

CHAPTER 1

All Renal Replacement Therapy In Malaysia

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SECTION 1.1: STOCK AND FLOW

The number of new dialysis patients continues to increase linearly over the last 10 years - from 4104 in 2007 to 7967 in 2015 and at least 7663 in 2016. (Data for 2016 however are preliminary since at the time of writing this report there are still many new patients yet to be notified to registry). The number of prevalent dialysis patients also showed a linear increase to reach almost 40 thousand in 2016.

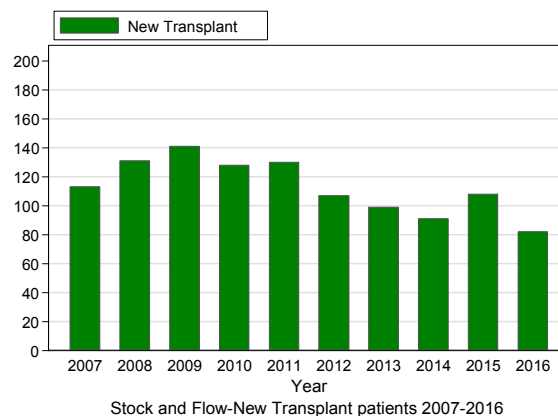
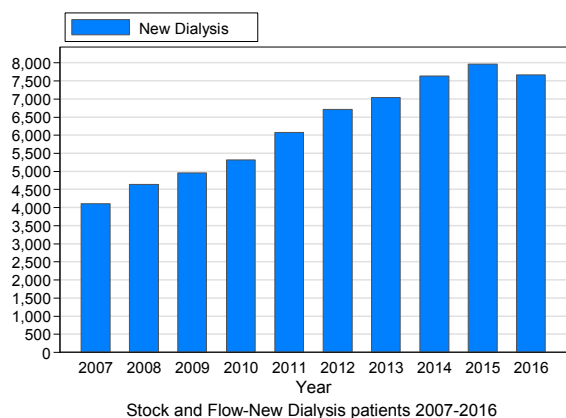
The number of new kidney transplant recipients has remained almost the same over the last many years despite the increase in dialysis patients. The number of patients with functioning kidney allografts however continued to decline as the number of new kidney transplantations could not compensate for the loss of allografts. (Table and Figure 1.1)

Table 1.1: Stock and flow of RRT, Malaysia 2007-2016

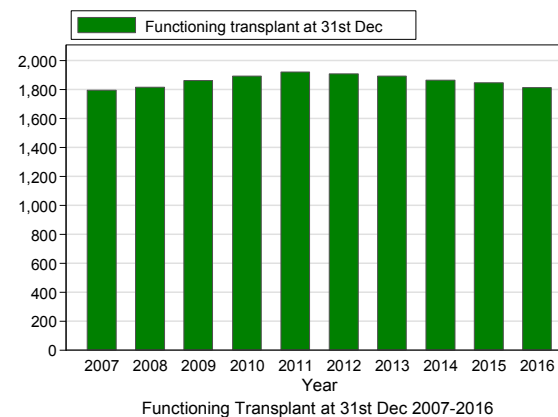
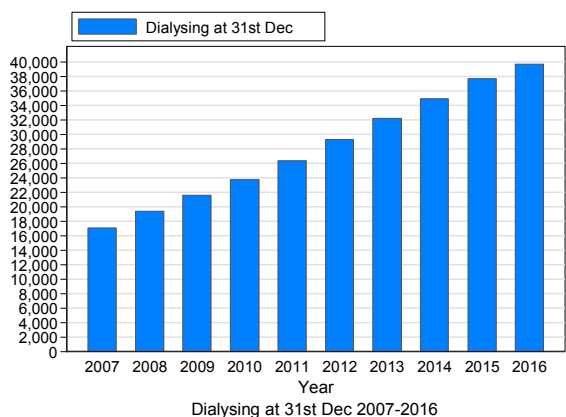
Year	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016
New Dialysis patients	4104	4641	4954	5311	6074	6715	7036	7633	7967	7663
New Transplants	113	131	141	128	130	107	99	91	108	82
Dialysis deaths	1988	2191	2601	3048	3292	3646	4014	4717	4988	5366
Transplant deaths	46	59	49	48	55	64	57	65	67	49
Dialyzing at 31 st December	17097	19403	21610	23740	26373	29309	32201	34953	37729	39711
Functioning transplant at 31 st December	1795	1817	1862	1892	1922	1908	1894	1866	1847	1814

Figure 1.1: Stock and flow of RRT, Malaysia 2007-2016

(a) New dialysis and transplant patients



(b) Patients dialysing and with functioning transplant at 31st December, 2007-2016



SECTION 1.2: TREATMENT PROVISION RATE

In tandem with the increase in dialysis patient numbers, dialysis acceptance rates also shows a linear increase over the last 10 years, from 151 per million population (pmp) in 2007 to 261 pmp in 2015. Data for 2016 however is preliminary since at the time of writing this report there was still many new patients yet to be notified to registry. Dialysis prevalence rate increased more than 2-fold over the last 10 years, from 629 pmp in 2007 to at least 1286 pmp in 2016.

New transplant recipient rate has remained at 3 to 4 pmp over the last 10 years. With the significant decreased transplantation rate, the prevalence rate of kidney transplantation per million general population continued to decrease. This decrease is more marked if the rate is based on those who are on the waiting list i.e. prevalent dialysis patients. As shown in table and figure 1.4, the transplant rate per 1000 dialysis patients has decreased from 6.6 to 2.1 per 1000 dialysis patients. In short, the average waiting time for a kidney transplant which was already very long is now at least 3 times longer.

Table 1.2: New dialysis acceptance rate and new transplant rate per million population, 2007-2016

Acceptance rate	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016
New Dialysis	151	169	178	186	210	229	237	254	261	248
New Transplant	4	5	5	4	4	4	3	3	4	3

Figure 1.2: New dialysis acceptance and new transplant rate, 2007-2016

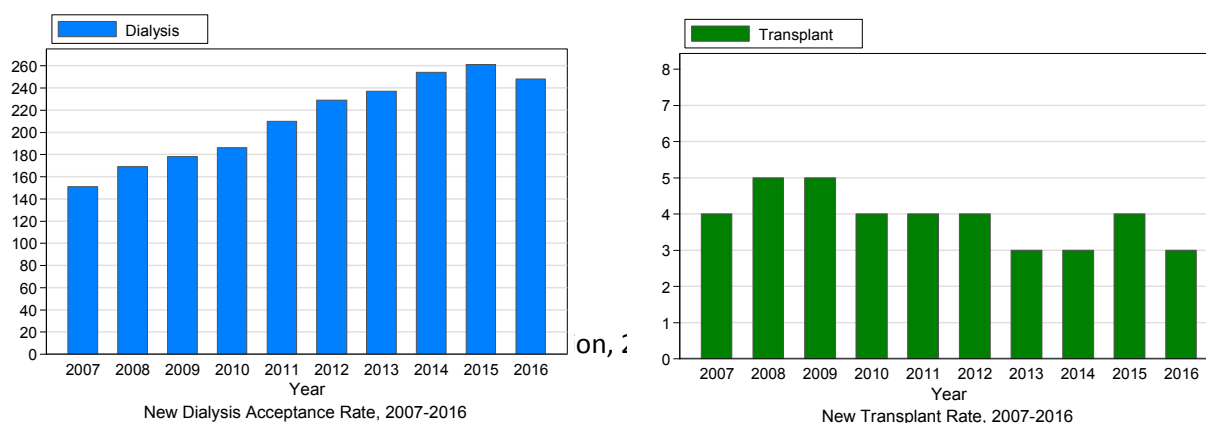


Table 1.3: RRT prevalence rate per million population, 2007-2016

Prevalence rate	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016
Dialysis	629	705	775	830	911	999	1084	1161	1238	1286
Transplant	66	66	67	66	66	65	64	62	61	59

Figure 1.3: Dialysis and transplant prevalence rate per million population, 2007-2016

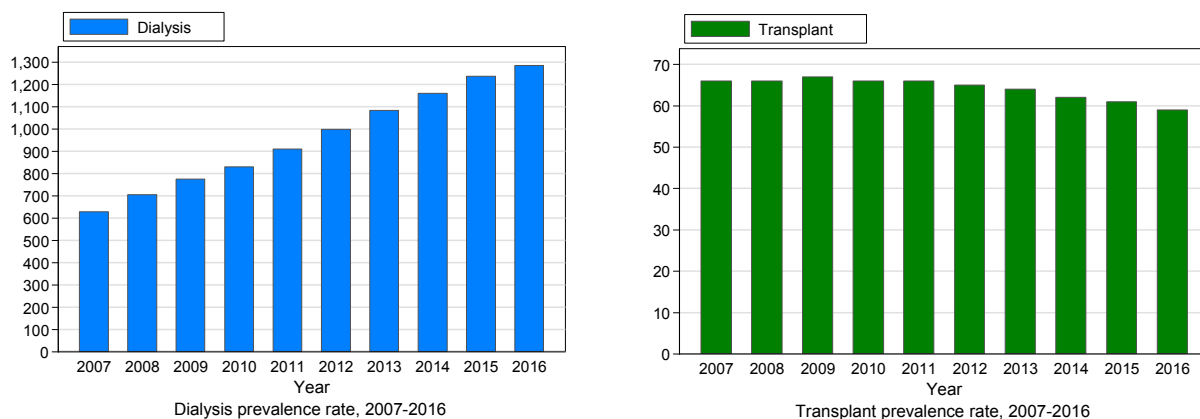


Table 1.4: Kidney transplant rate per 1000 dialysis patients, 2007 - 2016

Year	Number of prevalent dialysis patients	Number of new transplant recipients	Kidney transplant rate per 1000 dialysis patients
2007	17097	113	6.6
2008	19403	131	6.8
2009	21610	141	6.5
2010	23740	128	5.4
2011	26373	130	4.9
2012	29309	107	3.7
2013	32201	99	3.1
2014	34953	91	2.6
2015	37729	108	2.9
2016	39711	82	2.1

Figure 1.4: Kidney transplant rate per 1000 dialysis patients, Malaysia 2007 to 2016

