Nova Scotia Provincial Blood Coordinating Team

Nova Scotia Annual Red Blood Cell Report FY 2021-22

PROMOTING EXCELLENCE IN TRANSFUSION MEDICINE

http://www.cdha.nshealth.ca/nova-scotia-provincial-blood-coordinating-team

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1. Executive Summary

The *Nova Scotia Annual Red Blood Cell FY 2021-2022* report provides a comprehensive overview of provincial red blood cell (RBC) utilization during the last fiscal year. This document provides detailed information about Nova Scotia's RBC distribution and disposition. In addition, national distribution data is presented to demonstrate trends in RBC usage and to assist hospitals in identifying areas of success, as well as opportunities for improvement.

Canadian Blood Services' (CBS) data for 2021-22 shows national RBC distribution increased by 1 unit per 1000 population, from 23.5 to 24.5 units, from the previous fiscal year. In 2021-22 all provinces and territories experienced a rise in the number of units issued per 1,000 population. Nova Scotia's RBC distribution increased 0.2 units, from 28.2 to 28.4. For a third year in a row Nova Scotia remains only second behind New Brunswick in terms of most RBCs distributed per 1000 population. Although Nova Scotia continues to be one of the highest provinces for RBCs distributed per 1000 population, in 2021-22 the province experienced the smallest distribution increase in the country.

For the first time in four years the total number of both RBCs distributed and transfused in Nova Scotia increased. The number of RBCs distributed in 2021-22 was 27,774, which was an increase of 0.9% from the previous fiscal year. The number of RBCs transfused in 2021-22 was 27,077, which is a rise of 3.0% from the previous fiscal year. Although RBC distribution and transfusions have both increased, distribution rates have not kept pace with transfusion rates. This slower growth indicates good RBC inventory management practices.

The transfusion of O Rh negative RBCs to non-O Rh negative recipients is a utilization practice that has been recognized as an area to be monitored. In 2021-22, the proportion of O Rh negative RBCs transfused to non-O Rh negative recipients, ranged from 39.5% in the Eastern Zone to 21.0% in the Northern Zone. In comparison to the previous fiscal year, this transfusion practice increased in all zones and the IWK except for the Northern Zone. Improvements in O Rh negative utilization continue to be a focus. A provincial *O Rh Negative Utilization Best Practice Guideline* has been recently published, which provides reasonable targets and indications for group O Rh negative usage. This document allows for the benchmarking of current practices and will help identify where improvements can be made.

Nova Scotia's RBC discard rate for 2021-22 was 2.7%. This was a decrease from the 3.3% discard rate recorded in 2020-21. Each discard category – indate, group O negative, group B/AB and group A/O Rh positive – all showed a decrease in their discard rates, compared to the previous fiscal year. With the exception of the IWK, each health zone was successful in maintaining discard rates below set target levels.

2. Introduction

The Nova Scotia Provincial Blood Coordinating Team (NSPBCT) collaborates with health care providers across the province to optimize the appropriate use of blood and blood products, as well as support initiatives that minimize product wastage. The NSPBCT has been monitoring and reporting red blood cell (RBC) distribution since 2012 and RBC discards since 2003.

This report describes Nova Scotia's RBC utilization for the period of April 1, 2021, to March 31, 2022. The report includes information on the number of RBC units that Canadian Blood Services (CBS) distributed to Nova Scotia and the disposition for each of these units, namely whether they were transfused, discarded and redistributed. Provincial RBC distribution and disposition is further broken down by healthcare zone /IWK. Utilization data for individual sites is provided in appendix F. The information in this report serves as a way for healthcare networks and hospitals to track trends in RBC utilization and compare with national and provincial utilization figures. This information is intended to be used by Transfusion Medicine laboratories, to identify areas of success and areas where improvements can be made, in order to plan inventory strategies accordingly.

The data presented in this report has been updated to display RBC distribution and disposition, for each Nova Scotia healthcare zone (Central, Eastern, Northern and Western) and the IWK. This format better aligns with the current Nova Scotia Health and Transfusion Medicine organizational and management structure. In each zone, Transfusion Medicine is managed as a network of individual transfusion labs. Providing data for each zone/IWK, rather than by individual site, equips local decision makers with a more thorough and complete picture of how RBCs are utilized within their management zone.

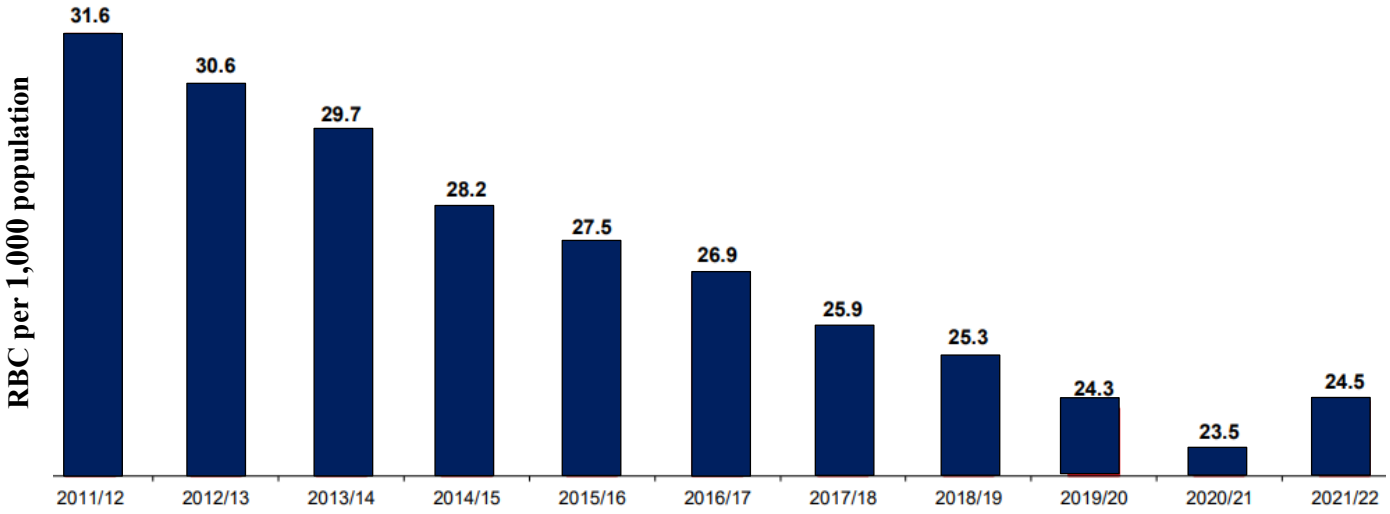
The NSPBCT acknowledges the contributions of Transfusion Medicine Quality Specialists in providing disposition data to CBS and to CBS for supplying the NSPBCT with the distribution and disposition data.

3. Red Blood Cell Distribution Data

3.1. National Distribution

National data serves as a benchmark that allows provinces to evaluate their transfusion practices and inventory strategies against a national reference point. With the exception of Quebec, Canadian Blood Services (CBS) supplies blood to all provinces in Canada. The following section shows the national RBC distribution by CBS. This data should be used as a comparison for RBC use.

Figure 1: National RBC Units Issued per 1,000 Population by Fiscal Period



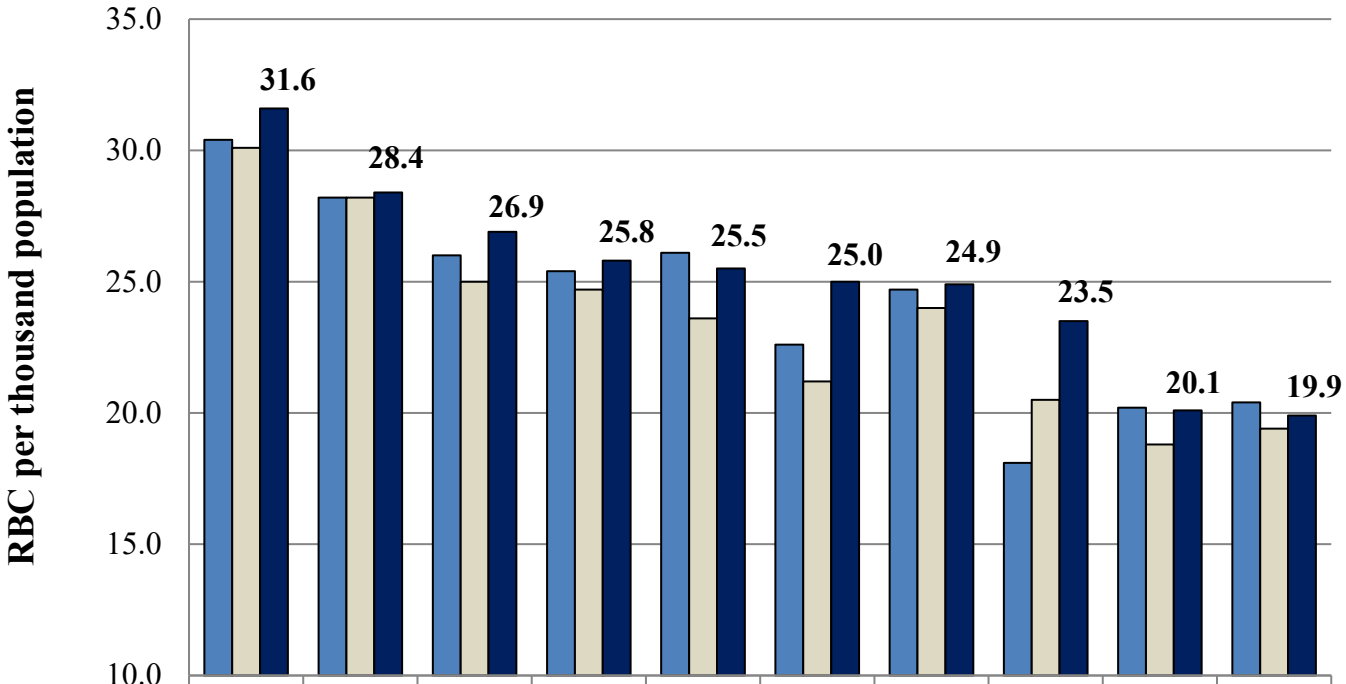
Source: Canadian Blood Services

Figure 1 illustrates a comparison of national annual per capita RBC distribution since 2011-12 by CBS. For the first time in over ten years national red blood cell distribution increased. In 2021-22 RBC distribution per 1000 population was 24.5 units, which was a rise of 1 unit from the previous fiscal year. As COVID-19 restrictions have lessened over the last year and hospital services have returned to normal levels, it is not unexpected to see RBC distribution increase to numbers similar to those seen pre-pandemic.

3.2. Distribution by Province

National distribution can be broken down by province and territory. This provides a more detailed picture of RBC use across Canada. The following data serves as a comparison of provincial usage. It should be used as a tool to identify provincial RBC utilization concerns and to help formulate appropriate utilization goals and targets.

Figure 2: RBC Units Issued per 1,000 population by Province



	NB	NS	NL	BC	MB	PE	ON	YT/NT/ NU	SK	AB
2019-2020	30.4	28.2	26.0	25.4	26.1	22.6	24.7	18.1	20.2	20.4
2020-2021	30.1	28.2	25.0	24.7	23.6	21.2	24.0	20.5	18.8	19.4
2021-2022	31.6	28.4	26.9	25.8	25.5	25.0	24.9	23.5	20.1	19.9

Source: Canadian Blood Service

Figure 2 displays the number of RBC units distributed per 1,000 population for the provinces and territories, for the last three fiscal years. In 2021-22 all provinces and territories had an increase in RBC distribution. The number of RBC units distributed to Nova Scotia for 2021-22 was 28.4 per 1,000 population. This was an increase of 0.2 units from the previous fiscal year. Although Nova Scotia continues to be one of the highest users of RBCs per 1000 population in the country, in 2021-22 the province recorded the smallest distribution increase in Canada. Additionally, over the last three fiscal years RBC distribution in Nova Scotia has remained the most consistent of all the provinces and territories. This may be an indication that the effects of the pandemic on Nova Scotia's Transfusion Services, were less disruptive than in other areas of Canada.

3.3. Nova Scotia Distribution

Examining Nova Scotia's distribution data may assist in forecasting RBC usage for the upcoming year. Additionally, a retrospective review of the data can help determine and gauge the success of provincial inventory management strategies that have been implemented.

Figure 3: RBC Units Distributed to Nova Scotia/ Fiscal Period Growth Rates

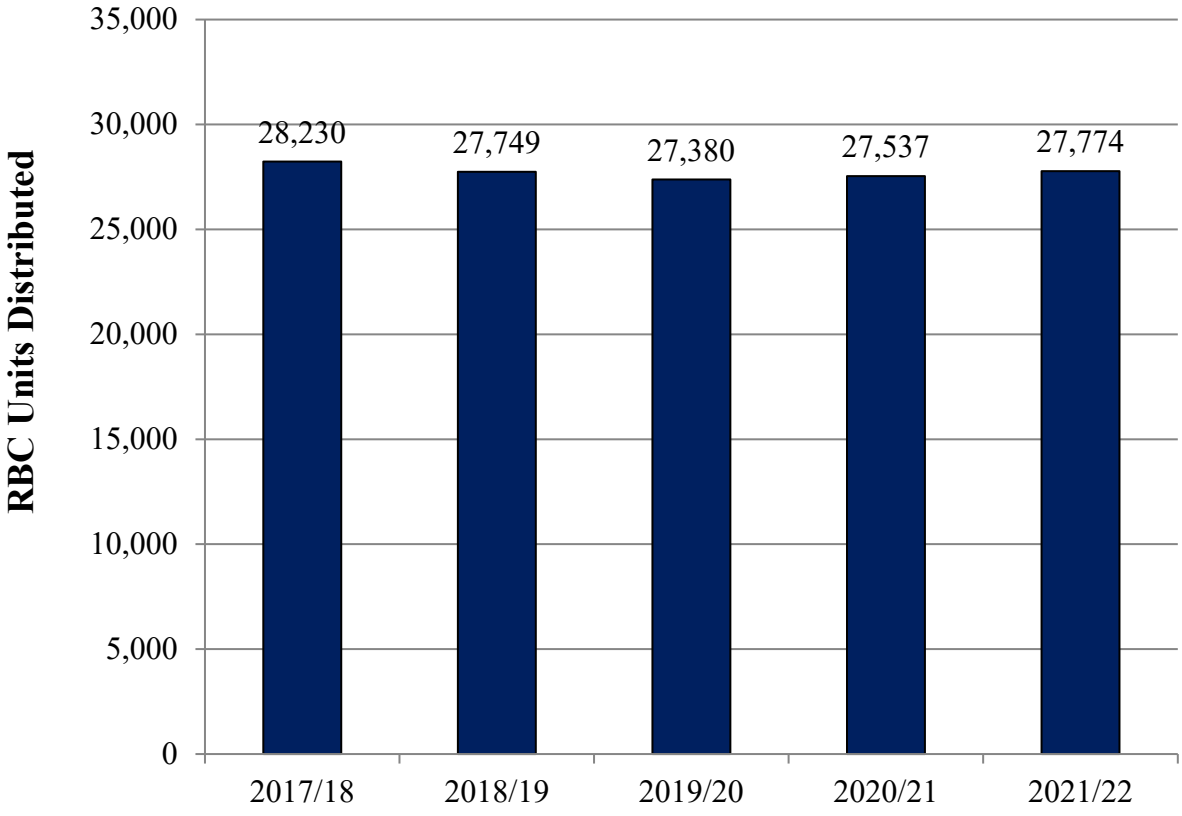
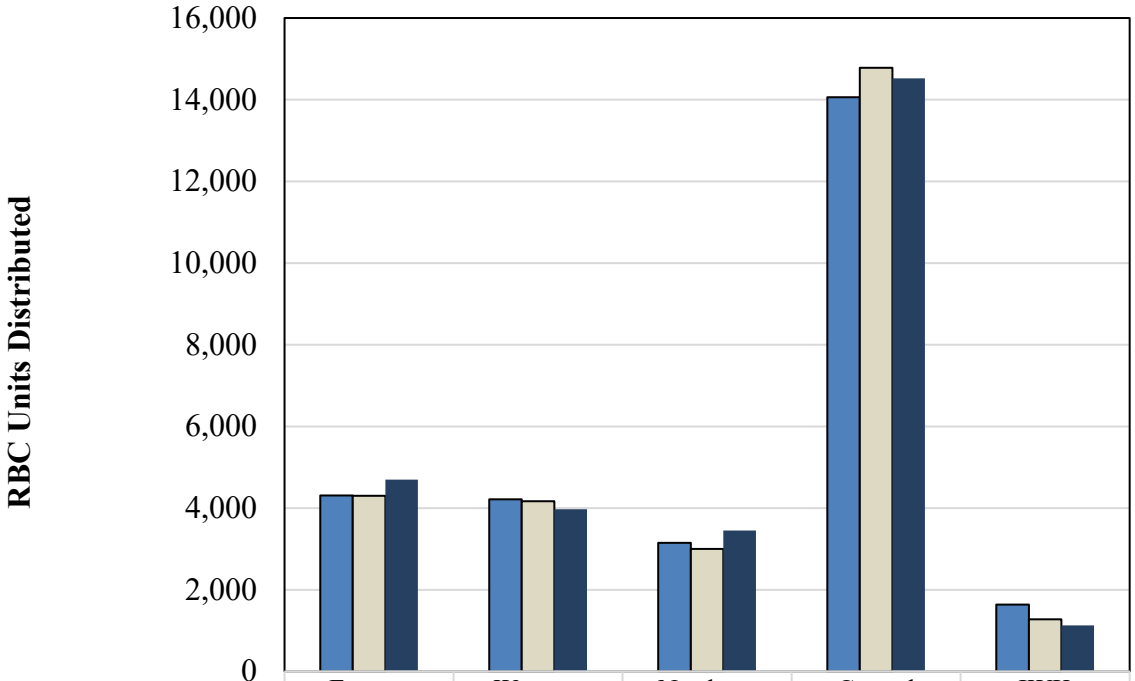


Figure 3 illustrates the total number of RBCs distributed in NS annually over the past five fiscal years. Provincially, distribution increased from 27,537 in 2020-21 to 27,747 in 2021-22. This represents an increase of 0.9% from the previous fiscal year. Additionally, this was the second year in a row that the province experienced an increase.

3.4. Distribution by Nova Scotia Sites

To provide the complete picture of provincial distribution, each Health Zone/IWK should be examined. At this level, specific details on RBC usage in the province can be inferred. This data helps identify where additional resources and supports can be focused, to improve provincial RBC utilization. For specific hospital/health center groupings refer to Appendix A.

Figure 4: Total RBC Units Distributed by Zone



	Eastern	Western	Northern	Central	IWK
FY2019-2020	4,311	4,218	3,151	14,060	1,640
FY2020-2021	4,303	4,171	3,001	14,783	1,279
FY2021-2022	4,699	3,973	3,452	14,521	1,129
Variation 20/21 to 21/22	9.2%	-4.7%	15.0%	-1.8%	-11.7%

Figure 4 illustrates the number of RBC units distributed per Health Zone/IWK. RBC distribution ranged from 1,129 units at the IWK to 14,521 units in Central Zone. The year over year distribution change for 2020-21FY to 2021-22FY ranged from -11.7% to 15.0%. Apart from the Eastern and Northern Zone, all zones/IWK experienced a decrease in distribution in 2021-22.

4. Red Blood Cell Transfusion Data

The NSPBCT receives disposition data from Canadian Blood Services on a monthly basis. This data includes the number of units distributed, transfused, redistributed and discarded. The information presented in the remainder of this report is derived from CBS disposition reports.

To determine if the data is representative of overall utilization, percent capture was calculated and assessed. These results, along with the percent capture formula, can be found in Appendix B.

The following section illustrates annual RBC transfusions in Nova Scotia. This data has been further expanded to show average daily transfusion demand, by blood group and percentage of O Rh negative units transfused, to non-O Rh negative recipients.

Figure 5: Total RBC Units Transfused

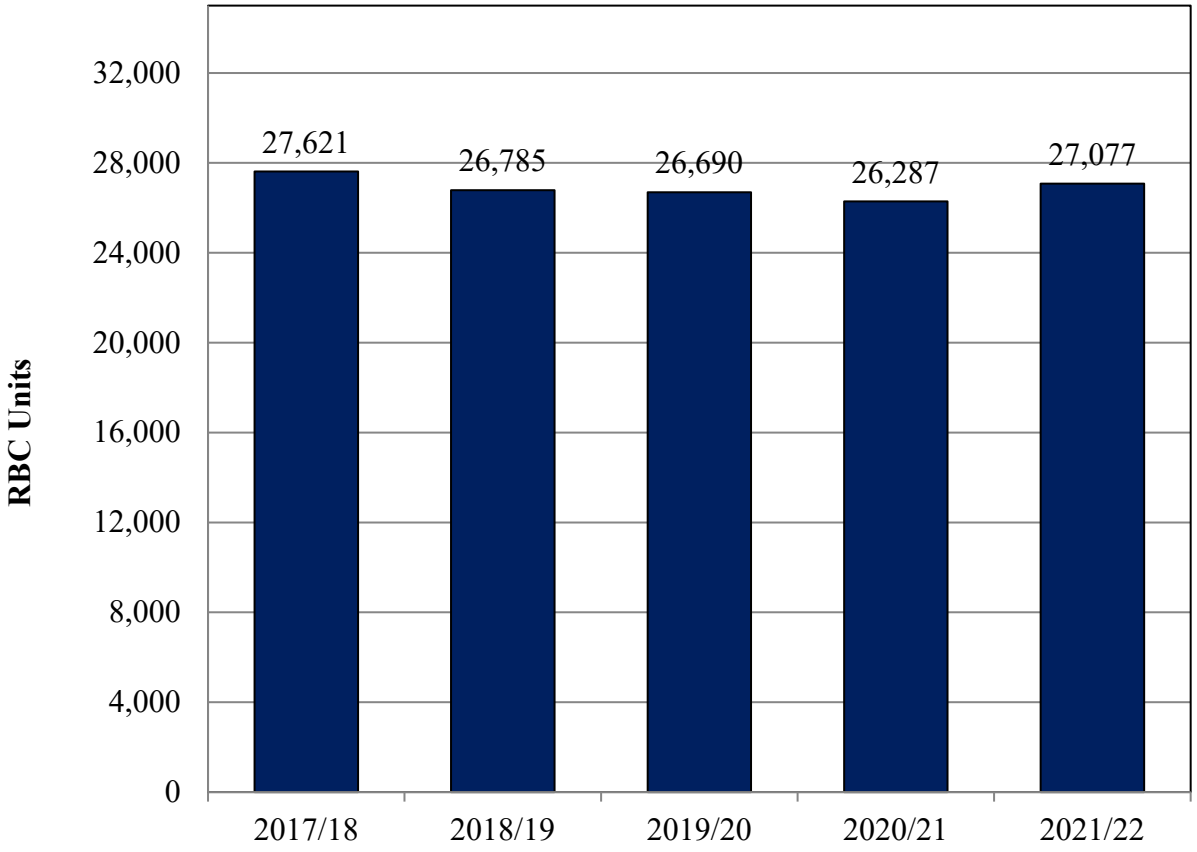
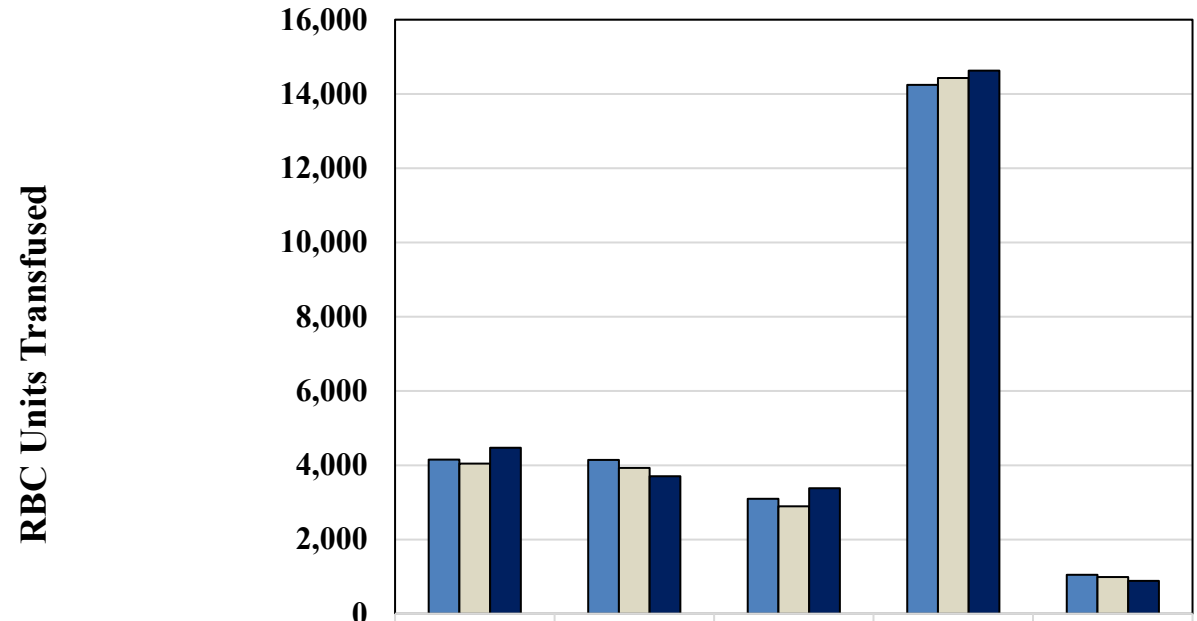


Figure 5 illustrates the total number of RBCs transfused in NS annually over the past five fiscal years. Provincially, transfusions increased from 26,287 in 2020-21 to 27,077 in 2021-22. This represents a 3.0% increase from the previous year. Additionally, this is the first time in five years where transfusions in the province increased. With an estimated activity-based cost of $700/RBC unit transfused[1,2,3], Nova Scotia Health/IWK spent approximately $18.9 million on RBC transfusions in 2021-22 FY.

Figure 6: RBC Units Transfused by Zone



	Eastern	Western	Northern	Central	IWK
FY2019-2020	4,155	4,144	3,099	14,243	1,049
FY2020-2021	4,045	3,927	2,896	14,428	991
FY2021-2022	4,473	3,706	3,382	14,628	888
% Variation 20/21 to 21/22	10.6	-5.6	16.8	1.4	-10.4

Figure 6 displays the number of RBC units transfused for each Nova Scotia Health zone and IWK. Transfusions ranged from 888 at the IWK to 14,628 in the Central Zone. The year over year distribution change for 2020-21 to 2021-22 ranged from -10.4% to 16.8%. All other zones, except for the Western Zone and the IWK, experienced an increase in transfusions.

In comparison to distribution, Central Zone was the only zone where a direct relationship between RBC transfusions was not seen. In 2021-22 Central Zone's transfusion rate increased by 1.4% and distribution decreased by 1.8%. This is a sign of improved utilization and may also indicate an increase in the number of units being redistributed into Central Zone from small sites, to avoid outdating.

Figure 7: Provincial Average Daily Transfusion Demand by Blood Group

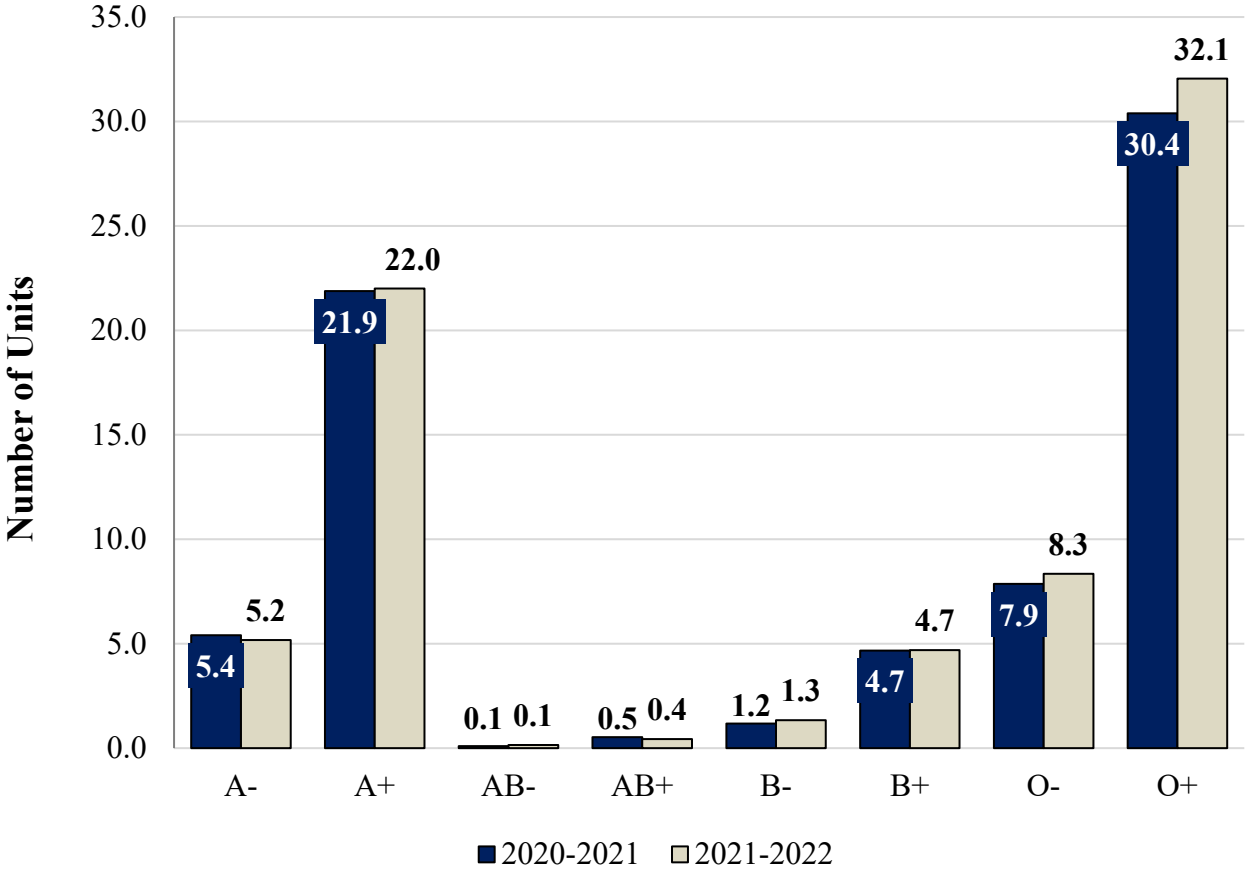
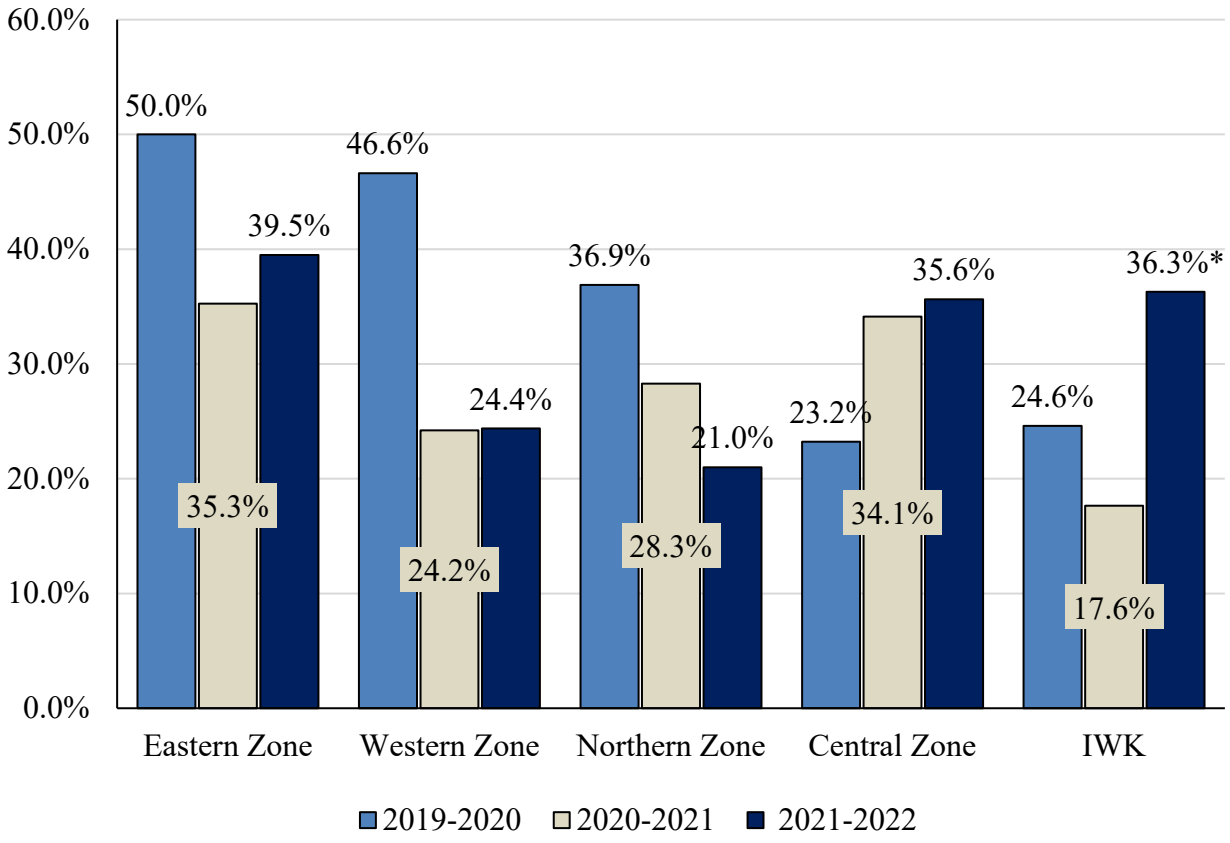


Figure 7 shows a breakdown of the average daily transfusions per blood group over the last two years. In 2021-22, average daily transfusions for blood groups: A Positive, B Negative, O Negative and O Positive all increased. Group O Positive experienced the largest increase, with 1.7 additional units being transfused daily, in comparison to last fiscal year.

Figure 8: Percentage of O Rh Negative RBC Units Transfused to Non O Rh Negative Individuals.



*Data has been adjusted to correct for transfusions to neonates (less than 4 months of age) and intrauterine transfusions. See appendix C for complete data set.

Figure 8 provides the percentage of group O Rh negative units transfused to non-O Rh negative individuals. Although this data does not account for acceptable uses (i.e. emergency use, phenotypical matched non-group specific transfusions etc.) for the transfusion of O neg RBCs to non-O Rh negative recipients, it still provides a depiction of O Rh negative utilization. It also indicates if units are not being reserved for O Rh negative individuals, but rather being transfused to prevent outdating.

In late 2021-22 the NSPBCT published a provincial *O Rh Negative Utilization Best Practice Guideline*, which provides targets for appropriate O Rh negative utilization. The target for non-group specific O Rh negative transfusions is ≤ 35%. Levels above this percentage are associated with the frequent practice of transfusing solely to avoid outdating.

In 2021-22, the rate of O Rh negative units transfused to non-O Rh negative individuals ranged from 39.5% to 21.0%. With the exception of the Northern Zone, all zones and the IWK experienced an increase in the amount of non-group specific O Rh negative transfusions.

5. Red Blood Cell Redistribution Data

The redistribution of near expiring RBC units to high-usage sites is an effective way to decrease discards due to outdating. Transporting near expiring RBC units from small and medium usage sites to large usage sites, increases the likelihood they will be transfused prior to expiry.

Table 1 provides a breakdown of the number of units each site redistributed to reduce outdates and improve utilization. It is important to note that this data does not include the transfer of units with patients to other hospitals, units transferred to other hospitals upon their request, or units transferred to a site with an affiliated centralized inventory. The table shows in 2021-22 eight of the ten sites which redistributed RBCs to reduce wastage. In comparison to 2020-21, seven sites utilized this practice. Furthermore, 626 units were redistributed in 2021-22, which was an increase of 90 units from the previous fiscal year.

Table 1: RBC Redistributed by Facility

Region/Facility	Units Redistributed 2020-21	Units Redistributed 2021-22
SSRH	18	97
YRH	53	70
VRH	26	59
CEHHC	0	10
CRHCC	0	3
AH	2	0
SMRH	36	26
CBRH	316	263
QEII	0	0
IWK	85	98
Total	536	626

6. Red Blood Cell Discard Data

This section provides details on overall provincial discards as well as zone specific discard rates. This is to support transparency between sites and to provide them with the opportunity to identify and collaborate with those who have demonstrated success in inventory management.

Discard rates serve as a metric for assessing utilization and should be reviewed on a regular basis. To assist in this task the NSPBCT have established target discard rates (Table 2), to help decision makers evaluate RBC utilization and to identify where opportunities for improvements can be made.

Table 2: RBC Target Discard Rates

Discard Category	Discard Rate
Indate (all blood groups)	≤ 2.0%
Group A and O Rh Positive (outdates)	≤ 2.0%
Group B and AB (outdates)	≤ 2.0%*
Group O Rh Negative (outdates)	High user (>500 RBC/month) ≤ 1.0% Moderate user (250-500 RBC/month) ≤ 2.0% Low user (< 250 RBC/month) ≤ 4.0%

* The target discard rate of ≤ 2% is less of a concern for groups B & AB.

The less utilized B & AB red cells may have higher discard rates due to the low frequency of these blood types in the population and utilization practices that avoid non-group specific transfusions. Sites across Nova Scotia are discouraged from giving group compatible units to recipients who could receive group specific red blood cells. This requires sites to stock only enough group A and O units to meet group specific demands and to stock appropriate quantities of group B and AB units. This practice places less strain on the blood system but may lead to increased discards of B and AB red blood cells.

The formula used to calculate discard rates can be found in Appendix D and a description of the variables used in the formula are found in Appendix E.

Figure 9: Annual RBC Discard Rates in Nova Scotia

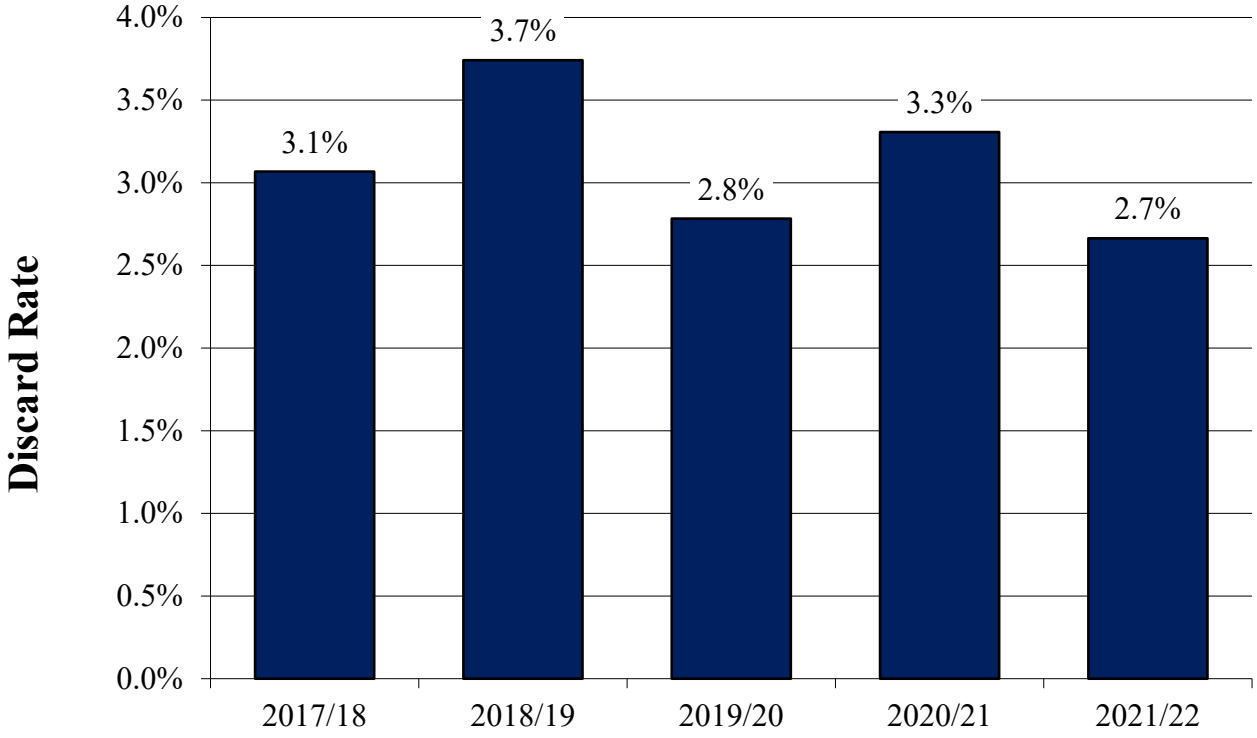
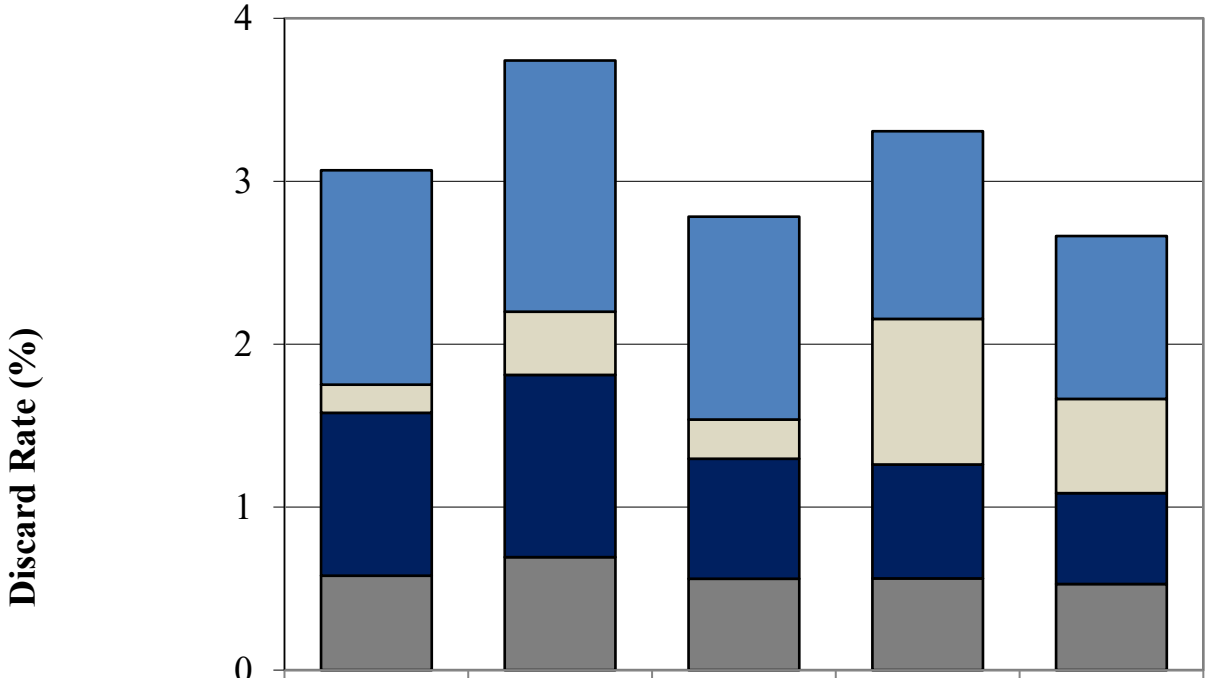


Figure 8 illustrates the total annual discard rate in NS for the last five fiscal years. In 2021-22 the RBC discard rate was 2.7%, which was a drop of 0.6% from the previous year. The 2021-22 discard rate is the lowest the province has recorded in the last five fiscal years.

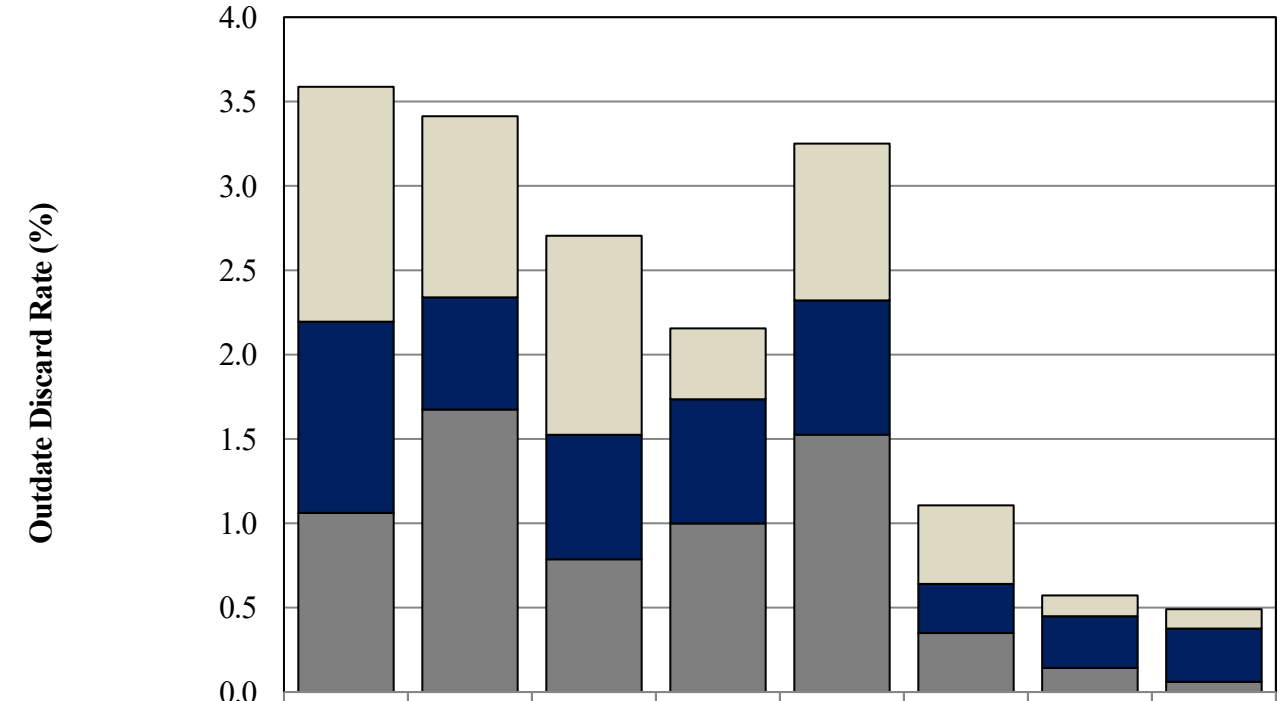
Figure 10a: Indate Discards Rate and Outdate Discards Rate by Blood Groups in Nova Scotia



	2017/18	2018/19	2019/20	2020/21	2021/22
Indate Rate (%)	1.3	1.5	1.2	1.2	1.0
O- Outdate Rate (%)	0.2	0.4	0.2	0.9	0.6
A/O+ Outdate Rate (%)	1.0	1.1	0.7	0.7	0.6
B/AB Outdate Rate (%)	0.6	0.7	0.6	0.6	0.5
Total Discard Rate	3.1	3.7	2.8	3.3	2.7

Figure 9 shows NS discards broken down by indate (product discarded prior to the expiry date) and outdate (product discarded because the expiry date was reached). In 2021-22 discards for indate, A/O Rh positive and B/AB categories were 1% of total units distributed. This is the lowest indate discard rate the province has experienced in the last five fiscal years. Group O Rh negative discard rate was 0.6%, which was a decreased from the previous fiscal year. This discard rate remains higher than rates seen in 2017-18, 2018-19 and 2019-20, however this can be explained by a change in practice that avoids frequently transfusing O Rh negative units to non-O Rh negative recipients to prevent out dating. In 2021-22 outate discards for, A/O Rh positive and B/AB categories was 0.6% and 0.5% respectively. These rates are the lowest seen in in the last five fiscal years

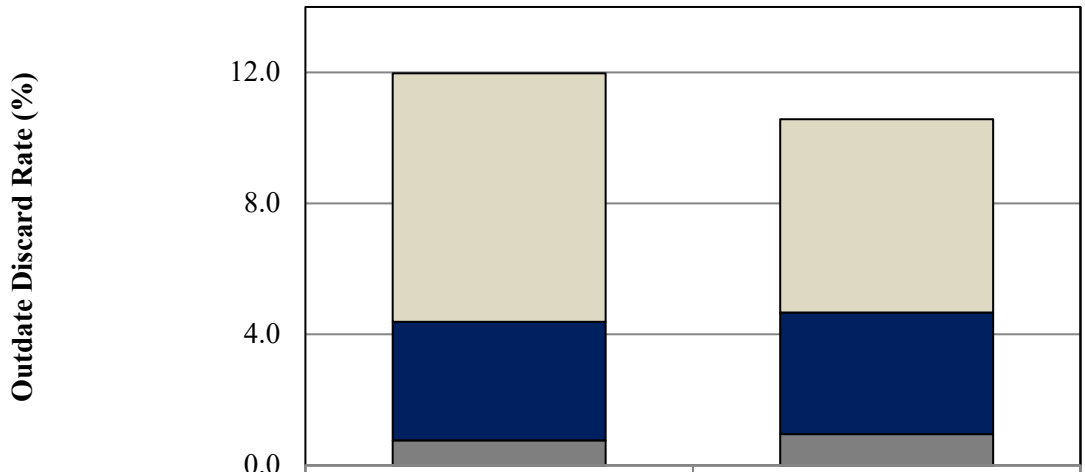
Figure 10b: Outdate Discard Rates in Each Zone



	Eastern 2020/21	Eastern 2021/22	Western 2020/21	Western 2021/22	Northern 2020/21	Northern 2021/22	Central 2020/21	Central 2021/22
O - Outdate Rate (%)	1.4	1.1	1.2	0.4	0.9	0.5	0.1	0.1
A/O+ Outdate Rate (%)	1.1	0.7	0.7	0.7	0.8	0.3	0.3	0.3
B/AB Outdate Rate (%)	1.1	1.7	0.8	1.0	1.5	0.3	0.1	0.1
Total Outdate Rate (%)	3.6	3.4	2.7	2.2	3.3	1.1	0.6	0.5

Figure 10a illustrates discard rates for each zone over the last two fiscal years. In 2021-22, all zones experienced a decreased rate in total discards. Notably, the only increases were seen in group B/AB categories, however the discard rates still remain within acceptable targets.

Figure 10b: IWK Outdate Discard Rates



	IWK 2020/21	IWK 2021/22
O - Outdate Rate (%)	7.6	5.9
A/O+ Outdate Rate (%)	3.6	3.7
B/AB Outdate Rate (%)	0.8	1.0
Total Outdate Rate (%)	12.0	10.6

Figure 10b illustrates the same information as figure 10a, but the IWK is separated due to the difference in scale. With the exception of B/AB, all categories experienced a decrease in discard rates from 2020-21.

6.1. Breakdown of Discards

Table 3 shows the total number of indate and outdate RBC unit discards by zone/IWK for 2021-22. Provincially 741 RBC units were discarded in 2021-22. Based on an estimated acquisition cost of $423 per RBC unit[3], NSH/IWK spent approximately $313,000 on RBC discards.

Table 3: Total RBC Units Discards for 2021-22 FY

Zone	Indate Units Discards	Outdate Units Discards	Total Units Discards
Eastern	170	73	243
Western	27	159	186
Northern	51	111	162
Central	14	38	52
IWK	16	82	98
Total	278	463	741

Table 4 provides a breakdown of the outdate discards for each zone/IWK by blood group for 2021-22. A breakdown of the indate discards by blood group is not shown, as indate blood type counts are not reported.

Table 4: Breakdown of Outdate Discards by Blood Type for 2021-22 FY

Zone	AB -	AB +	A -	A +	B -	B +	O -	O +
Eastern	20	10	19	3	24	24	50	9
Western	3	11	7	15	8	16	16	6
Northern	0	0	3	1	8	4	16	6
Central	0	0	9	30	5	4	17	8
IWK	0	0	11	14	3	7	62	14
Total	23	21	49	63	48	55	161	43

References

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2. Amin M, Fergusson D, Wilson K, et al. *The societal unit cost of allogenic red blood cells and red blood cell transfusion in Canada*. Transfusion. 2004; 44:1479–1486.

3. Lagerquist O, Poseluzny D, Slomp J, et al. *The cost of transfusing a unit of red blood cells: A costing model for Canadian hospital use*. ISBT Sci Ser. 2017; 12:375–380.

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Appendix A: Site Grouping

Full Facility Name	*Acronym*	*Zone*
South Shore Regional Hospital	**SSRH**	**Western**
Fisherman's Memorial Hospital		
Queens General Hospital		
Yarmouth Regional Hospital	**YRH**	
Digby General Hospital		
Roseway Hospital		
Valley Regional Hospital	**VRH**	
Annapolis Community Health Centre		
Eastern Kings Memorial Community Health Centre		
Soldiers Memorial Hospital		
Western Kings Memorial Health Centre		
Colchester East Hants Health Centre	**CEHHC**	**Northern**
Lillian Fraser Memorial Hospital		
Cumberland Regional Health Care Centre	**CRHCC**	
North Cumberland Memorial Hospital		
South Cumberland Community Care Centre		
All Saints Springhill Hospital		
Bayview Memorial Health Centre		
Aberdeen Hospital	**AH**	
Sutherland Harris Memorial Hospital		
St. Martha's Regional Hospital	**SMRH**	**Eastern**
Eastern Memorial Hospital		
Guysborough Memorial Hospital		
St. Mary's Memorial Hospital		
Strait Richmond Hospital		
Cape Breton Regional Hospital	**CBRH**	
Buchanan Memorial Community Health Centre		
Glace Bay Health Care Facility		
Harbourview Hospital		
Inverness Consolidated Memorial Hospital		
Northside General Hospital		
New Waterford Consolidated Hospital		
Sacred Heart Community Health Centre		
Victoria County Memorial Hospital		
QEII Health Sciences Centre	**QEII**	**Central**
Cobequid Community Health Centre		
Dartmouth General Hospital		
Eastern Shore Memorial Hospital		
Hants Community Hospital		
The Nova Scotia Hospital		
Musquodoboit Valley Memorial Hospital		
Twin Oaks Memorial Hospital		
IWK Health Centre	**IWK**	**IWK**

Appendix B: Percent Capture

Percent capture is calculated in the following manner:

$$\frac{\text{Number of units reported as } \textit{utilized (transfused and discarded)}}{\text{Total number of units } \textit{distributed}}$$

The following table demonstrates the percent capture of red blood cell utilization for the past three fiscal years in Nova Scotia.

Fiscal Year	Total RBC Units Utilized *(transfused + discarded)*	Total RBC Units Distributed	Percent Capture
2019-2020	27,454	27,380	100.3%
2020/2021	27,186	27,837	97.7%
2021/2022	27,818	27,774	100.2%

Appendix C: IWK 2020-21 & 2021-22 FY O Rh Negative RBC Transfusion Data

IWK O Negative Utilization	**Total 2020-21**	**Total 2021-22**
O Negative RBCs Transfused	85	124
O Negative RBCs Transfused to Non-O Negative Recipients	37	67
O Negative RBCs Transfused to Neonates (less than 4 months of age)	21	22
O Negative Intrauterine Transfusions	1	0

Appendix D: Calculation of Discard Rates

The equations below illustrate the methods used to calculate the discard rates in this report.

$$\text{Total Discard Rate} = \frac{\text{indate discarded units} + \text{outdate discarded units}}{\text{indate discarded units} + \text{outdate discarded units} + \text{transfused units}}$$

$$\text{Indate Discard Rate} = \frac{\text{indate discarded units}}{\text{indate discarded units} + \text{outdate discarded units} + \text{transfused units}}$$

$$\text{Outdate Discard Rate} = \frac{\text{outdate discarded units}}{\text{indate discarded units} + \text{outdate discarded units} + \text{transfused units}}$$

Appendix E: Description of Fields for Red Blood Cell Discards

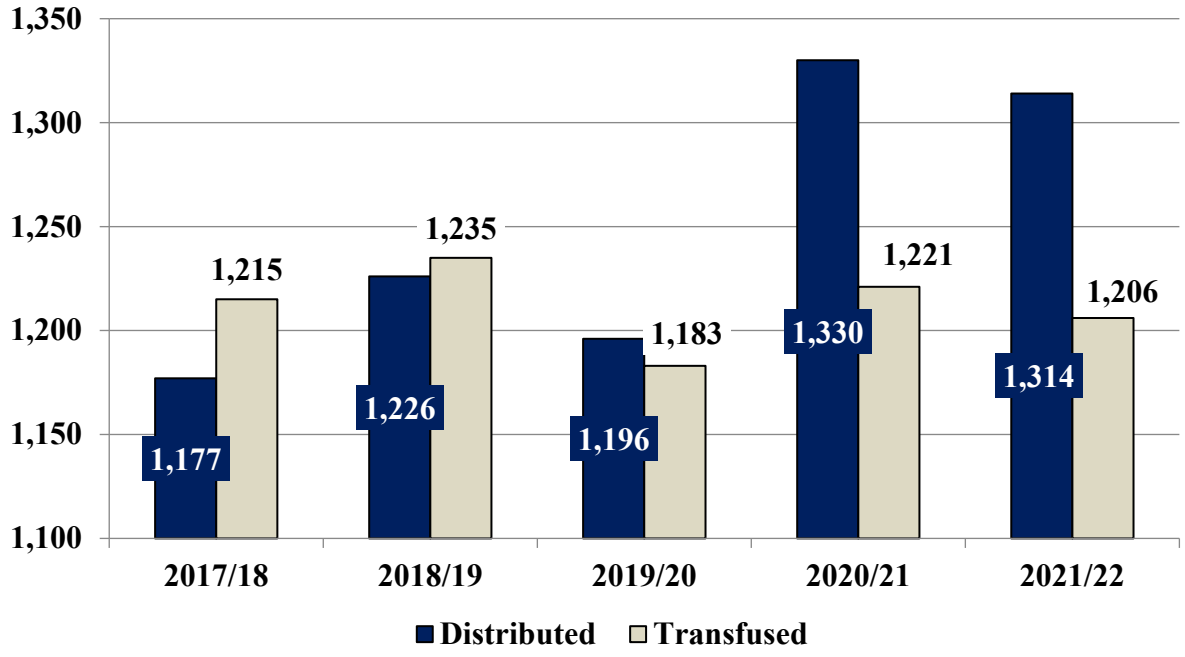
The following table provides a list of the disposition "use types" used when calculating discard rates. Disposition categories included allogeneic, autologous and directed RBC.

Disposition Category	Use Type
Indate Discards	TOTAL_BROKEN
	TOTAL_FAILED_INSPECTION
	TOTAL_IMPROPER_STORAGE
	TOTAL_PATIENT_RELATED
	TOTAL_RETURNED
Outdate Discards	TOTAL_OUTDATED
Outdate Discards by ABO	A_NEG_OUTDATED
	A_POS_OUTDATED
	AB_NEG_OUTDATED
	AB_POS_OUTDATED
	B_NEG_OUTDATED
	B_POS_OUTDATED
	O_NEG_OUTDATED
	O_POS_OUTDATED
Transfused	TOTAL_TRANSFUSED_RBC

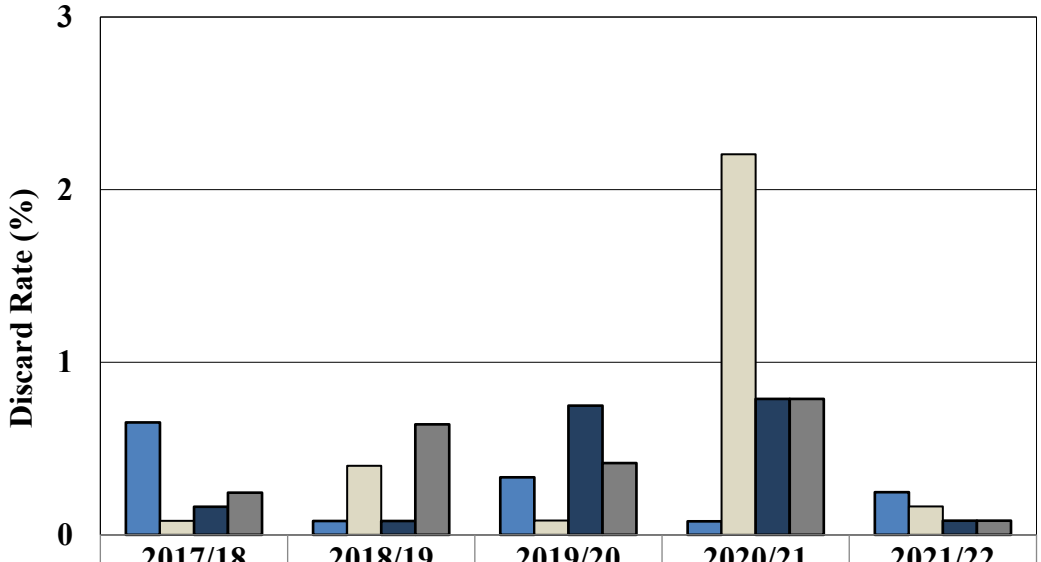
Appendix F: Regional Data

SSRH - South Shore Regional Hospital

RBC Units Distributed and Transfused by Fiscal Year



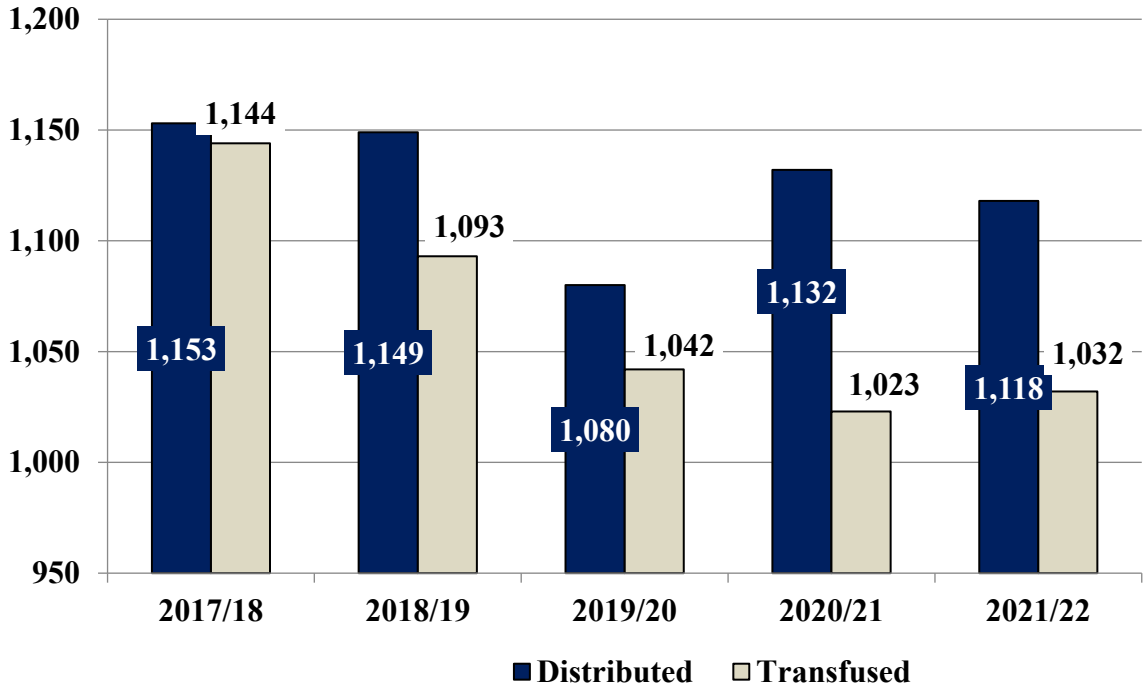
Annual Red Blood Cell Discard Rates



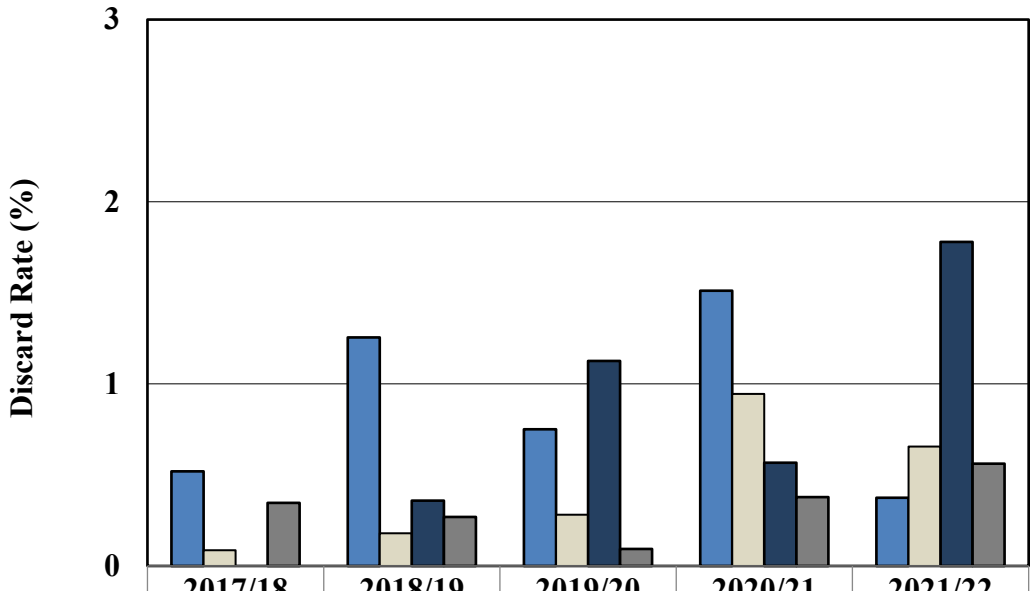
	2017/18	2018/19	2019/20	2020/21	2021/22
Indate Rate (%)	0.7	0.1	0.3	0.1	0.2
O - Outdate Rate (%)	0.1	0.4	0.1	2.2	0.2
A/O+ Outdate Rate (%)	0.2	0.1	0.7	0.8	0.1
B/AB Outdate Rate (%)	0.2	0.6	0.4	0.8	0.1

YRH – Yarmouth Regional Hospital

RBC Units Distributed and Transfused by Fiscal Year



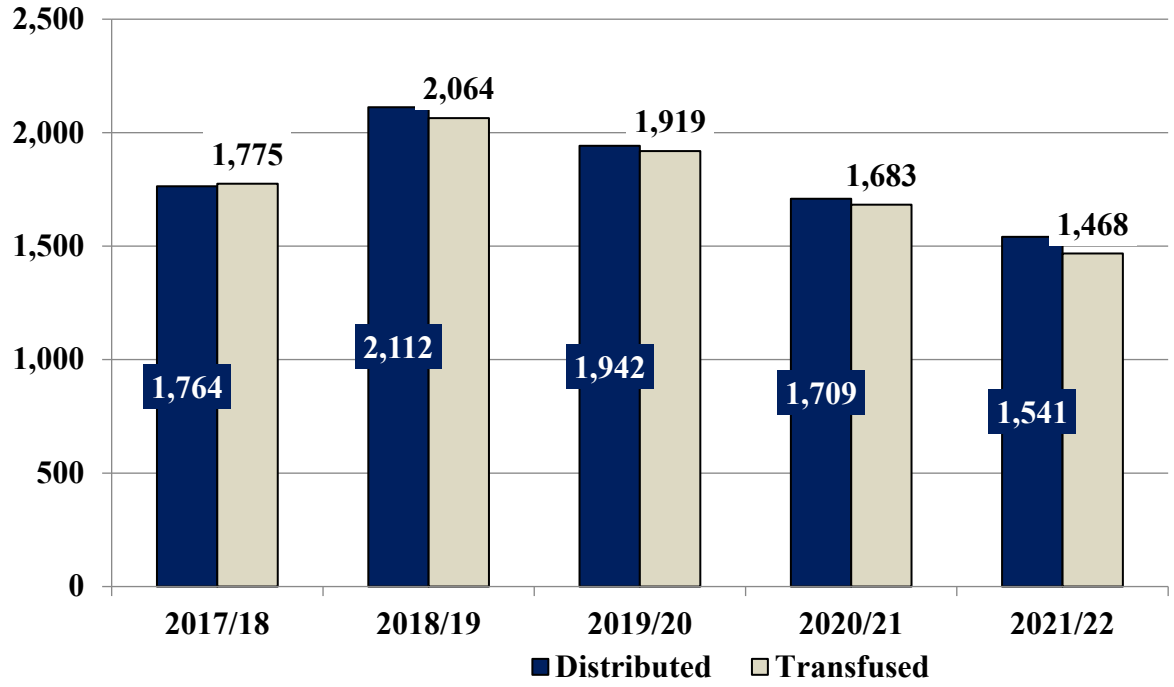
Annual Red Blood Cell Discard Rates



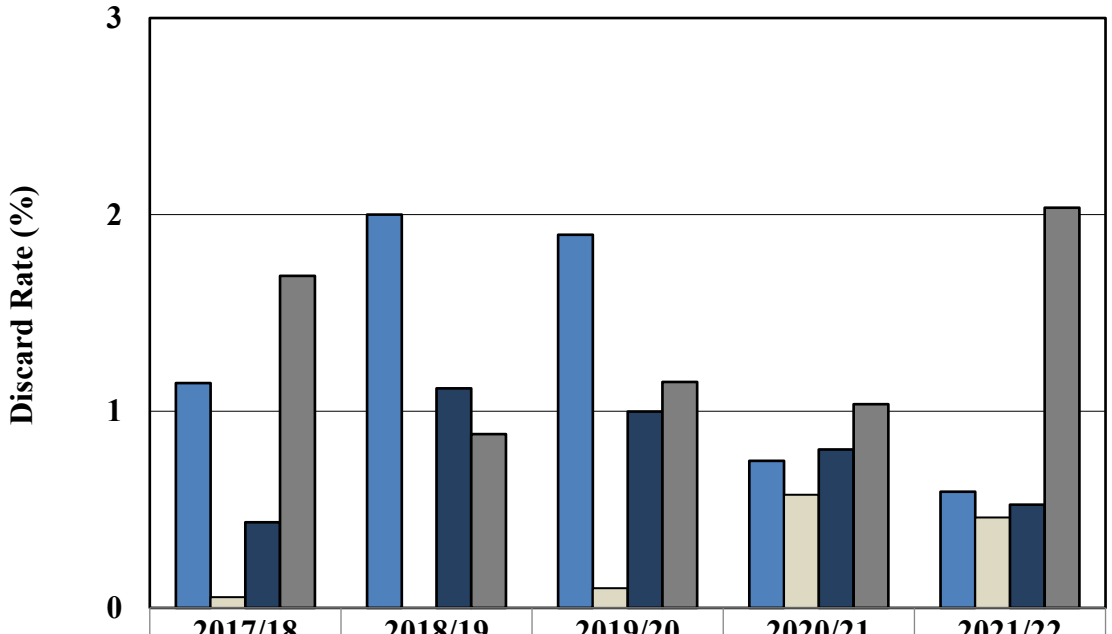
	2017/18	2018/19	2019/20	2020/21	2021/22
Indate Rate (%)	0.5	1.3	0.8	1.5	0.4
O - Outdate Rate (%)	0.1	0.2	0.3	0.9	0.7
A/O+ Outdate Rate (%)	0.0	0.4	1.1	0.6	1.8
B/AB Outdate Rate (%)	0.3	0.3	0.1	0.4	0.6

Valley Regional Hospital

RBC Units Distributed and Transfused by Fiscal Year



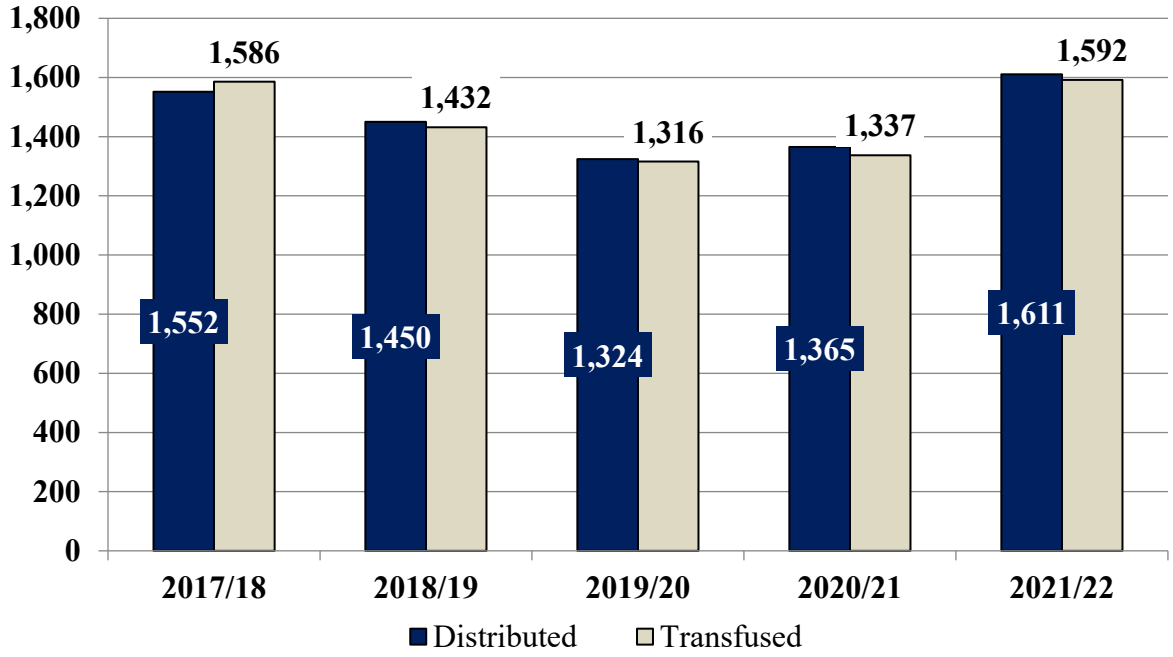
Annual Red Blood Cell Discard Rates



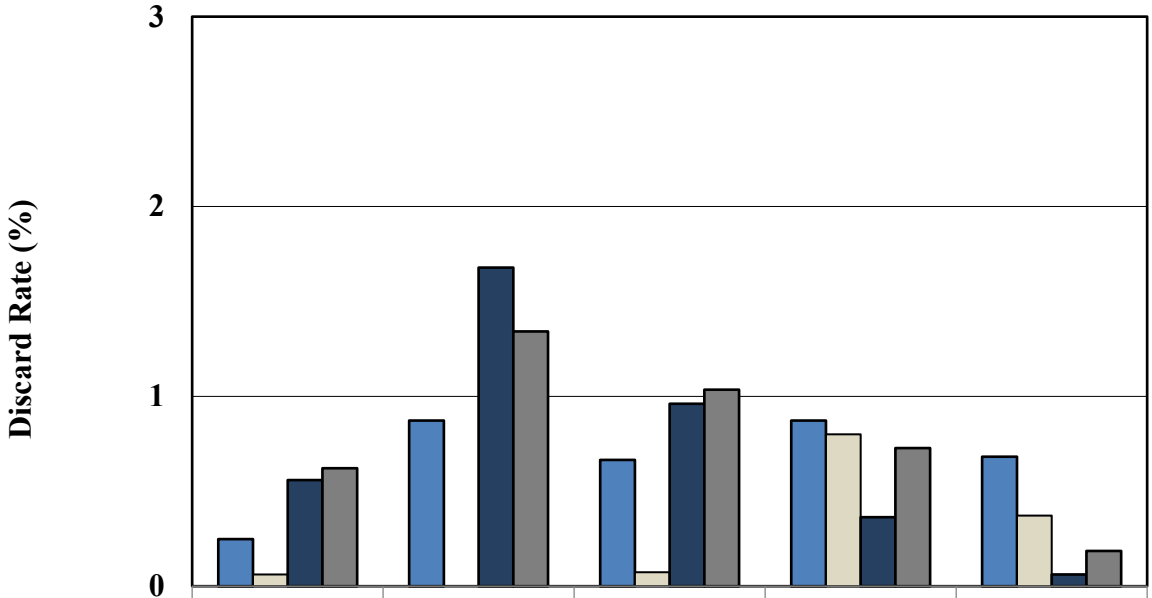
	2017/18	2018/19	2019/20	2020/21	2021/22
Indate Rate (%)	1.1	2.0	1.9	0.7	0.6
O - Outdate Rate (%)	0.1	0.0	0.1	0.6	0.5
A/O+ Outdate Rate (%)	0.4	1.1	1.0	0.8	0.5
B/AB Outdate Rate (%)	1.7	0.9	1.1	1.0	2.0

CEHHC - Colchester East Hants Health Centre

RBC Units Distributed and Transfused by Fiscal Year



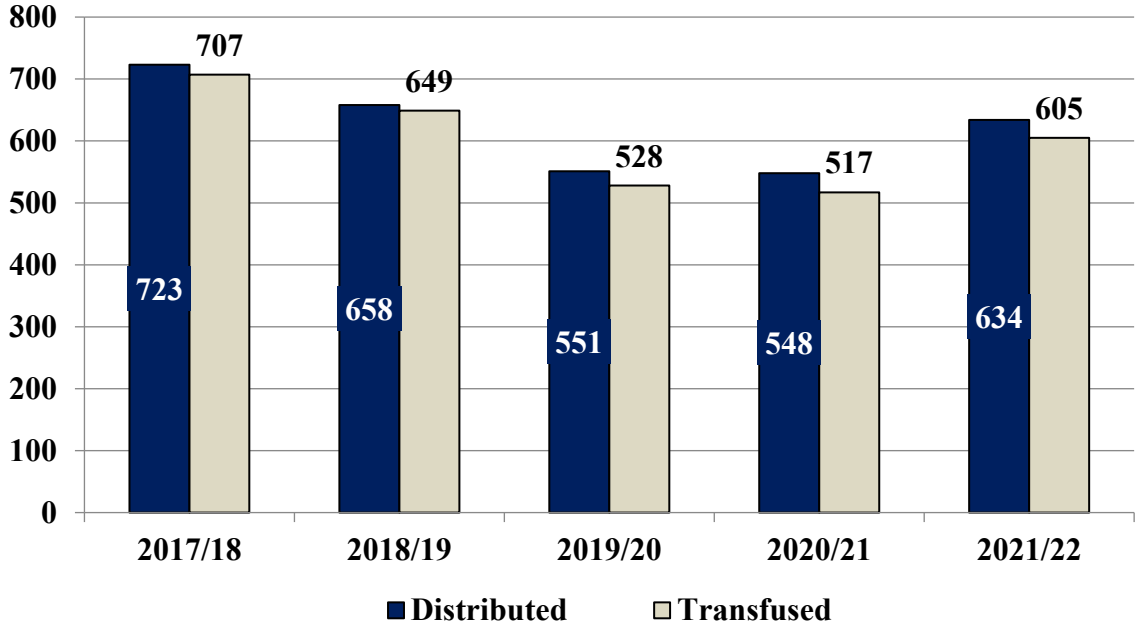
Annual Red Blood Cell Discard Rate



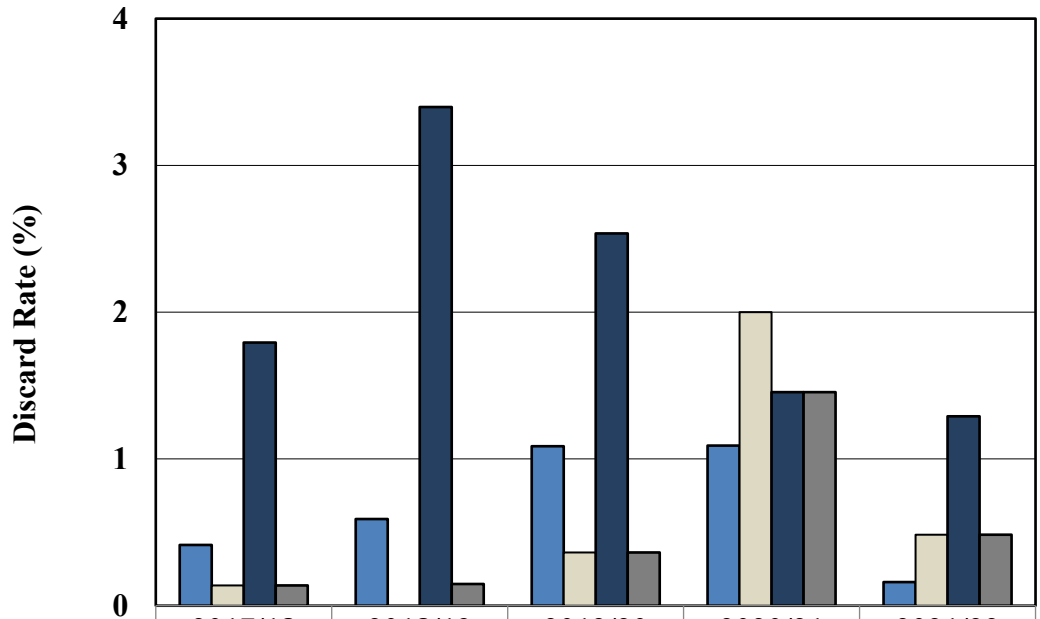
	2017/18	2018/19	2019/20	2020/21	2021/22
Indate Rate (%)	0.2	0.9	0.7	0.9	0.7
O - Outdate Rate (%)	0.1	0.0	0.1	0.8	0.4
A/O+ Outdate Rate (%)	0.6	1.7	1.0	0.4	0.1
B/AB Outdate Rate (%)	0.6	1.3	1.0	0.7	0.2

CRHCC - Cumberland Regional Health Care Centre

RBC Units Distributed and Transfused by Fiscal Year



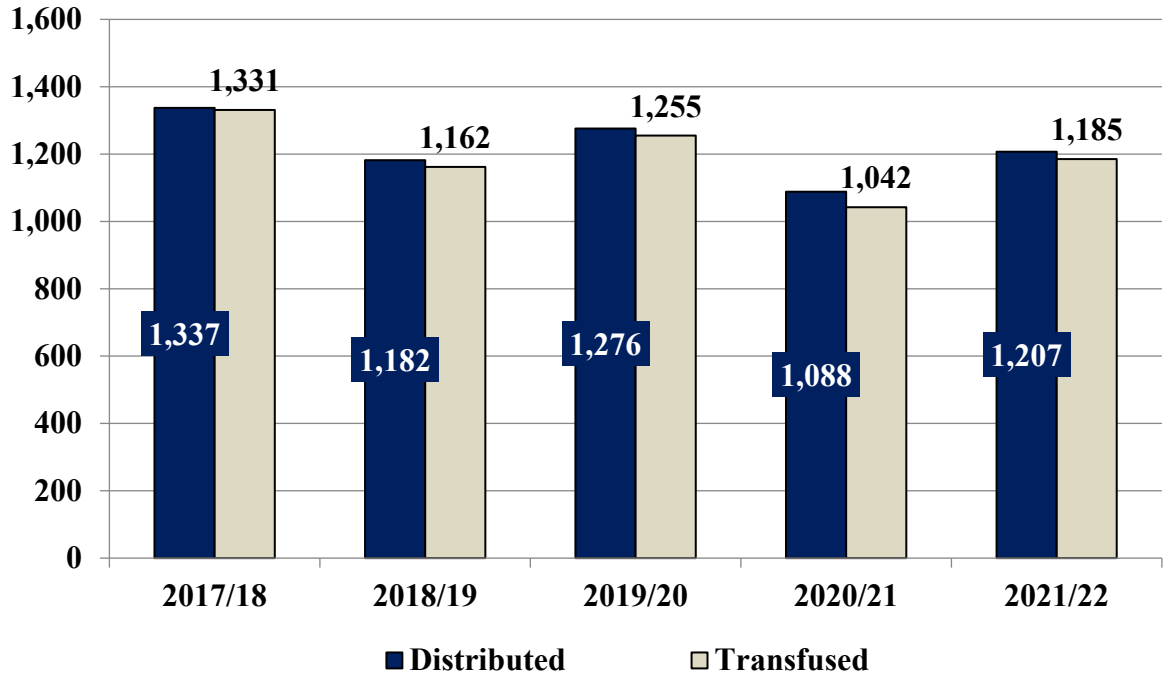
Annual Red Blood Cell Discard Rates



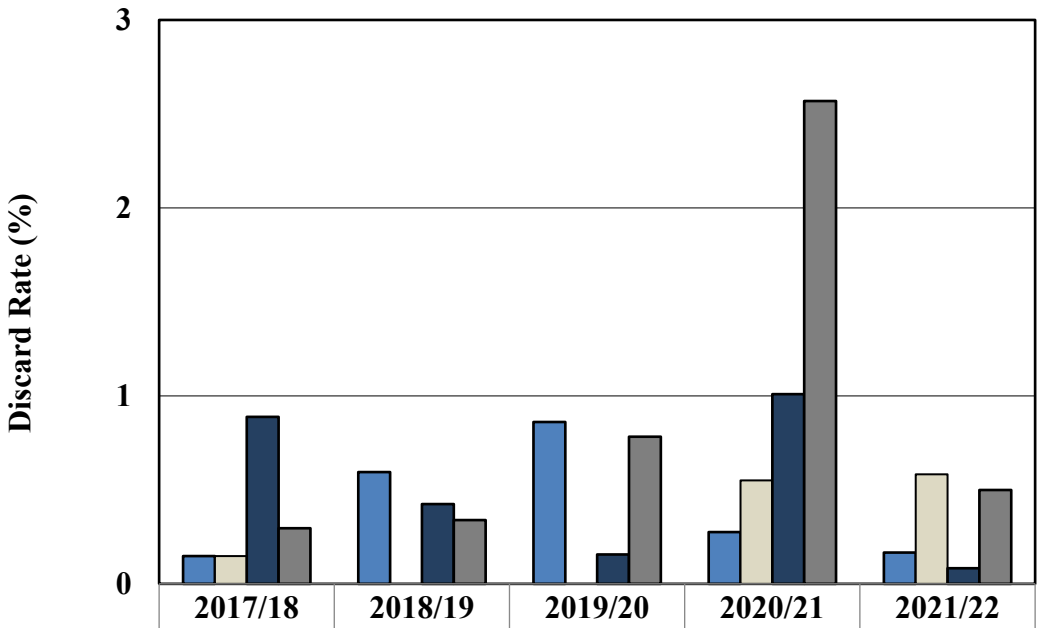
	2017/18	2018/19	2019/20	2020/21	2021/22
Indate Rate (%)	0.4	0.6	1.1	1.1	0.2
O - Outdate Rate (%)	0.1	0.0	0.4	2.0	0.5
A/O+ Outdate Rate (%)	1.8	3.4	2.5	1.5	1.3
B/AB Outdate Rate (%)	0.1	0.1	0.4	1.5	0.5

AH – Aberdeen Hospital

RBC Units Distributed and Transfused by Fiscal Year



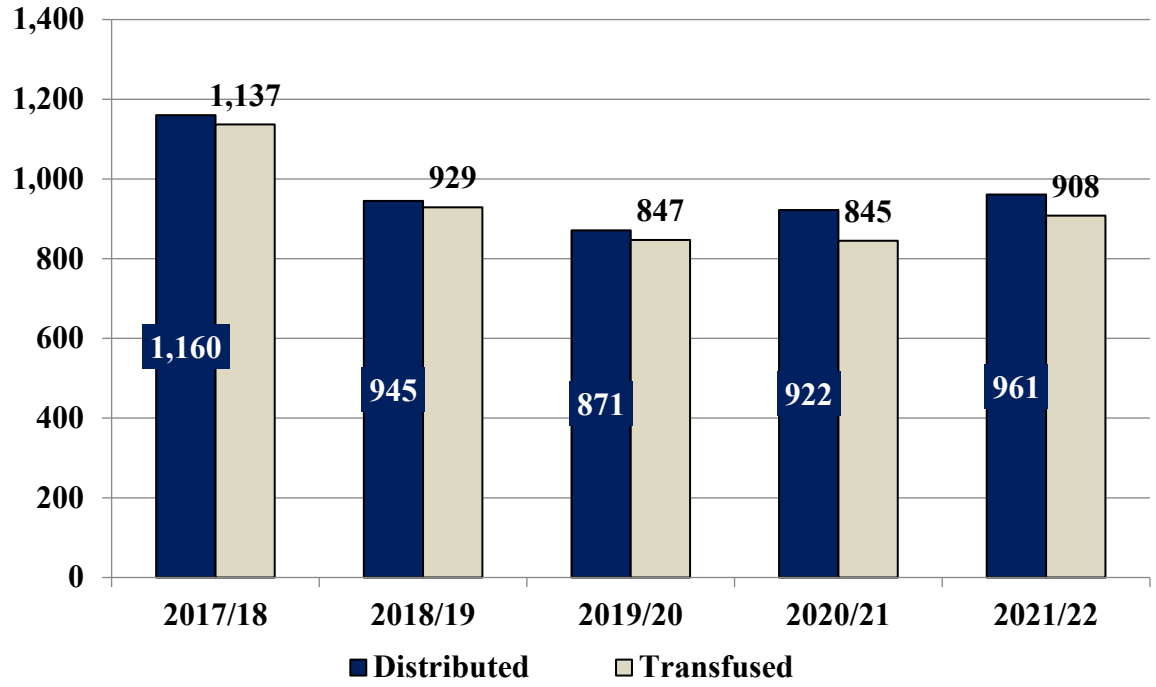
Annual Red Blood Cell Discard Rates



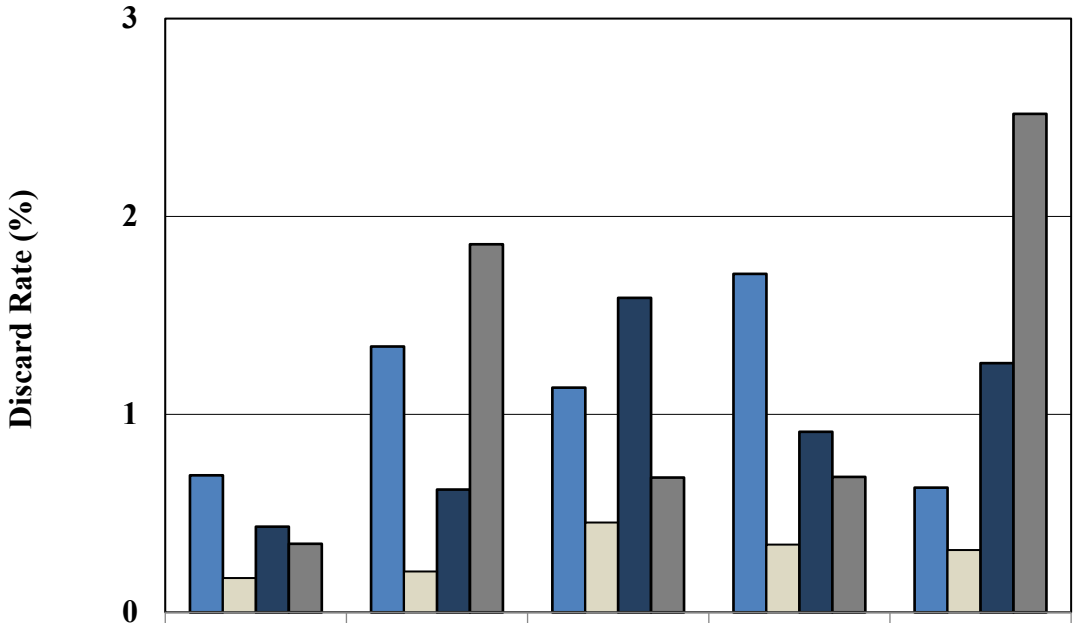
	2017/18	2018/19	2019/20	2020/21	2021/22
Indate Rate (%)	0.1	0.6	0.9	0.3	0.2
O - Outdate Rate (%)	0.1	0.0	0.0	0.6	0.6
A/O+ Outdate Rate (%)	0.9	0.4	0.2	1.0	0.1
B/AB Outdate Rate (%)	0.3	0.3	0.8	2.6	0.5

SMRH – St. Martha's Regional Hospital

RBC Units Distributed and Transfused by Fiscal Year



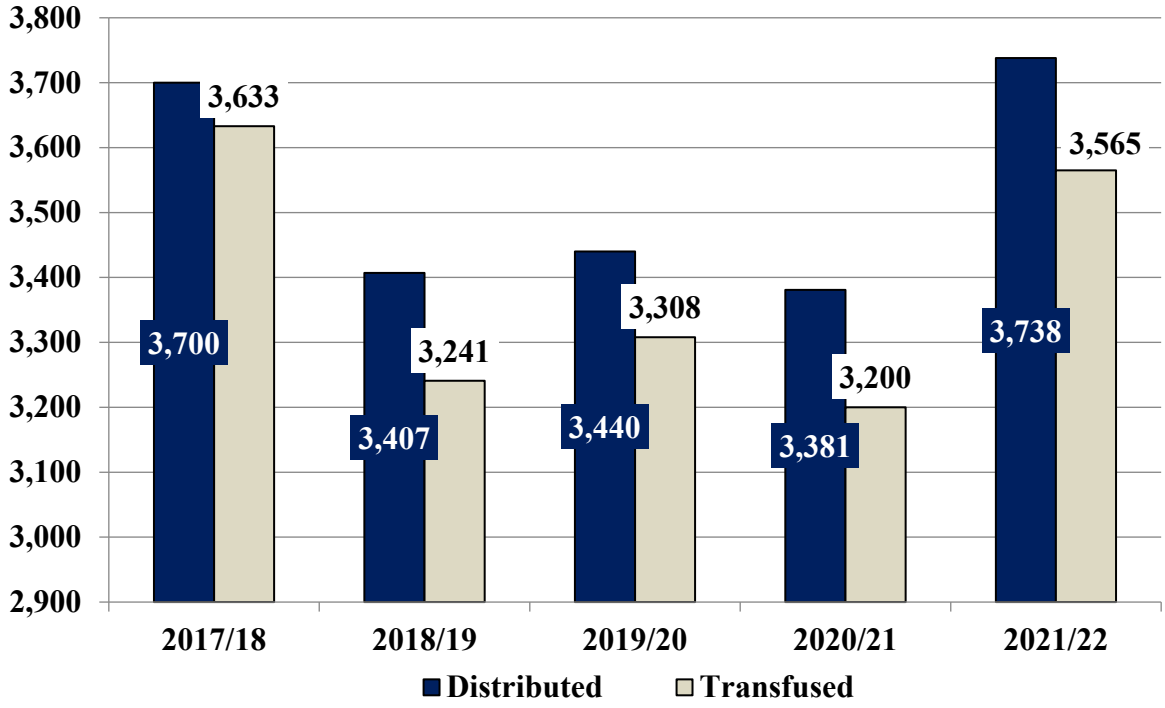
Annual Red Blood Cell Discard Rates



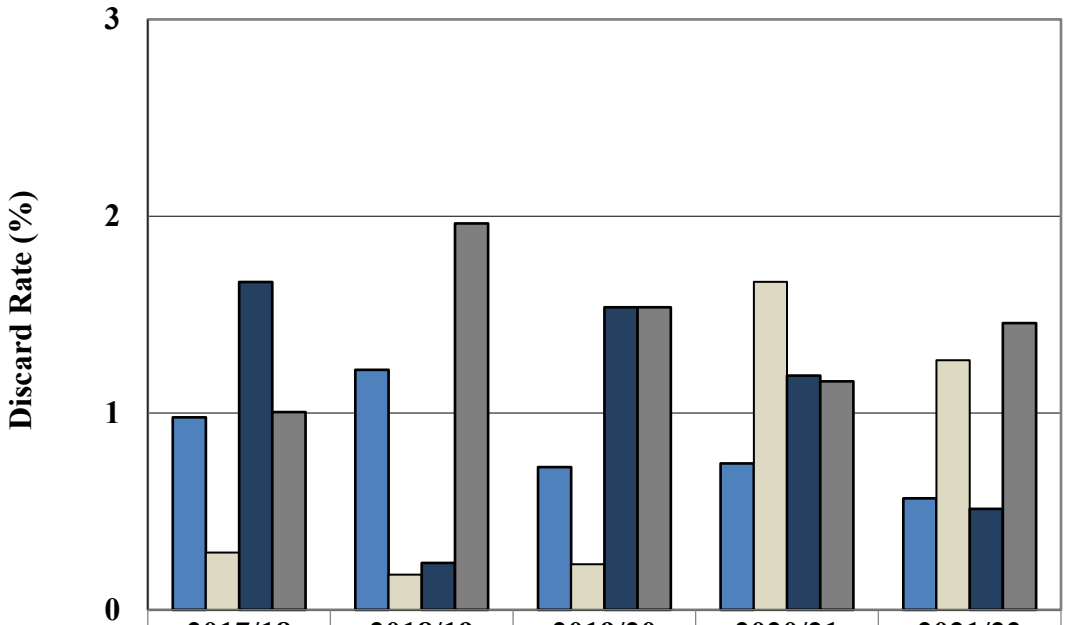
	2017/18	2018/19	2019/20	2020/21	2021/22
Indate Rate (%)	0.7	1.3	1.1	1.7	0.6
O - Outdate Rate (%)	0.2	0.2	0.5	0.3	0.3
A/O+ Outdate Rate (%)	0.4	0.6	1.6	0.9	1.3
B/AB Outdate Rate (%)	0.3	1.9	0.7	0.7	2.5

CBRH - Cape Breton Regional Hospital

RBC Units Distributed and Transfused by Fiscal Year



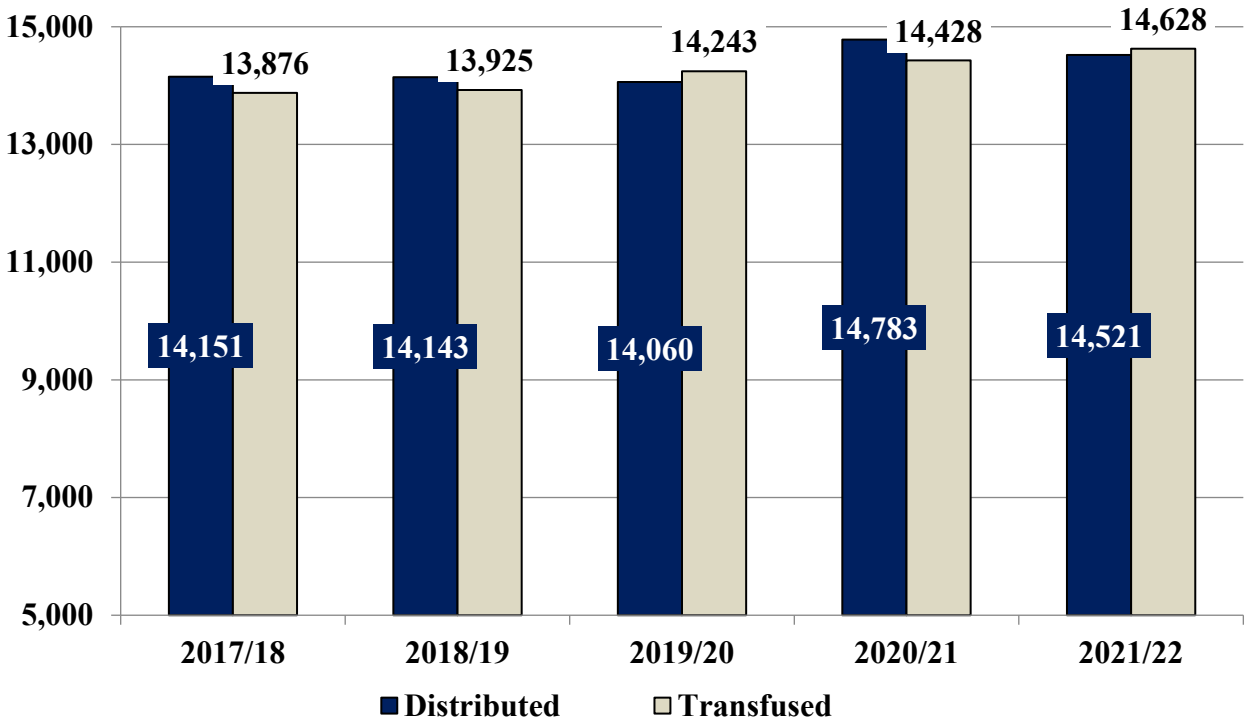
Annual Red Blood Cell Discard Rates



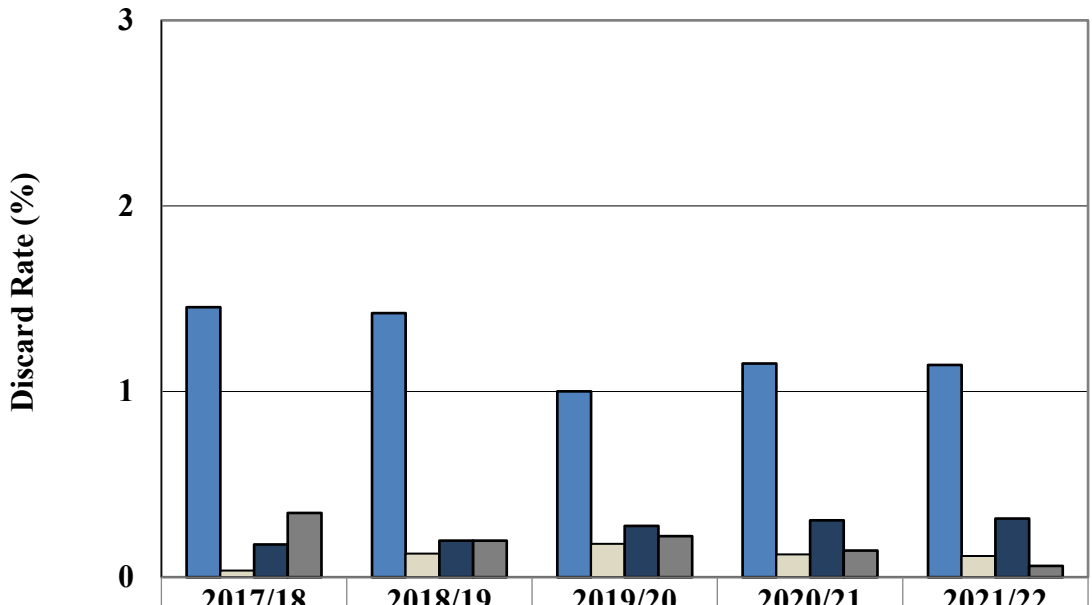
	2017/18	2018/19	2019/20	2020/21	2021/22
Indate Rate (%)	1.0	1.2	0.7	0.7	0.6
O - Outdate Rate (%)	0.3	0.2	0.2	1.7	1.3
A/O+ Outdate Rate (%)	1.7	0.2	1.5	1.2	0.5
B/AB Outdate Rate (%)	1.0	2.0	1.5	1.2	1.5

QEII: QEII Health Sciences Centre

RBC Units Distributed and Transfused by Fiscal Year



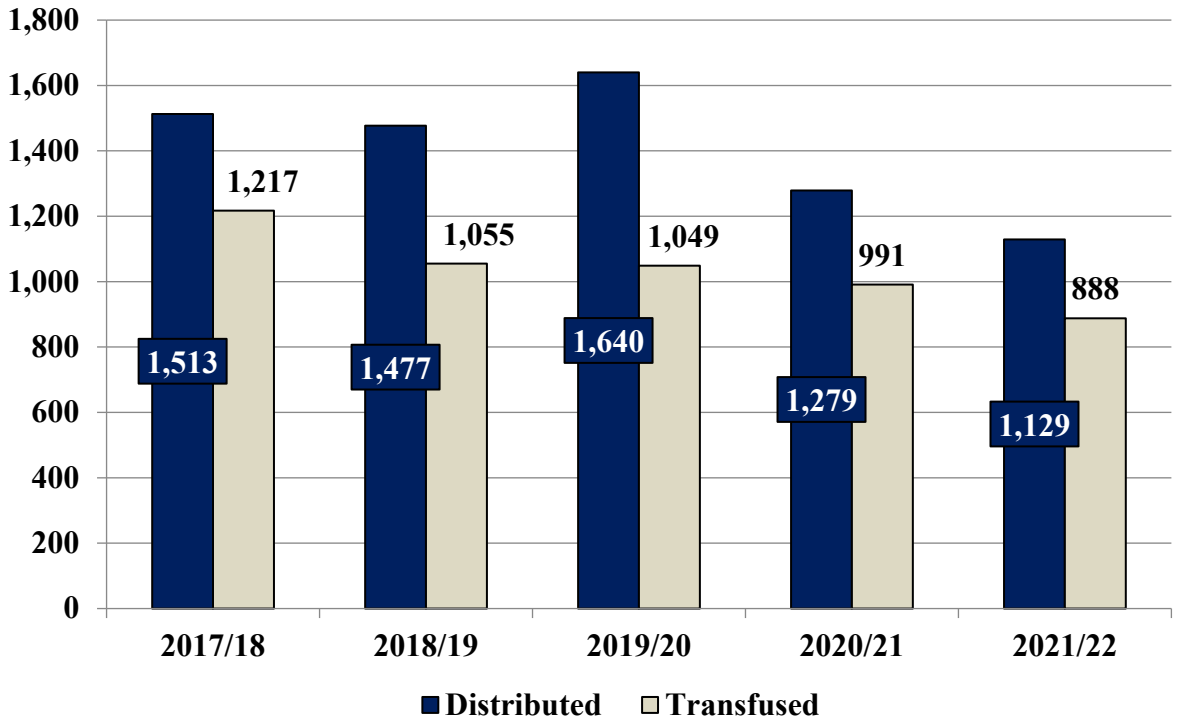
Annual Red Blood Cell Discard Rates



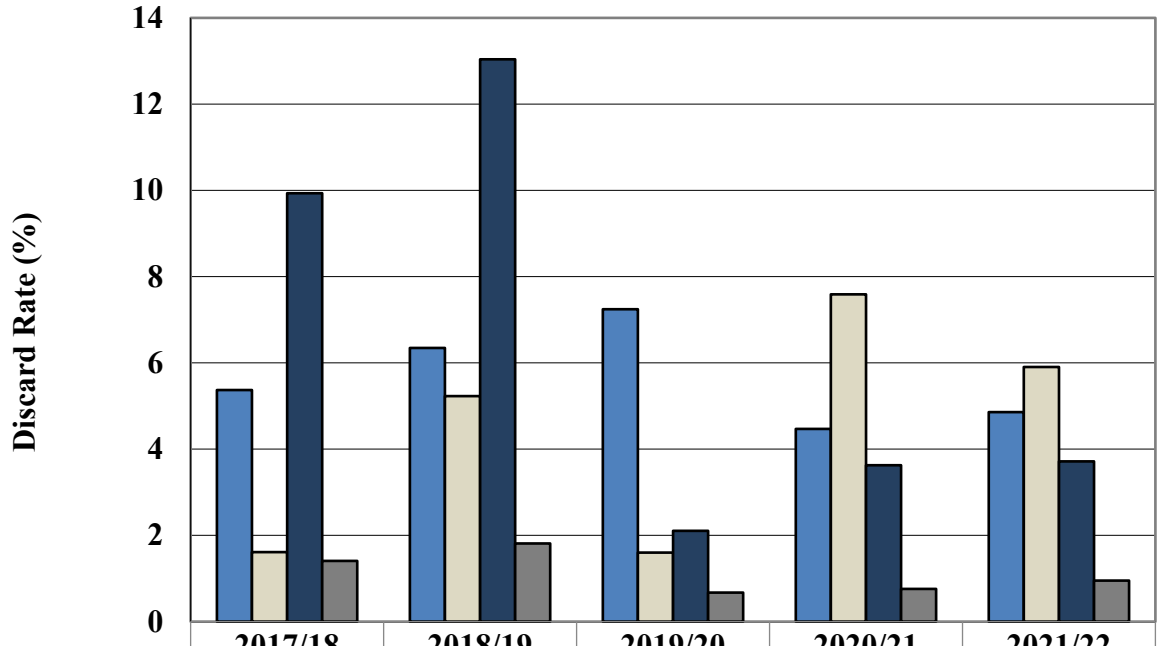
	2017/18	2018/19	2019/20	2020/21	2021/22
Indate Rate (%)	1.5	1.4	1.0	1.2	1.1
O - Outdate Rate (%)	0.0	0.1	0.2	0.1	0.1
A/O+ Outdate Rate (%)	0.2	0.2	0.3	0.3	0.3
B/AB Outdate Rate (%)	0.3	0.2	0.2	0.1	0.1

IWK Health Centre

RBC Units Distributed and Transfused by Fiscal Year



Annual Red Blood Cell Discard Rates



	2017/18	2018/19	2019/20	2020/21	2021/22
Indate Rate (%)	5.4	6.3	7.2	4.5	4.9
O- Outdate Rate (%)	1.6	5.2	1.6	7.6	5.9
A/O+ Outdate Rate (%)	9.9	13.0	2.1	3.6	3.7
B/AB Outdate Rate (%)	1.4	1.8	0.7	0.8	1.0