10%	11.40%	4.30%	7.40%	13.30%	0%	10.30%	12.30%
<b>6</b>	66	0%	9.20%	11.10%	5.70%	4.30%	7.40%	13.30%	0%	31%	12.30%
<b>Very acceptable.</b>	97	11.10%	14.80%	24.20%	20%	8.50%	10.30%	20%	20%	10.30%	15.40%

**Q. 27 A physician might recommend medical procedures, such as preparation for vessel cannulation, to be performed BEFORE death to increase the likelihood of being able to successfully recover and transplant the patient's organs. How acceptable is it that these procedures might be performed-- AFTER there has been patient and/or family *general* consent to organ donation, and AFTER there has been *specific* consent to additional procedures?**

**To which professional body do you belong? Please select only 1 choice.:**

	Total	Canadian Anesthesiologists' Society	Canadian Association of Critical Care Nurses	Canadian Association of Emergency Physicians	Canadian Association of Neuroscience Nurses	Canadian Bioethics Society	Canadian Critical Care Society	Canadian Neurological Society	Canadian Neurosurgical Society	National Emergency Nurses Affiliation	Operating Room Nurses of Canada
<b>Total</b>	<b>634</b>	9	229	99	35	47	69	30	5	29	66
<b>Not at all acceptable.</b>	20	11.10%	2.20%	0%	5.70%	4.30%	8.70%	3.30%	20%	0%	3%
<b>2</b>	16	0%	0.90%	2%	0%	4.30%	10.10%	0%	0%	0%	3%
<b>3</b>	8	0%	1.30%	1%	0%	2.10%	2.90%	3.30%	0%	0%	0%
<b>4</b>	28	0%	5.20%	1%	17.10%	4.30%	5.80%	0%	0%	3.40%	3%
<b>5</b>	48	11.10%	9.60%	5.10%	0%	8.50%	10.10%	10%	20%	0%	7.60%
<b>6</b>	62	22.20%	10.90%	6.10%	8.60%	6.40%	7.20%	3.30%	40%	10.30%	15.20%
<b>Very acceptable.</b>	452	55.60%	69.90%	84.80%	68.60%	70.20%	55.10%	80%	20%	86.20%	68.20%



**Q. 28 A physician might recommend medications, such as anticoagulants, to be administered BEFORE death to help maintain a patient's organs for transplantation. These medications will not benefit the patient directly and might have a small risk of causing harm. How acceptable is it that these procedures might be performed-- BEFORE there has been patient and/or family *general* consent to organ donation?**

**To which professional body do you belong? Please select only 1 choice.:**

	Total	Canadian Anesthesiologists' Society	Canadian Association of Critical Care Nurses	Canadian Association of Emergency Physicians	Canadian Association of Neuroscience Nurses	Canadian Bioethics Society	Canadian Critical Care Society	Canadian Neurological Society	Canadian Neurosurgical Society	National Emergency Nurses Affiliation	Operating Room Nurses of Canada
<b>Total</b>	<b>629</b>	9	228	97	34	47	68	30	5	29	66
<b>Not at all acceptable.</b>	379	77.80%	55.30%	43.30%	58.80%	85.10% 10.60%	77.90%	60%	60%	58.60%	62.10%
<b>2</b>	87	0%	15.80%	21.60%	11.80%	0%	5.90%	16.70%	40%	10.30%	9.10%
<b>3</b>	40	11.10%	6.60%	5.20%	11.80%	0%	5.90%	3.30%	0%	10.30%	9.10%
<b>4</b>	45	0%	9.20%	11.30%	5.90%	0%	4.40%	6.70%	0%	3.40%	6.10%
<b>5</b>	18	0%	2.60%	6.20%	2.90%	0%	0%	10%	0%	0%	3%
<b>6</b>	29	11.10%	4.80%	5.20%	0%	0%	5.90%	0%	0%	13.80%	6.10%
<b>Very acceptable.</b>	31	0%	5.70%	7.20%	8.80%	4.30%	0%	3.30%	0%	3.40%	4.50%

**Q. 29 A physician might recommend medications, such as anticoagulants, to be administered BEFORE death to help maintain a patient's organs for transplantation. These medications will not benefit the patient directly and might have a small risk of causing harm. How acceptable is it that these procedures might be performed-- AFTER there has been patient and/or family general consent to organ donation, but BEFORE there has been *specific* consent to additional medications?**

**To which professional body do you belong? Please select only 1 choice.:**

	Total	Canadian Anesthesiologists' Society	Canadian Association of Critical Care Nurses	Canadian Association of Emergency Physicians	Canadian Association of Neuroscience Nurses	Canadian Bioethics Society	Canadian Critical Care Society	Canadian Neurological Society	Canadian Neurosurgical Society	National Emergency Nurses Affiliation	Operating Room Nurses of Canada
<b>Total</b>	<b>625</b>	9	227	95	34	47	67	30	5	29	66
<b>Not at all acceptable.</b>	200	33.30%	31.70%	15.80%	32.40%	51.10% 12.80%	53.70%	23.30%	20%	24.10%	27.30%
<b>2</b>	48	11.10%	5.70%	6.30%	23.50%	8.50%	3%	3.30%	60%	13.80%	4.50%
<b>3</b>	46	22.20%	7.50%	9.50%	8.80%	6.40%	4.50%	10%	0%	6.90%	4.50%
<b>4</b>	78	0%	14.50%	13.70%	2.90%	0%	13.40%	13.30%	0%	10.30%	12.10%
<b>5</b>	66	11.10%	10.60%	10.50%	8.80%	6.40%	7.50%	16.70%	0%	17.20%	12.10%
<b>6</b>	74	22.20%	11%	17.90%	2.90%	4.30%	7.50%	13.30%	20%	13.80%	18.20%
<b>Very acceptable.</b>	113	0%	18.90%	26.30%	20.60%	10.60% 0%	10.40%	20%	0%	13.80%	21.20%

**Q. 30 A physician might recommend medications, such as anticoagulants, to be administered BEFORE death to help maintain a patient's organs for transplantation. These medications will not benefit the patient directly and might have a small risk of causing harm. How acceptable is it that these procedures might be performed--AFTER patient and/or family consent to BOTH organ donation and to additional medications?**

**To which professional body do you belong? Please select only 1 choice.:**

	Total	Canadian Anesthesiologists' Society	Canadian Association of Critical Care Nurses	Canadian Association of Emergency Physicians	Canadian Association of Neuroscience Nurses	Canadian Bioethics Society	Canadian Critical Care Society	Canadian Neurological Society	Canadian Neurosurgical Society	National Emergency Nurses Association	Operating Room Nurses of Canada
<b>Total</b>	<b>626</b>	9	228	96	34	47	68	30	4	29	65
<b>Not at all acceptable.</b>	19	0%	2.20%	0%	0%	4.30%	13.20%	3.30%	25%	0%	1.50%
<b>2</b>	8	0%	0.40%	1%	0%	2.10%	5.90%	0%	0%	0%	0%
<b>3</b>	11	0%	0.40%	0%	8.80%	4.30%	2.90%	0%	25%	3.40%	1.50%
<b>4</b>	22	0%	3.90%	1%	2.90%	8.50%	5.90%	3.30%	0%	0%	3.10%
<b>5</b>	38	0%	7.90%	3.10%	5.90%	6.40%	8.80%	10%	0%	0%	4.60%
<b>6</b>	83	33.30%	15.40%	11.50%	17.60%	6.40%	5.90%	6.70%	50%	6.90%	20%
<b>Very acceptable</b>	445	66.70%	69.70%	83.30%	64.70%	68.10%	57.40%	76.70%	0%	89.70%	69.20%

**Q. 31 A physician might recommend procedures, such as in-situ cold perfusion of organs, to be performed AFTER death that will increase the likelihood of being able to successfully recover and transplant the patient's organs.**

**How acceptable is it that these procedures might be performed-- BEFORE there has been patient and/or family *general* consent to organ donation?**

**To which professional body do you belong? Please select only 1 choice.:**

	Total	Canadian Anesthesiologists' Society	Canadian Association of Critical Care Nurses	Canadian Association of Emergency Physicians	Canadian Association of Neuroscience Nurses	Canadian Bioethics Society	Canadian Critical Care Society	Canadian Neurological Society	Canadian Neurosurgical Society	National Emergency Nurses Association	Operating Room Nurses of Canada
<b>Total</b>	<b>617</b>	9	225	93	33	46	66	30	5	28	66
<b>Not at all acceptable.</b>	414	88.90%	69.30%	50.50%	69.70%	82.60%	78.80%	70%	60%	57.10%	60.60%
<b>2</b>	74	11.10%	11.60%	18.30%	12.10%	4.30%	6.10%	6.70%	20%	17.90%	13.60%
<b>3</b>	28	0%	5.80%	4.30%	3%	2.20%	3%	3.30%	20%	7.10%	4.50%
<b>4</b>	34	0%	4.40%	9.70%	6.10%	2.20%	3%	6.70%	0%	0%	10.60%
<b>5</b>	26	0%	4.40%	9.70%	0%	2.20%	3%	6.70%	0%	0%	3%
<b>6</b>	21	0%	1.30%	6.50%	0%	2.20%	3%	3.30%	0%	10.70%	6.10%
<b>Very acceptable.</b>	20	0%	3.10%	1.10%	9.10%	4.30%	3%	3.30%	0%	7.10%	1.50%

**Q. 32 A physician might recommend procedures, such as in-situ cold perfusion of organs, to be performed AFTER death that will increase the likelihood of being able to successfully recover and transplant the patient's organs.  
How acceptable is it that these procedures might be performed-- AFTER there has been patient and/or family *general* consent to organ donation, but BEFORE there has been *specific* consent to additional procedures?**

**To which professional body do you belong? Please select only 1 choice.:**

	Total	Canadian Anesthesiologists' Society	Canadian Association of Critical Care Nurses	Canadian Association of Emergency Physicians	Canadian Association of Neuroscience Nurses	Canadian Bioethics Society	Canadian Critical Care Society	Canadian Neurological Society	Canadian Neurosurgical Society	National Emergency Nurses Affiliation	Operating Room Nurses of Canada
<b>Total</b>	<b>618</b>	9	226	93	32	46	67	30	5	28	66
<b>Not at all acceptable.</b>	196	44.40%	33.20%	12.90%	50%	41.30%	47.80%	26.70%	20%	21.40%	27.30%
<b>2</b>	47	11.10%	5.30%	8.60%	12.50%	10.90%	4.50%	3.30%	40%	14.30%	7.60%
<b>3</b>	50	22.20%	8.80%	8.60%	6.20%	2.20%	6%	10%	20%	7.10%	9.10%
<b>4</b>	76	0%	15.50%	14%	6.20%	10.90%	6%	13.30%	0%	10.70%	12.10%
<b>5</b>	64	0%	10.60%	11.80%	6.20%	10.90%	11.90%	10%	0%	14.30%	10.60%
<b>6</b>	69	0%	11.90%	8.60%	0%	6.50%	11.90%	23.30%	20%	14.30%	12.10%
<b>Very acceptable.</b>	116	22.20%	14.60%	35.50%	18.80%	17.40%	11.90%	13.30%	0%	17.90%	21.20%

**Q. 33 A physician might recommend procedures, such as in-situ cold perfusion of organs, to be performed AFTER death that will increase the likelihood of being able to successfully recover and transplant the patient's organs.  
How acceptable is it that these procedures might be performed-- AFTER patient and/or family consent to BOTH organ donation and to additional procedures?**

**To which professional body do you belong? Please select only 1 choice.:**

	Total	Canadian Anesthesiologists' Society	Canadian Association of Critical Care Nurses	Canadian Association of Emergency Physicians	Canadian Association of Neuroscience Nurses	Canadian Bioethics Society	Canadian Critical Care Society	Canadian Neurological Society	Canadian Neurosurgical Society	National Emergency Nurses Affiliation	Operating Room Nurses of Canada
<b>Total</b>	<b>614</b>	9	223	93	33	46	68	30	5	26	65
<b>Not at all acceptable.</b>	8	0%	0%	1.10%	3%	0%	5.90%	3.30%	0%	0%	1.50%
<b>2</b>	9	0%	0.40%	0%	9.10%	2.20%	4.40%	0%	0%	0%	0%
<b>3</b>	7	0%	0.40%	0%	3%	0%	4.40%	0%	20%	3.80%	0%
<b>4</b>	17	0%	4.50%	0%	0%	4.30%	4.40%	3.30%	0%	0%	1.50%
<b>5</b>	45	0%	9%	2.20%	6.10%	6.50%	11.80%	13.30%	20%	0%	7.70%
<b>6</b>	67	22.20%	12.10%	7.50%	12.10%	8.70%	8.80%	0%	20%	11.50%	16.90%
<b>Very acceptable.</b>	461	77.80%	73.50%	89.20%	66.70%	78.30%	60.30%	80%	40%	84.60%	72.30%

Q. 34 How acceptable is it that surgical procedures to retrieve organs begin immediately following the declaration of death?:

To which professional body do you belong? Please select only 1 choice.:

	Total	Canadian Anesthesiologists' Society	Canadian Association of Critical Care Nurses	Canadian Association of Emergency Physicians	Canadian Association of Neuroscience Nurses	Canadian Bioethics Society	Canadian Critical Care Society	Canadian Neurological Society	Canadian Neurosurgical Society	National Emergency Nurses Affiliation	Operating Room Nurses of Canada
<b>Total</b>	<b>613</b>	9	223	93	33	46	67	29	5	27	65
<b>Not at all acceptable.</b>	48	0%	6.30%	2.20%	3%	15.20%	17.90%	3.40%	20%	7.40%	7.70%
<b>2</b>	26	0%	4.50%	1.10%	3%	8.70%	6%	3.40%	0%	3.70%	4.60%
<b>3</b>	28	0%	4%	3.20%	12.10%	6.50%	6%	3.40%	0%	3.70%	4.60%
<b>4</b>	52	0%	10.30%	5.40%	15.20%	4.30%	4.50%	10.30%	20%	0%	10.80%
<b>5</b>	82	33.30%	14.30%	9.70%	21.20%	13%	9%	13.80%	0%	14.80%	13.80%
<b>6</b>	99	22.20%	12.60%	21.50%	9.10%	10.90%	17.90%	13.80%	20%	18.50%	23.10%
<b>Very acceptable.</b>	278	44.40%	48%	57%	36.40%	41.30%	38.80%	51.70%	40%	51.90%	35.40%

## **Appendix B: Survey Instrument**



CANADIAN COUNCIL FOR  
DONATION AND TRANSPLANTATION  
CONSEIL CANADIEN POUR  
LE DON ET LA TRANSPLANTATION

## Health Professionals Survey

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The survey concerns the attitudes and beliefs of health professionals related to organ and tissue donation and transplantation, and, in particular, donation after cardiocirculatory death (DCD). The results will be used to formulate advice to the Federal/Provincial/Territorial Conference of Deputy Ministers of Health regarding the potential implementation of DCD in Canada.

We appreciate your participation in this survey. Your responses are anonymous and will be aggregated with the answers of other respondents.

Your consent to this survey will be implied by your participation.

There are 43 questions, which will take about 15 minutes to complete. The survey concludes with a text box for optional final comments.

Survey Page 1



CANADIAN COUNCIL FOR  
DONATION AND TRANSPLANTATION  
CONSEIL CANADIEN POUR  
LE DON ET LA TRANSPLANTATION

## Health Professionals Survey

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1

To which professional body do you belong? Please select only 1 choice.

- Canadian Anesthesiologists' Society
- Canadian Association of Critical Care Nurses
- Canadian Association of Emergency Physicians
- Canadian Association of Neuroscience Nurses
- Canadian Bioethics Society
- Canadian Critical Care Society
- Canadian Neurological Society
- Canadian Neurosurgical Society
- National Emergency Nurses Affiliation
- Operating Room Nurses of Canada

Survey Page 2

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CANADIAN COUNCIL FOR  
DONATION AND TRANSPLANTATION  
CONSEIL CANADIEN POUR  
LE DON ET LA TRANSPLANTATION

**Health Professionals  
Survey**

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GENERAL ATTITUDES AND BELIEFS REGARDING DONATION

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2

How do you feel about organ and tissue donation, that is, people donating their

organs or their tissues after death? Do you?

- Strongly approve.
- Somewhat approve.
- Somewhat disapprove.
- Strongly disapprove.
- Don't know.

---

3

Have you decided to donate your organs and/or tissues at the time of your death?

- Yes, any/all organs or tissues.
- Yes, but only specific organs or tissues.
- No, I am not donating any organs or tissues.
- I have not yet made a decision about this.

---

4

If you have made a decision to donate, have you signed an organ donor card that gives permission for organs and/or tissues to be donated after death?

- Yes, I have signed.
- No, but I am planning to sign.
- No, I am still thinking about whether to sign.
- No, I will not sign.





CANADIAN COUNCIL FOR  
DONATION AND TRANSPLANTATION  
CONSEIL CANADIEN POUR  
LE DON ET LA TRANSPLANTATION

**Health Professionals  
Survey**

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5

Are you aware of an organ or tissue registry in your province?

- Yes
- No
- There isn't one.

---

6

If yes, have you put your name on a registry that gives permission for your organs and tissues to be used after death?

Survey Page 4



CANADIAN COUNCIL FOR  
DONATION AND TRANSPLANTATION  
CONSEIL CANADIEN POUR  
LE DON ET LA TRANSPLANTATION

**Health Professionals  
Survey**

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Please indicate if you think each of the following statements is definitely true, probably true, probably not true or definitely not true.

---

7

Anyone at any age can become an organ and tissue donor.

- Definitely true.
- Probably true.
- Probably not true.
- Definitely not true.
- Don't know.

---

8

Doctors are committed to providing high quality care to dying patients and their families.

- Definitely true.
- Probably true.
- Probably not true.
- Definitely not true.
- Don't know.

---

9

Rich people who need organ and tissue transplants are more likely to receive them in this country's hospitals than are poorer people who need transplants.

- Definitely true.
- Probably true.
- Probably not true.

- Definitely not true.
- Don't know.

---

10

The organ and tissue donation process could exploit people of colour, First Nations or other minority groups.

- Definitely true.
- Probably true.
- Probably not true.
- Definitely not true.
- Don't know.

---

11

Doctors may prematurely declare a person to be dead in order to get potential organ and tissue donations.

- Definitely true.
- Probably true.
- Probably not true.
- Definitely not true.
- Don't know.



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NEED FOR ORGAN AND TISSUE DONATIONS

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12

As far as you know, is there a need for more organ and tissue donations in Canada?

- A great need.
- Some need.
- Little need.
- No need at all.
- Don't know.

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FAMILY / LEGAL CONSIDERATIONS REGARDING DONATION

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13

If you have made a decision either to donate or not to donate, have you discussed this decision with the person who would act on your behalf in the event of a medical emergency?

YES  NO

---

14

How confident are you that your views and intentions with regard to organ and tissue donation after death will be respected?

- Very confident.
- Somewhat confident.
- Somewhat not confident.
- Not at all confident.
- Don't know.

---

15

What happens in a situation where someone has signed a donor card or registered with an organ and tissue donation registry, but his/her family does not wish any donation to take place?

- The wishes of the deceased person who has signed a donor card or registered with a donation registry are followed.
- The wishes of the family or next-of-kin who oppose the donation are followed.
- Don't know.
- Other; please specify:

---

16

In your opinion, what should happen?

- The wishes of the deceased person who has signed the donor card or registered with the donation registry are followed.
- The wishes of the family or next-of-kin who oppose the donation are followed.
- Don't know.
- Other; please specify:

---

In some countries when a person dies, that person's organs and tissues, if considered suitable, are donated unless that person has specifically indicated that he/she does NOT want donation to occur (also known as presumed consent). In Canada, a person or his/her family members must specifically agree to donation before it will take place.

---

17

Do you oppose or support the laws and regulations in Canada being changed so that organ and tissue donation occurs unless a person specifies otherwise?

- Strongly oppose.
- Somewhat oppose.
- Somewhat support.
- Strongly support.
- Don't know.



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## DONATION AFTER CARDIOCIRCULATORY DEATH (DCD)

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In Canada, physicians can declare death in one of two ways – after brain death (neurological determination of death) or after the heart has stopped (cardiac death).

Sometimes patients might not be brain dead, but they cannot survive their injuries or illness. They are usually on life-support and, in these circumstances, families and physicians might agree to withdraw life-support. The patients then die from a cardiac death because the heart stops. Sometimes patients or their families ask about donating organs after life-support has been removed.

This is called donation after cardiac death (DCD), also known as non-heart-beating donation.

---

**18**

Prior to participating in this survey, would you say you were familiar with DCD?

- Very familiar.
- Somewhat familiar.
- Not very familiar.
- Not at all familiar.



Assuming that patients and/or their families have given consent, how acceptable is organ and tissue donation in each of the following situations?

**19**

After neurological determination of death (brain death).

Not at all acceptable.							Very acceptable.
<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>	<b>5</b>	<b>6</b>	<b>7</b>	

**20**

After cardiocirculatory death following withdrawal of life-support.

Not at all acceptable.							Very acceptable.
<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>	<b>5</b>	<b>6</b>	<b>7</b>	

**21**

After cardiocirculatory death following unsuccessful attempts at resuscitation.

Not at all acceptable.							Very acceptable.
<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>	<b>5</b>	<b>6</b>	<b>7</b>	





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How confident are you in the accuracy of the declaration of death in each of the following?

22

Neurological determination of death (brain death).

Not at all confident.							Very confident.
1	2	3	4	5	6	7	

23

Cardiocirculatory death following the withdrawal of life-support.

Not at all confident.							Very confident.
1	2	3	4	5	6	7	

24

Cardiocirculatory death following unsuccessful attempts at resuscitation.

Not at all confident.							Very confident.
1	2	3	4	5	6	7	



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DCD: CONSENT AND INTERVENTIONS BEFORE DEATH

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Please think of a situation in which a patient is on life-support with no realistic chance of recovery. The family has agreed to the withdrawal of life-support.

A physician might recommend medical procedures, such as preparation for vessel cannulation, to be performed BEFORE death to increase the likelihood of being able to successfully recover and transplant the patient's organs.

In your opinion, how acceptable is it that these procedures might be performed--

---

**25**

BEFORE there has been patient and/or family general consent to organ donation?

Not at all acceptable.							Very acceptable.	
1	2	3	4	5	6	7		

---

**26**

AFTER there has been patient and/or family general consent to organ donation, but BEFORE there has been specific consent to additional procedures?

---

Not at all  
acceptable.

Very  
acceptable.

1 2 3 4 5 6 7

27

AFTER patient and/or family consent to BOTH organ donation and to additional procedures?

Not at all  
acceptable.

Very  
acceptable.

1 2 3 4 5 6 7

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Remember the same situation in which a patient is on life-support with no realistic chance of recovery. The family has agreed to the withdrawal of life-support.

A physician might recommend medications, such as anticoagulants, to be administered BEFORE death to help maintain a patient's organs for transplantation. These medications will not benefit the patient directly and might have a small risk of causing harm.

How acceptable is it that these medications might be administered--

28

BEFORE there has been patient and/or family general consent to organ donation?

Not at all  
acceptable.

Very  
acceptable.

1 2 3 4 5 6 7

29

AFTER there has been patient and/or family general consent to organ donation, but BEFORE there has been specific consent to additional medications?

Not at all  
acceptable.

Very  
acceptable.

1 2 3 4 5 6 7

30

AFTER patient and/or family consent to BOTH organ donation and to additional medications?

Not at all  
acceptable.

Very  
acceptable.

1 2 3 4 5 6 7

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DCD: CONSENT AND INTERVENTIONS AFTER DEATH

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Use the same scenario in which a patient is on life-support with no realistic chance of recovery. The family has agreed to the withdrawal of life-support.

A physician might recommend procedures, such as in-situ cold perfusion of organs, to be performed AFTER death that will increase the likelihood of being able to successfully recover and transplant the patient's organs.

How acceptable is it that these procedures might be performed--

---

**31**

BEFORE there has been patient and/or family general consent to organ donation?

Not at all acceptable.						Very acceptable.
1	2	3	4	5	6	7

---

**32**

AFTER there has been patient and/or family general consent to organ donation, but BEFORE there has been specific consent to additional procedures?

Not at all acceptable.						Very acceptable.
1	2	3	4	5	6	7

---

**33**

AFTER patient and/or family consent to BOTH organ donation and to additional procedures?

Not at all acceptable.						Very acceptable.
1	2	3	4	5	6	7



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DCD: HOSPITAL PROCEDURES

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Please consider the following scenario where consent has been given for DCD and cardiac arrest has occurred. The declaration of death has been made following a 5-minute period of observation during which at least 1 physician has continuously observed the absence of palpable pulses, blood pressure and respiration.

---

**34**

How acceptable is it that surgical procedures to retrieve organs begin immediately following the declaration of death?

Not at all acceptable.	Very acceptable.
<input type="radio"/>	<input type="radio"/>
<input type="radio"/>	<input type="radio"/>
<input type="radio"/>	<input type="radio"/>
<input type="radio"/>	<input type="radio"/>
<input type="radio"/>	<input type="radio"/>
<input type="radio"/>	<input type="radio"/>



---

DCD: ETHICAL STANDARDS AND PRACTICES

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In the case of DCD, how confident are you that--

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**35**

Strict standards will be put into place to guide all practices related to DCD and to ensure ethical conduct regarding DCD?

- Very confident.
- Somewhat confident.
- Not very confident.
- Not at all confident.
- Don't know.

---

**36**

Health care professionals will follow these ethical standards or practices?

- Very confident.
- Somewhat confident.
- Not very confident.
- Not at all confident.
- Don't know.

---

37

Health care professionals would be motivated by the best interests of the dying patient and not the possibility of organ donation?

- Very confident.
- Somewhat confident.
- Not very confident.
- Not at all confident.
- Don't know.

---

38

That the process of providing optimal end-of-life care would not be affected by the organ and tissue donation process?

- Very confident.
- Somewhat confident.
- Not very confident.
- Not at all confident.
- Don't know.

---

39

A patient's dignity will be recognized at the time of death when organ and/or tissue donation follows?

- Very confident.
- Somewhat confident.
- Not very confident.
- Not at all confident.
- Don't know.





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### CONCLUSION

40

If Canadian hospitals started a program offering DCD, how comfortable would you be with that decision?

- Very comfortable.
- Somewhat comfortable.
- Not very comfortable.
- Not at all comfortable.
- Don't know.

41

If Canadian hospitals decided not to offer DCD, how comfortable would you be with that decision?

- Very comfortable.
- Somewhat comfortable.
- Not very comfortable.

- Not at all comfortable.
- Don't know.



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42

Which of the following do you think would be useful in diagnosing cardiocirculatory death for the purposes of DCD? Please select a maximum of 3 choices.

- A legislated medical definition of cardiocirculatory death.
- A medical definition of cardiocirculatory death that is standardized across Canada.
- A checklist of elements that constitute cardiocirculatory death.
- A process to report the incidence of cardiocirculatory death.
- Seminars or training sessions addressing how to diagnose cardiocirculatory death.
- A written policy, guideline or document for the purposes of DCD.
- Other: please specify:

43

What do you think would be the best ways to increase understanding and support

for DCD among health care professionals? Please select a maximum of 3 choices.

- Annual refresher course.
- Brochures.
- E-mail list serve for updates/questions.
- Hospital donation committee.
- How-to booklet/guide.
- Lectures/presentations.
- Newsletters.
- On-line message boards.
- Pocket reference cards.
- Sample DCD policies.
- Self-study booklet with post test.
- Testimonials (e.g., donor families, hospital staff).
- Videotapes.
- Web-based learning.
- Other; please specify:

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Optional final comments:

