ORGAN DONATION NEW ZEALAND

ANNUAL REPORT 2011



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Organ Donation New Zealand (ODNZ) would sincerely like to thank the families who agreed to organ and tissue donation which enabled many recipients to benefit from transplantation.

New organ and tissue donation best practice guidelines for New Zealand Intensive Care Units were completed this year. These guidelines will assist the team at ODNZ and health professionals throughout the country to achieve consistently high standards for organ and tissue donation in New Zealand.

We are grateful for the ongoing commitment of the Link Team members at donor hospitals and other health professionals involved in organ and tissue donation.

We would like to thank our colleagues at ODNZ who contributed to this report – Dr James Judson, Melanie Selby, Cecilia Westmacott, Mary O'Donnell and Margaret Kent.

For their input into this report we also gratefully acknowledge Lee Excell, editor of the Australia and New Zealand Organ Donation Registry; Rosalie Gow from the Department of Forensic Pathology, Auckland City Hospital; Louise Moffatt and Helen Twohill from the New Zealand National Eye Bank; Jill Faulkner and Lorraine Craighead from the New Zealand Heart Valve Laboratory; and Vladimir Slyshkov from the New Zealand Tissue Bank at the New Zealand Blood Service.

We appreciate the support and encouragement we receive from the ODNZ Advisory Committee, our transplant colleagues, the Ministry of Health and the Australian and New Zealand Intensive Care Society.

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Jania Largardo.

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	is to co-ordinate organ and tissue in New Zealand. The donor co-ordinators provide	DDNZ) is the national service for ation and its primary responsibility e donation from deceased donors information and ongoing support erously donated organs or tissues.
	ODNZ continues to work with health professionals throughout New Zealand to ensure there are nationally consistent processes for donation and all families of potential donors are offered the option of organ donation. The service also provides education and training for health professionals as well as supplying information to the media and the public.	ODNZ is managed through the Auckland District Health Board which is funded for ODNZ on behalf of all District Health Boards. The offices of ODNZ are situated at the Greenlane Clinical Centre in Auckland.
Staffing	In 2011 donor co-ordinator Rachel Josephson resigned and was replaced by Mary O'Donnell who commenced in October. Mary, Janice Langlands (team leader) and Cecilia Westmacott are the three donor co-ordinators for ODNZ. The two medical specialists: Dr Stephen Streat (clinical director) and Dr James Judson have continued in their roles, as have Melanie Selby as the communications advisor and Margaret Kent as the team administrator.	Link Teams: The Link Teams in all donor hospitals in New Zealand consist of Intensive Care Unit (ICU) Link Nurse(s), Operating Theatre Link Nurse(s) and an ICU Link Doctor. These teams are the local experts on organ donation matters for their hospital. ODNZ is grateful for their commitment and ongoing support.
Advisory Committee	The Advisory Committee comprises representatives from intensive care medicine and nursing, organ and tissue transplantation, representatives of	Maori health and Pacific health, and a consumer representative. The committee remained unchanged in 2011 and met with ODNZ in September.

Co-ordination of Organ and Tissue Donation	The donor co-ordinators provide a 24-hour service for referrals from ICUs for organ donation, tissue donation and for referrals of livers and cardiothoracic organs from Australia. A medical specialist is involved in all potential organ donors and provides advice and support for health professionals in the ICUs on all aspects of the donation process.	In 2011 the donor co-ordinators continued to work with health professionals to increase awareness of tissue (eyes, heart valves and skin) donation and to provide the option of tissue donation for patients and/or their families in situations where organ donation is not possible.
Donor Family Support	The donor co-ordinators are available to meet with the family before the organ retrieval operation if they are present in the ICU. At that time the donor co-ordinator explains the follow up and support that can be provided for families. They also offer hand prints and locks of hair of their family member.	facilitated by the donor co-ordinators and the recipient co-ordinators. In 2011 guidelines were produced to assist donor families who wish to write anonymously to the recipients. The guidelines for recipients writing to donor families were also updated.
	The continued support for families includes phone calls, letters and emails for as many years as they wish to receive it. At approximately one week following the donation, a letter of thanks is sent to the family which includes general information about the recipients as well as the 'Understanding Organ and Tissue Donation' booklet, and a booklet on bereavement. The	ODNZ organises annual Thanksgiving Services. These services respectfully acknowledge the generosity of families who have donated organs and tissues following the death of a family member. Families of donors, recipients and their families, and health professionals involved in both organ donation and transplantation are invited to these services.
	handprints and locks of hair are also sent at this time. In 2011 ODNZ developed two presentation boxes for these documents. Anonymous communication between donor families and recipients is also	A Service was held in Auckland in 2011 with approximately 500 attendees. Unfortunately the Service planned for Christchurch was cancelled but will take place in 2012.
ICU Guidelines	The Organ and Tissue Donation Best Practice Guidelines for New Zealand ICUs were completed in 2011 and distributed in November. These guidelines are consistent with the Australian and New Zealand Intensive	Care Society Statement on Death and Organ Donation (version 3.1, 2010). These guidelines are a detailed resource for health professionals and cover all aspects of the organ and tissue donation process.

Education

Study Days and Health Professional Education

In 2011 study days were held in the following hospitals: Auckland City, Middlemore, Waikato, Tauranga, Hawke's Bay, Palmerston North and Wellington. These study days include all aspects of the donation process and are attended by nursing staff from ICUs and Operating Theatres (OT), and other health professionals involved in donation and transplantation.

Other education sessions were provided for NZNO groups, postgraduate nurses, nursing students and other health professionals throughout the country.

Teaching sessions on tissue donation were organised for nursing staff on wards at Auckland City Hospital.

Australasian Donor Awareness Program Training (ADAPT)

A Medical ADAPT workshop was held in Auckland in July 2011. This workshop provided ICU doctors with expertise in the organ and tissue donation process, including communication with families. The facilitators for this workshop were Mr Mal McKissock, bereavement counsellor, Sydney, Dr Stephen Streat and Dr Peter Hicks.

Link Workshop

The Link Nurses attended a two-day workshop in Auckland in November 2011. The workshop included a half-day session on the diagnosis and treatment of subarachnoid haemorrhage and a talk from Pacific Health on cultural practises surrounding death and organ donation. ICU Link Doctors joined ICU Link Nurses on the second day to discuss the data from the ICU Death Audit. OT Nurses worked on the update of their guidelines.

ODNZ News

A quarterly newsletter produced by ODNZ and featuring information about organ donation and transplantation continues to be distributed throughout donor hospitals in New Zealand by the Link Nurses. Each newsletter also features a story from a donor family and a transplant recipient. The purpose of the newsletter is to provide hospital staff with a better understanding of organ donation and transplantation.

Educational Brain Death DVD

The development of the new educational DVD on brain death for health professionals, which will be consistent with the determination of brain death outlined in the updated Australian and New Zealand Intensive Care Society statement 2010, continues.

Bereavement Course

In July 2011 bereavement counsellor Mal McKissock facilitated the three-day bereavement course that is organised annually by ODNZ. This was again attended by health professionals who provide support for families following bereavement.

ODNZ/ICU Death Audit	ODNZ gratefully acknowledges the ICU Link Nurses who collect and report the data for the Audit. In 2011 Dr James Judson worked with software provider Enigma to improve the quality of the data entry. Together with Janice Langlands he visited hospitals throughout New Zealand to provide feedback on their own hospital's data.	Hospitals visited were: Whangarei, North Shore, Auckland City, Middlemore, Waikato, Rotorua, Hawke's Bay, Wellington, Nelson, Christchurch, Dunedin and Invercargill. Dr Judson also presented to the Auckland Transplant Society and to the Auckland City Hospital Cardio-vascular services.
Public Awareness	TV Series	Awareness Day 2012
	Situation Critical, the TV series about organ donation and transplantation filmed by Starfish Pictures in 2009/10, returned to air in May 2011. The remaining three episodes that were not screened in 2010 played on TV1 and received high ratings. Episode 6 was the number one most watched show of the night from 1930 hours, with nearly 500,000 viewers. ODNZ received extremely positive feedback from people all over New Zealand about the series. School Education Program	ODNZ, together with Kidney Health New Zealand, began work on a Thank You Day which is to be held on World Kidney Day, 8 March 2012. This is an opportunity for recipients to thank their donors and donor families for the life-saving gift they have received. T-shirts, cards and posters with "Thank You" written on them in different languages have been printed. Recipients wearing these brightly coloured t-shirts will plant freesia bulbs in their local community to symbolise the new life they have been given. The freesia bulbs have been generously donated by Oderings.
	In 2011 ODNZ met with Wellington- based education development company	Public enquiries
	Learning Media to discuss the possibility of developing an education program about organ donation and transplantation for use in schools throughout the country.	ODNZ responds to public enquiries from the 24-hour 0800 number (0800 4DONOR) and from the website (www.donor.co.nz).
	The consulting focus group included teachers and educational professionals.	Public talks
	They were extremely supportive of the development of a program for 14-15	In 2011 ODNZ visited some retirement villages to speak to residents about the

year-old students. ODNZ will continue

to work with Learning Media in 2012 to

this education program.

develop this program. ODNZ is grateful to

the Organ Donation Awareness Trust who donated money to be used on developing

In 2011 ODN2 visited some retirement villages to speak to residents about the option of tissue donation. Talks about organ and tissue donation were also given to other community groups. Attendance at Conferences and Training Workshops Australian and New Zealand Intensive James Judson presented at this **Care Society New Zealand Regional** conference on the ICU Death Audit Conference, Taupo, 31 March-1 April results. Stephen Streat and Janice Langlands also attended this conference. Advance Care Planning and End of ACPAL is a newly-formed society that discusses all issues relating to planning Life (ACPEL) Care Conference, London, 22-24 June for people's death and caring for people at that time. James Judson attended this conference. Stephen Streat attended this conference **Critical Care Society of Southern** Africa (COPICON) Congress, Durban, as an invited speaker and presented on end-of-life care. 27–31 July Public Sector Network–Open All Melanie Selby attended this conference Hours, Wellington, 2 September which focused on new technologies and social media. James Judson attended this annual **ANZICS Conference, Brisbane, 13–15** October meeting of the Australian and New Zealand Intensive Care Society. **Orientation to Palliative Care Course,** Cecilia Westmacott attended this three-Auckland, November day palliative care course which covered grief and bereavement, cultural and spiritual needs, ethical issues and self care for the practitioner. HealthPACT and the Nationally Funded Stephen Streat was the New Zealand **Centres Reference Group–Intestinal** representative at this workshop which **Failure Services in Australia** focussed on services for intestinal failure Stakeholder Workshop, Melbourne, 10 and intestinal transplantation in Australia **November** (and New Zealand). James Judson attended this conference 2011 Organ Donation Congress, **Buenos Aires, 27–31 November** which was the 11th Congress of the International Society for Organ Donation and Procurement. **TSANZ** Donor Surgeons/Donor As a member of this advisory group, **Co-ordinators Advisory Group**, Janice Langlands attended the Transplant Sydney, 7 December Society of Australia and New Zealand meeting which focused on organ retrieval processes.

In 2011, 38 deceased donors from ICUs in 13 donor hospitals donated organs (and tissues) for transplantation. This does not include those who donated tissues (eyes, heart valves and skin) only. Of the 38 donors, 36 donated following brain death and two donated following cardiac death.

Table 1:

Number of deceased organ donors in New Zealand

HOSPITAL	2007	2008	2009	2010	2011
AUCKLAND CITY DCCM	9	8 [1]*	12	8	7
CHRISTCHURCH	9	4 [1]*	4	3[1]*	5
DUNEDIN	2	3	7	4	4
GISBORNE	0	2	0	0	0
GREY BASE	0	0	1	1	0
HAWKE'S BAY	3	1	3	1	2
HUTT	0	0	0	1	0
MIDDLEMORE	1	1	1	2	3
NELSON	6	1	1	1	1
NORTH SHORE	0	0	1	0	1
PALMERSTON NORTH	1	1	0	0	1
ROTORUA	0	0	1	1	2
SOUTHLAND	2	0	0	2	0
STARSHIP CHILDREN'S	0	1	2	0	0
TARANAKI BASE	1	0	1	0	0
TAURANGA	0	0	0	0	0
TIMARU	1	1	1	0	1
WAIKATO	1	5	2[1]*	11	5[2]*
WAIRAU	1	0	1	0	0
WANGANUI	0	0	0	0	0
WELLINGTON	2	3	4[1]*	5	4
WHANGAREI	0	0	1	1	2
TOTAL NUMBER OF DONORS	38	31	43	41	38

Note: []* DCD donors

Table 2:

		2007	2008	2009	2010	2011	
Cause of Donor Death by Year	CVA	24	22	21	22	19	
	TRAUMA (ROAD)	7	2	9	9	6	
	TRAUMA (OTHER)	3	3	4	4	4	
	HYPOXIA-ANOXIA	2	4	8	2	8	
	OTHER	2	0	1	4	1	

TOTAL

Table 3:		2007	2008	2009	2010	2011
Age of	MEAN	46.7	42.7	43.0	43.5	40.0
Deceased Donors	MEDIAN	48	44	46	44	44
By Year	MINIMUM	11.9	12.0	3.6	15.1	13.0
	MAXIMUM	71.7	67.6	74.6	71.4	73.9

Table 4:		2007	2008	2009	2010	2011
Ethnicity of	EUROPEAN	37	27	35	32	30
Deceased Donors	MAORI	0	3	5	5	3
by Year	PACIFIC PEOPLE	0	1	0	1	4
	OTHER	1	0	3	3	1
	TOTAL	38	31	43	41	38

Table 5:

Organs and Tissues Retrieved from Deceased Donors and Transplanted

		2007	2008	2009	2010	2011
KIDNEYS*		65	53	56(4)	56[8]	65[8]
HEARTS		12	10	11	11	12
LUNGS+		13	14	16	16	13
LIVER#		32	23	33	33	30
PANCREAS		1	4	2	2	3
CORNEAS#		20	15	13	13	16
HEART VALVES#		14	8	8	8	11
SKIN#		1	3	4	4	3
* Single kidneys () En-Bloc kidneys # Number of donors of these + Number of lung recipients [] Double adult organs/tissues						

Table 6:		2007	2008	2009	2010	2011
Organs from	LIVER	8(2)	2	5	5(2)	1
New Zealand Deceased	HEART	3	2	0	0	1
Donors	LUNGS	4	2	8	3	3
Transplanted in Australia	KIDNEY	0	0	0	2	0

In 2011 some organs from New Zealand donors were transplanted to Australian recipients and vice versa in accord with the trans-Tasman organ sharing agreement of the Transplant Society of Australia and New Zealand (TSANZ). Details are available on their website: http://www.tsanz.com.au

Table 7:

Organs from Australian Deceased Donors Transplanted in New Zealand

	2007	2008	2009	2010	2011
LIVER	4	9	3	6(1)	7(1)
HEART	0	0	0	0	0
LUNGS	0	0	0	0	0
KIDNEY	0	0	0	0	0

() Split livers

Transplantation in New Zealand includes organs: heart, lungs, liver, kidney and pancreas; and tissues: eyes (corneas and sclera), heart valves, skin; and bone (from living donors).

Kidney transplantation, including deceased and live-donor kidney transplantation, is provided at Auckland City Hospital, Starship Children's Hospital, Wellington Hospital and Christchurch Hospital. Liver transplantation is provided at Auckland City Hospital and Starship Children's Hospital. The liver transplant programme includes live-donor adult-to-adult and adult-to-child transplantation. Heart and lung transplantation are provided at Auckland City Hospital and Starship Children's Hospital. Pancreas transplantation occurs at Auckland City Hospital.

Kidney Transplantation

	2007	2008	2009	2010	2011
RECIPIENTS, DECEASED DONOR, SINGLE KIDNEY	65	53	52	46	57
RECIPIENTS, DECEASED DONOR, DOUBLE KIDNEY	0	0	2	4	4
LIVING DONOR	58	69	67	60	57
TOTAL	123	122	121	110	118

In 2011 the first paired kidney exchange took place at Auckland City Hospital. This involved two simultaneous live donor nephrectomies (one from an altruistic donor) and two simultaneous kidney transplants.

Table 8:

Kidney Tranplantation by Year and Donor Type

Heart and Lung Transplantation

Table 9:

Heart and Lung Transplantation by Year

	2007	2008	2009	2010	2011
HEART	9	9	11	11	11
LUNGS	9	12	8	9	10

Heart transplantation commenced in New Zealand in 1987 and there have been 242 heart transplants to the end of 2011. The success rate for heart transplantation continues to exceed international survival rates.

Since lung transplantation commenced in New Zealand in 1993, there have been 151 transplants to the end of 2011. Of the 19 patients transplanted in 2010 and 2011, there has been a 100 per cent survival rate.

Liver Transplantation

	2007	2008	2009	2010	2011
ADULT, DECEASED DONOR	32	27	28	29	31
ADULT, LIVE ADULT DONOR	1	3	2	0	2
CHILD, DECEASED DONOR	3	4	3	6	5
CHILD, LIVE ADULT DONOR	3	4	6	6	6
TOTAL	39	38	39	41	44

The New Zealand Liver Transplant Unit performed 44 liver transplants in 2011–the highest number performed in a single year since liver transplantation commenced in New Zealand in 1998. The total number of liver transplants in New Zealand to the end of 2011 was 481.

Pancreas Transplantation

	2007	2008	2009	2010	2011
PANCREAS	1	4	2	3	3

Table 11:

Pancreas Transplantation by Year

Since starting combined kidney/pancreas in 1998 there have been 36 transplants. There were three combined kidney/pancreas transplants in 2011.

Table 10:

Liver Transplantation by Year ODNZ worked throughout 2011 to increase the opportunity for tissue donation, particularly in the Auckland region where multi-tissue (heart valve, skin and eye donation) can be facilitated. However, eye donation can be facilitated throughout New Zealand.

In 2011 tissue donation was facilitated by ODNZ from the following:

REFERRED FROM	NUMBER OF TISSUE (ONLY)	DONORS
AUCKLAND CITY HOSPITAL (DCCM, CVICU & WA	ARDS)	10
NORTH SHORE HOSPITAL (ICU & WARDS)		3
HIBISCUS COAST HOSPICE		1
CORONIAL SERVICE		2
WAIKATO HOSPITAL (ICU)		4
WELLINGTON HOSPITAL (ICU)		1
NELSON HOSPITAL (ICU)		1
NELSON HOSPICE		1
TOTAL		23

The donor tissue co-ordinator from the Department of Forensic Pathology at Auckland City Hospital also facilitates tissue-only donation including heart valves, skin and eyes (cornea and sclera) for transplantation and other tissue for teaching and research.

The corneal co-ordinators facilitate eye-only donation from donors referred directly to the New Zealand National Eye Bank. The Bereavement Team at Middlemore Hospital provides the option of eye donation for patients dying in Middlemore Hospital and this is also facilitated by the corneal co-ordinators.

Heart transplant recipients donate valves from their explanted hearts.

Total Tissue Donation in New Zealand

		2007	2008	2009	2010	2011	
on for	SKIN	18	25	18	10	25	
on by	HEART VALVES	44	29	19	21	26	
	EYES	146	126	123	142	154	

Table 13:

Tissue Donation for Transplantation by Year

Table 12:

Tissue Only Donation Facilitated by ODNZ The first organ donation in New Zealand was at Auckland Hospital in May 1965, a kidney from a living donor to her identical twin sister. The first deceased donor (then called 'cadaveric donor'), was a teenage boy who died at Auckland Hospital in 1966 from a large subdural haematoma. His kidneys were transplanted into two recipients.

Until the early 1980s, organ donation (only kidneys) from deceased donors took place after ventilation was withdrawn and circulatory arrest had occurred, even though it was recognised that these donors were almost certainly brain dead. Before ventilation was discontinued, many of the features of brain death (e.g. apnoea, fixed dilated pupils, polyuria, hyperglycaemia, and spontaneous hypothermia)¹ were documented and the meaning of these was understood by intensivists and nephrologists and conveyed to families at that time, prior to a discussion of organ donation².

By the early 1980s, brain death was recognised as death. Organ retrieval began while the circulation persisted, the patient having been determined to be brain dead. In 1987 a working party produced 'A Code of Practice for Transplantation of Cadaveric Organs'³, published by the New Zealand Department of Health which included criteria for the determination of brain death, largely based on UK guidelines. Guidelines for intensive care staff involved in organ donation in Australia and New Zealand were first produced by the Australian and New Zealand Intensive Care Society (ANZICS) in 1993 and revised in 1998. These guidelines were

progressively adopted by intensive care staff and the 2008 revision, called The ANZICS Statement on Death and Organ Donation⁴, is now the accepted standard of practice in New Zealand and Australia.

During the late 1980s, intensive care specialists recognised that the discussion with the family about possible donation could naturally take place as an integral part of the care of the patient and the family at the end of life. By the end of 1989, intensive care specialists became less concerned about appearing to have a possible conflict of interest when discussing organ donation with the family and increasingly undertook this role.

Multi-organ donation began in New Zealand with the establishment of the heart transplant programme at Green Lane Hospital and the appointment of the first donor co-ordinator in 1987. Before this time, all aspects of kidney donation, including discussion with the family and organisation of organ retrieval were done by local renal physicians (or surgeons if there were no local renal physicians) and organ retrieval surgery was performed by local surgeons.

The first heart was retrieved at Waikato Hospital in December 1987. Initially, the donor co-ordinator (then called the transplant donor co-ordinator), was involved in all multi-organ (then confined to heart and kidney) donation, and in kidney-only donation in the Auckland region. Over the next few years the donor co-ordinator increasingly facilitated kidney-only donation outside of Auckland, but it was not until 1993 that this included all kidney donation throughout New Zealand. Livers were not retrieved in New Zealand until 1989, when the donor co-ordinator began co-ordinating liver retrievals for Australian Liver Transplant Units. The first liver retrieval took place at Palmerston North Hospital in September 1989. This involved a team from the Royal Prince Alfred Hospital in Sydney, the first Australian retrieval team to travel to New Zealand. Until liver transplantation in New Zealand began in February 1998, 151 livers were retrieved for the Australian liver transplant units by a New Zealand surgeon (most often Mr Peter Christie who retrieved 50 livers) or by an Australian retrieval team.

The first liver retrieval for the New Zealand Liver Transplant Unit was in February 1998 at Middlemore Hospital, and the first from Australia for New Zealand was from New South Wales in February 1999. New Zealand and Australia continue to participate in an organ sharing agreement for extra-renal organs⁵ which involves livers, hearts and lungs⁶.

Lung transplantation started at Green Lane Hospital in 1993. The first lung retrieval took place at Christchurch Hospital in March of the same year.

From the mid-90s, hearts and lungs unable to be matched to recipients in New Zealand were offered to the Australian cardiothoracic transplant units. A team from the Alfred Hospital in Melbourne retrieved the first such lungs at Waikato Hospital in December 1994 and the first heart was retrieved at Auckland Hospital by the St Vincents Heart Transplant Unit from Sydney in March 1995. The first, and to date only, heart donated in Australia and transplanted in New Zealand was in May 2002.

Pancreas transplantation also began at Auckland Hospital in 1998 with the first pancreas retrieval at Wairau Hospital in August of that year.

In 2005 the National Office of transplant co-ordination was expanded into the present organisation Organ Donation New Zealand (ODNZ)⁷, the national service for deceased organ and tissue donation. A third donor co-ordinator, a part-time clinical director and a full-time team support were employed to work alongside the two fulltime donor co-ordinators.

Since 2006 all kidney-only retrieval surgery in New Zealand has been performed by a team from the Auckland (liver, kidney, and pancreas) transplant services. This has enabled the donor co-ordinators, also based in Auckland, to travel with the retrieval team to the donor hospital and provide support to the family and the hospital staff, as well as participate in organ retrieval and care of the donor after donation.

A protocol for Donation after Cardiac Death (DCD)⁸, formerly called Non-Heart-Beating Donation, was developed by ODNZ in 2006. The first DCD donation under this protocol took place at Auckland City Hospital in September 2008.

In 2009 a full-time communications advisor was employed. A part-time Medical Specialist began work for ODNZ in 2010.

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