Law Reform Commission of Canada
Commission de réforme du droit du Canada

REPORT

criteria for the determination of death

15

Canada

REPORT 15

CRITERIA FOR THE DETERMINATION OF DEATH

Available by mail free of charge from:

Law Reform Commission of Canada
130 Albert St., 7th Floor
Ottawa, Canada K1A 0L6
or
Suite 2180
Place du Canada
Montreal, Quebec
H3B 2N2

Catalogue No. J31-33/1981
ISBN 0-662-51265-0

Reprint 1982, 1983, 1984, 1985

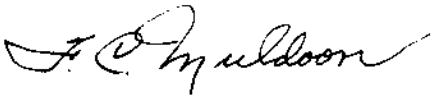
March, 1981

The Honourable Jean Chrétien, P.C., M.P.,
Minister of Justice
and Attorney General of Canada,
Ottawa, Canada.

Dear Mr. Minister:

In accordance with the provisions of section 16 of the *Law Reform Commission Act*, we have the honour to submit herewith the report with our recommendations on the studies undertaken by the Commission on the criteria for the determination of death.

Yours respectfully,



Francis C. Muldoon, Q.C.
President

Mr. Justice Jacques Ducros
Vice-President

Judge Edward James Houston
Commissioner

REPORT

ON THE CRITERIA

FOR THE DETERMINATION

OF DEATH

Commission

Francis C. Muldoon, Q.C., President
Mr. Justice Jacques Ducros, Vice-President
Judge Edward James Houston, Commissioner

Secretary

Jean Côté

Co-ordinator of the Protection of Life Project

Edward W. Keyserlingk

Special Consultant

Jean-Louis Baudouin, Q.C.

Table of Contents

Foreword

The present document is the Law Reform Commission's fifteenth Report to the Canadian Parliament. It is the first Report of the Protection of Life Project which began in 1976.

This Report is based on Working Paper No. 23 entitled *Criteria for the Determination of Death* published early in 1979 which was widely distributed and received a very positive, even enthusiastic reaction in Canada and elsewhere in the world. Numerous scientific and legal groups were officially consulted on this reform project by the Commission, more particularly so during the last two years.

Moreover, the opinion of a great number of persons in Canada and abroad has also been sought and many people and groups spontaneously communicated their point of view to the Commission.

The Appendix contains a list of these groups and individuals. The Commission apologizes in advance to those whose names could have been omitted due to the large number of persons who were consulted and who gave their opinion on the proposed reform.

They have all earned the sincere gratitude of the Commission.

Introduction

Consultations held by the Law Reform Commission confirmed that the criteria for the determination of death represent a very real and practical problem faced almost every day by many practising physicians and hospital personnel.

These consultations also revealed that a very large proportion of the Canadian public would like to see removed the present ambiguity arising from the apparent contradiction between the classical signs of death (cessation of cardiac and respiratory functions), and the neurological signs (irreversible cessation of all brain functions).

In its Working Paper No. 23, the Commission asked two particular questions:

- Is a legislative intervention, establishing the general criteria for determination of death advisable in the present circumstances?
- If so, is the definition proposed by the Commission in its preliminary recommendations, socially, medically and legally acceptable?

These final recommendations of the Commission to the Parliament of Canada are the Commission's response to those two questions.

FIRST PART

THE ADVISABILITY

OF A

LEGISLATIVE SOLUTION

Three Solutions

In its Working Paper No. 23, the Commission set out three possible solutions to the problem:

(1) Treating the time and criteria of death as a purely medical problem, and leaving their determination to the exclusive jurisdiction of the medical profession.

(2) Leaving to the case law the task of gradually developing coherent criteria as to time and determination of death.

(3) Proceeding directly by way of legislation to define the criteria of death, and apply them in the adjudication of individual cases.

I. Determination by a purely medical decision

The main argument in support of this first alternative is the fear that the case law or legislative approaches would transform what is fundamentally a medical reality (the death of a human being) into a legal one, and thus create a risk of impeding the progress and development of medical science.

Some fear that the "legalization" of death through normative legal criteria, could restrain the desirable evolutionary process of medical science and unduly complicate medical practice. This understandable concern is based on a misconception and exaggeration of the role and dangers of legal intervention.

Neither case law nor legislation necessarily intend to determine the procedures and scientific standards that physicians should follow to diagnose death.

Neither courts nor legislators have the scientific expertise to fix once and for all those scientific procedures and standards, and impose them on medicine. To do so would in fact have disastrous results. It would constitute an unacceptable disruption of the normal evolutionary process of science and medicine.

This first approach, as noted by one of our medical consultants, is both unreasonable and unrealistic. Unreasonable, because although the diagnosis and finding of death are essentially medical problems, their consequences may create a legal or even more seriously, a social concern. Both the public at large and the medical profession should be able to look to the law for at least a *general indication* of the possible criteria.

Unrealistic, because it is incorrect to believe that if the determination of death should remain a strictly medical decision, legal problems would not arise and that therefore there is no merit in having general legal criteria.

Once again the ambiguity surrounding the respective roles and realms of law and medicine must be cleared up. While medical science should, in each particular case, determine and ultimately diagnose death, law on the other hand, as a general norm of social conduct, can at least recognize the legality and legitimacy of diagnostic criteria based on the absence of brain functions.

II. Determination by judicial precedent

The second alternative is to leave to the courts, through the accumulation of individual cases, the task of fixing these criteria. According to that approach, case law would create norms, as the need arises in particular cases, without even general guidance from the legislator.

The consultations held by the Commission in this respect were particularly interesting and revealing.

Medical professionals and hospital personnel were almost unanimously opposed to this case law solution and for two main reasons. First, it was argued that this solution achieves nothing else than the perpetuation of the present state of uncertainty surrounding both the concept of death and the basic principles of its determination. Physicians stated that they were hoping *at least* for a general norm even though they clearly understood that in cases of judicial dispute, particular applications of this norm to individual cases should be left for the courts to decide.

Second, it was stated that a judicial debate in a courtroom is not the proper forum for a scientific discussion of the problem of criteria of death objectively detached from the contingencies of the particular case at hand. The standards should be determined in a scientific and unemotional way. A "test case" should not be necessary to the progress and development of the law on the matter.

The reaction of lawyers to this second solution was more divided. They all recognized with the Commission that creation of law by means of judicial interpretation provides a great deal of flexibility. They also acknowledged that courts would still play an important role even if a legislative norm was adopted for they would have the task of applying it to particular cases. A flexible norm should leave considerable creativity to the courts.

The majority of lawyers, on the other hand, clearly admitted that the only fear of a legislated solution as opposed to a jurisprudential one, rested in the danger of lack of flexibility that would prevent adapting the law to changing circumstances. However, it became quite clear that a very large majority of them endorsed the legislative solution, as soon as they were convinced that the proposed legislation would in fact be sufficiently flexible.

III. Determination by legislation

Opposition to a legislative option was particularly strong at the end of the 1960's and the beginning of the 1970's. At that time, physicians were faced with the rapid expansion of transplant operations. They believed quite rightly that the question was not yet ready for legislative action. In the context of this period, the Commission believes that this apprehension was perfectly justified. Groups like the Canadian Medical Association were understandably suspicious of any hasty legislation on the subject.

Circumstances have changed. Medical science since the late 1960's has developed an impressive series of precise and dependable scientific criteria for determination of death, of which those of the Harvard school were the first. Moreover, the public and medical science now accept the proposition that total disappearance of all brain functions is equivalent to the death of a person. Finally, a good number of jurisdictions have experienced legislation on the subject and none of them has had the effect of eliminating medical judgment. On the contrary, their experience shows that law and medicine are able to work together in harmony. The truth of the matter is that legislative intervention has had a positive result and has certainly not been prejudicial to the development of medical science as had been previously feared.

It is not surprising that in 1981 the legislative solution has met with increasing support and now represents the majority view, with only little and isolated opposition. In 1980, the Canadian Medical Association, reconsidered its previous opposition and endorsed the legislative solution and the particular formulation proposed by this Commission.

Many other professional groups as well have endorsed the Commission's proposed legislative formulation with no or few reservations. Amongst them are the Canadian Neurological

Society, the Canadian Neurosurgical Society, the Association for French Speaking Physicians of Canada, the Canadian Nurses Association, the Corporation professionnelle des médecins du Québec, the Alberta Medical Association, the Manitoba Medical Society, the Prince Edward Island Medical Society, and the British Columbia Medical Association.

Considerable support for a legislative solution is found amongst all the groups consulted by the Commission. Lawyers, general practitioners and medical specialists, hospital administrators and personnel, nurses, philosophers and spokesmen for religious and church groups, all support a legislative solution of the type proposed by the Commission in its Working Paper, and consonant with the necessary objectives set forth by the Commission.*

The Commission, thanks to the close cooperation of the magazine *Canadian Doctor*, was in a position to verify this agreement statistically, at least as regards physicians, by means of a survey of readers of that journal throughout Canada.

This inquiry** revealed that 89% of those who answered the questionnaire agreed with the proposition that the legislator should intervene to determine the criteria of death.

The reason most often invoked by the remaining 11% who disagreed with this proposition, was that, in certain cases, necessary expertise to determine brain death would not be readily available. It is moreover interesting to note that only 10% of this minority group of 11% gave, as a reason for their choice, that they preferred a purely medical solution.

---

* Amongst these groups and in addition to those already cited, are: the Bar of the Province of Quebec, the Manitoba Medico-Legal Society, the St. Joseph's General Hospital (North Bay, Ontario), the Task Force on Human Life of the Episcopal Church of Canada, the Studies and Statements Committee of the Board of Congregational Life of the Presbytarian Church in Canada.

** *Canadian Doctor*, June 1980, pp. 38 and f.

It may be useful to restate here the necessary objectives enumerated by the Commission in its Working Paper No. 23.

(1) *The proposed legislation must avoid arbitrariness and give greater guidance to doctors, lawyers and the public, while remaining flexible enough to adapt to medical changes.*

(2) *The proposed legislation must not attempt to solve all the problems created by death, but only the problem of establishing criteria for its determination.*

(3) *The one proposed piece of legislation must apply equally in all circumstances where a determination of death is at issue.*

(4) *The proposed legislation must recognize only the standards and criteria of death; it must not define the medical procedure to be used, nor the instruments or procedures by which death is to be determined.*

(5) *The proposed legislation must recognize standards and criteria generally accepted by the Canadian public.*

(6) *To remain faithful to the popular concept, the proposed legislation must recognize that death is the death of an individual person, not of an organ or cells.*

(7) *The proposed legislation must not in practice lead to wrong or unacceptable situations.*

(8) *The proposed legislation must not determine the criteria of death by reference only or mainly to the practice of organ transplantation.*

The Commission recommends that:

(1) the Parliament of Canada establish the criteria for the determination of death by a legislative text in accordance with the herein above-mentioned conditions.

SECOND PART

THE PROPOSED LEGISLATION

I. The legislative text

In Working Paper No. 23, the Commission tentatively recommended the adoption of the following by the Canadian Parliament:

(1) *A person is dead when an irreversible cessation of all that person's brain functions has occurred.*

(2) *The cessation of brain functions can be determined by the prolonged absence of spontaneous cardiac and respiratory functions.*

(3) *When the determination of the absence of cardiac and respiratory functions is made impossible by the use of artificial means of support, the cessation of the brain functions may be determined by any means recognized by the ordinary standards of current medical practice.*

The Commission received a considerable number of comments, criticisms and suggestions from individuals, groups, and organizations in Canada and abroad. It is particularly important to deal with them in some detail.

A. *Cerebral death and brain death*

The first criticism made by at least two of our consultants is of a very substantial nature. Both felt that the Commission had not gone far enough and should have adopted cerebral death (the irreversible cessation of neocortical functions) rather than brain death (the irreversible cessation of all brain functions). The cortex is the centre of relational life. If and when destroyed a person can never hope to regain consciousness. Why not then consider this person dead for all legal purposes?

If one accepts the stated premise, then from a strictly logical standpoint, the criticism is perfectly justified. If death is tied to the absence of possible future relational life, the destruction of the centre of this relational life, that is, the cortex, would correspond to the cessation of human life.

Quite apart from the on-going philosophical debate about whether cerebral death (alone) really *is* human death, equating death with cerebral death also raises a social and practical problem. In the opinion of the Commission, many members of the public and many professionals are definitely not prepared to consider as dead a person whose cortex is irreversibly destroyed, but who still enjoys spontaneous cardiac and respiratory functions. The Karen Quinlan case in the United States appears to be a good illustration of that point. From a practical point of view, legal recognition of cerebral death would create a thorny problem concerning the duty of care by physicians. Should a cerebrally dead person, still having autonomous breathing, continue to be medically treated? When does the medical duty of care cease?

For all these reasons, the Commission thinks that in the present state of societal and medical evolution, it would at best be premature to propose criteria for determination of death based only on cerebral death.

B. *Cerebral functions and cerebral activities*

The second criticism is also of fundamental importance. Several of our consultants have indicated a preference for the use of the words "*brain activities*" rather than "*brain functions*" in the proposed definition. Since cessation of brain activities causes cessation of brain functions, death, it is argued, should be diagnosed by reference to the interruption of the activities themselves.

The point raised here is crucial. The Commission used the term "*brain functions*" deliberately in the proposed legislation in its Working Paper. However, the Working Paper may not have adequately explained the reason for this choice.

The first paragraph of the proposed text refers to:

. . . the irreversible cessation of *all* brain *functions*. . .

The reason why the Commission preferred the term "functions" to the term "activities" is the following. It is scientifically possible, even where the brain is hopelessly destroyed, to monitor by using very sensitive devices residual electrical "activities" in the nervous system, and more particularly some meaningless signs at the level of the brain-stem and spinal cord. These are of no significance in relation to possible recovery of consciousness. In other words, "brain *activities*" can continue to exist without any "brain *functions*". The Commission did not wish to prevent diagnosis of death, only because there could still exist some of these measurable "*activities*" that are not symptoms of real "*function*".

The presence of residual electrical activities in the brain-stem would not prevent a person from being declared dead if these activities bear no relation to brain functions.

For these reasons, the Commission prefers to retain the word "functions" and not to substitute for it the word "activities". On the same topic, we have incorporated the unanimous suggestion of our French-speaking consultants and used the expression "fonctions cérébrales" and not "fonctions du cerveau" in the French text.

C. *The importance of the second and third paragraphs*

Some of our consultants have argued that paragraphs (2) and (3) of the proposed definition add nothing further to paragraph one as it stands. Paragraphs (2) and (3), they say, only

provide a further explanation or a logical deduction of the rule established in the first paragraph.

The Commission recognizes the validity of this criticism and in fact agrees with it. A similar criticism had already been made of the first draft of the proposed definition of the Manitoba Law Reform Commission, and as a result of it that Commission reduced its proposal to a single paragraph.

However, a number of arguments can be invoked in support of retaining paragraphs (2) and (3). First, as a number of persons observed, it may be advisable at this particular time, for the legislator to be quite explicit and not to leave the reader guessing as to the practical effects of the rule set down in paragraph one. The concrete problem being responded to is that of patients whose respiratory function is being artificially maintained. It is probably preferable then to state clearly what a physician can or must do in that case, rather than to let him infer his conduct from a logical and formal analysis of the first paragraph, even though the solution expressed by paragraphs (2) and (3) certainly can be arrived at by the interpretation of that paragraph alone.

Second, legislation ought not to be drafted only for lawyers but for all citizens. The ordinary citizen should, if possible, be in a position to understand the law without having to go through a deductive process from broad general principles. Retaining paragraphs (2) and (3) makes the understanding of the text and the intention behind it, clearer for the non-specialist.

After much thought, and only for these reasons, the Commission believes that paragraphs (2) and (3) of the proposed text should be retained.

D. *Possible changes to the first paragraph*

A number of changes as to the form and substance of the first paragraph have been suggested by some of our consultants.

It was suggested, for instance, that the first paragraph should read:

> A person is dead when an irreversible cessation of all that person's brain activities has occurred.

This suggestion argues in favour of substituting the term "activities" for the term "functions". For reasons already explained above, the Commission believes that the term "functions" in this context is more accurate than "activities".

Others have suggested that the word "*all*" (in the expression ". . . all that person's brain activities") be deleted. A number of physicians noted that even where total brain death has occurred, one can still trace in certain cases residual electrical activities in the brain-stem.

The Commission believes however that in such a case, the suggested wording would prevent that person from being declared dead. The text does not impose a total absence of *all residual activities*, but only a cessation of all brain *functions*.

E. *Possible changes to the second paragraph*

Many interesting and relevant suggestions were made concerning the second paragraph.

It was suggested that it might be useful in both the second and third paragraphs, to add the word "irreversible" to cessation, in a way similar to that of the first paragraph.

Though this addition lengthens the text, the Commission endorses this recommendation for reasons of clarity. It has the advantage of demonstrating clearly that the cessation of brain functions referred to in paragraphs (2) and (3) is the same as

the one mentioned in paragraph (1), i.e., cessation that is irreversible.

Another of our consultants argued for the deletion of the word "*can*", maintaining that its use implied that the determination of death could also be made by other means.

The Commission, on the contrary, believes that the word "can" must be kept. Its meaning in the second paragraph should be viewed by reference to the first paragraph. Once the general principle set down in paragraph (1) is recognized then death "can" be determined in one of two ways, according to the rule of paragraph (2) when no artificial means of support are being used, or according to the rule of paragraph (3), when such means are being used.

Finally, it was also suggested that the word ". . . prolonged . . ." be deleted from the expression, ". . . *prolonged absence of spontaneous cardiac and respiratory functions*".

We agree that this term does not add much. Yet there is a distinct purpose in its use: to prevent certain members of the public from thinking that a brief cessation of these functions (such as one following a fit or heart failure), could ever be sufficient, by itself, to establish an irreversible cessation of brain function. Irreversibility is apparent medically and physiologically only after a certain lapse of time. This is precisely the idea that the text hopes to express by using the expression "*prolonged absence*".

F. *Possible changes to the third paragraph*

The third paragraph has raised a great deal of discussion both as to form and substance amongst lawyers and physicians.

From a substantive point of view, two important recommendations were made.

The first comes from the representatives of the Bar of one of the provinces. They recommended adding to the third paragraph a rule whereby, when artificial means of support are used, determination of death must be made by *two physicians*. This suggestion is not without precedent. Australia, California and Virginia have incorporated it in their respective legislation.

The Commission gave this suggestion thorough consideration. It finally decided not to adopt it for the following reasons. First, from a practical standpoint, if artificial means of support are involved, the patient is necessarily in a hospital and thus probably surrounded by a medical team. In such a case, even if the final decision may be taken by one individual doctor, it is probably the result of a collective decision-making process of all the specialists involved. Second, it is particularly difficult for federal legislation to impose this condition. The problem is one of control over medical practice, which is much more directly related to provincial law than to federal law, whether criminal or other. Finally, as the Commission has already emphasized, it is not opportune to legislate on the *diagnostic procedures themselves*. To order by legislation the presence of a second doctor would go directly against this principle.

A second problem was raised by several medical specialists. They pointed out a scientific inaccuracy in the third paragraph. The proposed text states that death can be determined by any means recognized by ordinary standards of current medical practice when the presence of cardiac and respiratory functions, due to the use of artificial means of support, makes it impossible to apply the rule set down in paragraph (2) (prolonged absence of spontaneous cardiac and respiratory functions).

Total cessation of brain functions does not, it was pointed out to us by these physicians, *necessarily* bring about a cessation of the cardiac function, at least, as long as the respiratory function is artificially maintained.

One of our correspondents wrote the following on this subject:

> I think this recommendation is based upon the fallacy that the heart beat depends upon the brain. This is simply not so.
>
> The point is that the heart beat is autonomous, is intrinsic to the heart, does not depend on the brain, and its absence cannot be employed either in theory or in practice, as a criterion of irreversible cessation of all brain function.

Further consultation by the Commission confirmed this scientific observation.

The Commission decided to omit from the third paragraph, any reference to cardiac functions, thus recognizing the fact that the mechanism of support that makes determination of brain death impossible according to the terms of paragraph (2) is, indeed, the artificial support of the respiratory function.

The preferable solution then is to substitute the words "*circulatory function*" for "*cardiac function*". Diagnosis is not then tied to the functioning of an organ (the heart), but rather to the existence of a *vital function, as a whole*. The second paragraph has also been amended accordingly for the same reasons.

From the point of view of form, many useful suggestions were made.

First, it was suggested that the words "prolonged" and "spontaneous" also be used in the third paragraph, so as to emphasize the relationship between this paragraph and the first paragraph.

The Commission agrees with this suggestion which does not alter the substance of the text, but makes it more precise and more intelligible to a non-specialist.

Finally, in its Working Paper, the Commission had recommended that the Government of Canada enter into agreements with provincial authorities to ensure uniformity throughout the

country. The proposed text is already perfectly compatible with the present law of Manitoba and with the recent proposal of the Saskatchewan Law Reform Commission contained in its Working Paper entitled, *Tentative Proposals for a Definition of Death Act*.

The Commission believes, however, that it would not be advisable for the Canadian Parliament to further postpone a reform which is desired and expected by a large number of physicians, hospital personnel, lawyers and by the public in general.

II. The location of the proposed text in the present legislation

The Commission, while drafting the present Report examined the question of where in present federal legislation the proposed text could be placed. Four possibilities merit consideration.

The first option is to put the text in the *Criminal Code*, for instance in section 1 which contains a list of applicable definitions. From a practical point of view this alternative creates insuperable difficulties. The proposed text must have a universal and general application to the whole body of federal law, and cannot be restricted only to criminal law.

The second possibility is to incorporate the proposed text into the *Canada Evidence Act*. The obvious problem there is that the proposed rule is not a simple rule of evidence and would not apply only in cases of contentious matters before criminal and civil courts.

The third option is to place it in a specific piece of legislation. This has already been done for instance in the

United States. This option is perfectly practicable. Is it really necessary, however, to enact a new piece of legislation, only for the purpose of enacting a rule of a few lines? The Commission is inclined to answer in the negative for purely practical reasons.

Finally, this last possibility was selected by the Commission, namely to proceed by way of amendment to the *Interpretation Act*, known as Chapter I-23 of the Revised Statutes of Canada 1970.

This Act applies to federal law as a whole. The only possible difficulty, is a technical one. Subsection 3(1) of the Act states that every provision of the Act ". . . extends and applies . . . to every *enactment* . . .". In the present context the problem is not simply to define the word "death" or to give it a particular meaning when used in a given piece of legislation. It is to recognize general criteria of brain death, and the general methods of its diagnosis.

To obviate this apparent difficulty the Commission proposes, instead of incorporating the proposed text under section 28 under the heading "death", that a specific new section be created which could bear the number 28A. This new section would have universal application and would contain the following introduction:

> For all purposes within the jurisdiction of the Parliament of Canada . . .

Then the recommendation itself would follow:

The Commission recommends that:

(2) the Parliament of Canada adopt the following amendment to the *Interpretation Act*, R.S.C. 1970, c. I-23.

Section 28A — Criteria of Death

For all purposes within the jurisdiction of the Parliament of Canada,

(1) a person is dead when an irreversible cessation of all that person's brain functions has occurred.

(2) the irreversible cessation of brain functions can be determined by the prolonged absence of spontaneous circulatory and respiratory functions.

(3) when the determination of the prolonged absence of spontaneous circulatory and respiratory functions is made impossible by the use of artificial means of support, the irreversible cessation of brain functions can be determined by any means recognized by the ordinary standards of current medical practice.

THIRD PART

LEGISLATIVE NOTES

Interpretation Act

DRAFT LEGISLATION	*EXPLANATORY NOTES*
Section 28A	*Section 28A*
For all purposes within the jurisdiction of the Parliament of Canada,	*This short preamble to the proposed text is made necessary by the legislative limit found in subsection 3(1) of the* Interpretation Act *which limits the scope of the text to any . . .* "enactment". *The purpose of the reform is not simply to define the word* "death" *when used in a given piece of legislation but rather to establish a series of criteria for determination of the phenomenon itself. These criteria must be applicable to the whole field of federal LAW.*
(1) a person is dead when an irreversible cessation of all that person's brain functions has occurred.	*This first subsection sets out the general rule that a person is dead as soon as there exists an irreversible cessation of all that person's brain functions. The words "all that person's brain functions" have been used to show clearly that the law recognizes only* brain *death and not simple* cerebral *death (destruction of the cortex).*

The text also insists on the character of irreversibility, thus recognizing scientific data. Cells of the nervous system are the only cells in the human body that are incapable of self-regeneration when irreparably damaged.

Finally, the text purposely uses the expression "brain functions" *instead of* "brain activities". *The evidence of traces of certain residual electrical activities in the brain-stem or spinal cord should not prevent a diagnosis of brain death because these signs have no real relation to a brain* function.

The time of death, for legal purposes, is the time where the diagnosis is made for the first time.

(2) the irreversible cessation of brain functions can be determined by the prolonged absence of spontaneous circulatory and respiratory functions.

The second paragraph does not really add a new rule to the first one from a substantive point of view. It was designed only as a further explanation. One of the signs of brain death (probably the most frequent and common one) is the prolonged absence of spontaneous circulatory and respiratory functions.

Necrosis of the tissues and cells starts when oxygen carried through the blood by the lungs no longer reaches them. The lack of oxygenation of the nervous system cells, which are not capable of self-regeneration, provokes death as defined by the first paragraph, after a certain period of time.

The word "prolonged" has been used to clearly emphasize the time relation, that exists between death and the cessation of these two functions.

(3) when the determination of the prolonged absence of spontaneous circulatory and respiratory functions is made impossible by the use of artificial means of support, the irreversible cessation of brain functions can be determined by any means recognized by the ordinary standards of current medical practice.

The third paragraph, as is the case with the second one, does not actually create a new rule. Its purpose is again to make explicit the consequences and practical effects of the rule set out in paragraph one, where circulatory and respiratory functions are artificially maintained.

This situation is common today in our hospitals. This paragraph allows death to be determined by signs other than the cessation of respiratory and circulatory functions when those functions are being artificially maintained by technological means.

The proposed text does not enumerate specific procedures (electroencephalography, angiography, arteriography, etc . . .) to be followed in that case. It only refers to the means recognized by the ordinary standards of current medical practice.

In other words, the proposed text only determines a standard of excellence. Medicine will in turn determine the content of this standard which will quite naturally vary from one period to the other, according to the evolution of science and medicine. In this way legislative intervention will not prevent scientific progress.

Appendix

Consultations

Groups

- Alberta Medical Association
- Anglican Task Force on Human Life, Anglican Church of Canada
- Association for French Speaking Physicians of Canada
- Barreau de la Province de Québec, Sous-commission sur le droit des personnes
- British Columbia Civil Liberties Association
- British Columbia Medical Association
- Canadian Bar Association, Committee on Health Law
- Canadian Hospital Association
- The Canadian Medical Association
- The Canadian Neurological Society
- The Canadian Neurosurgical Society
- Canadian Nurses Association
- Catholic Health Association of Canada
- Children's Hospital of Eastern Ontario
- The Church Council on Justice and Corrections
- Commission des droits de la personne de la Province de Québec
- Corporation professionnelle des médecins du Québec
- Fruitland Christian Reformed Church
- Institute for Research on Contemporary Interpretations of Man
- The Joseph and Rose Kennedy Institute of Ethics, Georgetown University, Washington, D.C.

- Manitoba Medical Society
- Manitoba Medico-Legal Society
- The Medical Society of Nova Scotia
- New Brunswick Medical Association
- Newfoundland Medical Association
- North Bay Civic Hospital
- Ontario Hospital Association
- Ontario Medical Association
- Prince Edward Island Medical Society
- Quebec Medical Association
- St. Joseph's General Hospital, North Bay, Ontario
- Saskatchewan Medical Association
- Special Task Force of the Canadian Nurses
- Studies and Statements Committee of the Board of Congregational Life, Presbyterian Church in Canada
- Sunnybrook Medical Centre
- World Foundation for Quality of Life

Individuals

- Professor Koichi Bai
- Miss Denise Béliveau
- Dr. Monique Boivin
- Dr. Charles Bolton
- Professor Gregory J. Brandt
- Dr. Paul A. Byrne
- Ms. Madeleine Caron
- Mr. John Cassels
- Mrs. Norma Clare Cunningham
- Professor Lesley F. Degner
- Ms. Edith Deleury
- Dr. John Edmeads
- Professor Benjamin Freedman
- Dr. David Frenkel
- Mrs. Nancy Garrett
- Dr. Joseph Gilbert
- Dr. Marvin B. Goldman

- Dr. Colin P. Harrison
- Professor Georges Heuse
- Dr. John R. Hewson
- Dr. Keith R. Hobson
- Dr. Martin Hollenberg
- Dr. Richard Isaac
- Dr. Leslie P. Ivan
- Dr. Michel Lesage
- Professor Thomas A. Mabey
- Dr. T. P. Morley
- Dr. J. K. Morrison
- Dr. Helen K. Mussallem
- Mrs. Jeanne M. Noël
- Mr. Anthony P. Pantages
- Professor Ellen Picard
- Dr. Thomas Porter
- Professor Roland Puccetti
- Mr. Christopher S. Reynolds
- Ms. Michèle Rivet
- Dr. J. Preston Robb
- Mr. Leslie Steven Rothenberg
- Mr. Lorne Rozovsky
- Professor F. Oliveira Sà
- Mrs. Maureen Shea-DesRosiers
- Professor Peter D. G. Skegg
- Dean Philip Slayton
- Mr. Barry B. Swadron
- Mr. Claude Tellier
- Professor John Thomas
- Professor Jacques Verhaegen
- Mr. Rodney G. Walsh
- Dr. L. L. Whytehead
- Mrs. Laurette Young