ANNUAL STATISTICS REPORT 2017

NATIONAL BLOOD TRANSFUSION SERVICE

SRI LANKA

Statistics Unit
National Blood Transfusion Service

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Introduction

National Blood Transfusion Service (NBTS), Sri Lanka is a fully government owned special campaign coming under the Ministry of Health. It is the sole supplier of blood and blood products to all government hospitals and majority of private sector hospitals. There are 98 functioning Hospital Based Blood Banks & 2 Standalone Blood Centers affiliated to 19 cluster centers, depending on the geographic distribution.

Vision

To be a unique model for the world securing Quality assured blood services, through a nationally coordinated system.

Mission

To ensure the quality, safety, adequacy and cost effectiveness of the blood supply and related laboratory, clinical, academic and research in accordance with national requirement and WHO recommendations .

National Blood Transfusion Service

The Director NBTS, being the chief executive officer of the organization, is responsible for implementation and supervision of the common decisions taken by the organization.

Majority of NBTS staff are affiliated to 103 blood banks, which are grouped in to 19 clusters across the country. Each cluster centre is headed by a Consultant Transfusion Physician or a senior medical officer. Consultant Transfusion Physicians also provide clinical guidance to blood banks within the cluster.

This report compiles the consolidated statistics of the performance of blood banks of the National Blood Transfusion Services for the year 2017.

Geographical distribution of blood banks -2017

North Central
ANURADHAPURA
Medirigiriya
Padaviya
Polonnaruwa
Thabuttegama

Northern	
VAVNIYA	JAFFNA
Mannar	Killinochchi
Chetticulam	Mulathiv
	Point Pedro
	Thelippalai

Eastern		
BATTICALOA	TRINCOMALEE	AMPARA
Valachchenai	Kantale	Akkarepattu
Kattankudyi	Kinniya	Dehiattakandiya
	Muththur	Kalmunai North
		Kalmunai South
		Mahaoya
		Sammanthurai
		Pothuvil

North Western
KURUNEGALA
Dambadeniya
Kuliyapitiya
Nikaweratiya

Southern	
KARAPITIYA	KAMBURUGAMUWA
Balapitiya	Kamburupitiya
Elpitiya	Matara
Mahamodara	Walasmulla
Udugama	HAMBANTOTA
	Tangalle
	Tissamaharama

Central
KANDY
Dabulla
Gampola
Matale
Nawalapitiya
Rikillagaskada
PERADENIYA
Warakapola
Kegalle
Mawanella
Dikkoya
NuwaraEliya

Sabaragamuwa
RATNAPURA
Balangoda
Embilipitiya
Kahawatta

Uva
BADULLA
Bibila
Diyathlawa
Mahiyangana
Monaragala
Welimada
Wellawaya

Western				
NBC	CNTH	CHILAW	CIM	KALUTARA
NHSL	Gampaha	Marawila	Awissawella	Horana
CSHW	Wathupitiwala	Negambo	Homagama	Kethumathi
CSTH	Welisara	Puttlam	Karawanella	Panadura
DMH	Meerigama	Kalpitiya		
LRH	Minuwangoda			
SJGH	Kiribathgoda			
Accident Service				
IDH-Angoda				
CETH-Mulleriyawa				
NINDT-Maligawaththa				
Army Hospital				

Blood Collection in 2017

Table 1: Details of Blood Collection *(in 450ml Units)*

Cluster		Blood bank	No. of mobiles	Total mobile collection	Total In-house collection	Total Collection
Ampara	1	Ampara	109	6,174	882	7,056
	2	Akkaraipattu	15	705	200	905
	3	Dehiaththakandiya	31	2,233	249	2,482
	4	Kalmunai AM (S)	20	1,412	327	1,739
	5	Kalmunai Base(N)	13	702	274	976
	6	Mahaoya	26	1,323	162	1,485
	7	Samanthurai	5	276	53	329
	8	Pottuvil	2	70	21	91
Anuradhapura	9	Anuradhapura	271	21,079	1,511	22,590
	10	Polonnaruwa	159	11,243	589	11,832
	11	Padaviya	22	1,191	241	1,432
	12	Medirigiriya	0	0	111	111
	13	Thambuththegama	0	0	0	0
Badulla	14	Badulla	207	13,670	907	14,577
	15	Monaragala	110	7,664	453	8,117
	16	Diyathalawa	39	1,982	174	2,156
	17	Mahiyanganaya	19	1,053	219	1,272
	18	Bibila	0	0	0	0
	19	Welimada	0	0	118	118
	20	Wellawaya	0	0	0	0
Batticoloa	21	Batticaloa	108	5,537	830	6,367
	22	Valachchenai	0	0	0	0
	23	Kattankudy	0	0	26	26
Chilaw	24	Chilaw	90	5,689	426	6,115
	25	Negambo	78	5,279	216	5,495
	26	Puttlam	50	2,716	209	2,925
	27	Marawila	34	2,341	218	2,559
	28	Kalpitiya	0	0	0	0
CIM	29	CIM	212	19,338	1,973	21,311
	30	Avissawella	24	1,437	675	2,112
	31	Homagama	30	2,078	160	2,238
	32	Karawanella	0	0	0	0

Cont…

Cluster		Blood bank	No. of mobiles	Total mobile collection	Total In-house collection	Total Collection
CNTH	33	CNTH	192	14,979	680	15,659
	34	Gampaha	88	5,133	486	5,619
	35	Wathupitiwala	60	3,671	353	4,024
	36	Minuwangoda	48	3,145	35	3,180
	37	Meerigama	3	155	6	161
	38	Welisara	0	0	0	0
Hambanthota	39	Hambanthota	43	2,635	214	2,849
	40	Tangalle	12	490	68	558
	41	Tissamaharama	0	0	39	39
Jaffna	42	Jaffna	139	5,707	2,589	8,296
	43	Mullaitive	19	1,316	239	1,555
	44	Tellippalai	16	525	35	560
	45	Killinochchi	22	591	248	839
	46	Point Pedro	22	561	264	825
Kalutara	47	Kaluthara	122	7,052	187	7,239
	48	Horana	31	2,135	57	2,192
	49	Kethumathie	40	2,520	69	2,589
	50	Panadura	0	0	130	130
Kamburugamuwa	51	Kamburugamuwa	202	18,143	122	18,265
	52	Matara	54	2,804	200	3,004
	53	Kamburupitiya	0	0	40	40
	54	Walasmulla	0	0	0	0
Kandy	55	Kandy	227	21,200	1,643	22,843
	56	Gampola	38	2,403	101	2,504
	57	Matale	57	3,422	213	3,635
	58	Nawalapitiya	29	2,204	195	2,399
	59	Dambulla	34	2,430	424	2,854
	60	Rikillagaskada	6	234	231	465
Karapitiya	61	Karapitiya	220	17,859	674	18,533
	62	Elpitiya	6	338	109	447
	63	Balapitiya	14	750	111	861
	64	Mahamodara	10	585	31	616
	65	Udugama	0	0	0	0

Cont…

Cluster		Blood bank	No. of mobiles	Total mobile collection	Total In-house collection	Total Collection
Kurunegala	66	Kurunegala	274	29,448	1,446	30,894
	67	Kulliyapitiya	54	4,142	300	4,442
	68	Dambadeniya	35	2,520	136	2,656
	69	Nikaweratiya	32	2,182	96	2,278
Colombo	70	NBC	773	59,581	5,663	65,244
	71	NHSL	105	6,541	1,048	7,589
	72	CSTH	57	2,876	212	3,088
	73	SJGH	41	3,038	223	3,261
	74	Accident Service	0	0	0	0
	75	CSHW	0	0	0	0
	76	DMH	0	0	0	0
	77	IDH-Angoda	0	0	0	0
	78	LRH	0	0	0	0
	79	Maligawatta	0	0	0	0
	80	Mulleriyawa	0	0	0	0
	81	Army Hospital	2	161	450	611
Peradeniya	82	Peradeniya	165	10,253	340	10,593
	83	Kegalle	72	4,122	389	4,511
	84	Nuwaraeliya	41	2,606	112	2,718
	85	Mawenella	22	1,274	130	1,404
	86	Dikkoya	0	0	0	0
	87	Warakapola	0	0	0	0
Rathnapura	88	Rathnapura	179	11,111	620	11,731
	89	Embilipitiya	46	2,942	160	3,102
	90	Balangoda	16	939	419	1,358
	91	Kahawatta	0	0	66	66
Trincomalee	92	Trincomalee	60	4,344	434	4,778
	93	Kanthale	0	0	109	109
	94	Kinniya	0	0	0	0
	95	Muthur	0	0	0	0
Vavuniya	96	Vavuniya	50	2,885	559	3,444
	97	Mannar	11	438	163	601
	98	Chettikulam	0	0	0	0
		Total	**5,463**	**389,582**	**34,086**	**423,668**

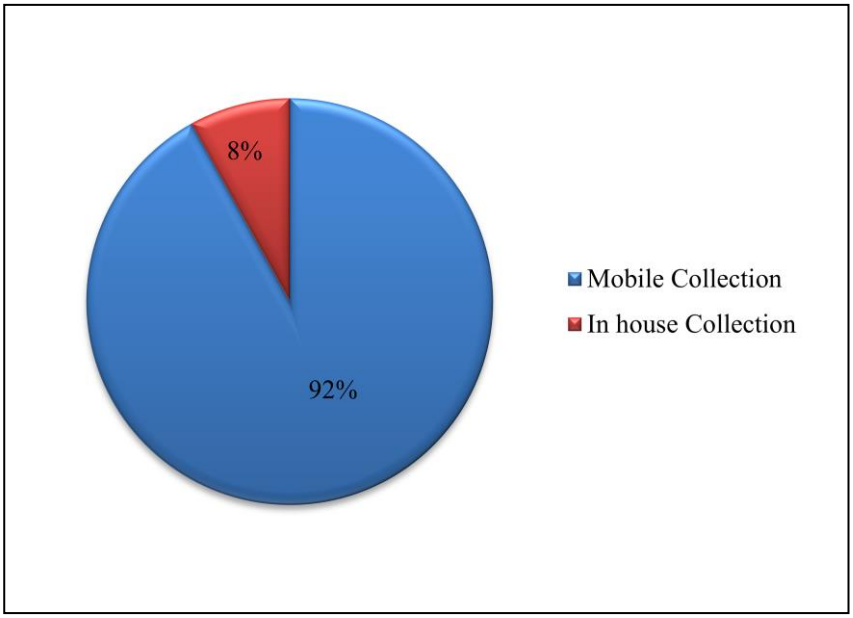


Figure 1: Distribution of total blood collection by mode of collection

Yearly Improvement of blood collection

Table 2: Comparison of Annual Blood Collection

Year	Voluntary collection	Replacement collection	Total collection
2013	380,808	0	380,808
2014	380,367	0	380,367
2015	395,500	0	395,500
2016	414,175	0	414,175
2017	423,668	0	423,668

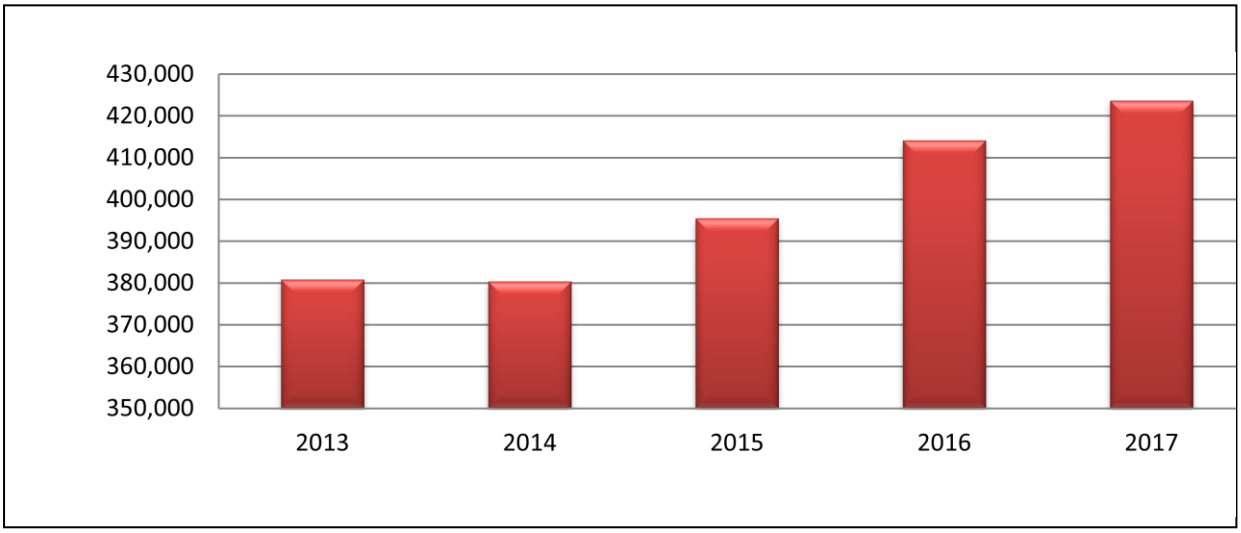


Figure 2: Yearly improvement of blood collection

Blood Collection Cluster wise

Table 3: Total blood collection cluster wise

Cluster	No. of mobiles	Total mobile collection	Total in-house collection	Total Collection
Ampara	221	12,895	2,168	15,063
Anuradhapura	452	33,513	2,452	35,965
Badulla	375	24,369	1,871	26,240
Batticoloa	108	5,537	856	6,393
Chilaw	252	16,025	1,069	17,094
CIM	266	22,853	2,808	25,661
CNTH	391	27,083	1,560	28,643
Colombo	978	72,197	7,596	79,793
Hambanthota	55	3,125	321	3,446
Jaffna	218	8,700	3,375	12,075
Kalutara	193	11,707	437	12,144
Kamburugamuwa	256	20,947	362	21,309
Kandy	391	31,893	2,807	34,700
Karapitiya	250	19,532	925	20,457
Kurunegala	395	38,292	1,978	40,270
Peradeniya	300	18,255	971	19,226
Rathnapura	241	14,992	1,265	16,257
Trincomalee	60	4,344	543	4,887
Vavuniya	61	3,323	722	4,045
Total	5,463	389,582	34,086	423,668

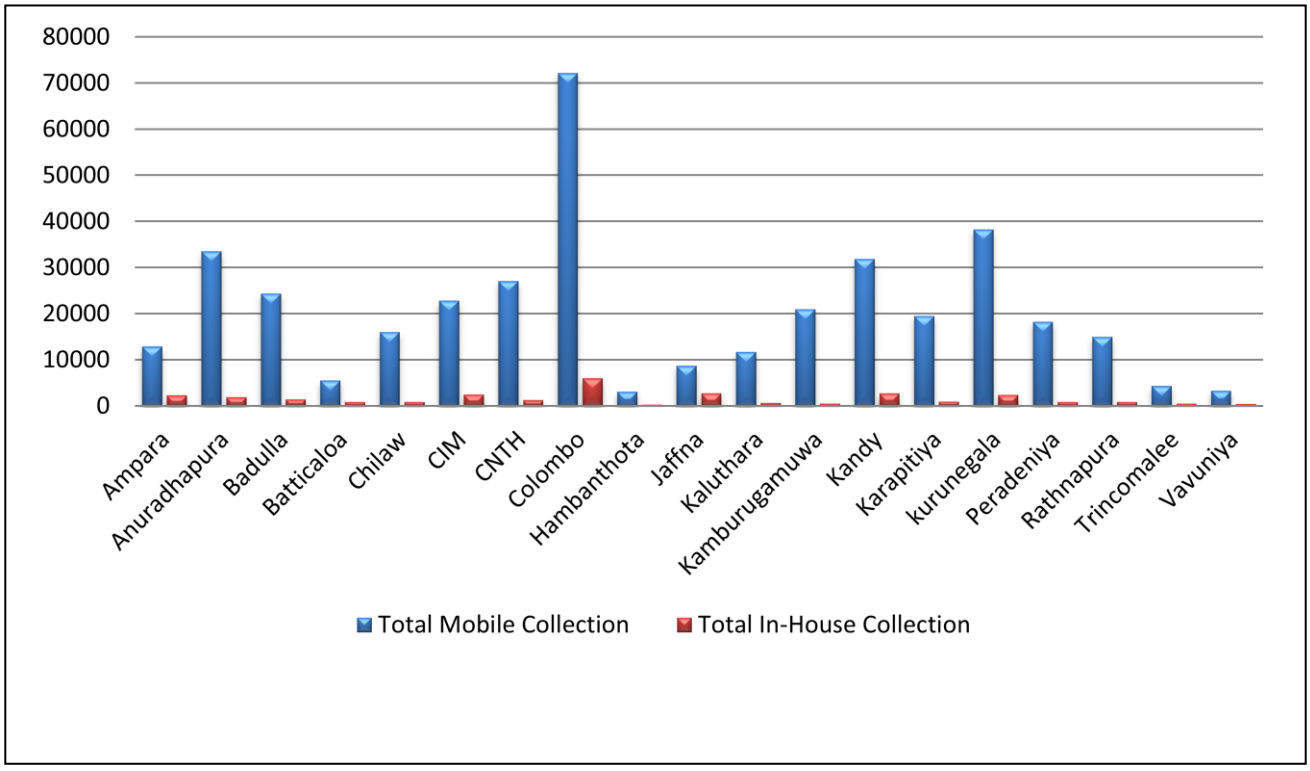


Figure 3: Total blood collection cluster wise

Comparison of Cluster collection with previous year

Table 4: Comparison of cluster blood collection with previous year

Cluster	2016	2017
Ampara	13,277	15,063
Anuradhapura	34,947	35,965
Badulla	24,291	26,240
Batticaloa	6,092	6,393
Chilaw	14,689	17,094
CIM	26,326	25,661
CNTH	27,064	28,643
Colombo	82,902	79,793
Hambanthota	2,843	3,446
Jaffna	10,680	12,075
Kaluthara	12,447	12,144
Kamburugamuwa	20,691	21,309
Kandy	34,940	34,700
Karapitiya	20,919	20,457
Kurunegala	37,588	40,270
Peradeniya	19,729	19,226
Rathnapura	15,745	16,257
Trincomalee	5,042	4,887
Vavuniya	4,037	4,045
Total	**414,175**	**423,668**

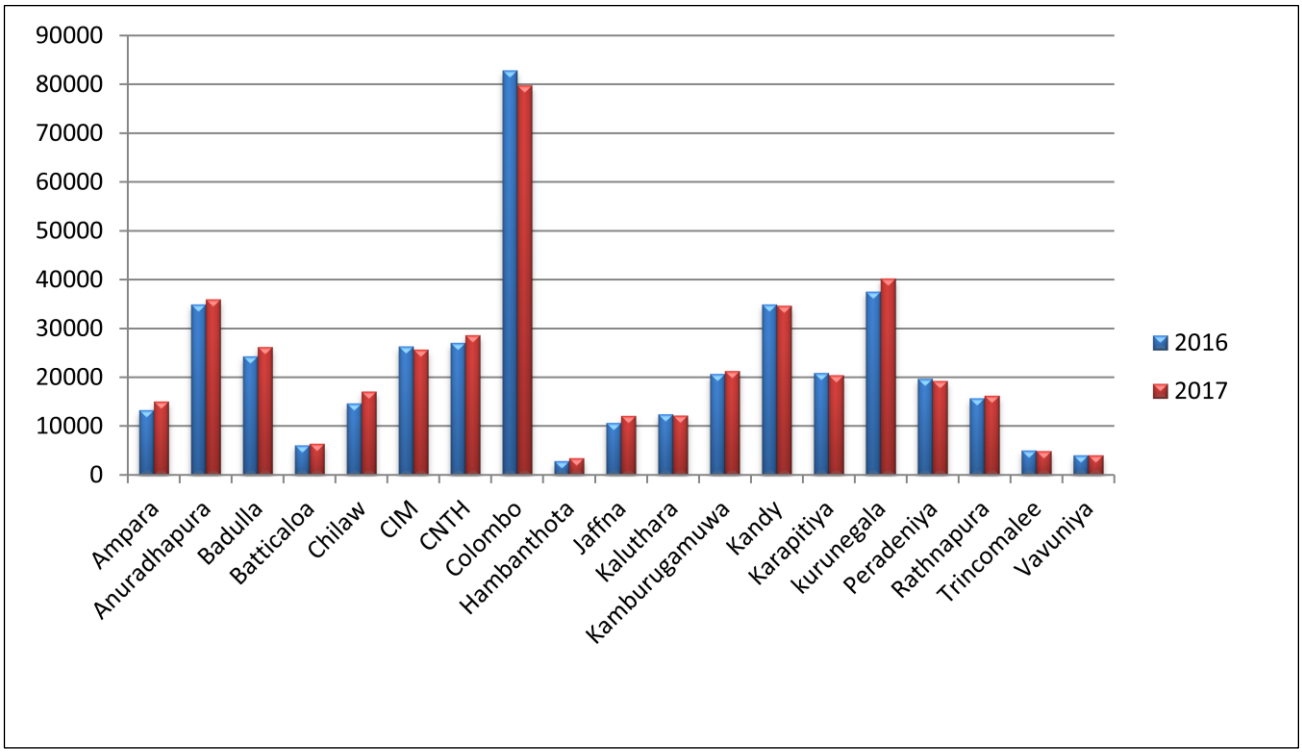
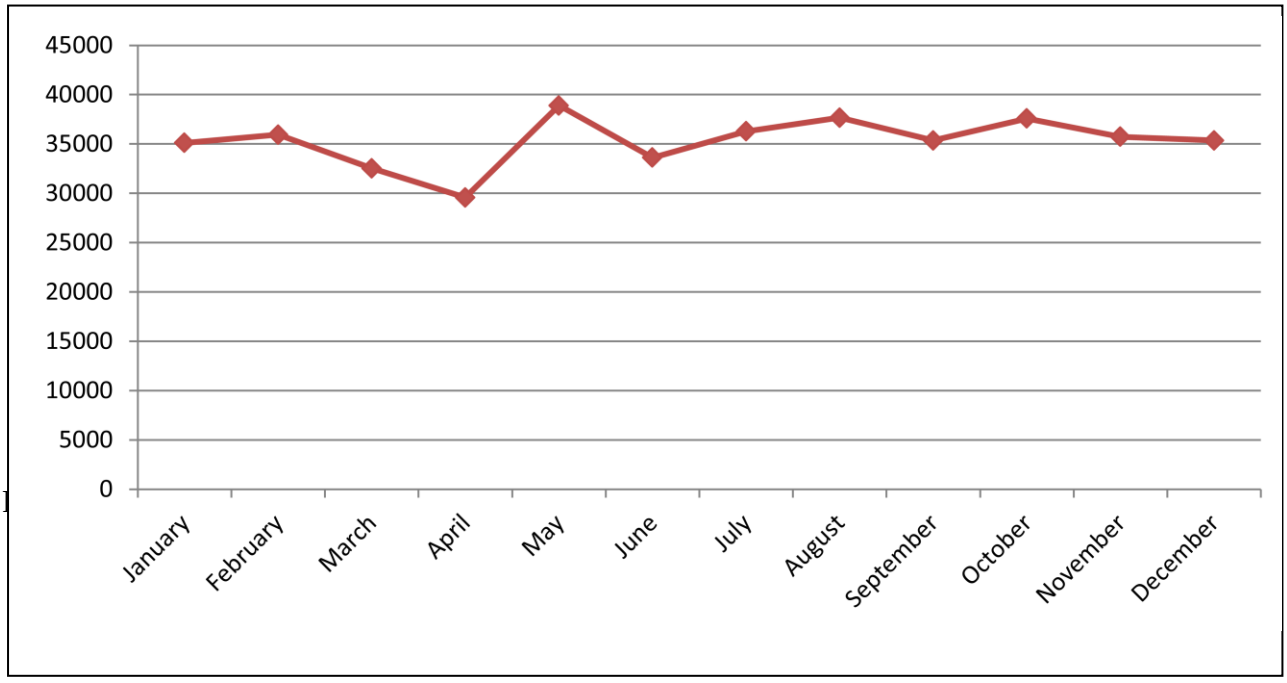


Figure 4: Comparison of cluster blood collection with previous year

Monthly Blood Collection

Table 5: Monthly variation of total blood collection

Month	No of mobiles	Mobile collection	In house collection	Total Collection
January	437	31,850	3,266	35,116
February	444	33,667	2,279	35,946
March	451	29,892	2,639	32,531
April	406	26,268	3,306	29,574
May	486	35,579	3,319	38,898
June	421	30,256	3,362	33,618
July	453	33,056	3,222	36,278
August	470	35,192	2,474	37,666
September	474	32,778	2,582	35,360
October	487	34,990	2,590	37,580
November	477	33,340	2,398	35,738
December	457	32,714	2,649	35,363
Total	**5,463**	**389,582**	**34,086**	**423,668**



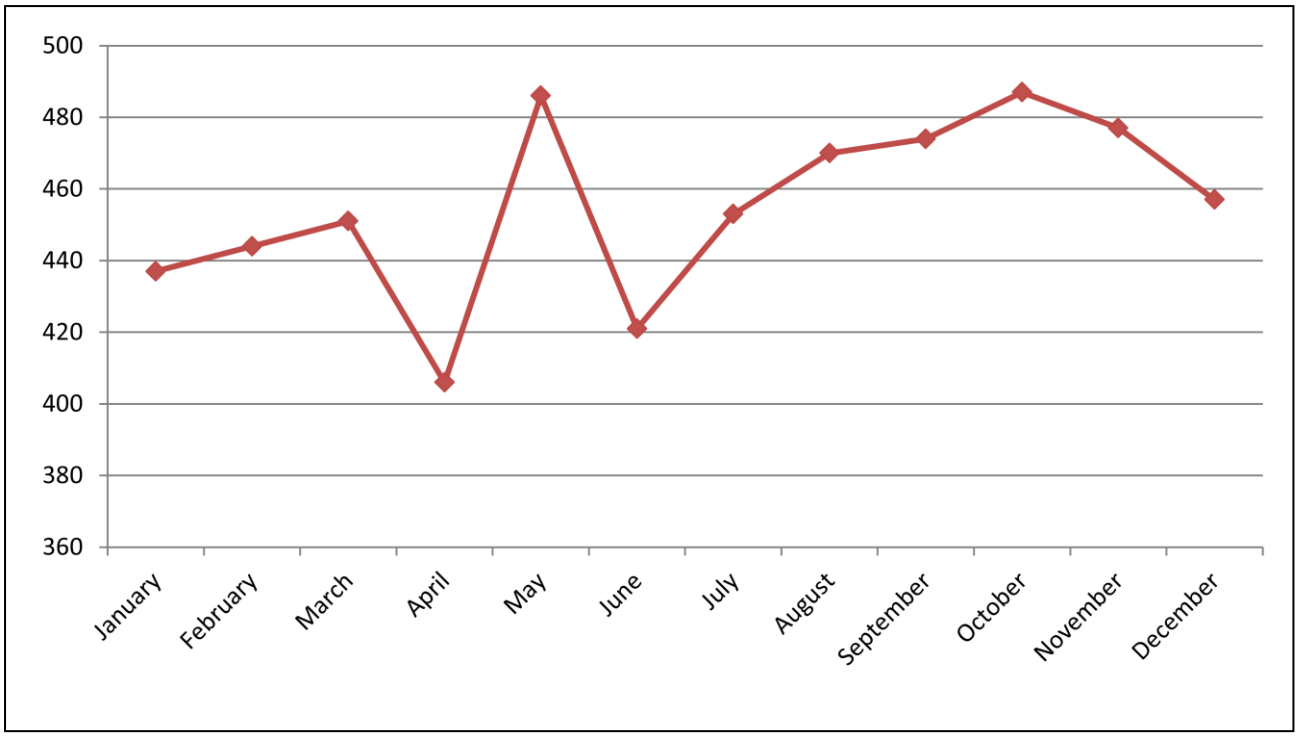
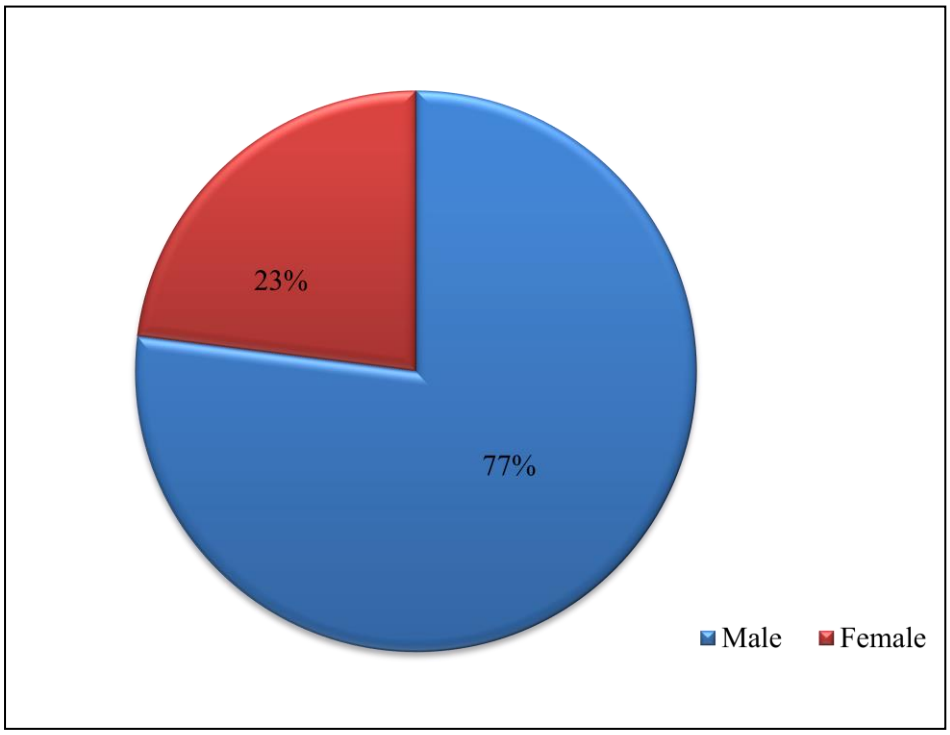


Figure 6: Monthly variation of number of mobiles

Gender distribution of blood collection



Male- 326,224(77%)
Female- 97,444(23%)

Figure 7: Gender difference in blood donation in Sri Lanka

ABO and Rh group distribution of blood collection

Table 6: ABO and Rh group distribution of blood collection

	A	B	AB	0	Bombay O	Other	**Total**
Rh D Positive	88,456	112,837	21,895	176,977	15	54	**400,234**
Percentage	20.88%	26.63%	5.17%	41.77%	0.004%	0.013%	**94.47%**
Rh D Negative	5375	6140	1320	10570	0	0	**23,405**
Percentage	1.27%	1.45%	0.31%	2.49%	0%	0%	**5.52%**
Weak D	5	7	2	15	0	0	**29**
Percentage	0.001%	0.002%	0.0005%	0.004%	0%	0%	**0.007%**
Total	**93,836**	**118,984**	**23,217**	**187,562**	**15**	**54**	**423,668**

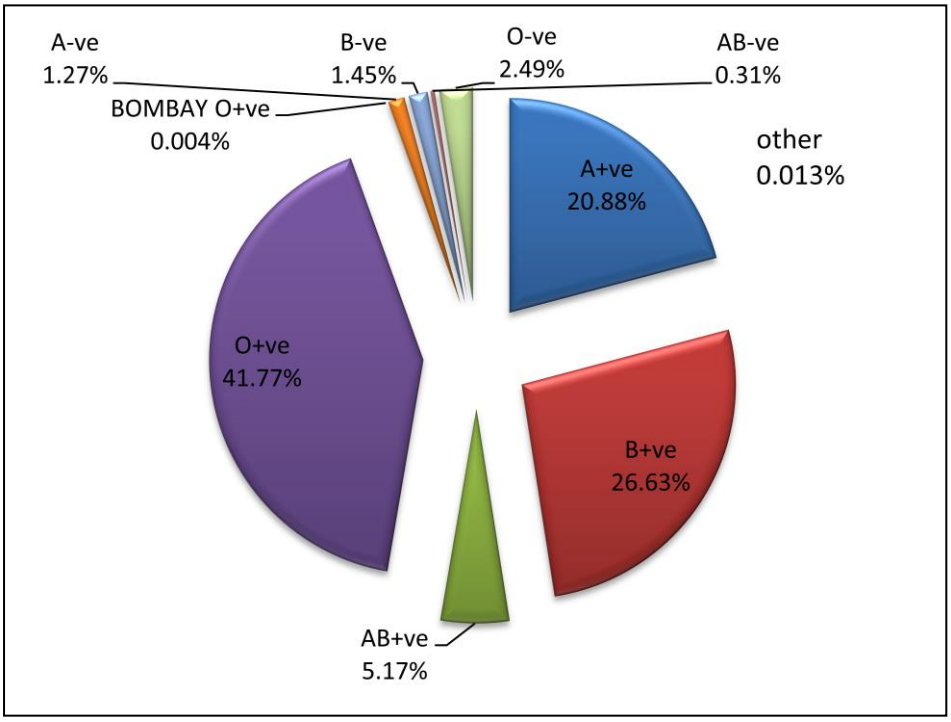


Figure 8: ABO and Rh distribution of donor population

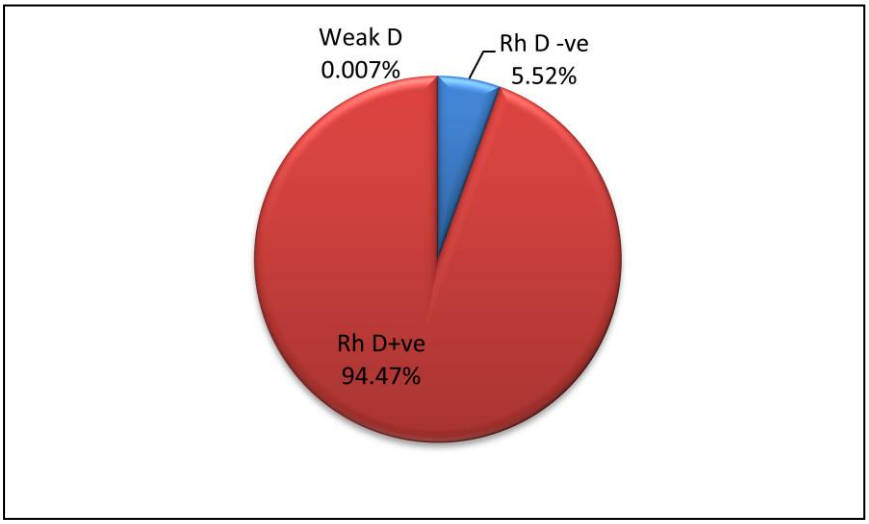


Figure 9: Rh distribution of donor population

Preparation of Components

Table 7: Details of Component Production

Cluster		Blood Bank	RCC	PLT	FFP	CRYO	Stored Plasma	CSP
Ampara	1	Ampara	13970	5491	13926	5681	7	1462
	2	Akkaraipattu	175	0	0	0	61	0
	3	Dehiaththakandiya	267	0	0	0	251	0
	4	Kalmunai AM(S)	185	0	0	0	147	0
	5	Kalmunai Base(N)	224	0	0	0	224	0
	6	Mahaoya	154	0	18	0	111	0
	7	Pottuvil	0	0	0	0	0	0
	8	Samanthurai	55	0	0	0	47	0
Anuradhapura	9	Anuradhapura	26796	13936	26796	5698	0	5698
	10	Medirigiriya	104	0	0	0	104	0
	11	Padaviya	1144	0	0	0	786	0
	12	Polonnaruwa	11900	4677	11899	931	0	363
	13	Thambuththegama	0	0	0	0	0	0
Badulla	14	Badulla	17829	12306	17829	744	72	170
	15	Bibilla	0	0	0	0	0	0
	16	Diyathalawa	264	0	264	0	0	0
	17	Mahiyanganaya	495	0	373	0	152	0
	18	Monaragala	7444	4509	7276	609	0	404
	19	Welimada	22	0	0	0	22	0
	20	Wellawaya	0	0	0	0	0	0
Batticaloa	21	Batticaloa	6198	4784	5713	379	437	21
	23	Kattankudy	0	0	0	0	0	0
	22	Valachchenai	0	0	0	0	0	0
Chilaw	24	Chilaw	11841	2394	11392	51	0	51
	28	Kalpitiya	0	0	0	0	0	0
	25	Marawila	218	0	218	0	0	0
	26	Negambo	203	0	44	0	169	0
	27	Puttlam	194	0	102	0	70	0
CIM	29	CIM	22809	23400	22706	0	0	0
	30	Awissawella	817	0	631	0	0	0
	31	Homagama	988	0	531	0	0	0
	32	Karawanella	0	0	0	0	0	0
CNTH	33	CNTH	16631	8575.4	14437	3588	0	3590
	34	Gampaha	509	0	354	0	30	0
	37	Meerigama	0	0	0	0	0	0
	36	Minuwangoda	13	0	2	0	3	0
	35	Wathupitiwala	10826	2537	8610	2449	0	2008
	38	Welisara	0	0	0	0	0	0

Cluster		Blood Bank	RCC	PLT	FFP	CRYO	Stored Plasma	CSP
Colombo	76	NBC	80047	65624	72801	22973	0	4133
	78	SJGH- Kotte	2991	1732	2664	428	0	428
	79	CSTH	233	0	233	0	0	0
	81	CSHW	0	0	0	0	0	0
	80	DMH	0	0	0	0	0	0
	84	Accident Serv.	0	0	0	0	0	0
	86	IDH-Angoda	0	0	0	0	0	0
	82	LRH	0	0	0	0	0	0
	85	Maligawatta	0	0	0	0	0	0
	83	Mulleriyawa	0	0	0	0	0	0
	77	NHSL	0	0	0	0	0	0
	87	Army Hospital	379	379	379	0	0	0
Hambanthota	52	Hambanthota	2007	756	1685	295	0	295
	54	Tangalle	44	7	31	0	6	0
	53	Tissamaharama	7	0	13	0	7	0
Jaffna	39	Jaffna	10654	7871	10654	847	69	434
	40	Kilinochchi	216	80	214	0	0	0
	41	Mullative	352	0	306	0	9	0
	42	Point Pedro	585	0	0	0	409	0
	43	Thellippalai	0	0	0	0	0	0
Kaluthara	44	Kaluthara	11668	3167	10879	789	0	628
	45	Horana	237	0	237	0	0	0
	46	Kethumathie	77	0	77	0	0	0
	47	Panadura	121	0	94	0	0	0
Kamburugamuwa	48	Kamburugamuwa	21899	12558	21604	4722	0	4056
	49	Kamburupitiya	0	0	0	0	0	0
	50	Matara	0	0	0	0	0	0
	51	Walasmulla	0	0	0	0	0	0
Kandy	55	Kandy	25706	15587	25131	2344	0	1063
	58	Dambulla	2461	0	424	0	1683	0
	59	Gampola	678	0	678	0	0	0
	56	Matale	3906	2951	3904	170	0	170
	57	Nawalapitiya	1716	0	1593	0	0	0
	60	Rikillagaskada	197	0	0	0	197	0
Karapitiya	67	Karapitiya	18867	11355	17910	1229	996	1229
	68	Balapitiya	743	0	0	0	742	0
	69	Elpitiya	447	0	0	0	406	41
	70	Mahamodara	130	0	0	0	130	0
	71	Udugama	0	0	0	0	0	0

Cont…

Cluster		Blood Bank	RCC	PLT	FFP	CRYO	Stored Plasma	CSP
Kurunegala	72	Kurunegala	33305	22898	24794	2343	412	2343
	73	Dambadeniya	1502	0	0	195	1448	0
	74	Kuliyapitiya	2414	0	2135	0	374	0
	75	Nikaweratiya	1821	0	859	0	741	221
Peradeniya	61	Peradeniya	11845	11125	11161	930	0	744
	65	Dikkoya	0	0	0	0	0	0
	63	Kegalle	4223	2975	3392	908	77	710
	64	Mawenella	37	0	0	0	26	0
	62	Nuwaraeliya	2514	1938	2706	0	0	0
	66	Warakapola	0	0	0	0	0	0
Rathnapura	88	Rathnapura	14274	6573	14203	2403	0	737
	89	Balangoda	0	0	0	0	0	0
	90	Embilipitiya	1926	0	1371	0	238	0
	91	Kahawatta	0	0	0	0	0	0
Trincomalee	92	Trincomalee	4681	2680	3540	799	0	799
	93	Kanthale	0	0	0	0	0	0
	94	Kinniya	0	0		0	0	0
	95	Muthur	0	0	0	0	0	0
Vavuniya	96	Vavuniya	320	0	0	0	293	0
	97	Chettikulam	0	0	0	0	0	0
	98	Mannar	287		190	0	33	0
		Total	**417,792**	**252,865**	**378,983**	**61,505**	**10,989**	**31,798**

Table 8: Component preparation and comparison with previous years.

	2014	2015	2016	2017
RCC	379,774	393,348	408,959	417,792
Platelets	220,335	244,071	248,644	252,865
FFP	344,091	344,788	369,299	378,983

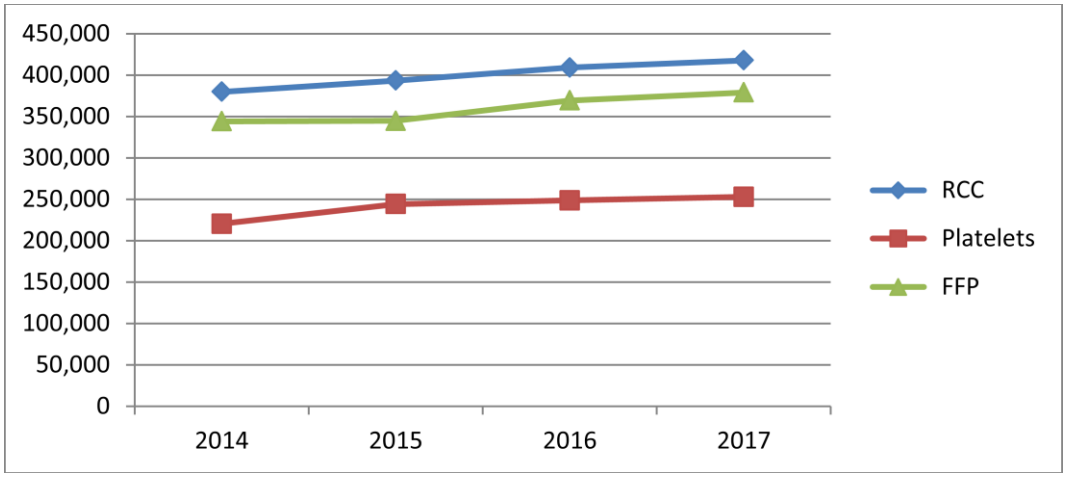


Figure 10: Comparison of blood component preparation

Platelet Aphaeresis Donations- 2017

Table 9: Platelet aphaeresis donations

Blood Bank	No. of procedures	No. of Units collected
Ampara	14	105
Anuradhapura	6	40
Army Hospital	3	24.6
Badulla	20	145.3
Batticaloa	150	1106
CIM	418	4036
CNTH	20	200.4
Jaffna	42	282
Kamburugamuwa	2	24
Kandy	285	2987
NBC	987	12841.8
Total	**1958**	**21874.1**

Statistics of RCC Cross matches & Issues

Table 10: Distribution of red blood cell requests, cross matches and issues

Cluster		Blood Bank	Requests	Cross match	Issues	C:I ratio
Ampara	1	Ampara	10,327	7,439	5,464	1.4
	2	Akkaraipattu	4,142	4,141	1056	3.9
	3	Dehiatthakandiya	2,367	2,385	881	2.7
	4	Kalmunai AM(S)	3,986	3,903	1,461	2.7
	5	Kalmunai Base(N)	4,039	3,371	1,292	2.6
	6	Mahaoya	1,346	1,391	628	2.2
	7	Pottuvil	199	196	82	2.4
	8	Samanthurai	1,553	1,625	468	3.5
Anuradhapura	9	Anuradhapura	50,558	34,397	20,442	1.7
	10	Medirigiriya	2,331	2,213	928	2.4
	11	Padaviya	615	522	457	1.1
	12	Polonnaruwa	23,269	22,412	8,820	2.5
	13	Thambuttegama	4,412	3,987	1,371	2.9
Badulla	14	Badulla	21,526	15,604	11,363	1.4
	15	Bibila	2,902	3,094	1,017	3.0
	16	Diyatalawa	6,733	6,733	2,133	3.2
	17	Mahiyanganaya	5,079	9,292	3,636	2.6
	18	Monaragala	15,525	15,886	6,515	2.4
	19	Welimada	2527	3,697	1158	3.2
	20	Wellawaya	762	645	484	1.3
Batticaloa	21	Batticaloa	19,902	19,342	7,954	2.4
	22	Valachchenai	832	1,060	209	5.1
	23	Kattankudy	10	12	7	1.7
Chilaw	24	Chilaw	16,281	9,440	6,001	1.6
	25	Marawila	10,174	9,662	2,968	3.3
	26	Negambo	20,556	7,775	3,655	2.1
	27	Puttalam	8,441	7,968	3,069	2.6
	28	Kalpitiya	0	0	0	0
CIM	29	CIM	29,590	28,176	18,661	1.5
	30	Avissawella	14,639	13,389	3,833	3.5
	31	Homagama	8,415	7,347	1,475	5.0
	32	Karawanella	7,463	7,923	2,009	3.9
CNTH	33	CNTH	48,920	26,406	16,729	1.6
	34	Gampaha	23,732	11,057	5,452	2.0
	35	Wathupitiwala	12,929	12,777	3,493	3.7
	36	Minuwangoda	542	538	155	3.5
	37	Meerigama	752	754	227	3.3
	38	Welisara	7,318	6,617	1,724	3.8

Cluster		Blood Bank	Requests	Cross match	Issues	C:I ratio
Jaffna	39	Jaffna	26,260	12,166	8,664	1.4
	40	Killinochchi	4,962	4,702	1,716	2.7
	41	Mullaitive	1,564	1,722	519	3.3
	42	Point Pedro	1,795	1,701	693	2.5
	43	Thellippallai	1,124	1,292	733	1.8
Kaluthara	44	Kaluthara	15,836	8,906	4,205	2.1
	45	Horana	12,101	9,267	3,134	3.0
	46	Kethumathie	4,202	1,574	694	2.3
	47	Panadura	6,286	6032	2,276	2.7
Kamburugamuwa	48	Kamburugamuwa	0	0	0	0
	49	Matara	17,442	8,462	6,124	1.4
	50	Kamburupitiya	2,470	2,519	709	3.6
	51	Walasmulla	558	544	179	3.0
Hambanthota	52	Hambanthota	16,601	16,825	4,334	3.9
	53	Tangalle	8,952	8,803	2,746	3.2
	54	Thissamaharama	3,775	3,844	942	4.1
Kandy	55	Kandy	76,083	32,029	21,311	1.5
	56	Dambulla	10,034	9,542	2,488	3.8
	57	Matale	14,997	14,264	3,539	4.0
	58	Nawalapitiya	9,518	9,537	1,702	5.6
	59	Gampola	5,037	7,916	2,388	3.3
	60	Rikillagaskada	1,963	2,132	458	4.7
Peradeniya	61	Peradeniya	30,041	24,602	8,768	2.8
	62	Warakapola	1324	1145	572	2.0
	63	Kegalle	14,943	14,885	4,129	3.6
	64	Mawanella	475	458	140	3.3
	65	Dikkoya	1,792	2,941	1,114	2.6
	66	NuwaraEliya	8,848	8,848	2,190	4.0
Karapitiya	67	Karapitiya	51,529	45,148	14,905	3.0
	68	Balapitiya	7,603	7,462	1,800	4.1
	69	Elpitiya	7,245	7,925	2,423	3.3
	70	Mahamodara	11,659	16,268	2,029	8.0
	71	Udugama	978	861	448	1.9
Kurunegala	72	Kurunegala	71,945	62,576	31,786	2.0
	73	Dambadeniya	4,511	4,180	900	4.6
	74	Kuliyapitiya	10,929	11,309	4,427	2.6
	75	Nikaweratiya	6,731	6,924	1,813	3.8

Cluster		Blood Bank	Requests	Cross match	Issues	C:I ratio
Colombo	76	NBC	8,423	8,047	7,445	1.1
	77	NHSL	77,862	43,554	24,814	1.8
	78	Accident Service	32,521	24,213	8,357	2.9
	79	CSTH	40,428	10,949	10,005	1.1
	80	CSHW	15,395	15,517	2,500	6.2
	81	DMH	9,252	8,921	1,071	8.3
	82	SJGH-Kotte	22,269	10,861	5,373	2.0
	83	LRH	18,615	19,307	7,012	2.8
	84	Army Hospital	4,795	4,129	1,347	3.1
	85	IDH-Angoda	8,434	7,952	1657	4.8
	86	Mulleriyawa	3,058	3,236	1308	2.5
	87	Maligawatta	3,209	3,124	1,215	2.6
Rathnapura	88	Rathnapura	30,152	13,312	10,390	1.3
	89	Balangoda	5,966	6,239	913	6.8
	90	Embilipitiya	12,617	12,701	3,755	3.4
	91	Kahawatta	4,564	4,394	1,371	3.2
Trincomalee	92	Trincomalee	7,265	10,711	3,379	3.2
	93	Kantale	2,525	2,693	685	3.9
	94	Kinnaya	1,628	1,628	536	3.0
	95	Muthur	1267	1267	217	5.8
Vavuniya	96	Vavuniya	10,285	8,627	3,601	2.4
	97	Chettikulam	0	0	0	0
	98	Mannar	2,582	3,973	1,164	3.4
Total			**1,189,919**	**917,842**	**392,390**	**2.3**

Total issues of other blood components

	FFP	Platelets(WBD/AP)	Cryo	CSP/Plasma	Buffy coat
Issues	153,496	153,433	49,647	7,370	1,654

Screening of donated blood for Transfusion Transmitted Infections (TTI tests)

Table 11: Prevalence of TTI and comparison with previous years

Year	2013	2014	2015	2016	2017
Total Collection	380,808	380,367	395,500	414,175	423,668
HIV (scr.+ve)	625	648	646	696	764
Prevalence	0.16%	0.17%	0.16%	0.17%	0.18%
HIV (Conf. +ve)	16	26	21	25	28
Prevalence	0.004%	0.007%	0.005%	0.006%	0.006%
Hepatitis B (rpt. +ve)	273	394	409	505	618
Prevalence	0.07%	0.10%	0.10%	0.12%	0.14%
Hepatitis C (rpt. +ve)	953	657	800	847	905
Prevalence	0.25%	0.17%	0.2%	0.20%	0.21%
VDRL +ve	1,016	1,265	1,125	1,027	1411
Prevalence	0.27%	0.33%	0.28%	0.25%	0.33%
TPPA +ve	180	152	175	152	152
Prevalence	0.05%	0.04%	0.04%	0.04%	0.03%
MP +ve	0	0	0	0	0
Prevalence	0%	0%	0%	0%	0%

(Scr.+ve) - Screening positive; (conf.+ve) – confirmed positive; (rpt.+ve) – repeat positive; MP- Malaria parasites; VDRL – Venereal Disease Research Laboratory ; TPPA- *Treponema pallidum* particle agglutination assays)

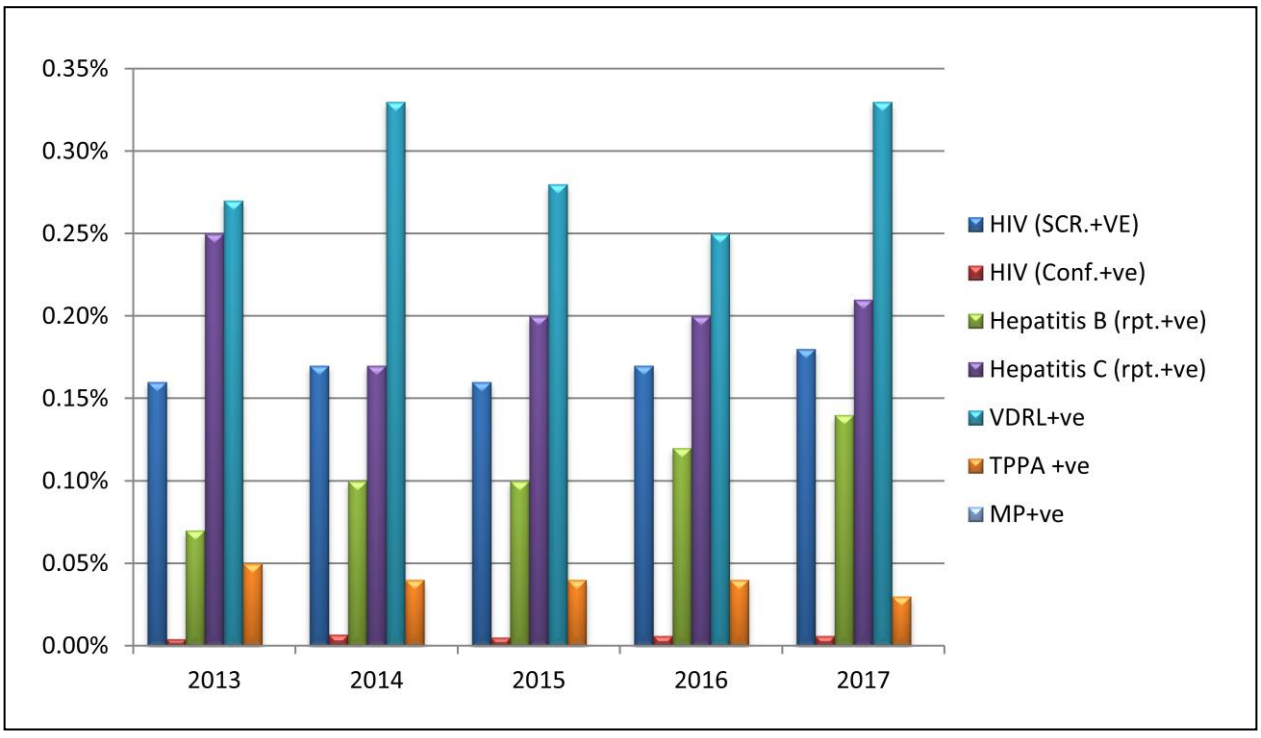


Figure 11: Prevalence of TTI and comparison with previous years

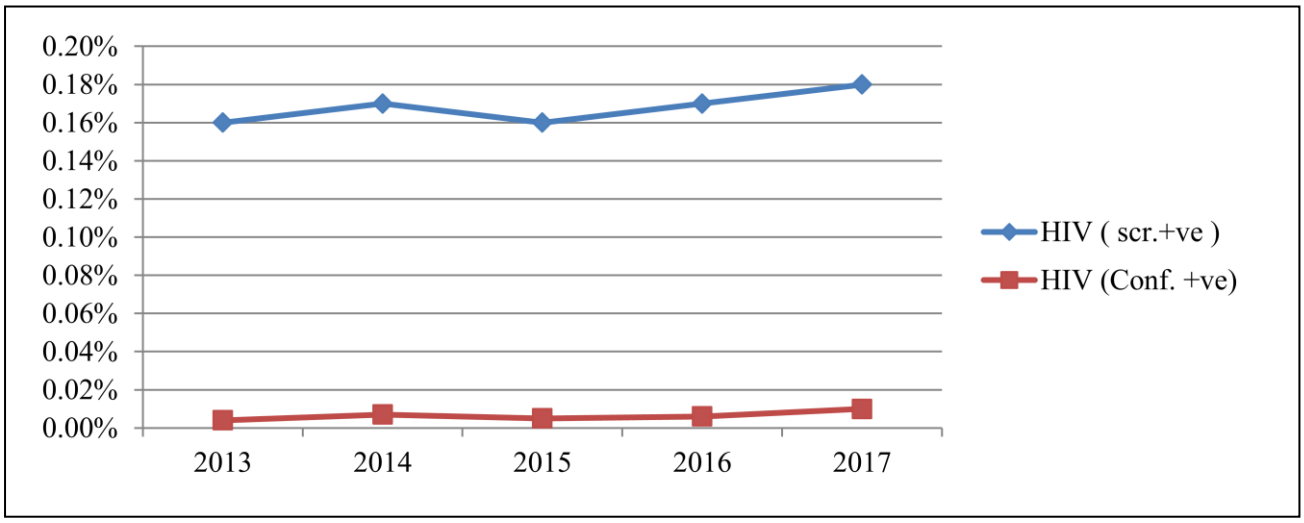


Figure 12: HIV screening positive and confirmed positive prevalence in total collected blood

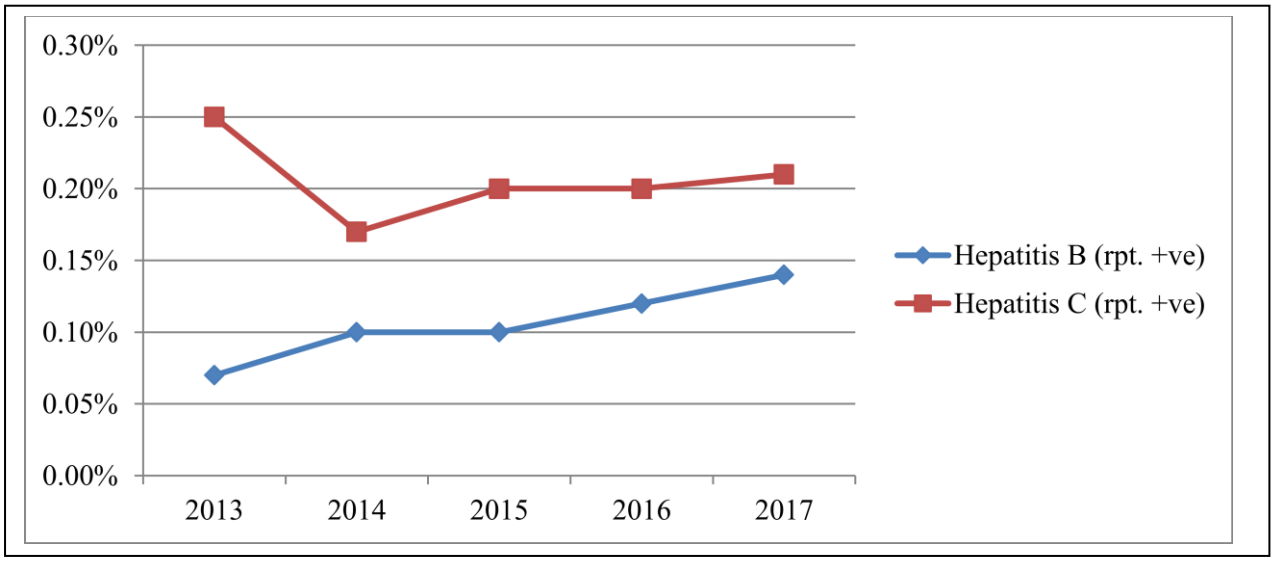


Figure 13: Hepatitis prevalence in donated blood

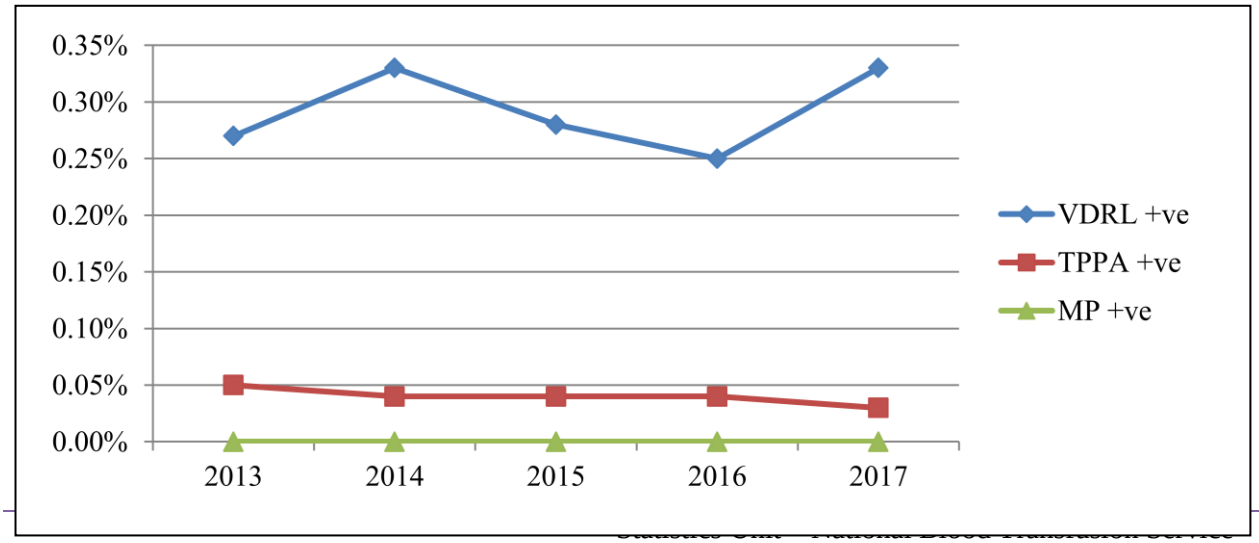


Figure 14: Comparison of VDRL, TPPA and MP positive prevalence

Red Cell Concentrate (RCC) discards

Table 12: RCC discards by blood banks

Cluster		Blood Bank	Screening Positive	Past expiry	Insufficient	High risk	Pack damage	Other	Total Discards
Ampara	1	Ampara	302	126	1	0	2	54	485
	2	Akkaraipattu	0	1	1	0	0	0	2
	3	Dehiatthakandiya	0	13	0	1	2	0	16
	4	Kalmunai AM(S)	0	2	0	0	0	0	2
	5	Kalmunai Base(N)	1	5	0	0	0	0	6
	6	Mahaoya	2	0	0	0	0	0	2
	7	Pothuvil	0	83	0	0	0	0	83
	8	Samanthurai	1	2	0	0	0	0	3
Anuradhapura	9	Anuradhapura	198	371	0	0	0	2	571
	10	Medirigiriya	0	105	52	0	0	50	207
	11	Padaviya	15	11	2	0	1	3	32
	12	Polonnaruwa	181	201	0	1	14	205	602
	13	Thambuttegama	0	12	0	0	0	0	12
Badulla	14	Badulla	171	113	0	0	0	9	293
	15	Bibilla	0	6	0	0	1	1	8
	16	Diyatalawa	29	86	14	0	1	0	130
	17	Mahiyanganaya	22	79	0	0	0	0	101
	18	Monaragala	84	118	0	0	2	0	204
	19	Welimada	0	29	0	0	2	0	31
	20	Wellawaya	0	121	0	0	2	1	124
Batticaloa	21	Batticaloa	66	181	0	0	0	36	283
	22	Valachchenai	0	0	0	0	0	0	0
	23	kattankudy	0	2	0	0	0	0	2
Chilaw	24	Chilaw	26	79	0	0	5	60	170
	25	Marawila	72	44	19	0	1	4	140
	26	Negambo	1	130	0	0	0	59	190
	27	Puttalam	20	74	4	0	17	0	115
	28	Kalpitiya	0	0	0	0	0	0	0
CIM	29	CIM	152	363	0	0	7	73	595
	30	Avissawella	11	109	6	0	6	1	133
	31	Homagama	2	59	9	27	1	1	99
	32	Karawanella	0	80	0	0	7	48	135
CNTH	33	CNTH	99	754	8	2	0	51	914
	34	Gampaha	0	119	0	88	0	1	208
	35	Wathupitiwala	19	219	3	14	1	9	265

	36	Minuwangoda	0	1	0	0	0	0	1
	37	Meerigama	0	26	0	0	0	17	43
	38	Welisara	0	180	0	0	0	0	180
Cluster		**Blood Bank**	**Screening Positive**	**Past expiry**	**Insuffi cient**	**High risk**	**Pack damage**	**Other**	**Total Discards**
Jaffna	39	Jaffna	126	318	6	0	17	39	506
	40	Killinochchi	11	19	0	0	1	0	31
	41	Mullaitive	2	79	0	0	8	16	105
	42	Point Pedro	7	20	1	0	1	1	30
	43	Thellippallai	0	28	0	0	0	1	29
Kaluthara	44	Kaluthara	56	16	32	19	3	14	140
	45	Horana	0	66	16	24	0	8	114
	46	Kethumathie	29	18	13	5	9	0	74
	47	Panadura	0	37	0	0	1	2	40
Kamburugamuwa	48	Kamburugamuwa	288	248	0	0	2	5	543
	49	Kamburupitiya	0	232	1	0	0	0	233
	50	Matara	0	44	17	3	2	20	86
	51	Walasmulla	0	1	0	0	2	3	6
Hambantota	52	Hambanthota	0	416	4	34	1	44	499
	53	Thissamaharama	1	421	0	0	0	1	423
	54	Tangalle	1	133	7	2	9	0	152
Kandy	55	Kandy	103	186	84	4	32	7	416
	56	Dambulla	49	149	0	0	0	75	273
	57	Nawalapitiya	9	317	6	0	0	0	331
	58	Gampola	14	391	20	1	2	26	454
	59	Rikillagaskada	3	34	0	0	0	8	45
	60	Matale	34	344	0	0	4	14	396
Peradeniya	61	Peradeniya	4	300	38	0	9	29	380
	62	Mawanella	0	19	1	1	1	2	24
	63	Dikkoya	0	30	0	0	0	58	88
	64	NuwaraEliya	4	255	15	4	2	0	280
	65	Kegalle	1	46	2	9	5	14	77
	66	Warakapola	0	18	0	0	0	0	18
Karapitiya	67	Karapitiya	200	702	0	0	0	52	954
	68	Balapitiya	4	161	1	0	0	2	168
	69	Elpitiya	0	84	1	0	2	1	88
	70	Mahamodara	0	262	0	2	0	0	264
	71	Udugama	0	8	0	0	0	3	11
Kurunegala	72	Kurunegala	460	471	0	0	59	31	1021
	73	Dambadeniya	25	116	0	0	3	1	145
	74	Kuliyapitiya	59	19	14	0	1	1	94

	75	Nikaweratiya	24	70	0	0	0	0	94

Cont…

Cluster		Blood Bank	Screening Positive	Past expiry	Insufficient	High risk	Pack damage	Other	Discards
Colombo	76	NBC	588	4,282	653	21	10	220	5774
	77	Accident Serv.	0	916	0	0	0	2	918
	78	CSHW	0	8	0	0	1	6	15
	79	CSTH	4	26	1	1	5	1	38
	80	DMH	0	3	0	0	0	3	6
	81	IDH-Angoda	0	12	0	0	2	0	14
	82	LRH	0	10	0	0	5	2	17
	83	Mulleriyawa	0	73	0	0	0	0	73
	84	NHSL	0	725	0	0	6	106	837
	85	SJGH- Kotte	38	244	6	0	5	2	295
	86	Army Hospital	10	100	0	3	0	0	113
	87	Maligawatta	0	67	0	0	0	5	72
Rathnapura	88	Rathnapura	237	208	0	0	2	41	488
	89	Balangoda	0	491	0	0	0	1	492
	90	Embilipitiya	11	389	27	0	1	29	457
	91	Kahawatta	0	14	0	0	0	0	14
Trincomalee	92	Trincomalee	49	317	6	0	11	15	398
	93	Kantale	0	2	0	0	0	0	2
	94	Kinnaya	0	0	0	0	0	0	0
	95	Muthur	0	0	0	0	0	0	0
Vavuniya	96	Vavuniya	36	235	20	0	1	6	298
	97	Chetticulam	0	0	0	0	0	0	0
	98	Mannar	5	49	4	2	2	0	62
		Total	**3966**	**18153**	**1115**	**268**	**299**	**1602**	**25402**
		Percentage	**15.61%**	**71.46 %**	**4.39%**	**1.06 %**	**1.18%**	**6.31%**	**4.04%**

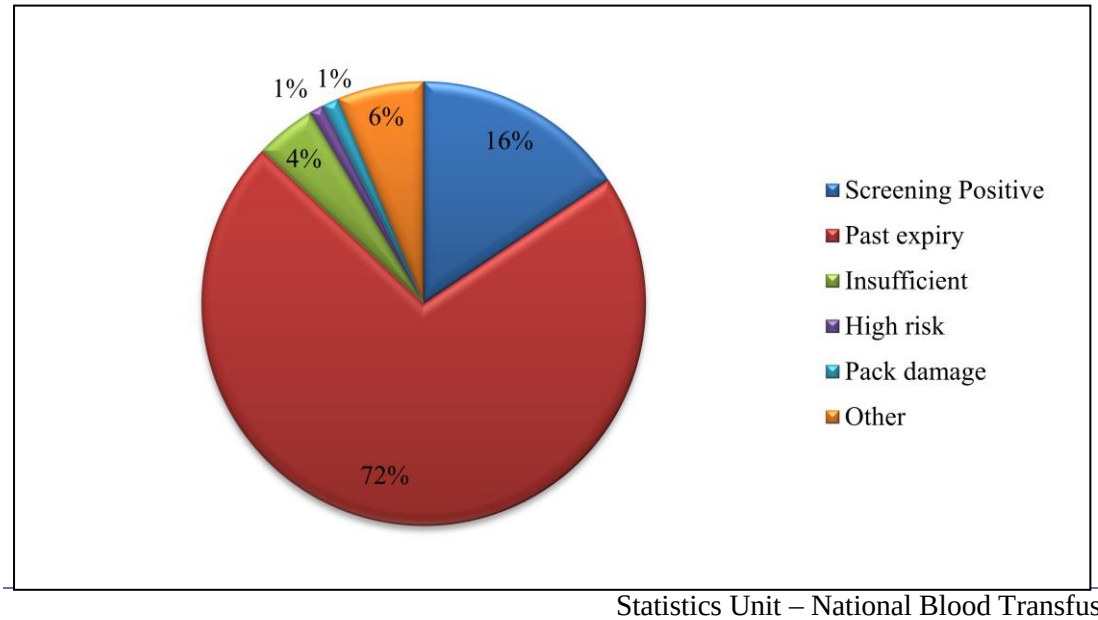


Figure 15: Distribution of RCC discards percentage wise
Table 13: Comparison of RCC discards with previous years

Year	Passed expiry discards	Screening positives	Other	Total Discards
2013	34,769	2,843	3,895	41,507
2014	22,703	3,287	6,116	32,106
2015	20,124	3,930	4,350	28,404
2016	18,545	3,797	3,711	26,052
2017	18,153	3,966	3,283	25,402

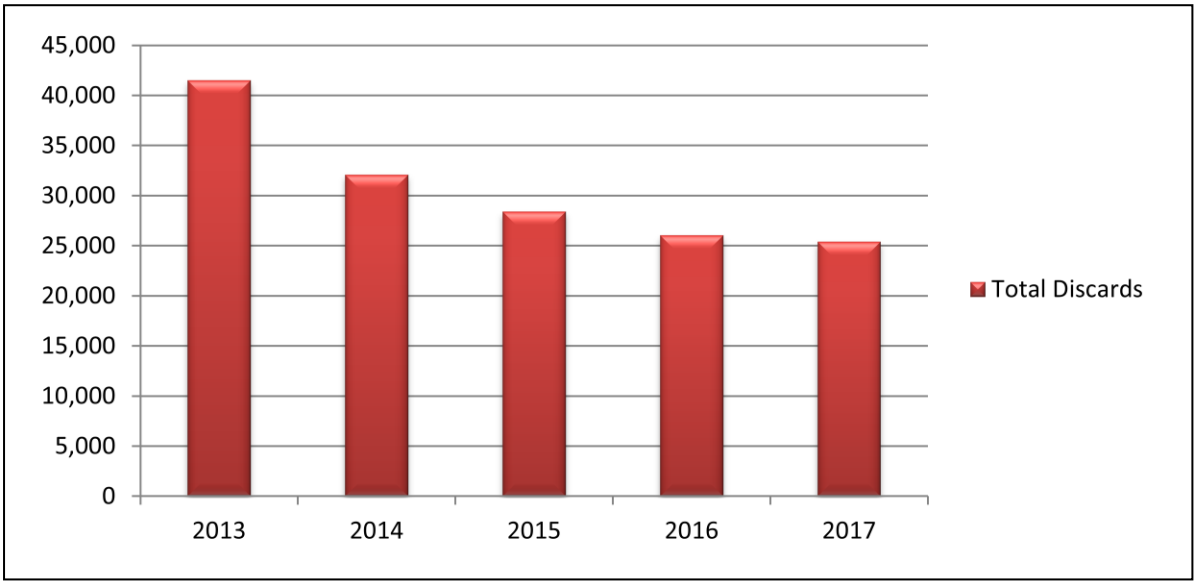


Figure 16: Comparison of total RCC discards with previous years

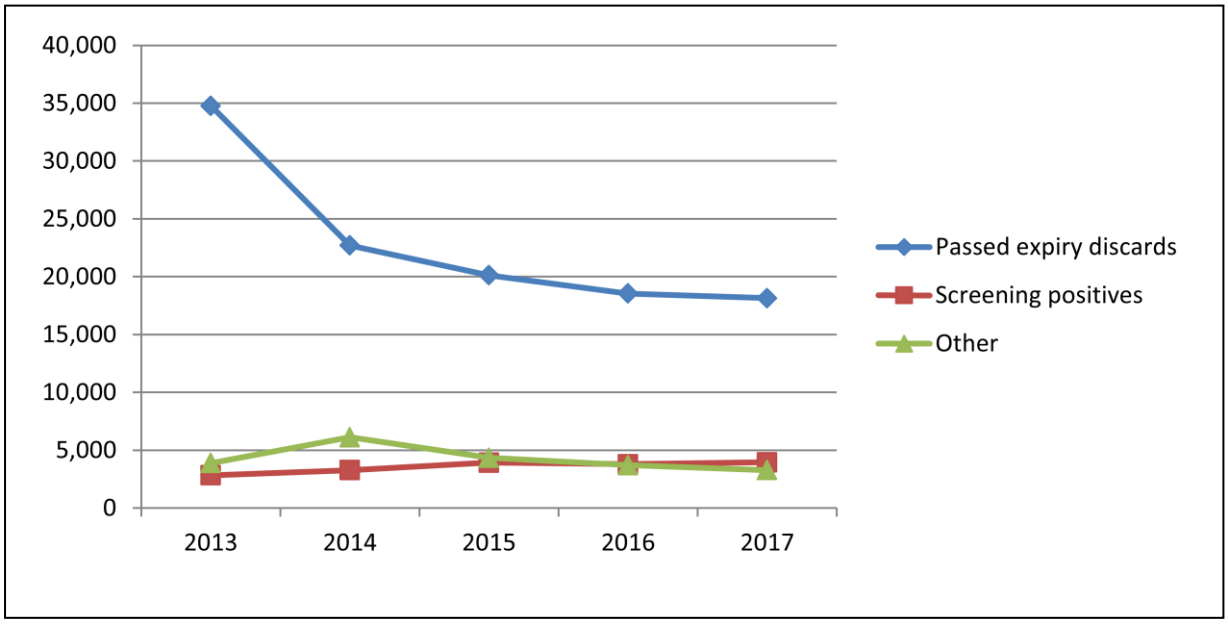


Figure 17: Comparison of RCC discards with previous years

Statistics of HLA Laboratory

Table 14: Comparison of HLA Laboratory Statistics

Typing and cross matches	2014	2015	2016	2017
Class 1	2293	2288	2015	1253
Class 11	2297	2214	1777	1099
Cross match	1365	1471	2490	1954
B27	352	194	319	492
PRA (Class I , Class II)	179	295	484	475
Transplantation				
Kidney (Patients ,Donor)	2455	2094	1589	1027
Bone Marrow (Patients, Donors)	192	108	167	163
AP donor	11	32	171	7
Cadaveric Crossmatches	7	15	11	169

PRA - Panel Reactive Antibodies

HLA Statistics (Molecular)

Typing and Crossmatches	2017
Class I	2097
Class II	2067
PRA	538
Clinical Indication	
Kidney Transplantation (Patients & Donors)	1494
Bone Marrow Transplantation (Patients and Donors)	369
Apheresis Donors	159
Cadaveric Kidney Donors	40
Investigation of Platelet Refractoriness	26
Cardiac Transplantation	15
Other	38

Statistics of Reference Immunohaematalogy Laboratory

Table 15: Comparison of Reference Immunoheamatology laboratory statistics.

Test category	2014	2015	2016	2017
Difficult compatibility testing	2413	2656	2767	3003
Antenatal Screening	1640	1263	3266	4440
Antibody titrations	243	394	241	272
DAT profile	637	603	702	1013
Extended phenotypes	303	439	414	363
Cold agglutination titration	38	154	47	42
Iso haemagglutination test	80	54	97	53
Haemolysin test	26	55	97	156
Confirmation of Bombay O	111	22	15	10
Elution studies	30	26	30	50
Transfusion reaction investigations	14	49	21	39

Table 16: Reference lab - detailed investigations

Investigations	2017
Blood Grouping (ABO & Rh D)	4995
DAT	3715
Antibody Identification	3358
Enzyme Panels	53
ABO/Rh Group Confirmation	315
Donath-Landsteiner Test (DL)	15
Cross Matching -IAT (LISS) -IAT (NISS) -PW IAT	 819 269 456
Titrations	272
Rh Phenotyping	5156

Statistics of Reagent Laboratory

Table 17: Comparison of Statistics of reagent preparation

Reagents prepared	2014	2015	2016	2017
PBS working solution (L)	5565	7785	3965	-
PBS stock solution (L)	620	810	3965	-
Alsever's solution (L)	148	172	274	396
Antibody screening cells (mL)	39,255	45,650	162,800	188,800
Anti A1 (mL)	482.5	775	1450	906
Anti H (mL)	327.5	475	1125	678
ABO reverse grouping cells (mL)	28,275	3,7625	120,200	132,300

Quality Management Unit

Table 18: Quality Monitoring of Blood Components

Items	Number of procedures performed											
	Jan	Feb	Mar	Apr	May	Jun	July	Aug	Sep	Oct	Nov	Dec
Red Cell Products												
RCC-without AS	0	0	0	0	0	10	0	40	0	0	13	35
RCC-BCR-AS	0	0	0	0	0	0	0	4	0	0	14	22
Platelet Products												
PC-PRPD	33	23	21	20	35	30	12	35	15	15	5	40
PC-BCD	44	69	31	29	35	30	10	30	15	15	5	18
PC-Apheresis	16	0	0	10	15	13	0	15	0	0	0	12
FFP												
Cryoprecipitate												
Reagent cells												
A,B,O Cells	1 set	1 set	1 set	1 set	1 set	1 set	1 set	1 set	1 set	1 set	1 set	1 set
Antibody Screening Cells	3 sets	4 sets	5 sets	2 sets	2 sets	1 set	2 sets	2 sets	2 sets	3 sets	3 sets	3 sets
Incident Investigations related to;												
RCC	0	16	15	0	1	9	7	6	1	7	5	3
Platelet Concentrate	0	1	2	0	0	0	0	0	0	0	0	2
FFP	0	0	10	0	0	0	0	0	0	0	0	0

Cryoprecipitate	0	0	0	0	0	0	0	0	0	0	0	0
Other	0	0	0	0	0	0	0	0	0	0	0	0
Quality Monitoring for HBBs												
RCC	0	0	0	0	8	10	10	0	0	0	3	0
Platelet concentrate	0	0	50	36	13	15	15	2	5	0	6	0
FFP	0	0	0	0	0	0	0	0	0	0	0	0
Cryoprecipitate	0	0	0	0	0	0	0	0	0	0	0	0
Special Studies	0	0	0	0	0	0	0	0	0	0	0	0
Conducting NEQAS Programs (Sample kit preparation)												
NEQAS(BGS) Program	0	0	0	110Kits	0	0	0	0	0	0	0	110 Kits
NEQAS(TTI) Program	0	20 kits	0	0	0	0	0	20 kits	0	0	0	0
Evaluations												
Reagent antisera	0	0	0	0	0	0	5	0	0	0	0	0
Leucodepletion filters	0	0	0	0	0	2	0	0	0	0	0	0

Table 19: Quality control Laboratory Performance 2017

Test	Number of tests performed											
	Jan	**Feb**	**Mar**	**Apr**	**May**	**Jun**	**July**	**Aug**	**Sep**	**Oct**	**Nov**	**Dec**
Full Blood Count	106	135	187	159	152	195	64	161	54	46	63	144
PH testing	93	109	128	95	107	117	54	132	36	37	51	132
Blood culture	8	20	34	1	0	2	1	0	30	17	5	0
Plasma Hb testing												
DAT	9	12	15	6	6	3	6	6	6	6	9	9
Antibody screening	67	36	45	18	18	9	18	18	18	18	27	27
Microscopy Testing	9	12	15	6	6	3	6	6	6	6	9	9
Factor VIII assay												
Fibrinogen assay												

Statistics of Teaching and Training Unit

Table 20:
A: Training programs conducted for Staff categories of NBTS

Staff Category	Duration	No of Trainees
Medical Officers'	6 weeks	54
	4 Weeks	45
	2 Weeks	7
	Total	**106**
Nursing officers	4 Weeks	57
	2 Weeks	54
Medical Laboratory Technicians	8 Weeks	8
Public Health Inspectors	8 Weeks(Refresher)	1
	8 Weeks	9
Junior Staff	1 Week	38

B: Foreign delegates

Programme	Duration	No of trainees
AATM trainees		
Doctors' Category India Bangladesh	3 weeks	 1 1
MLT Category	4 weeks	1

C: Others Staff Categories

Staff Category	No of Trainees
1. Post graduate Hematology diploma trainees.	17
2. Post graduate virology Trainees	1
Medical Students University of Colombo KDU	 16 84
3.MLT students	189
4. Nursing students	243
5. Intern Pharmacist	14

6. Health assistants- Navy officers	32
7. School students (of SBC)	21

Workshops Conducted by the Teaching & Training Unit

PROGRAMME	STAFF CATEGORY	DATE	NO OF PARTICIPANTS
CME for sample acceptance for the reference lab	NBC Nursing officers	27/02/2017	10
CME on blood and blood component irradiation	NBC & CIM MLT NBC Medical officers	01/03/2017	23
Blood safety solutions(TTI Screening)	Consultant Transfusion Physicians Medical Officers	09/03/2017	59
Emergency management of renal failure patients	NBC Medical Officers NBC Nursing Officers	15/03/2017	20
Workshop on skills development in immunohaematology	Colombo cluster blood bank Nursing Officers	22/03/2017	24
Workshop on Quality Assurance of Blood Component Production	Consultant Transfusion Physicians HBB Medical Officers HBB MLT	28/03/2017 29/03/2017	70 65
Workshop on safe blood Transfusion	Colombo cluster blood bank Nursing Officers	03/04/2017	26
Workshop on Quality Assurance of Blood Component Production	Lab Orderlies	30/05/2017	6
Training Programme on Compomat G5 Evaluation	Consultant Transfusion Physicians HBB Medical Officers HBB MLT	28/06/2017 29/06/2017	45 44
Workshop on skills development in blood bank serology	Blood bank Medical Officers	03/08/2017	20
Training on barcode printing	Office staff	10/08/2017	7
Seminar on Quality Assurance in Nucleic Acid Amplification Testing	Consultant Transfusion Physicians NBC Medical Officers	25/08/2017	27

Workshops funded by Ministry of Health- ETRU

In Service Training programme – 2017

No	Staff category	Title	Number of trainees
1	Medical officers	Workshop on skills development in blood bank serology (Jaffna, Trincomalee, Vavunia, Anuradhapura clusters)	19
2	Medical officers	Workshop on skills development in blood bank serology (Colombo cluster)	27
3	Medical officers	Workshop on skills development in blood bank serology Karapitiya, Kamburugamuwa, Hambanthota Clusters)	18
4	Medical officers	Workshop on skills development in blood bank serology (Kandy, Kurunegala, Badulla clusters)	21
5	Medical officers	Workshop on safe blood collection	51
6	Medical officers	Workshop on Haemovigillance	60
7	Medical officers	Workshop on appropriate use of blood and blood components	61
8	Nursing Officers	Blood and blood components (Jaffna, Trincomalee, Vavunia, Anuradhapura clusters)	25
9	Nursing Officers	Blood and Blood Components (Kandy, Kurunegala, Badulla Clusters)	34
10	Nursing Officers	Blood and Blood Components (Karapitiya, Kamburugamuwa, Hambanthota Clusters)	29
11	Nursing Officers	Universal Precautions and bio safety	32
12	PHI	Donor Motivation, Recruitment and retention	27
13	MLT	Transfusion Transmitted malaria infection and investigations	23
14	Junior Staff	Blood components and cold chain management	32
15	Junior Staff	Universal Precautions and bio safety	33

NAT facility at National Blood Centre

Introduction:

Nucleic Acid Testing (NAT) was introduced to the National Blood Centre (NBC) by the Project for the Introduction of State of Art Technology funded by Netherlands.

Nucleic Acid Testing directly amplifies and detects the genetic material (DNA or RNA) of viruses in order to screen for the existence of transfusion transmitted infections in donated blood (E.g.: Human Immunodeficiency Virus-HIV, Hepatitis B Virus-HBV and Hepatitis C Virus-HCV).

Advantages of implementing NAT in the National Blood Transfusion Service:

Even though there is a high cost for the infrastructure and consumables, NAT provides the following advantages,

- Safeguard the blood safety furthermore by reducing the window period due early detection of viral infections before appearance of antibodies.
- Fulfills an International requirement for the provision of plasma products for Plasma Fractionation Plants.
- Detects mutant, variant viruses that may not be detected by antibody detection methods.

Review Report of Nucleic Acid Testing (NAT) facility at National Blood Centre (NBC) –From 1st January 2017 to 31st December 2017

Testing summary:

- NAT testing were done for the samples collected in- house or from mobile campaigns conducted by the NBC.
- Following table summarizes the testing at NAT laboratory in 2017

- Table 21:

Month	Total No of Tests	No of Reactives	Serology Reactivity	Serology Non Reactives
Jan	6860	4	HBV - 3	1
Feb	5475	3	HBV - 3	0
Mar	5641	3	HBV - 2 , HIV - 1	0
Apr	5469	0	0	0
May	8938	4	HBV - 1	3
Jun	8461	7	HBV - 2 , HIV - 2	3
Jul	8803	5	HBV - 2 , HIV - 3	0
Aug	9884	5	HBV - 3	2
Sep	4930	1	0	1
Oct	4989	3	HIV - 2 , HCV - 1	0
Nov	9390	16	HBV - 2 , HIV - 3	11
Dec	12040	5	HBV - 3	2
Total	**90880**	**56**		**23**

Stem Cell Transplantation.

- Hematopoietic stem cell transplantation (HSCT) is the transplantation of multi potent hematopoietic stem cells, usually derived from
  - Bone marrow
  - Peripheral blood
  - Umbilical cord blood, which may be of autologous or allogeneic in origin.

- It is most often performed for patients with some haematological malignancies, such as multiple myeloma or leukemia and for congenital disorders of the blood and bone marrow such as thalassemia and sickle cell disease.
- Advantages of the peripheral stem cell transplant :-
  - Less invasive than bone marrow harvesting
  - No need of anesthesia

A team from the National Cancer Institute (Apeksha Hospital) (including blood Bank staff) was trained at the St. Vincent's Hospital, Sydney, Australia on stem cell transplantation. Additional training for NBTS staff was provided in the Netherlands.

First stem cell collection from a patient diagnosed with Multiple Myeloma was carried out at the Blood Bank of Apeksha Hospital on 24th October, 2016. Processing of the collected unit and cryopreservation was carried out at the National Blood Centre. First patient was transplanted on 5th of December 2016. First two collections as well as the first transplantation were done by the local team under supervision of experts from St. Vincent's.

Outcome: - All the Stem Cell Transplantations have been successful up to now.

Statistics for the year of 2017

Table 22.

Number of patients	22
Cryopreservation procedures	29
Infusion procedures	18

PATHAOGEN INACTIVATION of Platelets:

The possibility of transmitting infectious organisms via blood products and plasma derivatives (donor derived or contaminated microorganisms) is a major public health concern worldwide.

Ability to ensure the safety of the blood supply, with donor screening and laboratory testing is limited because it requires prior knowledge of the possible infectious agents, and development of effective laboratory tests for each agent. In addition to that there is no method to prevent transmission of infections during window period.

Pathogen Inactivation is a proven method in preventing risk of Transfusion Transmitted Infection and bacterial contamination.

There are two main techniques for pathogen inactivation

A. Chemical Inactivation
   E.g.: Solvent Detergent Treatment (SDT): -

Used on plasma products, this method results in the lysis of cell membranes and viral envelopes leading to more than 5.4 to 6.0 log reductions of sensitive pathogens.

B. Photo Chemical Treatment
This is applicable to plasma and platelet products-, Currently available methods include Intercept & Mirasol.

Pathogen Inactivation at NBC currently uses Intercept technology on pooled platelets.

Table 23 :

Duration	PI Platelets production
01/01/2017 – 31/12/2017	399

Advantages of Pathogen Inactivation-

1. Reduce the risk of TTI
2. Increase the shelf life of platelets up to 7 days
3. There is evidence that it prevents Transfusion Associated Graft Versus Host Disease.

FROZEN RED CELL (FRC)

Red Blood Cells (RBC) can be frozen and stored for up to 10 years.

There are two methods for frozen red cell preparation : -

1. High Glycerol method (frozen red cells are stored at - $86C^0$)
2. Low Glycerol method (frozen red cells are stored at - $120C^0$)

This technique has many advantages.

- Frozen Red Cell (FRC) have a long shelf life
- A stock of rare blood groups (Such as Bombay O) can be frozen and preserved for future usage.
- Patients with special conditions such as multiple red cell antibodies who require blood will get benefits out of this.

Since 2015, NBTS Sri Lanka also started this practice of freezing Red Blood Cells, like many developed countries.

Both international and local training programs have been conducted on this technology for the staff of NBTS.

Following table summarizes the number of Frozen Cell Units produced in 2017.
Table: 24

No of Red Cell Units Frozen	**Units**	**No of Red Cell Units Deglycerolized**	**Units**
Bombay O Rh D Positive units	4	O Rh D Positive Units	40
A Rh D Positive Units	1		
A Rh D Negative Units	4		
B Rh D Positive Units	2		
B Rh D Negative Units	3		
AB Rh D Negative Units	3		
O Rh D Positive Units	49		
Total	66	**Total**	**40**

Note: -

As fresh Blood has been available there was no demand to use Frozen Red Cell Units.