

## **CHAPTER 3**

### **HEART AND LUNG TRANSPLANTATION**

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### **3.0 INTRODUCTION**

The first heart transplant in Malaysia was carried out at Institut Jantung Negara (IJN) Kuala Lumpur in December 1997. The first lung transplant was carried out in December 2005 at IJN in collaboration with Institut Perubatan Respiratori (IPR) of the Ministry of Health.

The main limitation to the performance of heart and lung transplants has been the lack of success in obtaining viable donor organs. As a result of the infrequent performance of transplant, the results of transplant would not be expected to improve.

In 2007, the first heart lung transplant was carried out in November 2007. There were 2 heart transplants carried out on the same recipient whose 1<sup>st</sup> heart transplant failed, but fortunately, there was a second compatible donor organ within 24 hours and the 2<sup>nd</sup> heart transplant succeeded. 1 double lung transplant was carried out as well.

The rest of the report that follows will review the results of heart and lung transplantation in Malaysia till end of 2007.

**HEART TRANSPLANTATION**

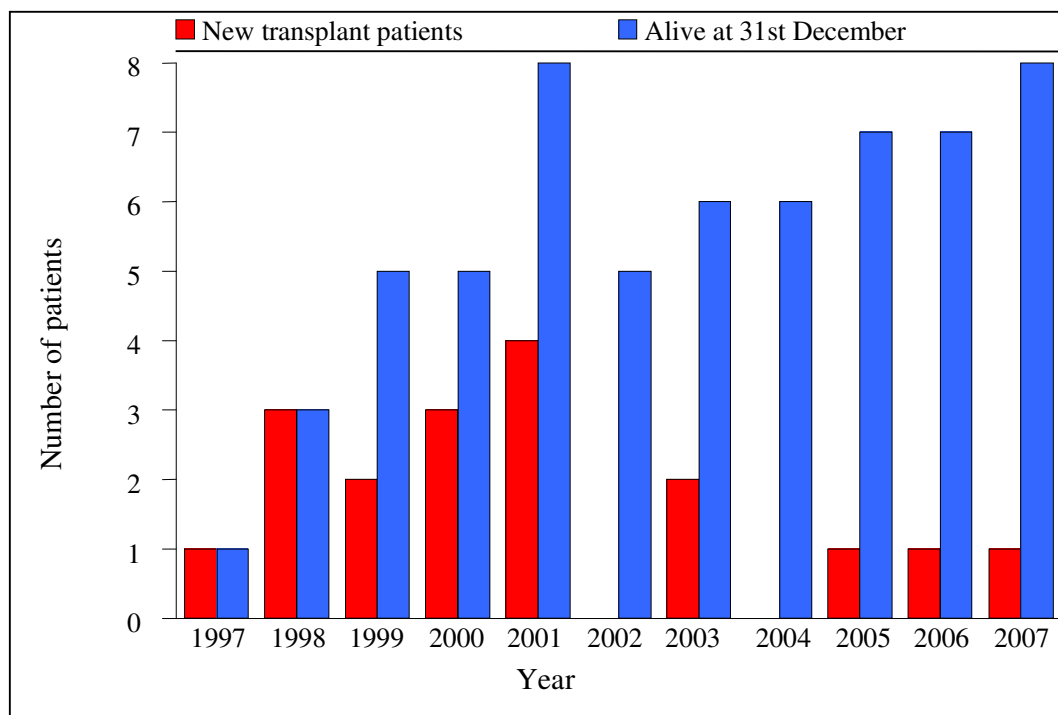
**3.1 STOCK AND FLOW**

Table 3.1.1a: Stock and Flow of Heart Transplantation, 1997-2007

Year	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007
New transplant patients	1	3	2	3	4	0	2	0	1	1	1
Deaths	0	1	0	3	1	3	1	0	0	1	0
Retransplanted	0	0	0	0	0	0	0	0	0	0	1
Lost to follow up	0	0	0	0	0	0	0	0	0	0	0
Alive at 31 <sup>st</sup> December	1	3	5	5	8	5	6	6	7	7	8

Note: The same patient was re-transplanted in the year 2007, thus only counted as one.

Figure 3.1.1a: Stock and Flow of Heart Transplantation, 1997-2007



### 3.2 RECIPIENTS' CHARACTERISTICS

Table 3.2.1a: Distribution of Patients by Gender, 1997-2007

Year	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	TOTAL
Gender	No.	No.	No.	No.	No.	No.	No.	No.	No.	No.	No.	No.
Male	1	3	0	2	2	0	2	0	1	1	0	12
Female	0	0	2	1	2	0	0	0	0	0	1	6
<b>TOTAL</b>	<b>1</b>	<b>3</b>	<b>2</b>	<b>3</b>	<b>4</b>	<b>0</b>	<b>2</b>	<b>0</b>	<b>1</b>	<b>1</b>	<b>1</b>	<b>18</b>

Note: The same patient was re-transplanted in the year 2007, thus only counted as one.

Table 3.2.2a: Distribution of Patients by Ethnic Group, 1997-2007

Year	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	TOTAL
Ethnic group	No.	No.	No.	No.	No.	No.	No.	No.	No.	No.	No.	No.
Malay	0	0	1	1	2	0	0	0	1	0	0	5
Chinese	0	0	0	1	0	0	1	0	0	0	1	3
Indian	1	3	1	1	2	0	1	0	0	1	0	10
<b>TOTAL</b>	<b>1</b>	<b>3</b>	<b>2</b>	<b>3</b>	<b>4</b>	<b>0</b>	<b>2</b>	<b>0</b>	<b>1</b>	<b>1</b>	<b>1</b>	<b>18</b>

Note: The same patient was re-transplanted in the year 2007, thus only counted as one.

Table 3.2.3a: Distribution of Patients by Age, 1997-2007

Year	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	TOTAL
Age, years	No.	No.	No.	No.	No.	No.	No.	No.	No.	No.	No.	No.
0-19	0	0	2	1	1	0	0	0	1	0	1	6
20-39	0	2	0	0	0	0	0	0	0	0	0	2
40-59	1	1	0	2	3	0	2	0	0	1	0	10
≥60	0	0	0	0	0	0	0	0	0	0	0	0
<b>TOTAL</b>	<b>1</b>	<b>3</b>	<b>2</b>	<b>3</b>	<b>4</b>	<b>0</b>	<b>2</b>	<b>0</b>	<b>1</b>	<b>1</b>	<b>1</b>	<b>18</b>
Mean	51	40	16	37	38	-	46	-	15	44	15	35
SD	-	9	1	22	17	-	8	-	-	-	0	16
Median	51	37	16	44	43	-	46	-	15	44	15	40
Minimum	51	33	15	13	14	-	40	-	15	44	15	13
Maximum	51	50	16	55	54	-	52	-	15	44	15	55

Age=date of transplant-date of birth

Note: The same patient was re-transplanted in the year 2007, thus only counted as one.

Age for 2007 patient was same for 1<sup>st</sup> and 2<sup>nd</sup> transplant

Table 3.2.4a: Distribution of Patients by Primary Diagnosis, 1997-2007

Year	97	98	99	00	01	02	03	04	05	06	07	TOTAL
Primary diagnosis	No.	No.	No.	No.	No.	No.	No.	No.	No.	No.	No.	No.
Ischaemic Cardiomyopathy	1	3	0	1	1	0	2	0	0	1	0	9
Idiopathic Dilated Cardiomyopathy	0	0	2	1	2	0	0	0	1	0	0	6
Restrictive Cardiomyopathy	0	0	0	0	0	0	0	0	0	0	0	0
End Stage Valvular Heart Disease	0	0	0	0	1	0	0	0	0	0	0	1
Hypertrophic Cardiomyopathy	0	0	0	1	0	0	0	0	0	0	0	1
Others	0	0	0	0	0	0	0	0	0	0	1	1
<b>TOTAL</b>	<b>1</b>	<b>3</b>	<b>2</b>	<b>3</b>	<b>4</b>	<b>0</b>	<b>2</b>	<b>0</b>	<b>1</b>	<b>1</b>	<b>1</b>	<b>18</b>

Note: The same patient was re-transplanted in the year 2007, thus only counted as one.

**3.3 TRANSPLANT PRACTICES**

Table 3.3.1a: Distribution of Patients by Heart Procedure, 1997-2007

Year	97	98	99	00	01	02	03	04	05	06	07	TOTAL
Heart Procedure	No.	No.	No.	No.	No.	No.	No.	No.	No.	No.	No.	No.
Orthotopic Bicaval	1	1	0	0	0	0	0	0	0	0	0	2
Orthotopic Traditional	0	2	2	3	4	0	2	0	1	1	2	17
Heterotopic	0	0	0	0	0	0	0	0	0	0	0	0
<b>TOTAL</b>	<b>1</b>	<b>3</b>	<b>2</b>	<b>3</b>	<b>4</b>	<b>0</b>	<b>2</b>	<b>0</b>	<b>1</b>	<b>1</b>	<b>2</b>	<b>19</b>

Table 3.3.2: Distribution of Patients by Immunosuppressive Used, 1997-2007

Year	97	98	99	00	01	02	03	04	05	06	07	Total
Type of immunosuppressive	No.	No.	No.	No.	No.	No.	No.	No.	No.	No.	No.	No.
<b>Steroids</b>												
Prednisolone	1	3	2	3	4	0	1	0	1	0	1	16
Methylprednisolone	1	3	2	3	4	0	2	0	1	1	2	19
<b>Calcineurin Inhibitors</b>												
Cyclosporin A	0	0	0	0	0	0	1	0	0	1	0	2
Neoral <sup>®</sup>	1	3	2	3	4	0	0	0	1	0	0	14
Tacrolimus (FK506)	0	0	0	0	0	0	0	0	0	0	1	1
<b>Antimetabolites</b>												
Azathioprine (AZA)	1	3	2	3	4	0	2	0	0	1	0	16
Mycophenolate Mofetil (MMF)	0	0	0	0	1	0	0	0	1	0	1	3
<b>Anti-lymphocyte Receptor Antibodies</b>												
Anti-thymocyte globulin (ATG)	0	0	0	0	0	0	0	0	0	0	2	2
<b>TOTAL patients at notification</b>	<b>1</b>	<b>3</b>	<b>2</b>	<b>3</b>	<b>4</b>	<b>0</b>	<b>2</b>	<b>0</b>	<b>1</b>	<b>1</b>	<b>2</b>	<b>19</b>

Table 3.3.3a: Immunosuppressive Used at Time of Last Follow-up up to 2007

Year of follow up*	2004	2005	2006	2007
Type of immunosuppressive	No.	No.	No.	No.
<b>Steroids</b>				
Prednisolone	1	3	2	2
Methylprednisolone	0	0	0	0
<b>Calcineurin Inhibitors</b>				
Neoral <sup>®</sup>	1	6	7	5
<b>Antimetabolites</b>				
Azathioprine (AZA)	1	3	2	1
Mycophenolate Mofetil (MMF)	3	3	5	4
<b>TOTAL patients at follow-up</b>	<b>6</b>	<b>6</b>	<b>7</b>	<b>7</b>

\*Data according to year of follow up of transplanted patients

Note: The patient transplanted in year 2007 was still in the ward by year-end and the first follow-up data was only in the subsequent year

Table 3.3.4: Duration of Waiting Time on Waiting List, 1997-2007

<b>Year</b>	<b>97</b>	<b>98</b>	<b>99</b>	<b>00</b>	<b>01</b>	<b>02</b>	<b>03</b>	<b>04</b>	<b>05</b>	<b>06</b>	<b>07</b>	<b>TOTAL</b>
<b>Duration (months)*</b>	<b>No.</b>	<b>No.</b>	<b>No.</b>	<b>No.</b>	<b>No.</b>	<b>No.</b>	<b>No.</b>	<b>No.</b>	<b>No.</b>	<b>No.</b>	<b>No.</b>	<b>No.</b>
<5	0	2	1	0	1	0	1	0	0	0	0	5
5≤10	1	0	1	0	1	0	0	0	1	0	0	4
10≤15	0	0	0	1	0	0	0	0	0	1	2	4
15≤20	0	0	0	1	0	0	0	0	0	0	0	1
20≤25	0	0	0	0	0	0	0	0	0	0	0	0
25≤30	0	0	0	0	0	0	0	0	0	0	0	0
30≤35	0	0	0	0	0	0	0	0	0	0	0	0
35≤40	0	0	0	0	0	0	1	0	0	0	0	1
<b>TOTAL</b>	<b>1</b>	<b>2</b>	<b>2</b>	<b>2</b>	<b>2</b>	<b>0</b>	<b>2</b>	<b>0</b>	<b>1</b>	<b>1</b>	<b>2</b>	<b>15</b>
Mean	6	2	4	15	5		20		9	10	13	9
SD		0	1	6	5		25				0	9
Median	6	2	4	15	5		20		9	10	13	8
Minimum	6	2	3	10	1		2		9	10	13	1
Maximum	6	2	5	19	8		37		9	10	13	37

\*Duration=date of transplant-date added to wait list

**3.4 TRANSPLANT OUTCOMES**

Table 3.4.1: Post Transplant Events at Last Follow-up up to 2007

<b>Year of transplant*</b>	<b>97</b>	<b>98</b>	<b>99</b>	<b>00</b>	<b>01</b>	<b>02</b>	<b>03</b>	<b>04</b>	<b>05</b>	<b>06</b>	<b>07</b>	<b>TOTAL</b>
<b>Type of post transplant events</b>	<b>No.</b>	<b>No.</b>	<b>No.</b>	<b>No.</b>	<b>No.</b>	<b>No.</b>	<b>No.</b>	<b>No.</b>	<b>No.</b>	<b>No.</b>	<b>No.</b>	<b>No.</b>
Drug Treated Hypertension	1	2	2	1	3	0	1	0	0	0	0	10
Bone Disease (Symptomatic)	1	0	0	0	1	0	0	0	0	0	0	2
Chronic Liver Disease	0	0	0	0	0	0	0	0	0	0	0	0
Cataracts	0	0	0	0	0	0	0	0	0	0	0	0
Diabetes	1	2	0	0	0	0	1	0	0	0	0	4
Renal Dysfunction	1	1	0	0	1	0	0	0	0	0	0	3
Stroke	0	0	0	0	0	0	0	0	0	0	0	0
Drug-Treated Hyperlipidaemia	1	2	2	1	3	0	1	0	1	0	0	11
<b>TOTAL patients at follow-up</b>	<b>1</b>	<b>2</b>	<b>2</b>	<b>1</b>	<b>3</b>	<b>0</b>	<b>1</b>	<b>0</b>	<b>1</b>	<b>0</b>	<b>0</b>	<b>11</b>

\*Data according to year of transplant of patient

Table 3.4.2: Post Transplant Malignancies at Follow-up up to 2007

<b>Year of transplant*</b>	<b>97</b>	<b>98</b>	<b>99</b>	<b>00</b>	<b>01</b>	<b>02</b>	<b>03</b>	<b>04</b>	<b>05</b>	<b>06</b>	<b>07</b>	<b>TOTAL</b>
<b>Type of post transplant malignancies</b>	<b>No.</b>	<b>No.</b>	<b>No.</b>	<b>No.</b>	<b>No.</b>	<b>No.</b>	<b>No.</b>	<b>No.</b>	<b>No.</b>	<b>No.</b>	<b>No.</b>	<b>No.</b>
Recurrence of pre-transplant tumour	0	0	0	0	0	0	0	0	0	0	0	0
De Novo solid tumour	1	0	0	0	0	0	0	0	0	0	0	1
De Novo lymphoproliferative disorder	0	0	0	0	0	0	0	0	0	0	0	0
Skin	0	0	0	0	0	0	0	0	0	0	0	0
<b>TOTAL patients at follow-up</b>	<b>1</b>	<b>2</b>	<b>2</b>	<b>1</b>	<b>3</b>	<b>0</b>	<b>1</b>	<b>0</b>	<b>1</b>	<b>0</b>	<b>0</b>	<b>11</b>

\*Data according to year of transplant of patient



Table 3.4.3: Non-compliance at Follow-up up to 2007

Year of transplant*	97	98	99	00	01	02	03	04	05	06	07	TOTAL
<b>Non-compliance during follow-up</b>	<b>No.</b>	<b>No.</b>	<b>No.</b>	<b>No.</b>	<b>No.</b>	<b>No.</b>	<b>No.</b>	<b>No.</b>	<b>No.</b>	<b>No.</b>	<b>No.</b>	<b>No.</b>
• Yes	0	0	2	0	0	0	1	0	0	0	0	3
• No	1	2	0	1	3	0	0	0	1	0	0	8
<b>TOTAL patients at follow-up</b>	<b>1</b>	<b>2</b>	<b>2</b>	<b>1</b>	<b>3</b>	<b>0</b>	<b>1</b>	<b>0</b>	<b>1</b>	<b>0</b>	<b>0</b>	<b>11</b>
<i>Areas of non-compliance:</i>												
• Immunosuppression medication	0	0	1	0	0	0	1	0	0	0	0	2
• Patient unable to afford immunosuppression medications	0	0	0	0	0	0	0	0	0	0	0	0
• Other medication	0	0	0	0	0	0	0	0	0	0	0	0
• Other therapeutic regimen	0	0	1	0	0	0	0	0	0	0	0	1
<b>TOTAL patients with noncompliance</b>	<b>0</b>	<b>0</b>	<b>2</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>1</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>3</b>

\*Data according to year of transplant of patient

Table 3.4.4: Patient Treated for Rejection at Follow-up up to 2007

Year of transplant*	97	98	99	00	01	02	03	04	05	06	07	TOTAL
<b>Patient treated for rejection</b>	<b>No.</b>	<b>No.</b>	<b>No.</b>	<b>No.</b>	<b>No.</b>	<b>No.</b>	<b>No.</b>	<b>No.</b>	<b>No.</b>	<b>No.</b>	<b>No.</b>	<b>No.</b>
• Yes	0	2	1	0	1	0	0	0	0	0	0	4
• No	1	0	1	1	2	0	1	0	1	0	0	7
<b>TOTAL patients at follow-up</b>	<b>1</b>	<b>2</b>	<b>2</b>	<b>1</b>	<b>3</b>	<b>0</b>	<b>1</b>	<b>0</b>	<b>1</b>	<b>0</b>	<b>0</b>	<b>11</b>
<i>Number of rejection events</i>												
• 1	0	1	0	0	1	0	0	0	0	0	0	2
• 2	0	1	0	0	0	0	0	0	0	0	0	1
• 3	0	0	1	0	0	0	0	0	0	0	0	1
<b>TOTAL patients with rejection</b>	<b>0</b>	<b>2</b>	<b>1</b>	<b>0</b>	<b>1</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>4</b>

\*Data according to year of transplant of patient

Table 3.4.5a: Distribution of Patients by Time of Death, 1997-2007

Year of discharge	97	98	99	00	01	02	03	04	05	06	07	TOTAL
<b>Time of deaths*</b>	<b>No.</b>	<b>No.</b>	<b>No.</b>	<b>No.</b>	<b>No.</b>	<b>No.</b>	<b>No.</b>	<b>No.</b>	<b>No.</b>	<b>No.</b>	<b>No.</b>	<b>No.</b>
<3 months (at discharge)	0	1	0	2	0	1	1	0	0	1	0	6
3-<6 months	0	0	0	0	0	0	0	0	0	0	0	0
6 months-1 year	0	0	0	0	0	1	0	0	0	0	0	1
>1 year	0	0	0	1	1	1	0	0	0	0	0	3
<b>TOTAL patients who died</b>	<b>0</b>	<b>1</b>	<b>0</b>	<b>3</b>	<b>1</b>	<b>3</b>	<b>1</b>	<b>0</b>	<b>0</b>	<b>1</b>	<b>0</b>	<b>10</b>

\*Time=Date of death–date of transplant

Table 3.4.6a: Patient Survival, 1997-2007

Year of Transplant	1997-2007	
	% Survival	SE
6 months	68	11
1 year	63	11
2 year	50	12
3 year	44	12
4 year	44	12
5 year	44	12
6 year	44	12
7 year	44	12
8 year	44	12
9 year	44	12
10 year	44	12

SE=standard error

**Duration = date follow up-date transplant, if alive at discharge**  
 = date of discharge-date of transplant, if alive but lost to follow up  
 = date of discharge-date of transplant, if dead at discharge

Figure 3.4.6a: Patient Survival, 1997-2007

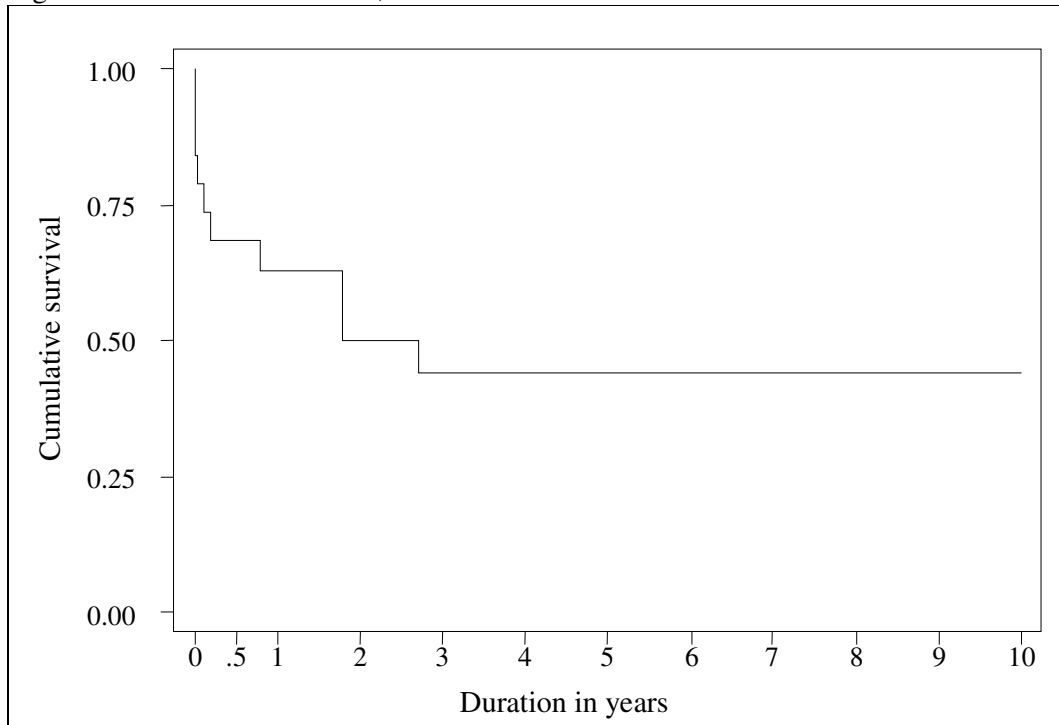


Table 3.4.7: Cause of Death at Discharge, 1997-2007

<b>Year</b>	<b>97</b>	<b>98</b>	<b>99</b>	<b>00</b>	<b>01</b>	<b>02</b>	<b>03</b>	<b>04</b>	<b>05</b>	<b>06</b>	<b>07</b>	<b>TOTAL</b>
<b>Cause of death</b>	<b>No.</b>	<b>No.</b>	<b>No.</b>	<b>No.</b>	<b>No.</b>	<b>No.</b>	<b>No.</b>	<b>No.</b>	<b>No.</b>	<b>No.</b>	<b>No.</b>	<b>No.</b>
Hyperacute rejection	0	0	0	0	0	0	1	0	0	0	0	1
Multi organ failure	0	0	0	1	0	0	0	0	0	0	0	1
Respiratory failure secondary to septicaemia	0	0	0	0	0	1	0	0	0	0	0	1
Respiratory failure, renal function and liver failure, ARDS, septicaemia	0	0	0	1	0	0	0	0	0	0	0	1
Septicaemia, multiorgan failure	0	1	0	0	0	0	0	0	0	0	0	1
Graft failure	0	0	0	0	0	0	0	0	0	1	0	1
<b>TOTAL patients who died at discharge</b>	<b>0</b>	<b>1</b>	<b>0</b>	<b>2</b>	<b>0</b>	<b>1</b>	<b>1</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>6</b>

Table 3.4.8: Cause of Death at Follow-up, 1997-2007

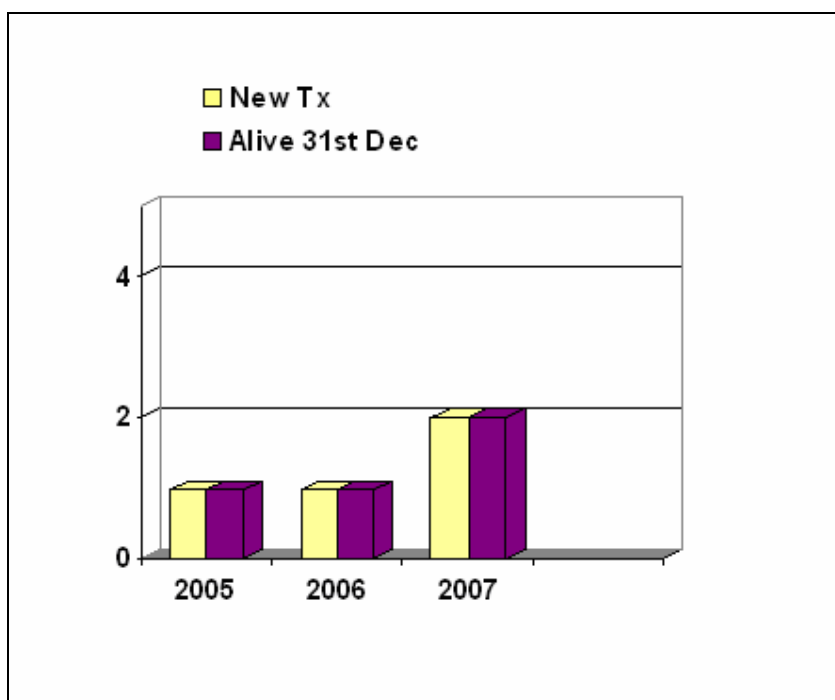
<b>Year</b>	<b>97</b>	<b>98</b>	<b>99</b>	<b>00</b>	<b>01</b>	<b>02</b>	<b>03</b>	<b>04</b>	<b>05</b>	<b>06</b>	<b>07</b>	<b>TOTAL</b>
<b>Cause of death</b>	<b>No.</b>	<b>No.</b>	<b>No.</b>	<b>No.</b>	<b>No.</b>	<b>No.</b>	<b>No.</b>	<b>No.</b>	<b>No.</b>	<b>No.</b>	<b>No.</b>	<b>No.</b>
Severe bleeding	0	0	0	0	0	1	0	0	0	0	0	1
Lung cancer, small cell type, septicaemia, bronchopneumonia	0	0	0	1	0	0	0	0	0	0	0	1
Rejection due to non-compliance	0	0	0	0	1	0	0	0	0	0	0	1
Unknown	0	0	0	0	0	1	0	0	0	0	0	1
<b>TOTAL patients who died at follow-up</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>1</b>	<b>1</b>	<b>2</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>4</b>

**LUNG TRANSPLANTATION & HEART-LUNG TRANSPLANTATION****3.1 STOCK AND FLOW**

Table 3.1.1b: Stock and Flow of Lung Transplantation, 2005-2007

Year	2005	2006	2007
New transplant patients	1	1	2
Deaths	0	1	1
Retransplanted	0	0	0
Lost to follow up	0	0	0
Alive at 31 <sup>st</sup> December	1	1	2

Figure 3.1.1b: Stock and Flow of Lung Transplant and Heart Lung Transplant



### 3.2 RECIPIENTS' CHARACTERISTICS

Table 3.2.1b: Distribution of Patients by Gender, 2005-2007

<b>Year</b>	<b>2005</b>	<b>2006</b>	<b>2007</b>
<b>Gender</b>	<b>No.</b>	<b>No.</b>	<b>No.</b>
Male	1	1	1
Female	0	0	1
<b>TOTAL</b>	<b>1</b>	<b>1</b>	<b>2</b>

Table 3.2.2b: Distribution of Patients by Ethnic Group, 2005-2007

<b>Year</b>	<b>2005</b>	<b>2006</b>	<b>2007</b>
<b>Race</b>	<b>No.</b>	<b>No.</b>	<b>No.</b>
Malay	0	0	1
Chinese	0	0	0
Indian	1	1	0
Iban	0	0	1
<b>TOTAL</b>	<b>1</b>	<b>1</b>	<b>2</b>

Table 3.2.3b: Distribution of Patients by Age, 2005-2007

<b>Year</b>	<b>2005</b>	<b>2006</b>	<b>2007</b>
<b>Age (years)</b>	<b>No.</b>	<b>No.</b>	<b>No.</b>
0-19	0	0	1
20-39	0	1	1
40-59	1	0	0
≥ 60	0	0	0
<b>TOTAL</b>	<b>1</b>	<b>1</b>	<b>2</b>

Table 3.2.4b: Distribution of Patients by Primary Diagnosis, 2005 -2007

<b>Year</b>	<b>2005</b>	<b>2006</b>	<b>2007</b>
<b>Diagnosis</b>	<b>No.</b>	<b>No.</b>	<b>No.</b>
Idiopathic pulmonary fibrosis	1	1	1
Idiopathic pulmonary arterial hypertension	0	0	1
Chronic obstructive pulmonary disease	0	0	0
<b>TOTAL</b>	<b>1</b>	<b>1</b>	<b>2</b>

**3.3 TRANSPLANT PRACTICES**

Table 3.3.1b: Distribution of Patients by Lung Procedure, 2005-2007

<b>Year</b>	<b>2005</b>	<b>2006</b>	<b>2007</b>
<b>Procedure</b>	<b>No.</b>	<b>No.</b>	<b>No.</b>
Single Lung Transplant	1	0	0
Double Lung Transplant	0	1	1
Heart – Lung Transplant	0	0	1
<b>TOTAL</b>	<b>1</b>	<b>1</b>	<b>2</b>

Table 3.3.3b: Immunosuppressive Used at Time Follow-up to 2007

<b>Year</b>	<b>2005</b>	<b>2006</b>	<b>2007</b>
<b>Type of immunosuppressive</b>	<b>No.</b>	<b>No.</b>	<b>No.</b>
<b>Steroids</b>			
Prednisolone	1	2	2
Methylprednisolone	1	1	2
Neoral	1	2	3
<b>Antimetabolites</b>			
Azathioprine (AZA)	0		0
Mycophenolate (MMF)	1	2	3
Tacrolimus	0	0	0
<b>TOTAL patients at follow -up</b>	<b>1</b>	<b>2</b>	<b>3</b>

### 3.4 TRANSPLANT OUTCOMES

On follow up complications such as hypertension, renal dysfunction, malignancy, non-compliance was not noted in patients with lung transplants.

Table 3.4.5b: Distribution of patients by time of deaths, 2005-2007

<b>Year of Transplant</b>	<b>2005</b>	<b>2006</b>	<b>2007</b>
<b>Time of death</b>	<b>No.</b>	<b>No.</b>	<b>No.</b>
< 3 months	0	1	1
3 - < 6 months	0	0	0
6 - 12 months	0	0	0
> 12 months	0	0	0
<b>TOTAL</b>	<b>0</b>	<b>1</b>	<b>1</b>

In 2007 two of a total of 4 patients are alive. The first patient transplanted on 16/5/2005 is alive and so is the third patient who was transplanted in 2007.

The second patient (transplanted in 2006) died of pneumonia with septicaemia and CMV infection at day 39.

The fourth patient with the heart-lung transplant died of pneumonia and graft rejection at day 16 in 2007.