



Nova Scotia Blood Component Utilization Report FY 2022-23

Nova Scotia Provincial Blood Coordinating Team

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Introduction

The Nova Scotia Provincial Blood Coordinating Team (NSPBCT) collaborates closely with health care providers across the province to enhance the optimal utilization of blood and blood products and to support excellence in transfusion medicine. The NSPBCT acknowledges the contributions of both the Transfusion Medicine Quality Specialists, who play a crucial role in contributing disposition data to Canadian Blood Services (CBS), and CBS, who supplies the NSPBCT with the distribution and disposition data.

The NSPBCT is pleased to present the annual *Nova Scotia Blood Component FY 2022-2023 Report*. This comprehensive report offers a detailed overview of the utilization of provincial red blood cells (RBC), plasma, and platelets during the period spanning April 1, 2022, to March 31, 2023. The report provides information about provincial blood component distribution and disposition. This includes the number of RBC, plasma, and platelet units distributed to Nova Scotia by CBS, along with subsequent disposition, namely how many were transfused and discarded.

Provincial distribution and disposition data is further broken down by healthcare zone (Central, Eastern, Northern and Western) and the IWK .This aligns with the current Nova Scotia Health and Transfusion Medicine organizational and management structure. Within each zone, Transfusion Medicine operates as a network of individual transfusion labs. By presenting data on a zonal/IWK level rather than at an individual site level, we provide local decision-makers with a comprehensive view of blood component utilization within their respective management zones. The information in this report allows transfusion networks and local decision makers to track trends in component utilization and compare with provincial utilization benchmarks. These insights enable Transfusion Medicine laboratories to identify areas of success and pinpoint areas where improvements can be made, thus informing well-considered inventory strategies.

In conclusion, the NSPBCT remains steadfast in its commitment to advancing transfusion medicine through collaboration, detailed data analysis, and strategic planning. This report is a tool for informed decision-making and the continuous enhancement of transfusion practices across our province.

Nova Scotia Red Blood Cell Utilization

Table 1:

Nova Scotia	Nova Scotia Red Blood Cell Utilization							
Fiscal Year ▲	Distribution	Transfused	Discards	Discards Rate				
⊟ 20-21	27537	26287	899	3.31%				
Q1	6219	5941	202	3.29%				
Q2	7104	6878	208	2.94%				
Q3	7118	6745	226	3.24%				
Q4	7096	6723	263	3.76%				
⊟ 21-22	27774	27077	741	2.66%				
Q1	6907	6744	193	2.78%				
Q2	6984	6845	185	2.63%				
Q3	7167	6910	213	2.99%				
Q4	6716	6578	150	2.23%				
⊟ 22-23	27724	26582	746	2.73%				
Q1	7180	6799	178	2.55%				
Q2	6892	6692	224	3.24%				
Q3	6952	6766	148	2.14%				
Q4	6700	6325	196	3.01%				

Table 1 presents a comprehensive overview of red blood cell (RBC) distribution, transfusion, and discards, accompanied by the corresponding percentage of discarded RBCs. The data is organized by fiscal year and further divided into quarters.

In 2022-23 there was a decline in both distributed and transfused RBC units, compared to the previous year, resulting in reductions of 0.18% and 1.83%, respectively. This coincided with a 0.60% increase in the number of discarded RBCs.

Nova Scotia Plasma Utilization

Table 2:

Nova Scotia Plasma Utilization							
Fiscal Year	Distribution	Transfused	Discards	Discard Rate			
⊡ 20-21	4323	3249	582	15.2%			
Q1	780	516	129	20.0%			
Q2	1344	1020	176	14.7%			
Q3	897	665	145	17.9%			
Q4	1302	1048	132	11.2%			
⊡ 21-22	4333	3208	752	19.0%			
Q1	1152	834	141	14.5%			
Q2	1118	847	191	18.4%			
Q3	1193	878	212	19.4%			
Q4	870	649	208	24.3%			
⊡ 22-23	3855	3638	585	13.9%			
Q1	1091	849	156	15.5%			
Q2	1025	1015	111	9.9%			
Q3	925	872	164	15.8%			
Q4	814	902	154	14.6%			
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Table 2 provides a comprehensive overview of the number of frozen plasma units (AFFP 500ml weighted as two units) distributed, transfused, and discarded, as well as the percentage of discarded plasma units. The data is organized by fiscal year and further divided into quarters.

In 2022-23 the number of frozen plasma units distributed decreased, resulting in a 11.0% reduction from the previous year. Transfused units increased, marking a 13.4% rise from 2021-22. This coincided with a notable 22.2% decrease in the number of discarded units.

Nova Scotia Platelet Utilization

Table 3:

Nova Scotia Platelet Utilization							
Fiscal Year	Distribution	Transfused	Discards	Discard Rate			
⊡ 20-21	4828	4304	474	8.8%			
Q1	1109	1019	83	6.7%			
Q2	1252	1098	157	11.0%			
Q3	1271	1107	131	9.3%			
Q4	1196	1080	103	7.8%			
⊡ 21-22	4709	4140	571	10.5%			
Q1	1122	994	133	10.5%			
Q2	1196	1059	136	9.8%			
Q3	1273	1125	142	9.6%			
Q4	1118	962	160	12.1%			
⊡ 22-23	4842	4312	517	9.5%			
Q1	1381	1231	132	8.6%			
Q2	1375	1248	132	8.9%			
Q3	1107	961	147	11.6%			
Q4	979	872	106	9.4%			

Table 3 provides a comprehensive overview of platelet unit distribution, transfusion, and discards, as well as the percentage of discarded platelets. The data is organized by fiscal year and further divided into quarters.

In 2022-23 there was an increase in both distributed and transfused platelet units, compared to the previous year, resulting in a rise of 2.28% and 4.15%, respectively. This coincided with a notable 9.45% decrease in the number of platelet units discarded.

Central Zone Component Utilization

Table 4:

Central Zo	Central Zone Blood Component Utilization						
	RBC Distributed	RBC Transfused	Plasma Distributed	Plasma Transfused	Platelets Distributed	Platelets Transfused	
⊟ 20-21	14783	14428	3237	2416	3174	3000	
Q1	3229	3256	542	339	777	737	
Q2	3929	3862	1113	842	797	754	
Q 3	3847	3705	638	458	844	788	
Q4	3778	3605	944	777	756	721	
⊡ 21-22	14521	14628	3032	2319	2764	2636	
Q1	3590	3635	838	609	669	648	
Q2	3651	3655	862	677	685	656	
Q3	3816	3870	850	629	796	767	
Q4	3464	3468	482	404	614	565	
⊡ 22-23	14449	14372	2945	2924	3047	2890	
Q1	3829	3729	845	659	881	851	
Q2	3656	3690	822	852	946	918	
Q3	3540	3603	664	671	667	606	
Q4	3424	3350	614	742	553	515	

Table 4 provides a comprehensive overview and visualization of component distribution and transfusions, encompassing RBCs, plasma, and platelets units, over the past three fiscal years. Fiscal year data is further broken down by quarter. Each component is represented by a distinct color, with the shade intensity corresponding to the numerical value; thus, darker shades denoting higher values.

During the 2022-23 fiscal year RBC and plasma distribution saw declines of 0.49% and 1.75%, respectively, in comparison from last fiscal year. On the contrary, platelet distribution increased 10.2%.

Comparing the same fiscal years, plasma and platelet transfusions increased, with plasma transfusions rising by 26.1% and platelet transfusions by 9.63%. In contrast transfusions involving RBCs experienced a decrease of 1.75% from the previous fiscal year.

Central Zone Component Discards

Table 5:

Red Blood Cell Discards							
•	Indate Discards	Outdate Discards	Total Discards	Discard Rate			
20-21	169	84	253	1.72%			
21-22	170	73	243	1.63%			
22-23	243	69	312	2.12%			
Plasma Dis	scards						
^	Indate Discards	Outdate Discards	Total Discards	Discard Rate			
20-21	153	208	361	13.0%			
21-22	192	214	406	14.9%			
22-23	173	172	345	10.6%			
Platelet Di	scards						
^	Indate Discards	Outdate Discards	Total Discards	Discard Rate			
20-21	22	142	164	4.9%			
21-22	22	122	144	4.7%			
22-23	33	129	162	5.0%			

Table 5 displays component-specific discard figures spanning the last three fiscal years. Discards are categorized into "indate" (discarded before their expiry date) and "outdate" (discarded due to expiry). Each component is represented by a distinct color, with the shade intensity corresponding to the numerical value; thus, darker shades denoting higher values. Additionally, discard percentages for each component are provided, and for ease of comparison, percentages are visually depicted as data bars.

In 2022-23 total discards for RBCs and platelets exhibited increases, while total plasma discards declined. The most notable increase was observed in RBC indate discards, rising from 170 in 2021-22 to 243 in 2022-23. As a result, the RBC discard rate reached its highest point over the span of the last three years.

Eastern Zone Component Utilization

Table 6:

Eastern Zo	Eastern Zone Blood Component Utilization					
Fiscal Year	RBC Distributed	RBC Transfused	Plasma Distributed	Plasma Transfused	Platelets Distributed	Platelets Transfused
⊟ 20-21	4303	4045	394	285	542	285
Q1	941	865	62	36	97	63
Q2	1158	1107	66	48	133	46
Q3	1073	1016	92	65	155	79
Q4	1131	1057	174	136	157	97
⊟ 21-22	4699	4473	510	326	605	344
Q1	1109	1042	82	40	131	57
Q2	1131	1107	106	74	150	79
Q3	1233	1131	174	124	145	84
Q4	1226	1193	148	88	179	124
⊡ 22-23	4426	4074	455	362	529	333
Q1	1094	1014	120	88	150	92
Q2	1020	929	85	68	103	51
Q3	1209	1129	174	144	125	86
Q4	1103	1002	76	62	151	104

Table 6 provides a comprehensive overview and visualization of component distribution and transfusions, encompassing RBCs, plasma, and platelets units, over the past three fiscal years. Fiscal year data is further broken down by quarter. Each component is represented by a distinct color, with the shade intensity corresponding to the numerical value; thus, darker shades denoting higher values.

During the 2022-23 fiscal year RBC, plasma and platelet distribution all saw declines of 5.81%, 10.8% and 12.6%, respectively, in comparison from last fiscal year.

Comparing the same fiscal years, RBC, and platelet transfusions decreased, with RBC transfusions declining by 8.92% and platelet transfusions by 2.91%. In contrast transfusions involving plasma experienced an increase of 11.0%, from the previous fiscal year.

Eastern Zone Component Discards

Table 7:

Red Blood Cell Discards							
	Indate Discards	Outdate Discards	Total Discards	Discard Rate			
20-21	40	152	192	4.53%			
21-22	27	159	186	3.99%			
22-23	73	111	184	4.32%			
Plasma Dis	scards						
	Indate Discards	Outdate Discards	Total Discards	Discard Rate			
20-21	15	98	113	28.4%			
21-22	46	130	176	35.1%			
22-23	35	77	112	23.6%			
Platelet Di	scards			-			
^	Indate Discards	Outdate Discards	Total Discards	Discard Rate			
20-21	3	226	229	57.5%			
21-22	8	245	253	48.7%			
22-23	3	188	191	42.9%			

Table 7 displays component-specific discard figures spanning the last three fiscal years. Discards are categorized into "indate" (discarded before their expiry date) and "outdate" (discarded due to expiry). Each component is represented by a distinct color, with the shade intensity corresponding to the numerical value; thus, darker shades denoting higher values. Additionally, discard percentages for each component are provided, and for ease of comparison, percentages are visually depicted as data bars.

In 2022-23 total discards for RBCs, plasma and platelets all exhibited decreases. However, a significant increase was observed in RBC indate discards, rising from 27 in 2021-22 to 73 in 2022-23. As a result, the RBC discard rate increased from 3.99% in 2021-22 to 4.32%.

IWK Component Utilization

Table 8:

IWK Blood C	Component l	Utilization				
	RBC Distributed	RBC Transfused	Plasma Distributed	Plasma Transfused	Platelets Distributed	Platelets Transfused
 20-21	1279	991	330	266	488	443
Q1	358	222	89	71	114	102
Q2	338	288	85	73	130	119
Q3	296	253	73	74	111	100
Q4	287	228	83	48	133	122
E 21-22	1129	888	308	211	479	389
Q1	318	242	70	51	141	129
Q2	274	238	67	44	136	114
Q3	269	194	70	43	98	69
Q4	268	214	101	73	104	77
22-23	1264	896	208	170	404	320
Q1	304	213	45	40	98	73
Q2	316	230	55	41	94	69
Q3	275	177	37	28	86	64
Q4	369	276	71	61	126	114

Table 8 provides a comprehensive overview and visualization of component distribution and transfusions, encompassing RBCs, plasma, and platelets units, over the past three fiscal years. Fiscal year data is further broken down by quarter. Each component is represented by a distinct color, with the shade intensity corresponding to the numerical value; thus, darker shades denoting higher values.

During the 2022-23 fiscal year plasma and platelet distribution saw declines of 32.4% and 15.7%, respectively, in comparison from last fiscal year. On the contrary, RBC distribution increased 11.9%.

Comparing the same fiscal years, plasma and platelet transfusions decreased, with plasma transfusions declining by 19.4% and platelet transfusions by 17.7%. In contrast transfusions involving RBCs experienced a rise of 0.9% from the previous fiscal year.

IWK Component Discards

Table 9:

Red Blood Cell Discards							
•	Indate Discards	Outdate Discards	Total Discards	Discard Rate			
20-21	53	142	195	16.44%			
21-22	51	111	162	15.43%			
22-23	72	41	113	11.20%			
Plasma Dis	scards						
	Indate Discards	Outdate Discards	Total Discards	Discard Rate			
20-21	48	5	53	16.6%			
21-22	41	9	50	19.2%			
22-23	22	15	37	17.9%			
Platelet Di	scards			-			
^	Indate Discards	Outdate Discards	Total Discards	Discard Rate			
20-21	1	41	42	8.5%			
21-22	2	87	89	20.3%			
22-23	2	81	83	23.2%			

Table 9 displays component-specific discard figures spanning the last three fiscal years. Discards are categorized into "indate" (discarded before their expiry date) and "outdate" (discarded due to expiry). Each component is represented by a distinct color, with the shade intensity corresponding to the numerical value; thus, darker shades denote higher values. Additionally, discard percentages for each component are provided, and for ease of comparison, percentages are visually depicted as data bars.

In 2022-23 total discards for RBCs plasma and platelets all exhibited a decrease. However, a significant increase was observed in RBC indate discards, rising from 51 in 2021-22 to 72 in 2022-23. Furthermore, RBC outdate discards experience a sizable decrease, declining from 111 in 2021-22 to 41 in 2022-23. This inverse trend led to an overall decrease in the discard rate and resulted in the rate reaching its lowest level in the span of the last three years.

Northern Zone Component Utilization

Table 10:

Northern Zone Blood Component Utilization						
Fiscal Year ▲	RBC Distributed	RBC Transfused	Plasma Distributed	Plasma Transfused	Platelets Distributed	Platelets Transfused
⊡ 20-21	3001	2896	128	106	179	171
Q1	667	624	49	36	49	49
Q2	742	716	18	17	53	49
Q3	772	751	38	32	52	48
Q4	820	805	23	21	25	25
⊡ 21-22	3452	3382	185	138	334	312
Q1	856	838	58	41	70	59
Q2	931	926	36	26	73	72
Q3	838	821	43	35	99	96
Q4	827	797	48	36	92	85
⊡ 22-23	3378	3262	132	92	344	335
Q1	858	827	42	31	122	122
Q2	924	902	34	26	90	88
Q3	815	780	30	16	70	64
Q4	781	753	26	19	62	61
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Table 10 provides a comprehensive overview and visualization of component distribution and transfusions, encompassing RBCs, plasma, and platelets units, over the past three fiscal years. Fiscal year data is further broken down by quarter. Each component is represented by a distinct color, with the shade intensity corresponding to the numerical value; thus, darker shades denoting higher values.

During the 2022-23 fiscal year RBC and plasma distribution saw declines of 2.14% and 28.6%, respectively, in comparison from last fiscal year. On the contrary, platelet distribution increased 2.99%.

Comparing the same fiscal years, RBC and plasma transfusions decreased, with RBC transfusions declining by 3.54% and plasma transfusions by 33.3%. In contrast transfusions involving platelets exhibited a rise of 7.37% from the previous fiscal year.

Northern Zone Component Discards

Table 11:

Red Blood Cell Discards						
^	Indate Discards	Outdate Discards	Total Discards	Discard Rate		
20-21	21	98	119	3.95%		
21-22	14	38	52	1.51%		
22-23	36	36	72	2.16%		
Plasma Dis	scards					
	Indate Discards	Outdate Discards	Total Discards	Discard Rate		
20-21	4	16	20	15.9%		
21-22	8	48	56	28.9%		
22-23	12	32	44	32.4%		
Platelet Di	scards					
•	Indate Discards	Outdate Discards	Total Discards	Discard Rate		
20-21	1	7	8	4.2%		
21-22	0	18	18	4.9%		
22-23	3	12	15	4.0%		

Table 11 shows component-specific discard figures spanning the last three fiscal years. Discards are categorized into "indate" (discarded before their expiry date) and "outdate" (discarded due to expiry). Each component is represented by a distinct color, with the shade intensity corresponding to the numerical value; thus, darker shades denote higher values. Additionally, discard percentages for each component are provided and, for ease of comparison, percentages are visually depicted as data bars.

In 2022-23, total discards for plasma and platelets exhibited decreases, while total RBC discards increased. The most notable increase was observed in RBC indate discards, rising from 14 in 2021-22 to 36 in 2022-23. As a result, the RBC discard rate increased from 1.51% to 2.16%.

Western Zone Component Utilization

Table 12:

Western Zone Blood Component Utilization									
_	RBC Distributed	RBC Transfused	Plasma Distributed	Plasma Transfused	Platelets Distributed	Platelets Transfused			
20-21	4171	3927	234	176	445	405			
Q1	1024	974	38	34	72	68			
Q2	937	905	62	40	139	130			
Q3	1130	1020	56	36	109	92			
Q4	1080	1028	78	66	125	115			
E 21-22	3973	3706	298	214	527	459			
Q1	1034	987	104	93	111	101			
Q2	997	919	47	26	152	138			
Q3	1011	894	56	47	135	109			
Q4	931	906	91	48	129	111			
⊡ 22-23	4207	3978	115	90	518	434			
Q1	1095	1016	39	31	130	93			
Q2	976	941	29	28	142	122			
Q3	1113	1077	20	13	159	141			
Q4	1023	944	27	18	87	78			

Table 12 provides a comprehensive overview and visualization of component distribution and transfusions, encompassing RBCs, plasma, and platelets units, over the past three fiscal years. Fiscal year data is further broken down by quarter. Each component is represented by a distinct color, with the shade intensity corresponding to the numerical value; thus, darker shades denoting higher values.

During the 2022-23 fiscal year plasma and platelet distribution saw declines of 61.4% and 1.71%, respectively, in comparison from last fiscal year. On the contrary, RBC distribution increased 5.89%.

Comparing the same fiscal years, plasma and platelet transfusions decreased, with plasma transfusions declining a notable 57.9% and platelet transfusions by 5.45%. In contrast transfusions involving RBCs exhibited a rise of 7.34% from the previous fiscal year.

Western Zone Component Discards

Table 13:

Red Blood Cell Discards								
	Indate Discards	Outdate Discards	Total Discards ▼	Discard Rate				
20-21	30	110	140	3.44%				
21-22	16	82	98	2.58%				
22-23	12	53	65	1.61%				
Plasma Discards								
	Indate Discards	Outdate Discards	Total Discards	Discard Rate				
20-21	8	27	35	16.6%				
21-22	27	37	64	23.0%				
22-23	11	36	47	34.3%				
Platelet Discards								
	Indate Discards	Outdate Discards	Total Discards	Discard Rate				
20-21	16	15	31	7.0%				
21-22	22	45	67	12.8%				
22-23	27	39	66	13.7%				

Table 13 displays component-specific discard figures spanning the last three fiscal years. Discards are categorized into "indate" (discarded before their expiry date) and "outdate" (discarded due to expiry). Each component is represented by a distinct color, with the shade intensity corresponding to the numerical value; thus, darker shades denote higher values. Additionally, discard percentages for each component are provided, and for ease of comparison, percentages are visually depicted as data bars.

In 2022-23, total discards for RBCs, plasma and platelets exhibited decreases. Furthermore, the RBC discard rate reached its lowest level in the span of the last three years.