



**PHILIPPINE RENAL DISEASE REGISTRY
2017 ANNUAL REPORT**

VERSION 1

**DATA COLLECTED FROM
JANUARY TO DECEMBER 2016**



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INTRODUCTION

The Philippine Renal Disease Registry (PRDR) started as a project of the Philippine Society of Nephrology (PSN) in 1995. By 2007, the PSN entered into a Memorandum of Agreement with the National Kidney and Transplant Institute – Renal Disease Control Program (NKTI – REDCOP) to implement and fund the PRDR. The REDCOP successfully implemented the Registry and involved the Department of Health (DOH) Regional REDCOP Coordinators in the collection and submission of data to the PRDR.

By the year 2009, under an Administrative Order 2009-0012 “Guidelines Institutionalizing and Strengthening the PRDR under the DOH” the PRDR was formally placed under the National Epidemiology Center (NEC) of the DOH from where it receives funding for its operations.

The PRDR collects and analyzes data on chronic kidney disease patients who was initiated on renal replacement therapies such as hemodialysis, peritoneal dialysis and kidney transplantation. Data from patients who underwent kidney biopsy were also collected. The registry database has since grown to become vital reference in clinical research, policy formulation and medical program planning for both the government and non-government sector. International Disease Registries, such as the US Renal Data Systems (USRDS), use PRDR data as their reference for their annual reporting

In a span of ten years (2006-2016), the incidence and prevalence have increased significantly by 2-3 times. The increase in number of dialysis patients have been attributed to a number of factors such as an increase in the senior population, the rise in the incidence of chronic diseases such as diabetes and hypertension, more extensive government support to dialysis patients, etc. The number of patients starting dialysis will increase by an estimate of about 10% each year. It is believed that there is an even larger number of patients who remains undiagnosed, or are diagnosed with ESRD but were not able to receive dialysis due to unavailability or inaccessibility of the treatment in their area.

Renal Transplantation has been viewed widely as the gold standard for the therapy for patients with end stage renal disease. Unfortunately, there is only a small increase in the kidney transplant cases over the past years as compared to those receiving dialysis. This disproportionate increase in the number of End-stage Renal Disease patients entering a dialysis program versus the low number of kidney transplants performed remain an evident reality based on the data of the PRDR.

Government efforts through the Philippine Network for Organ Sharing (PHILNOS) and PhilHealth are aimed at addressing this problem. The nationwide promotion of deceased organ donation and the introduction of kidney transplant packages (Phil Health Z-Package) gave the necessary boost to kidney transplantation.

With the PRDR’s vision to be at par with international disease registries, we will soon launch our web-based registry. This new portal will ease the submission of data to the registry, and will assure that data submitted are complete. This will also help us generate quality data from our records in real time.

Thank you for your continued support to the PRDR!

THE PROGRAM MANAGER, CONSULTANTS AND STAFF OF THE PRDR

CHAPTER ONE

SURVEY ON HEMODIALYSIS AND PERITONEAL DIALYSIS CENTERS

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Table 1. Regional Distribution of New and Closed Hemodialysis Centers, 2016

REGIONS	HD CENTERS	
	CLOSED	NEW
NCR	6 (35.29)	13 (15.85)
I	1 (5.88)	7 (8.54)
II	1 (5.88)	1 (1.22)
III	2 (11.76)	9 (10.98)
IV-A	-	24 (29.27)
IV-B	-	1 (1.22)
V	2 (11.76)	1 (1.22)
VI	-	2 (2.44)
VII	-	5 (6.10)
VIII	-	4 (4.88)
IX	1 (5.88)	1 (1.22)
X	-	4 (4.88)
XI	2 (11.76)	3 (3.66)
XII	1 (5.88)	4 (4.88)
XIII	-	2 (2.44)
ARMM	-	1 (1.22)
CAR	1 (5.88)	-
TOTAL	17	82

NCR, National Capital Region; CAR, Cordillera Administrative Region

Number and percentage (%) are the values presented

Table 2. Regional Distribution of Dialysis Centers, 2016

REGION	NUMBER (%) OF DIALYSIS CENTERS	
	2016	
	HD	PD
NCR	152 (23.90)	15 (46.88)
I	32 (5.03)	1 (3.13)
II	20 (3.14)	-
III	99 (15.57)	1 (3.13)
IV-A	129 (20.28)	4 (12.50)
IV-B	4 (0.63)	-
V	20 (3.14)	4 (12.50)
VI	32 (5.19)	2 (6.25)
VII	31 (4.73)	-
VIII	13 (2.04)	-
IX	12 (1.89)	-
X	29 (4.56)	2 (6.25)
XI	24 (3.77)	2 (6.25)
XII	20 (3.14)	1 (3.13)
XIII	8 (1.26)	-
ARMM	1 (0.16)	-
CAR	10 (1.57)	-
TOTAL	636	32

HD, Hemodialysis; PD, Peritoneal Dialysis
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Table 3. Distribution of Hemodialysis Centers According to Classification, 2016

CLASSIFICATION	NUMBER (%)		
	NCR (n=152)	OTHER REGION (n=484)	TOTAL (n=636)
Free Standing	78 (51.32)	138 (28.51)	216 (33.96)
Government, Hospital Owned	9 (5.92)	33 (6.82)	42 (6.60)
Government, Hospital Based	4 (2.63)	25 (5.17)	29 (4.56)
Private, Hospital Owned	39 (25.66)	177 (36.57)	216 (33.96)
Private, Hospital Based	22 (14.47)	111 (22.93)	133 (20.91)

Table 4. Regional Distribution of Hemodialysis Machines, 2016

REGION	NUMBER (%) OF HD MACHINES
NCR	1,990 (29.60)
I	303 (4.51)
II	173 (2.57)
III	925 (13.76)
IV-A	1,129 (16.79)
IV-B	35 (0.52)
V	143 (2.13)
VI	395 (5.87)
VII	420 (6.25)
VIII	123 (1.83)
IX	123 (1.83)
X	209 (3.11)
XI	387 (5.76)
XII	201 (2.99)
XIII	54 (0.80)
ARMM	9(0.13)
CAR	105 (1.56)
TOTAL	6,724

Table 5. Regional Distribution of Hemodialysis Centers Based on Hemodialysis Machine Brand, 2016

BRAND OF DIALYSIS MACHINE *	NUMBER (%) OF HD CENTERS		
	NCR (n=152)	OTHER REGION (n=484)	TOTAL (n=636)
FRESENIUS	77 (50.66)	274 (56.61)	351(55.19)
BBRAUN	66 (43.42)	192 (39.67)	258 (10.38)
NIKKISO	12 (7.89)	24 (4.96)	36 (40.57)
NIPRO	14 (9.21)	20 (4.13)	34 (5.35)
TORAY	2 (1.32)	13 (2.69)	15 (2.36)
GAMBRO	1 (.066)	7 (1.45)	8 (1.26)
OTHERS	11 (7.24)	15 (3.10)	26 (4.09)
TISZTA	1	-	1
NEFRON	-	6	6
BAXTER	1	-	1
ASAHI MDS-101	1	-	1
Wesley Biotech	-	1	1
Corbridge	4	5	9
JMS	1	-	1
SWS	3	3	6

* Multiple responses

Table 6. Distribution of Hemodialysis Centers According to Number of Shifts of Dialysis Sessions per day, 2016

NUMBER OF HD SHIFT PER DAY	NUMBER (%) OF HD CENTERS		
	NCR (n=152)	OTHER REGION (n=484)	TOTAL (n=636)
1	12 (7.89)	24 (4.96)	36 (5.66)
2	52 (34.21)	171 (35.33)	223 (35.06)
3	63 (41.45)	224 (46.28)	287 (45.13)
4	25 (16.45)	65 (13.43)	90 (14.15)

Table 7. Regional Distribution of Hemodialysis Centers According to Designation of Hemodialysis Machine based on Hepatitis Status of Patients, 2016

DESIGNATION OF MACHINES	NUMBER (%) OF HD CENTERS		
	NCR (n=152)	OTHER REGION (n=484)	TOTAL (n=636)
Did not accept patients with positive hepatitis status	36 (21.68)	149 (30.79)	185 (29.09)
No designated machine	1 (0.66)	16 (3.31)	17 (2.67)
Designated machine as to hepatitis status of patients	116 (76.32)	319 (65.91)	435 (68.40)
Hep B & C in 1 machine	41	107	148
Separate Hep B and Hep C machine	15	24	39
Hep B machine only	50	135	185
Hep C machine only	10	53	63

* Multiple responses

Table 8. Regional Distribution of Hemodialysis Centers According to Type of Dialyzer Membrane, 2016

DIALYZER TYPE *	NUMBER (%) OF HD CENTERS		
	NCR (n=152)	OTHER REGION (n=484)	TOTAL (n=636)
Synthetic	150 (98.68)	470(97.11)	620 (97.48)
Cellulose	1 (0.66)	9 (1.86)	10 (1.57)
Cellulosynthetic	3 (1.97)	7 (1.45)	10 (1.57)
Substituted cellulose	-	6 (1.24)	6 (0.94)

* Multiple responses

Table 9. Regional Distribution of Hemodialysis Centers According to Water Treatment, 2016

WATER TREATMENT *	NUMBER (%) OF HD CENTERS		
	NCR	OTHER REGION	TOTAL
Reverse Osmosis	152 (100.00)	478 (98.76)	630 (99.06)
Ultraviolet Light Treatment	2 (1.32)	4 (0.83)	6 (0.94)
Deionizer	1 (0.66)	2 (0.41)	3 (0.47)
Others	6 (3.95)	5 (1.03)	11 (1.73)
<i>Double Pass</i>	2	4	6
<i>Activated Carbon Filter</i>	1	-	1
<i>Direct feed</i>	1	-	1
<i>Multimedia Filter</i>	1	-	1
<i>Water Purification</i>	-	1	1
<i>Bacterial Filter</i>	1	-	1

* Multiple responses

Table 10. Distribution of Hemodialysis Centers According to Method of Dialyzer Reprocessing, 2016

DIALYZER REPROCESSING	NUMBER (%) OF HD CENTERS		
	NCR (n=152)	OTHER REGION (n=484)	TOTAL (n=636)
YES	142 (93.42)	479 (98.97)	621 (97.64)
MANUAL	44 (30.99)	221 (46.14)	265 (42.67)
AUTOMATED	46 (32.39)	115 (24.01)	161 (25.93)
SEMI-AUTOMATED	1 (0.70)	4 (0.84)	5 (0.81)
BOTH	51 (35.92)	139 (29.02)	190 (30.60)
NO	10 (6.58)	5 (1.03)	15 (2.36)

Table 11. Distribution of Hemodialysis Centers According to Re-Use of Bloodlines, 2016

RE-USE OF BLOODLINES	NUMBER (%) OF HD CENTERS		
	NCR (n=152)	OTHER REGION (n=484)	TOTAL (n=636)
YES	3 (1.97)	16 (3.31)	19 (2.99)
NO	149 (98.03)	468 (96.69)	617 (97.01)

CHAPTER TWO

DIALYSIS PATIENTS REGISTRY

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Table 12. New Dialysis Patients (HD & PD), NCR vs Other Regions, 2010 - 2016

REGION	2016	2015	2014	2013	2012	2011	2010
NCR	5,475	5,139	4,420	4,387	3,807	3,564	3,520
OTHER REGIONS	16,060	13,464	11,563	10,008	8,315	6,927	6,196
TOTAL	21,535	18,603	15,983	14,395	12,122	10,491	9,716

HD, Hemodialysis; PD, Peritoneal Dialysis

Table 13. New Dialysis Patients according to Region and Mode of Dialysis, 2016 and 2015

REGION	2015			2016		
	HD	PD	TOTAL	HD	PD	TOTAL
NCR	4,543	596	5,139	4,804	671	5,475
I	896	-	896	1,044	12	1,056
II	566	-	566	696	-	696
III	2,497	-	2,497	3,075	28	3,103
IV-A	2,542	-	2,542	3,032	2	3,034
IV-B	118	-	118	152	-	152
V	682	40	722	786	23	809
VI	1,094	4	1,098	1,340	20	1,360
VII	1,066	-	1,066	1,284	-	1,284
VIII	413	-	413	487	-	487
IX	359	-	359	476	-	476
X	605	-	605	736	-	736
XI	1,181	5	1,186	1,403	-	1,403
XII	707	-	707	696	3	699
XIII	153	-	153	204	-	204
ARMM	-	-	-	18	-	18
CAR	536	-	536	543	-	543
TOTAL	17,958	645	18,603	20,776	759	21,535

HD, Hemodialysis; PD, Peritoneal Dialysis

Table 14. Distribution of New Dialysis Patients according to Primary Renal Disease and Mode of Dialysis , 2016

PRIMARY RENAL DISEASE	HD	PD	TOTAL
Diabetic Nephropathy	8,786 (42.29)	181 (23.85)	8,965 (41.63)
Hypertensive Nephrosclerosis	6,230 (29.99)	229 (30.17)	6,461 (30)
Clinical	5,790	8	5798
Biopsy Proven	442	221	663
Chronic Glomerulonephritis	3,278 (15.78)	263 (34.65)	3,541 (16.44)
Clinical	3,144	254	3398
Biopsy Proven	134	9	143
<i>Focal Segmental Glomerulosclerosis</i>	13	3	16
<i>IgA Nephropathy</i>	37	2	39
<i>Lupus Nephritis</i>	77	3	80
<i>Membranous GN</i>	1	-	1
<i>Mesangioproliferative Glomerulonephritis</i>	1	1	2
<i>Miminal Change</i>	1	-	1
<i>Renal Amyloidosis</i>	1	-	1
<i>Tubulointerstitial Nephritis</i>	1	-	1
<i>Segmental Glomerulosclerosis</i>	2	-	2
Chronic Pyelonephritis	462 (2.22)	2 (.026)	464 (2.15)
Clinical	370	2	372
Biopsy Proven	92		92
Autosomal Dominant Polycystic Kidney Disease	226 (1.09)	2 (0.26)	228 (1.06)
Unknown	369 (1.78)	51 (6.72)	420 (1.95)
Others	1,425 (6.86)	31 (4.08)	1,456 (6.76)
<i>Obstructive Uropathy</i>	649	10	659
<i>Uric Acid Nephropathy/ Gouty Nephropathy</i>	456	13	469
<i>Drug Induced Nephropathy</i>	120	-	120
<i>Chronic Tubulo Interstitial Nephritis</i>	142	3	145
<i>Cardio renal Syndrome</i>	3	1	4
<i>Degenerative Nephropathy</i>	4	-	4
<i>Chronic Allograft Nephropathy</i>	7	-	7
<i>Hepatorenal Syndrome</i>	16	-	16
<i>Ischemic Nephropathy</i>	9	-	9
<i>Multiple Myeloma</i>	11	-	11
<i>Radiation Nephropathy</i>	1	-	1
<i>Renovascular Disease</i>	1	-	1
<i>Traumatic Kidney Injury</i>	2	-	2
<i>Congenital Kidney Disease</i>	4	4	8
TOTAL	20,776	759	21,535

HD, Hemodialysis; PD, Peritoneal Dialysis

Table 15. Frequency of New Hemodialysis Patients according to Primary Renal Disease, 2016

REGION	PRIMARY RENAL DISEASE							TOTAL
	DN	HPN	CGN	CPN	ADPKD	OTH	UNK	
NCR	2,076	1,546	665	94	82	276	65	4,804
I	452	333	141	23	10	60	25	1,044
II	204	270	138	14	12	43	15	696
III	1,453	752	526	57	21	190	76	3,075
IV-A	1,318	870	501	48	23	215	57	3,032
IV-B	79	41	17	1	1	9	4	152
V	272	240	151	34	6	58	25	786
VI	517	439	228	13	9	126	8	1,340
VII	518	394	207	48	13	83	21	1,284
VIII	210	122	82	24	5	42	2	487
IX	251	108	54	2	1	32	28	476
X	362	177	116	22	7	47	5	736
XI	525	484	224	33	6	112	19	1,403
XII	224	230	108	16	21	84	13	696
XIII	101	27	47	8	4	17	-	204
ARMM	7	3	8	-	-	-	-	18
CAR	215	196	65	25	4	32	6	543
TOTAL	8,784	6,232	3,278	462	225	1,426	369	20,776

CGN, Chronic glomerulonephritis; CPN, Chronic pyelonephritis; HPN, Hypertensive Nephrosclerosis; DN, Diabetic Nephropathy; ADPKD, Autosomal Dominant Polycystic Kidney Disease; OTH, Others and UNK, Unknown

Table 16. Frequency of New Peritoneal Dialysis Patients according to Primary Renal Disease, 2016

REGION	PRIMARY RENAL DISEASE							TOTAL
	DN	HPN	CGN	CPN	ADPKD	OTH	UNK	
NCR	163	200	234	2	2	28	42	671
I	3	6	3	-	-	-	-	12
III	12	7	8	-	-	-	1	28
IV-A	1	-	1	-	-	-	-	2
V	-	9	8	-	-	-	6	23
VI	2	6	9	-	-	3	-	20
XII	-	1	-	-	-	-	2	3
TOTAL	181	229	263	2	2	31	51	759

CGN, Chronic glomerulonephritis; CPN, Chronic pyelonephritis; HPN, Hypertensive Nephrosclerosis; DN, Diabetic Nephropathy; ADPKD, Autosomal Dominant Polycystic Kidney Disease; OTH, Others and UNK, Unknown

Note: No New Peritoneal Dialysis Patients registered from other regions

Table 17. Distribution of New Dialysis Patients according to Age and Mode of Dialysis, 2016

AGE RANGE	HD	PD	TOTAL
1-10	16 (0.08)	26 (3.43)	42 (0.20)
11-20	300 (1.44)	60 (7.91)	360 (1.67)
21-30	1,311 (6.31)	103 (13.57)	1,414 (6.57)
31-40	1,997 (9.61)	98 (12.91)	2,095 (9.73)
41-50	3,385 (16.29)	131 (17.26)	3,516 (16.33)
51-60	5,606 (26.98)	160 (21.08)	5,766 (26.78)
61-70	5,132 (24.70)	122 (16.07)	5,254 (24.40)
71-80	2,258 (10.87)	39 (5.14)	2,297 (10.67)
81-90	718 (3.46)	17 (2.24)	735 (3.41)
>90	53 (0.26)	3 (0.40)	56 (0.26)
Median (IQR)	57 (66, 46)	47 (60,31)	57 (65, 46)
Range (Min, Max)	(7, 98)	(0, 92)	(0, 98)
TOTAL	20,776	759	21,535

HD, Hemodialysis; PD, Peritoneal Dialysis; IQR, interquartile range; Min, minimum; Max, maximum

Table 18. Summary Statistics for New Dialysis Patients Age according to Primary Renal Disease and Mode of Dialysis, 2016

MODE OF DIALYSIS	PRD	n	AGE		
			MEAN (SD)	MEDIAN (IQR)	(Min, Max)
HD	DN	8,786	59.99 (11.21)	60 (67,53)	(16, 98)
	HPN	6,230	57.87 (13.96)	58 (68, 49)	(11, 98)
	CGN	3,278	38.03 (14.79)	35 (46, 27)	(7, 92)
	CPN	462	49.34 (16.59)	50 (63, 36)	(12, 90)
	ADPKD	226	53.62 (15.00)	54 (64, 46)	(10,92)
	OTHERS	1,425	54.46 (20.28)	55 (70, 39)	(7, 98)
	UNKNOWN	369	52.75 (17.40)	54 (66,41)	(8,93)
TOTAL	ALL	20,776	55.23 (15.22)	57 (66, 46)	(7, 98)
PD	DN	181	57.46 (11.47)	57 (64, 50)	(26, 91)
	HPN	229	54.38 (14.18)	53 (64, 45)	(8, 89)
	CGN	263	29.87 (15.41)	28 (37, 20)	(0, 84)
	CPN	2	41.50 (23.33)	41.5 (50, 33)	(25, 58)
	ADPKD	2	30 (24.04)	30 (39, 22)	(13, 47)
	OTHERS	31	40.77 (19.67)	43 (53, 31)	(0, 73)
	UNK	51	48.31 (22.45)	53 (63, 36)	(2, 92)
TOTAL	ALL	759	45.56 (19.20)	47 (60, 31)	(0, 92)
OVER-ALL TOTAL		21,535	54.89 (15.48)	57 (65, 46)	(0, 98)

PRD, Primary Renal Disease; DN, Diabetic Nephropathy; CGN, Chronic Glomerulonephritis; HPN, Hypertensive Nephrosclerosis; CPN, Chronic Pyelonephritis; ADPKD, Autosomal Dominant Polycystic Kidney Disease; UNK, Unknown;

Table 19. Frequency of New Dialysis Patients according to Region and Age (years), 2016

REGION	AGE										TOTAL
	1-10	11-20	21-30	31-40	41-50	51-60	61-70	71-80	81-90	>90	
NCR	31	116	387	561	901	1,377	1,273	569	239	21	5,475
I	-	24	57	102	166	291	272	107	34	3	1,056
II	-	15	62	83	123	204	144	53	11	1	696
III	1	34	200	278	507	831	770	364	107	11	3,103
IV-A	1	53	198	281	453	812	815	329	90	2	3,034
IV-B	1	3	4	14	22	64	31	9	4	-	152
V	2	14	68	77	139	224	183	80	18	4	809
VI	2	16	82	134	216	364	334	157	52	3	1,360
VII	1	18	82	114	218	326	326	152	45	2	1,284
VIII	1	4	23	43	66	146	112	67	24	1	487
IX	-	9	20	40	75	135	130	47	17	3	476
X	2	10	42	63	124	213	179	83	19	1	736
XI	-	15	78	148	259	395	337	134	37	-	1,403
XII	-	10	45	82	122	189	172	64	14	1	699
XIII	-	4	15	16	30	52	50	31	6	-	204
ARMM	-	1	2	3	2	2	8	-	-	-	18
CAR	-	14	49	56	93	141	118	51	18	3	543
TOTAL	42	360	1,414	2,095	3,516	5,766	5,254	2,297	735	56	21,535

Table 20. Frequency of New Dialysis Patients according to Region, Gender and Mode of Dialysis per Region, 2016

REGION	HD			PD		
	MALE	FEMALE	TOTAL	MALE	FEMALE	TOTAL
NCR	2,621	2,183	4,804	395	276	671
I	591	453	1,044	7	5	12
II	414	282	696	-	-	-
III	1,717	1,358	3,075	17	11	28
IV-A	1,789	1,243	3,032	1	1	2
IV-B	94	58	152	-	-	-
V	477	309	786	14	9	23
VI	797	543	1,340	12	8	20
VII	739	545	1,284	-	-	-
VIII	279	208	487	-	-	-
IX	294	182	476	-	-	-
X	413	323	736	-	-	-
XI	825	578	1,403	-	-	-
XII	447	249	696	2	1	3
XIII	110	94	204	-	-	-
ARMM	12	6	18	-	-	-
CAR	317	226	543	-	-	-
TOTAL	11,936	8,840	20,776	448	311	759

HD, Hemodialysis; PD, Peritoneal Dialysis

Table 21. Frequency of Co-morbidities seen in New Hemodialysis Patients Per Region, (N=20,776), 2016

REGION	COMORBIDITY *											
	DM	HPN	IHD	CHF	PTB	COPD	STROKE	COL	GOUT	MAL	NONE	OTH
NCR	2,289	2,907	161	100	52	43	93	26	107	80	535	88
I	472	575	35	23	10	7	19	5	25	10	130	10
II	228	342	13	8	3	3	8	2	21	4	177	6
III	1,483	1,304	41	36	42	20	45	21	103	35	525	23
IV-A	1,387	1,603	100	82	49	22	46	16	132	32	390	31
IV-B	85	78	7	8	4	1	-	-	4	-	24	2
V	295	452	12	14	10	3	10	3	39	5	99	9
VI	546	768	30	13	16	18	10	9	43	14	153	15
VII	566	675	35	27	11	7	11	13	35	24	201	19
VIII	222	205	16	6	4	1	6	1	14	5	87	29
IX	267	278	25	18	8	7	16	3	19	9	33	15
X	376	392	65	22	13	10	13	5	20	7	75	12
XI	620	857	55	28	19	12	32	10	58	17	181	30
XII	237	377	7	8	9	15	3	2	45	12	106	15
XIII	100	80	20	-	-	5	3	-	4	4	47	4
ARMM	11	13	1	-	-	-	2	-	-	1	2	2
CAR	226	440	2	7	2	1	3	2	19	2	19	3
Grand Total	9,410	11,344	625	400	252	175	320	118	688	261	2,763	313
%	45.29	54.60	3.01	1.93	1.21	0.84	1.54	0.57	3.31	1.26	13.30	1.51

* Multiple responses

DM, Diabetes Mellitus; HPN, Hypertension; IHD, Ischemic Heart Disease; CHF, Congestive Heart Failure; PTB, Pulmonary Tuberculosis; COPD, Chronic Obstructive Pulmonary Disease; COL, Collagen Disease; MAL, Malignancy; OTH, Others

Table 22. Frequency of Comorbidities seen in New Peritoneal Dialysis Patients Per Region, N=759, 2016

REGION	COMORBIDITY *											
	DM	HPN	IHD	CHF	PTB	COPD	STROKE	COL	GOUT	MAL	NONE	OTH
NCR	192	310	19	12	22	4	6	6	13	1	228	22
I	4	7	-	-	-	-	-	-	-	-	3	-
III	13	17	-	-	-	-	1	-	2	-	5	1
IV-A	1	1	-	-	1	1	-	-	-	-	-	-
V	-	13	2	1	-	-	-	-	1	-	6	-
VI	3	12	-	-	-	-	-	-	1	-	5	-
XII	-	1	-	-	-	-	-	-	-	-	2	-
TOTAL	213	361	21	13	23	5	7	6	17	1	249	23
%	28.06	47.56	2.77	1.71	3.03	0.66	0.92	0.79	2.24	0.13	32.81	3.03

* Multiple responses

DM, Diabetes Mellitus; HPN, Hypertension; IHD, Ischemic Heart Disease; CHF, Congestive Heart Failure; PTB, Pulmonary Tuberculosis; COPD, Chronic Obstructive Pulmonary Disease; COL, Collagen Disease; MAL, Malignancy; OTH, Others

Table 23. Distribution of New Dialysis Patients on Erythropoietin according to Mode of Dialysis, 2016

ON ERYTHROPOIETIN	HEMODIALYSIS	PERITONEAL	TOTAL
YES	16,935 (81.51)	489 (64.42)	17,424 (80.91)
NO	3,841 (18.48)	270 (35.57)	4,111 (19.08)
TOTAL	20,776	759	21,535

Table 24. Distribution of New Hemodialysis and Peritoneal Dialysis on Erythropoietin per Region, 2016

REGION	HEMODIALYSIS		PERITONEAL DIALYSIS	
	ON EPO	TOTAL	ON EPO	TOTAL
NCR	3,835 (79.83)	4,804	423 (63.04)	671
I	880 (84.29)	1,044	11 (91.67)	12
II	622 (89.37)	696	-	-
III	2,619 (85.17)	3,075	19 (67.86)	28
IV-A	2,656 (87.60)	3,032	2 (100.00)	2
IV-B	127 (83.55)	152	0	0
V	550 (69.97)	786	12 (52.17)	23
VI	1,177 (87.84)	1,340	20 (100.00)	20
VII	1,055 (82.17)	1,284	-	-
VIII	337 (69.20)	487	-	-
IX	362 (76.05)	476	-	-
X	575 (78.13)	736	-	-
XI	765 (54.53)	1,403	-	-
XII	657 (94.40)	696	2 (66.67)	3
XIII	199 (97.55)	204	-	-
ARMM	17 (94.44)	18	-	-
CAR	502 (92.45)	543	-	-
TOTAL	16,935 (81.51)	20,776	489 (64.42)	759

Table 25. Distribution of New Hemodialysis (N=16,935) and Peritoneal Dialysis (N=489) Patients on Erythropoietin according to Route of Administration, 2016

REGION	HEMODIALYSIS		PERITONEAL DIALYSIS	
	SQ	IV	SQ	IV
NCR	3,734 (23.87)	101 (7.81)	422 (86.65)	1 (50.00)
I	793 (5.07)	87 (6.72)	11 (2.26)	-
II	622 (3.98)	-	-	-
III	2,439 (15.59)	180 (13.91)	19 (3.90)	-
IV-A	2,489 (15.91)	167 (12.91)	1 (0.21)	1 (50.00)
IV-B	127 (0.81)	-	-	-
V	404 (2.58)	146 (11.28)	12 (2.46)	-
VI	1,096 (7.65)	81 (6.26)	20 (4.11)	-
VII	800 (5.11)	255 (19.70)	-	-
VIII	336 (2.15)	1 (0.08)	-	-
IX	355 (2.27)	7 (0.54)	-	-
X	435 (2.78)	140 (10.82)	-	-
XI	686 (4.39)	79 (6.11)	-	-
XII	657 (4.20)	-	2 (0.41)	-
XIII	197 (1.26)	2 (0.15)	-	-
ARMM	14 (0.09)	3 (0.23)	-	-
CAR	457 (2.92)	45 (3.48)	-	-
TOTAL	15,641	1,294	487	2

Table 26. Frequency of Patients according to the Type of Dialysis Bath, 2012 - 2016

DIALYSIS BATH	2016	2015	2014	2013	2012
Acetate	-	-	-	-	-
Bicarbonate	20,776	17,958	15,311	13,637	11,465
TOTAL	20,776	17,958	15,311	13,637	11,465

Table 27. Frequency of Patients according to the Type of Hemodialysis, 2012 - 2016

TYPE OF HD	2016	2015	2014	2013	2012
Conventional	11,204	9,647	8,652	7,410	6,282
High Flux/ High Efficiency	9,572	8,311	6,659	6,227	5,183
TOTAL	20,776	17,958	15,311	13,637	11,465

Table 28. Distribution of New Hemodialysis Patients according to the Duration of Hemodialysis Session, 2016

DURATION OF HEMODIALYSIS	NUMBER
Between 3 To 4 Hours	19,265
Less Than Or Equal To 3	753
More Than 4 Hours	756
SLED	2
TOTAL	20,776

Table 29. Distribution of New Hemodialysis Patients according to Hepatitis B Status, 2016

HEPATITIS B STATUS	NUMBER
HbsAg (+) Positive	949
HbsAg (-) Negative	19,506
Not Done / Data Not Available	321
TOTAL	20,776

Table 30. Distribution of New Hemodialysis Patients according to Hepatitis C Status, 2016

HEPATITIS C STATUS	NUMBER
Anti-HCV (+) Positive	160
Anti-HCV (-) Negative	19,495
Not Done / Data Not Available	1,121
TOTAL	20,776

Table 31. Distribution of New Peritoneal Dialysis Patients according to PD System, 2015 and 2016

PD SYSTEM	NUMBER (%)	
	2015	2016
CAPD (CONTINUOUS AMBULATORY PD)	524 (81.24)	534 (70.36)
CIPD (CHRONIC INTERMITTENT PD)	37 (5.74)	23 (3.03)
CIPD-C (Cycler-assisted)	11	-
CIPD-M (Manual)	26	-
APD (AUTOMATED PD)	1 (0.16)	
CCPD (Continuous cycler-assisted PD, wet day)	1	-
NIPD (Night-time IPD, dry day)	-	-
No Answer	83 (12.87)	202 (26.61)
TOTAL	645	759

Table 32. Distribution of New CAPD Patients according to Transfer Set System, 2015 and 2016

TRANSFER SET SYSTEM	NUMBER (%)	
	2015 (n=524)	2016 (n=534)
Straight Line	22 (4.20)	29 (5.43)
Reusable, removable	1 (0.19)	3 (0.56)
Disposable w/o pre-attached dialysis solution bag	4 (0.76)	4 (0.75)
Disposable w/ pre-attached dialysis solution bag	497 (94.85)	498 (93.07)

Table 33. Regional Distribution of New CAPD Patients according to Transfer Set System, 2016

REGION	TRANSFER SET SYSTEM					TOTAL
	REUSABLE-REMOVABLE	DISPOSABLE WITH PRE-ATTACHED BAG	DISPOSABLE WITHOUT PRE-ATTACHED BAG	STRAIGHT LINE	MINICAP EXTENSION LIFE TRANSFER SET	
NCR	1 (33.33)	456 (91.57)	2 (50)	2 (6.90)	-	461
I	-	11 (2.21)	-	1 (3.45)	-	12
III	-	6 (1.20)	-	22 (75.86)	-	28
IV-A	-	2 (0.40)	-	-	-	2
V	1 (33.33)	1 (0.20)	2 (50)	4 (13.79)	-	8
VI	1 (33.33)	19 (3.82)	-	-	-	20
XII	-	3 (0.60)	-	-	-	3
TOTAL	3	498	4	29	-	534

NOTE: No Registered New Peritoneal Dialysis Patients from other regions

Table 34. Regional Distribution of New CAPD Patients according to Volume Used per Exchange, 2016

REGION	VOLUME USED PER EXCHANGE					TOTAL
	0.5 L	1.0 L	1.5 L	2.0 L	OTH	
NCR	1 (25.00)	17 (30.36)	404 (98.54)	20 (55.56)	19 (67.86)	461
I	1 (25.00)	11 (19.64)	-	-	-	12
III	1 (25.00)	23 (41.07)	2 (0.49)	2 (5.56)	-	28
IV-A	-	1 (1.79)	1 (0.24)	-	-	2
V	-	2 (3.57)	-	1 (2.78)	5 (17.86)	8
VI	1 (25.00)	1 (1.79)	2 (0.49)	12 (33.33)	4 (14.29)	20
XII	-	1 (1.79)	1 (0.24)	1 (2.78)	-	3
TOTAL	4	56	410	36	28	534

NOTE: No Registered New Peritoneal Dialysis Patients from other regions

Table 35. Distribution of New CAPD Patients according to Number of Daily Exchanges, 2016

NUMBER OF DAILY EXCHANGES	NUMBER (%)
3	409 (76.59)
4	112 (20.97)
5	2 (0.37)
6	11 (2.06)
TOTAL	534

Table 36. Incidence and Prevalence of Dialysis Patients, 2002 – 2016

YEAR	INCIDENCE (%)			PREVALENCE* (%)		
	HD	PD	TOTAL	HD	PD	TOTAL
2002	3,917 (88.62)	503 (11.4)	4,420	3,450 (100.0)	-	3,450
2003	4,339 (87.92)	596 (12.1)	4,935	3,922 (100.0)	-	3,922
2004	4,863 (86.87)	735 (13.13)	5,598	4,375 (85.50)	742 (14.50)	5,117
2005	5,249 (93.38)	372 (6.62)	5,621	6,404 (87.87)	884 (12.13)	7,288
2006	5,576 (89.05)	686 (10.95)	6,262	6,614 (94.53)	383 (5.47)	6,997
2007	6,689 (92.80)	519 (7.20)	7,208	6,520 (87.26)	952 (12.74)	7,472
2008	7,209 (93.24)	523 (6.76)	7,732	9,382 (93.33)	670 (6.67)	10,052
2009	8,268 (92.67)	654 (7.33)	8,922	10,676 (95.56)	496 (4.44)	11,172
2010	9,133 (94.00)	583 (6.00)	9,716	12,731 (95.90)	544 (4.10)	13,275
2011	10,043 (95.73)	448 (4.27)	10,491	15,643 (96.38)	587 (3.62)	16,230
2012	11,465 (94.58)	657 (5.42)	12,122	18,186 (96.39)	682 (3.61)	18,868
2013	13,637 (94.73)	758 (5.27)	14,395	22,458 (96.12)	906 (3.88)	23,364
2014	15,311 (95.80)	672 (4.20)	15,983	26,849 (95.16)	1,366 (4.84)	28,215
2015	17,958 (96.53)	645 (3.46)	18,603	30,745 (95.85)	1,332 (4.15)	32,077
2016	20,776 (96.53)	759 (3.52)	21,535	36,253 (97.25)	1,027 (2.75)	37,280

HD, Hemodialysis; PD, Peritoneal Dialysis; INCIDENT patients, ESRD patients who were dialyzed for the first time;

PREVALENT Patients. ESRD patients who were dialyzed at least once in December

* Collection of Prevalence started in 2004 for PD patients

CHAPTER THREE

KIDNEY TRANSPLANT REGISTRY

**Philippine
Renal
Disease
Registry
2017 Report**

Table 37. Distribution of Kidney Transplant Patients According to Recipient Ethnicity and Donor Source, 2016

REGION	TRANSPLANT CENTER	FILIPINO				FOREIGNER				GRAND TOTAL *
		DECEASED	LNRD	LRD	TOTAL	DECEASED	LNRD	LRD	TOTAL	
NCR	Las Piñas City	-	-	2	2 (0.43)	-	-	-	-	2 (0.42)
	Makati City	1	4	-	5 (1.08)	-	-	-	-	5 (1.04)
	Manila	2	20	4	26 (5.63)	-	-	1	1	27 (5.63)
	Pasig City	-	-	2	2 (0.43)	-	-	-	-	2 (0.42)
	Quezon City	38	122	154	314 (67.97)	-	-	-	-	314 (65.42)
	San Juan	-	12	1	13 (2.81)	-	1	-	1	14 (2.92)
	Taguig City	-	37	7	44 (9.52)	-	2	2	4	48 (10.00)
I	La Union	-	-	3	3 (0.65)	-	-	-	-	3 (0.63)
	Pangasinan	-	2	-	2 (0.43)	-	-	-	-	2 (0.42)
III	Pampanga	-	2	3	5 (1.08)	-	-	-	-	5 (1.04)
IV-A	Batangas	-	4	-	4 (0.87)	-	-	-	-	4 (0.83)
VI	Iloilo	-	-	2	2 (0.43)	-	-	-	-	2 (0.42)
VII	Cebu	-	7	4	11 (2.38)	-	12	-	12	23 (4.79)
X	Misamis Oriental	-	5	5	10 (2.16)	-	-	-	-	10 (2.08)
XI	Davao del Sur	1	7	11	19 (4.11)	-	-	-	-	19 (3.96)
Grand Total		42	222	198	462	-	15	3	18	480

Table 38. Distribution of Kidney Transplant Patients according to Primary Renal Disease (N=480), 2016

PRIMARY RENAL DISEASE	NUMBER (%)
CHRONIC GLOMERULONEPHRITIS (CGN)	222 (46.25)
CLINICAL	181
BIOPSY PROVEN	41
IgA Nephropathy	27
Focal Segmental Glomerulosclerosis	10
Alport Syndrome	1
Lupus Nephritis	1
Membranous GN	1
Rapidly Progressive GN	1
DIABETIC NEPHROPATHY	112 (23.33)
HYPERTENSIVE NEPHROSCLEROSIS (HPN)	109 (22.71)
Clinical	101
Biopsy proven	8
AUTOSOMAL DOMINANT POLYCYSTIC KIDNEY DISEASE	11 (2.29)
CHRONIC PYELONEPHRITIS (CPN)	1 (0.21)
Clinical	1
Biopsy Proven	-
UNKNOWN	1 (0.21)
OTHERS	24 (5.00)
Urate Nephropathy	11
Obstructive Uropathy	3
NSAID Induced Nephropathy	3
Chronic Tubulo Interstitial Nephritis	2
Acute Tubular Necrosis	1
Drug Toxicity	1
Congenital Hypoplastic Kidney	2
Chronic Renal Allograft Nephropathy	1

GN, Glomerulonephritis;

Table 39. Distribution of Kidney Transplant Patients according to Type of Dialysis Prior to Transplant (N=480), 2016

TYPE OF DIALYSIS	NUMBER (%)
Hemodialysis	389 (81.04)
Peritoneal Dialysis	22 (4.58)
Never on Dialysis	69 (14.38)

Table 40. Distribution of Kidney Transplant Patients according to Length of Time on Dialysis Prior to Kidney Transplant, 2016

YEARS ON DIALYSIS	NUMBER (%)
< 0.1	73 (15.21)
0.1 - 0.5	135 (28.13)
0.51 - 1.0	88 (18.33)
1.01 - 1.5	57 (11.88)
1.51 - 2.0	40 (8.33)
2.01 - 2.5	24 (5.00)
2.51 - 3.0	26 (5.42)
> 3.0	37 (7.71)
TOTAL	480

Table 41. Distribution of Kidney Transplant Patients according to Gender of Recipients and Donors, 2016

GENDER	NUMBER (%) OF RECIPIENTS	NUMBER (%) OF DONORS
Male	308 (64.17)	325 (67.71)
Female	172 (35.83)	155 (32.29)
TOTAL	480	480

Table 42. Distribution of Kidney Transplant Patients according to Gender Pairings, 2016

DONOR	NUMBER (%) OF RECIPIENTS		
	MALE	FEMALE	TOTAL
Male	218 (70.78)	107 (62.21)	325 (67.71)
Female	90 (29.22)	65 (37.79)	155 (32.29)
TOTAL	308	172	480

Table 43. Distribution of Kidney Transplant Patients according to Age of Recipients and Donors (N=480), 2016

AGE RANGE	NUMBER (%) OF RECIPIENTS	NUMBER (%) OF DONORS
1 - 10	1 (0.21)	-
11 - 20	11 (2.29)	37 (7.71)
21 - 30	77 (16.04)	225 (46.88)
31 - 40	116 (24.17)	150 (31.25)
41 - 50	102 (21.25)	55 (11.46)
51 - 60	95 (19.79)	10 (2.08)
61 - 70	62 (12.92)	2 (0.42)
71 - 80	16 (3.33)	1 (0.21)
> 81	-	-

Table 44. Distribution of Kidney Transplant Patients according to Donor Source and Source of Living Related Donors (N=480), 2016

DONOR SOURCE		NUMBER (%)
Living Donor		438 (91.25)
LNRD		237 (54.11)
LRD		201 (45.89)
Sibling		113
Child		30
Cousin		31
Nephew/Niece		18
Parent		7
Aunt/Uncle		2
Deceased Donor		42 (8.75)

LNRD, Living Non-related Donor; LRD, Living Related Donor

Table 45. Distribution of Kidney Transplant Patients based on Ethnicity (N=480), 2016

RECIPIENT ETHNICITY	NUMBER (%)
FILIPINO	461 (96.04)
Pure Filipino	459
Mixed Filipino	2
FOREIGNER	19 (3.96)
Mid Eastern / Arabian	10
Asian (Non-Filipino)	3
Black	2
Indian Sub-continent	2
Pacific Islander	2

Table 46. Distribution of Kidney Transplant Patients according to Blood Type Pairs (N=480), 2016

BLOOD TYPE			NUMBER (%)
DONOR	RECIPIENT		
O	O		210 (43.75)
O	A		40 (8.33)
O	B		43 (8.96)
O	AB		9 (1.88)
A	A		71 (14.79)
A	AB		2 (0.42)
B	B		88 (18.33)
B	AB		10 (2.08)
AB	AB		7 (1.46)

Table 47. Distribution of Kidney Transplant Patients according to Donor and Recipient Status for PTB (Pre-transplant) (N=480), 2016

PTB STATUS		NUMBER (%)
DONOR	RECIPIENT	
(-)	(-)	442 (92.08)
(-)	(+)	6 (1.25)
(+)	(-)	2 (0.42)
(+)	(+)	6 (1.25)
(-)	Not Done	6 (1.25)
Not Done	(-)	5 (1.04)
Not Done	Not Done	13 (2.71)

Table 48. Distribution of Kidney Transplant Patients according to Donor and Recipient Status for CMV (Pre-transplant) (N=480), 2016

CMV STATUS		NUMBER (%)
DONOR	RECIPIENT	
(-)	(-)	17 (3.54)
(-)	(+)	9 (1.88)
(+)	(-)	14 (2.92)
(+)	(+)	416 (86.67)
(+)	Not Done	2 (0.42)
Not Done	(+)	22 (4.58)

Table 49. Distribution of Kidney Transplant Patients according to Number of HLA Mismatches Among Donor and Recipients, 2015 - 2016

NUMBER OF HLA MISMATCHES	NUMBER (%)	
	2015	2016
0	22 (4.63)	25 (5.21)
1	25 (5.26)	22 (4.58)
2	45 (9.47)	53 (11.04)
3	113 (23.79)	117 (24.38)
4	126 (26.53)	143 (29.79)
5	110 (23.16)	95 (19.79)
6	32 (6.74)	25 (5.21)
No Answer	2 (0.42)	-
TOTAL	475	480

Table 50. Distribution of Kidney Transplant Patients according to Donor and Recipient Status for HBsAg (Pre-transplant) (N=480), 2016

HBsAg STATUS		NUMBER (%)
DONOR	RECIPIENT	
(-)	(-)	475 (98.96)
(-)	(+)	5 (1.04)

Table 51. Distribution of Kidney Transplant Patients according to Donor and Recipient Status for Anti-HCV (Pre-transplant) (N=480), 2016

Anti-HCV STATUS		
DONOR	RECIPIENT	NUMBER (%)
(-)	(-)	478 (99.58)
(-)	(+)	1 (0.21)
(+)	(-)	1 (0.21)

Table 52. Distribution of Transplant Patients according to Comorbidity Diseases (N=480), 2016

COMORBIDITY	NUMBER (%)
COMORBIDITY *	436 (90.83)
Hypertension	407 (93.35)
Diabetes Mellitus	150 (34.40)
Gout	16 (3.67)
Ischemic Heart Disease	8 (1.83)
PTB	4 (0.92)
Stroke	3 (0.69)
Congestive Heart Failure	1 (0.23)
COPD	1 (0.23)
Malignancy	1 (0.23)
Others **	20 (4.59)
NONE	44 (9.17)

* Multiple responses

** Others: Alport Syndrome, Asthma, BPH, Cardiomyopathy, Crohn`s Disease, Dyslipidemia, Hyperuricemia, Hypothyroidism, PAOD, Sleep Apnea, WPWS

Table 53. Distribution of Kidney Transplant Patients according to Cold Ischemia Time of Living Donors, 2016

COLD ISCHEMIA TIME (minutes)	NUMBER (%) OF LIVING DONORS
< 30	331 (68.96)
31 - 60	94 (19.58)
> 60	13 (2.71)
TOTAL	438

Table 54. Distribution of Kidney Transplant Patients according to Cold Ischemia Time of Deceased Donors, 2016

COLD ISCHEMIA TIME (hours)	NUMBER (%) OF DECEASED DONORS
< 12	8 (19.05)
13 - 24	29 (69.05)
25 - 36	5 (11.90)
TOTAL	42

Table 55. Distribution of Kidney Transplant Patients according to Induction Immunosuppression (N=480), 2016

INDUCTION IMMUNOSUPPRESSION	NUMBER (%)
INDUCTION	
ATG	246 (51.25)
Basiliximab	235 (48.96)
DESENSITIZATION	
Plasmapheresis	5 (1.04)
IVIg	5 (1.04)
Rituximab	4 (0.83)
NONE	1 (0.21)

* Multiple responses

Table 56. Distribution of Kidney Transplant Patients according to Baseline Immunosuppression (N=480), 2016

BASELINE IMMUNOSUPPRESSION *	NUMBER (%)
PREDNISONE	443 (92.29)
CALCINEURIN INHIBITORS	
Tacrolimus	436 (90.83)
Cyclosporine	46 (9.58)
ANTIMETABOLITES	
Mycophenolate Mofetil	114 (23.75)
Mycophenolate Sodium	344 (71.67)
PROLIFERATION SIGNAL INHIBITORS	
Everolimus	12 (2.50)
Sirolimus	2 (0.42)

* Multiple responses

Table 57. Distribution of Kidney Transplant Patients according to Anti-infectives Used Post Transplant (N=480), 2016

ANTI - INFECTIVES POST TRANSPLANT	NUMBER (%)
YES *	475
INH	319 (66.46)
Co-trimoxazole	404 (84.17)
Nystatin	358 (74.58)
Valaciclovir	331 (68.96)
Valganciclovir	82 (17.08)
Gancyclovir	1 (0.21)
Acyclovir	7 (1.46)
Others	5 (1.04)
<i>Cefixime</i>	1
<i>Ceftriaxone</i>	1
<i>Cefuroxime</i>	1
<i>Co-Amoxiclav</i>	1
<i>Dapsone</i>	1
NONE	5

* Multiple responses

Table 58. Frequency of Graft Dysfunction among New Kidney Transplant Patients (N=480), 2016

GRAFT DYSFUNCTION	NUMBER (%)
YES*	11 (2.29)
Acute Rejection	5 (45.45)
Clinical	3
Biopsy-proven	2
Acute Tubular Necrosis	1 (9.09)
Clinical	1
Biopsy-proven	-
Thrombosis	2
Myocardial Infarction	1 (9.09)
Mycotic/Bacterial disruption of arterial	1 (9.09)
NONE	470 (97.71)

* Multiple response

Table 59. 1-Year Graft Survival of Filipino Patients Who Received Kidney Transplant, 2015

1 - YEAR GRAFT OUTCOME	NUMBER (%)
FUNCTIONING GRAFT	451 (95.96)
Creatinine : <2	434
Creatinine : >2	17
GRAFT LOSS (on dialysis)	1 (0.21)
DIED	7 (1.49)
LOST TO FOLLOW-UP	11 (2.34)
TOTAL	470

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