Nova Scotia Provincial Blood Coordinating Team

Nova Scotia Annual Red Blood Cell Report FY 2018/19

August 2019

PROMOTING EXCELLENCE IN TRANSFUSION MEDICINE

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

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1 Executive Summary

In this report, the Nova Scotia Provincial Blood Coordinating Team (NSPBCT) provides an overview of the distribution and discards of red blood cells (RBC) in Nova Scotia during the 2018/19 fiscal year.

National red blood cell distribution has decreased by approximately 0.7% in the 2018/19 fiscal year; this follows a 2.9% decrease in 2017/18. Red blood cell distribution for Nova Scotia has shown a decrease of 1.7% in 2018/19. A continuous decline from the 2017/18 fiscal year where there was a decrease of 10.7% from the previous fiscal year.

The continual decline in red blood cell distribution in Nova Scotia during 2018/19 can be attributed to the *Nova Scotia Guideline for Blood Component Utilization in Adults and Pediatrics*, leading to a decreased demand in 8 of the 10 sites within the province this FY. Overall there has been a 10.29% decrease in the number of transfusions in Nova Scotia since its implementation. The *Nova Scotia Guideline for Blood Component Utilization in Adults and Pediatrics* was developed to ensure appropriate utilization of red blood cells, plasma, platelets and cryoprecipitate in Nova Scotia. The guidelines are based on the advice of the Appropriate Blood Components Working Group (ABC Working Group) consisting of physicians with an expertise in oncology, multi-organ transplant, emergency medicine, trauma, transfusion medicine, anesthesiology, surgery, intensive care, general practitioners, pediatrics, obstetrics/gynecology and Canadian Blood Services.

Nova Scotia's red blood cell discard rate was 3.7% in 2018/19; this is a slight increase from 3.1% in 2017/18. Successful inventory management strategies have resulted in minimizing discards of red blood cells in the past and will be reviewed in the fall of 2019 to incorporate the decrease in demand with the implementation of the *Nova Scotia Guideline for Blood Component Utilization in Adults and Pediatrics.*

Site specific information on the red blood cell distribution and discards is also presented in this report. These are meant to show the progress each site has made in minimizing discards and provide an opportunity to track the trend in their red blood cell distribution and formulate strategies accordingly.

2 Introduction

The Nova Scotia Provincial Blood Coordinating Team (NSPBCT) supports excellence in transfusion medicine. A key area of focus is utilization management in order to optimize the appropriate use of blood and blood products and to minimize wastage. In fiscal year 2018/19, Nova Scotia had the second highest distribution rate of red blood cells, 28.9 per 1,000 population in Canada, down from 29.6 per 1,000 population the previous fiscal year.

The NSPBCT has been monitoring and reporting on red blood cell distribution since 2012 and red blood cell discards since 2003. This report continues to describe Nova Scotia's current provincial distribution and discard rates as well as site specific red blood cell discards. The reporting period presented here is April 1, 2017 to March 31, 2018.

It is important to note the data contained in this report does not account for transfers between sites. The NSPBCT supports this practice however recognizes that transfer within the province is not at an

optimal level of effectiveness due to the lack of transportation between sites within the system. Relying on outside vendors for transfers has been problematic with respect to scheduling and effectiveness.

Appendix A shows the formula used to calculate the discard rates presented in this report. A detailed description of the product and *use types* that are used in the formula can be found in Appendix B. Appendix C shows the new site grouping in Nova Scotia.

Included in this report are the number of units distributed to Nova Scotia hospitals by CBS, trends over the past fiscal years, as well as comparisons with the national figures. The details of units distributed, annual variance in distribution and discards at the sites are also presented.

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

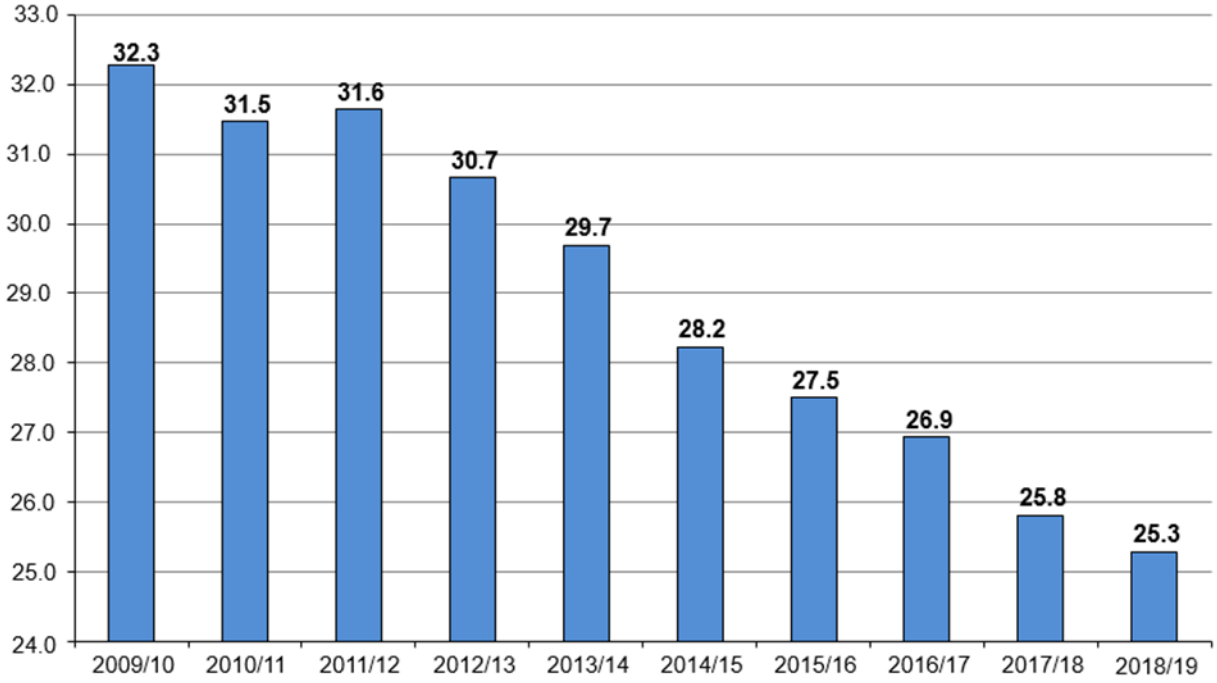
3 Distribution Data

3.1 The Canadian Perspective

National data and trends serve as a bench mark to compare provincial data and may be used for setting target goals. The following figures demonstrate the red blood cells that were issued or distributed and are used as a comparison of overall use.

Figure 1 illustrates a comparison of national annual per capita distribution since 2009/10 by Canadian Blood Services.

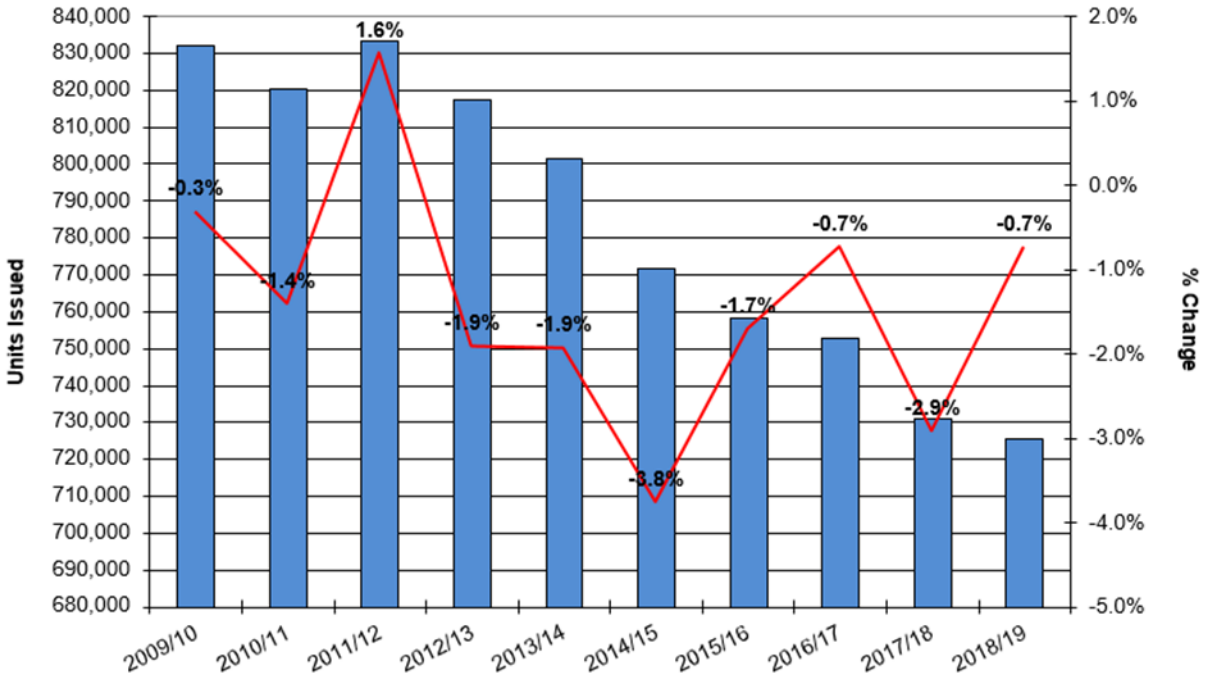
Figure 1: RBC Units Issued per 1,000 Population by Fiscal Period



Source: Canadian Blood Services

The red blood cells issued per 1,000 population has been decreasing to a current rate of 25.3 per 1,000 population in the 2018/19 fiscal year. This equates to a decreased rate of 0.7% as demonstrated in Figure 2.

Figure 2: RBC Units Issued & Fiscal Period Growth Rates

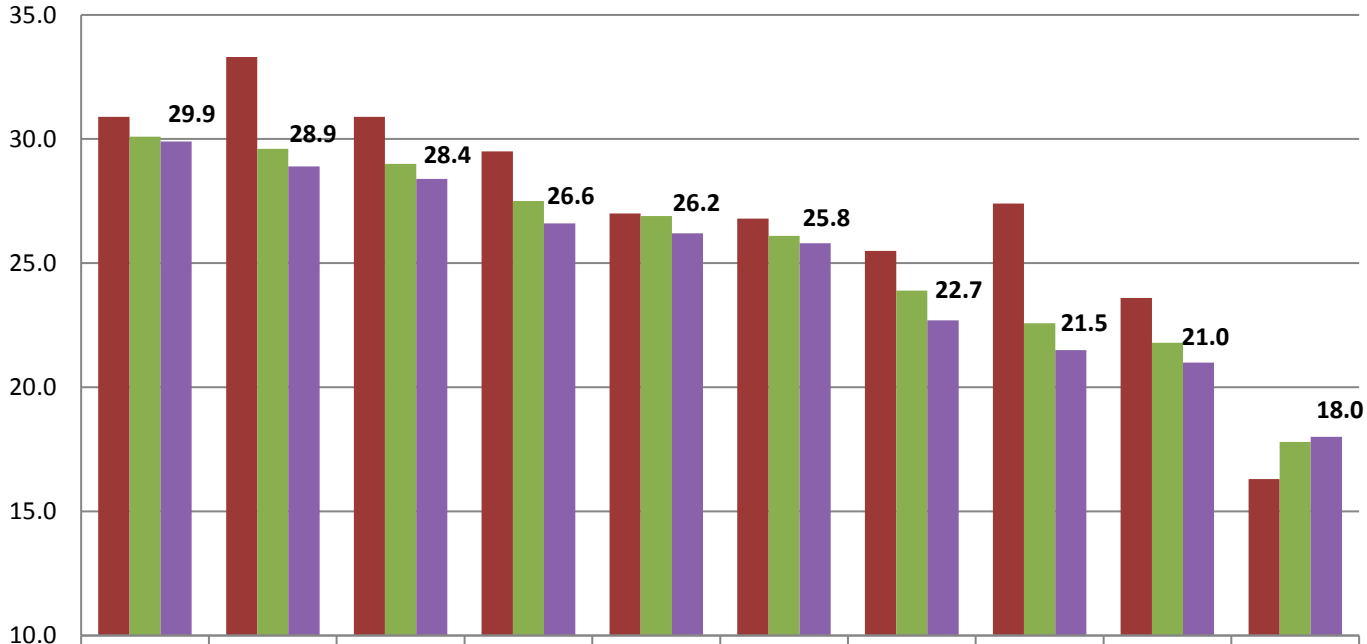


Source: Canadian Blood Service

3.2 Provincial Distribution

Figure 3 displays the units of red blood cells per 1,000 population distributed to the provinces and territories in fiscal years 2016/17, 2017/18 and 2018/19.

Figure 3: RBC Units Issued per 1,000 population by Province



	NB	NS	MB	NL	BC	ON	PE	SK	AB	YT/NT/NU
2016-2017	30.9	33.3	30.9	29.5	27.0	26.8	25.5	27.4	23.6	16.3
2017-2018	30.1	29.6	29.0	27.5	26.9	26.1	23.9	22.6	21.8	17.8
2018-2019	29.9	28.9	28.4	26.6	26.2	25.8	22.7	21.5	21.0	18.0

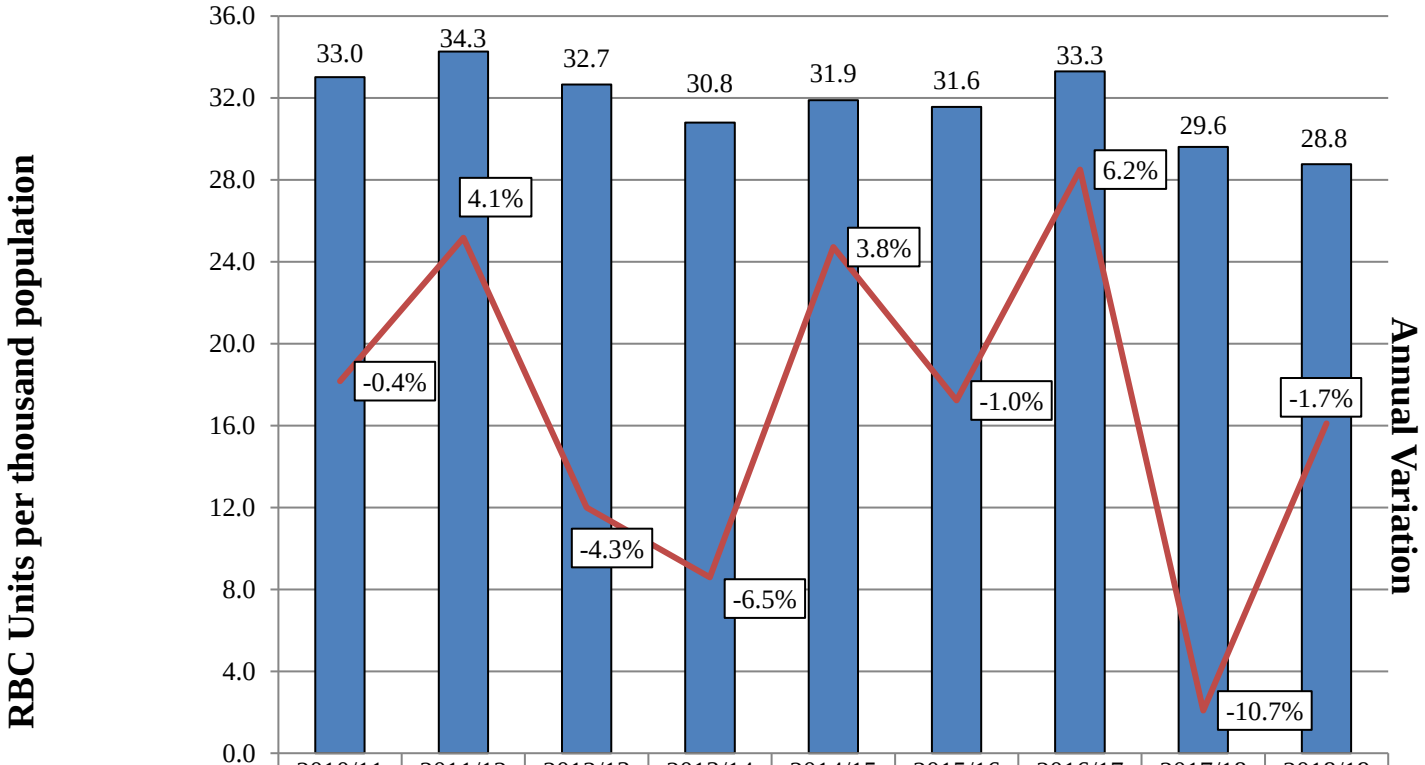
Source: Canadian Blood Service

Canadian Blood Services supplies blood to all provinces in Canada except Quebec.
The number of RBC units distributed to Nova Scotia per 1,000 population has decreased from 29.6 per 1,000 population in 2017/18 to 28.9 per 1,000 population in 2018/19. Further comparisons show that, in fact, for the year 2018/19 all other provinces except the territories, have had a decrease in distribution of RBC's.

3.3 Provincial Growth Rate

Figure 4 illustrates the distribution of red blood cells in Nova Scotia for 2018/19 was 28.8 per 1,000 population which is a 1.7% decrease from the previous fiscal year. This now places Nova Scotia as the second highest user of red blood cells in the country for the second year in a row.

Figure 4: RBC Units Distributed to Nova Scotia per 1,000 population and Fiscal Period Growth Rates



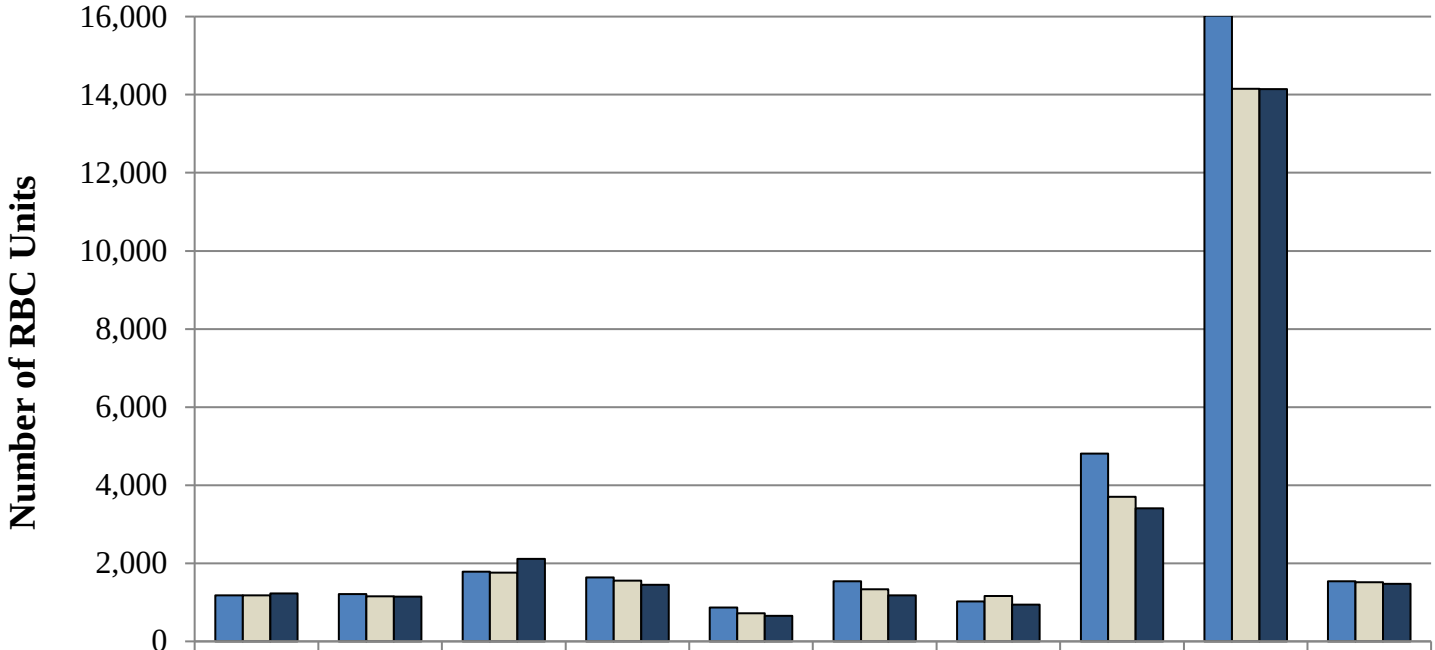
	2010/11	2011/12	2012/13	2013/14	2014/15	2015/16	2016/17	2017/18	2018/19
RBC Units/1000 pop	33.0	34.3	32.7	30.8	31.9	31.6	33.3	29.6	28.8
RBC Units	31,120	32,391	30,988	28,970	30,069	29,770	31,619	28,230	27,749
Annual Variation (RBC Units)	-0.4%	4.1%	-4.3%	-6.5%	3.8%	-1.0%	6.2%	-10.7%	-1.7%

3.4 Distribution of Red Blood Cells to the Sites

This section demonstrates the annual comparison of the total units distributed to the sites within NS for the last three fiscal years.

Figure 5 illustrates the total units distributed to the sites for fiscal years 2016/17, 2017/18 and 2018/19.

Figure 5: Total RBC Units Distributed by Site



	SSRH	YRH	VRH	CEHHC	CRHCC	AH	SMRH	CBRH	QEII	IWK
2016/17	1,180	1,214	1,787	1,636	870	1,537	1,024	4,809	16,024	1,538
2017/18	1,177	1,153	1,764	1,552	723	1,337	1,160	3,700	14,151	1,513
2018/19	1,226	1,149	2,112	1,450	658	1,182	945	3,407	14,143	1,477

Eight out of the ten sites have shown a decrease in distribution for 2018/19 when compared to their own distribution in the previous fiscal year. This again depicts an overall trend of decreased distribution and usage within this province in comparison with last year.

4 Red Blood Cell Data

4.1 Data Collection

The information presented in the remainder of this report is derived from data obtained by the NSPBCT from CBS. The following sections provide information regarding the data used to create the graphs and tables and should be considered in the interpretation of the utilization information in this report.

4.2 Percent Capture

Percent capture is used as a data quality indicator and assists in determining if the utilization data is representative of the overall utilization. Percent capture is calculated in the following manner:

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

Table 1 demonstrates the percent capture of red blood cell utilization for the past three fiscal years in Nova Scotia.

Table 1: Percent Capture of RBC Utilization in Nova Scotia

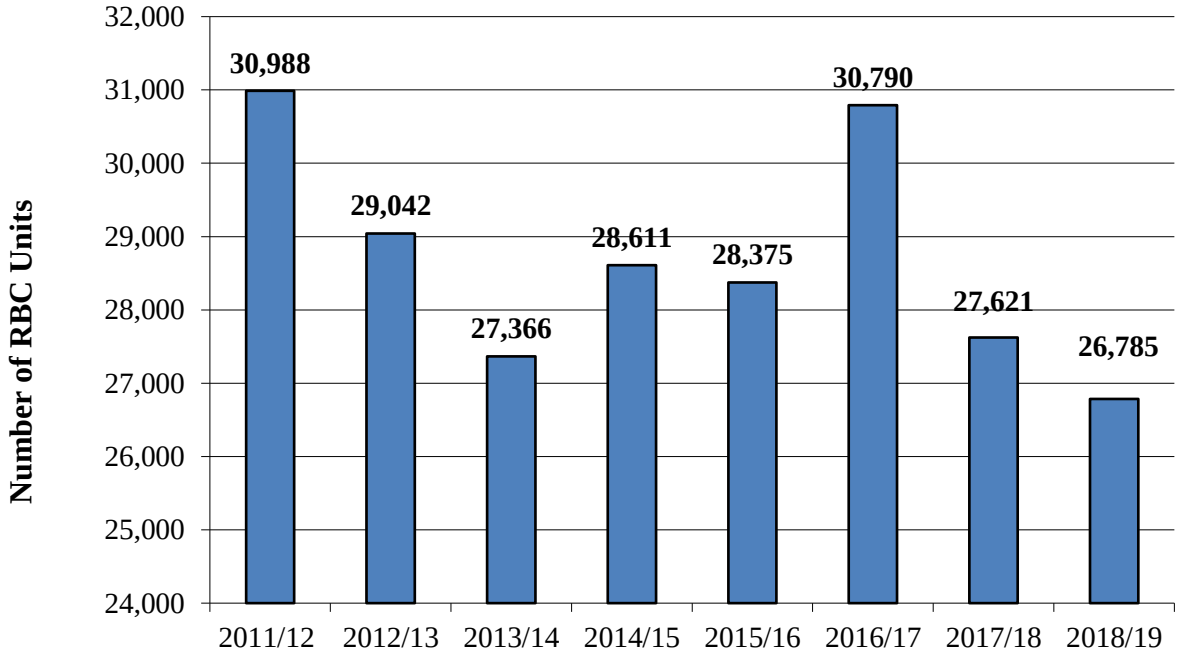
Fiscal Year	Total RBC Units Utilized *(transfused + discarded)*	Total RBC Units Distributed	Percent Capture
2016/2017	31,525	31,619	99.7%
2017/2018	28,495	28,230	100.9%
2018/2019	27,826	27,749	100.3%

5 Red Blood Cell Transfusion Data

The NSPBCT receives disposition data from Canadian Blood Services on a quarterly basis. Total units of red blood cells transfused are derived from this information and presented here.

Figure 6 illustrates the total annual transfused units in Nova Scotia reported to the NSPBCT, from 2011/12 to 2018/19.

Figure 6: Total RBC Units Transfused



There has been a decrease in the total number of RBC units transfused in NS from 27,621 in 2017/18 to 26,785 in 2018/19. This represents a decrease in transfusions from 2017/18 of 3.0%

6 Discard Rates of Red Blood Cell Units in Nova Scotia

There are challenges in maintaining an adequate provincial and national supply of type O and A units, as these are the most common blood types in Canada. This is particularly true of O negative units-the universal donor type in emergency situations. Therefore, the sites are being encouraged to stock appropriate quantities of type AB and B units to help avoid transfusing group compatible units to recipients who could have had group specific red blood cells. This strategy was expected to result in a small inventory of type B and AB red blood cell units going unused and ultimately expiring, hence discard rates were expected to increase slightly for non-A and non-O units. To reflect this strategy and de-emphasize B and AB discards that may occur as a result, type B and AB units have been separated in many of the discard graphs in this report.

Figure 7 illustrates the annual total discard rates in Nova Scotia for the last eight fiscal years.

Figure 7: Annual RBC Discard Rates in Nova Scotia

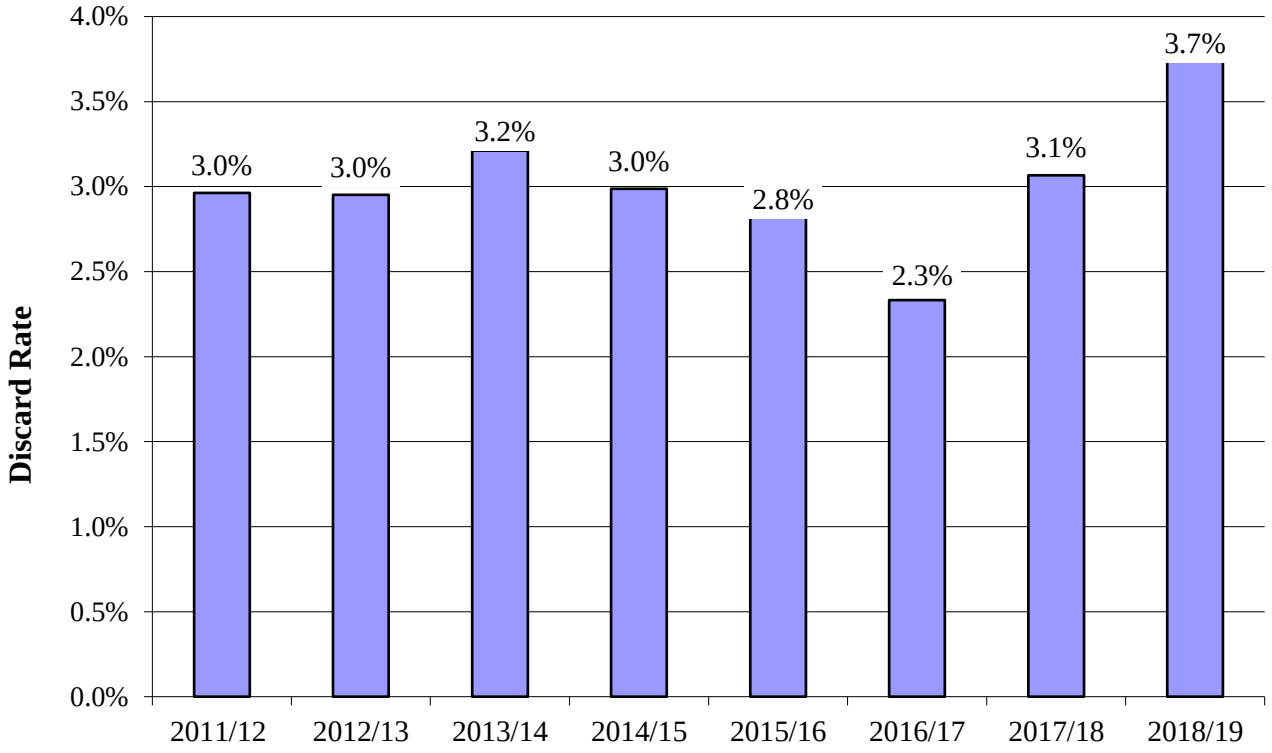
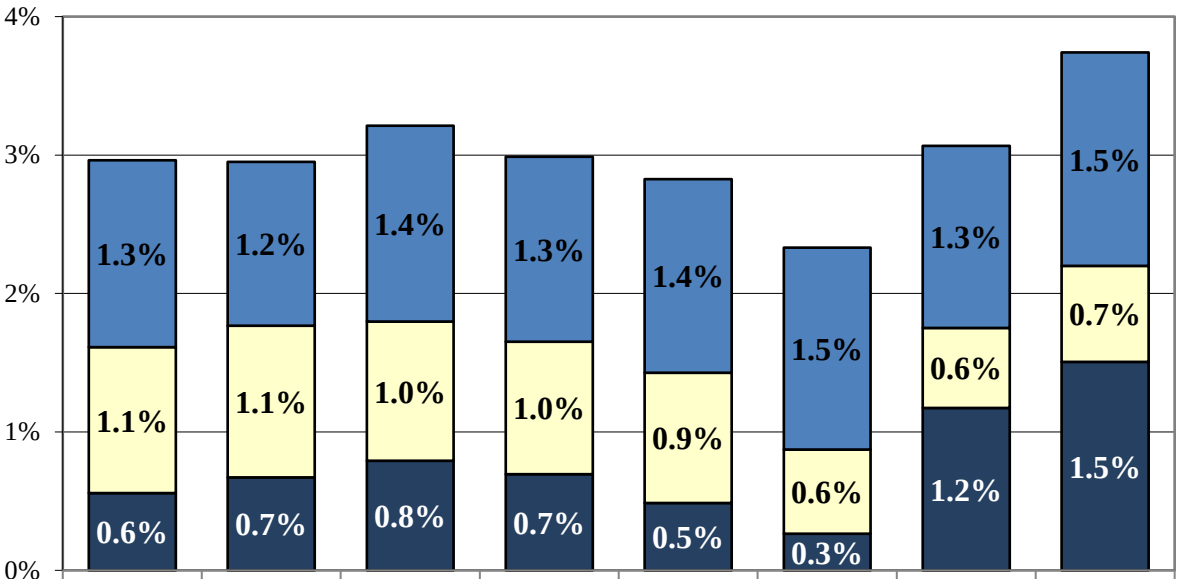


Figure 8 shows the discards in Nova Scotia broken down by indate discards (product discarded prior to the expiry date), and outdate discards (product discarded because the expiry date was reached).

Figure 8: Indate Discards Rate and Outdate Discards Rate by ABO in Nova Scotia



	2011/12	2012/13	2013/14	2014/15	2015/16	2016/17	2017/18	2018/19
Indate Discards Rate	1.3%	1.2%	1.4%	1.3%	1.4%	1.5%	1.3%	1.5%
B & AB Outdate Discards Rate	1.1%	1.1%	1.0%	1.0%	0.9%	0.6%	0.6%	0.7%
A & O Outdate Discards Rate	0.6%	0.7%	0.8%	0.7%	0.5%	0.3%	1.2%	1.5%
Indate Discards	431	354	400	394	408	460	375	429
B & AB Outdate Discards	337	328	284	282	275	192	165	193
A & O Outdate Discards	178	201	224	205	142	83	334	419
Total Discard Rate	3.0%	3.0%	3.2%	3.0%	2.8%	2.3%	3.1%	3.7%

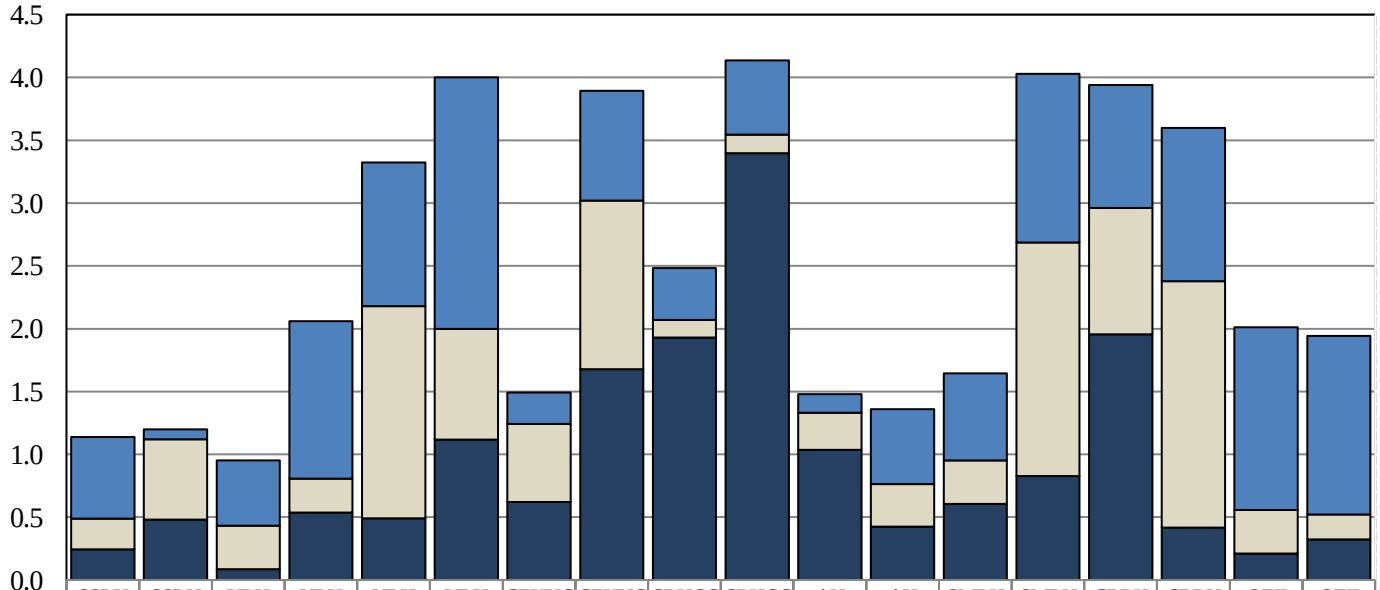
The discard rates in Nova Scotia have increased to 3.7% in 2018/19 from 3.1% last year. The target of the NSPBCT is to maintain the discard rate of type A and type O units below 2%. This goal was met by Nova Scotia in 2018/19, as the rate of outdate discards for type A and type O was 1.5%, however this an increase from last year's 1.2%. The outdate discard rate for type B and AB showed a slight increase from 0.6% last year to 0.7% in 2018/19. The indate discards have increased to 1.5% in 2018/19 from 1.3% in 2017/18.

6.1 Nova Scotia Discard Rates within the Sites

This section of the report illustrates the progress being made at the site level regarding discard rates. This is to support accountability and transparency and to provide the sites with the opportunity to identify those that have demonstrated success in inventory management for the purpose of sharing best practices.

Figure 9a illustrates the discard rates of each site over the last two fiscal years.

Figure 9a: Discard Rates and Proportion of Provincial Discards in Each Site

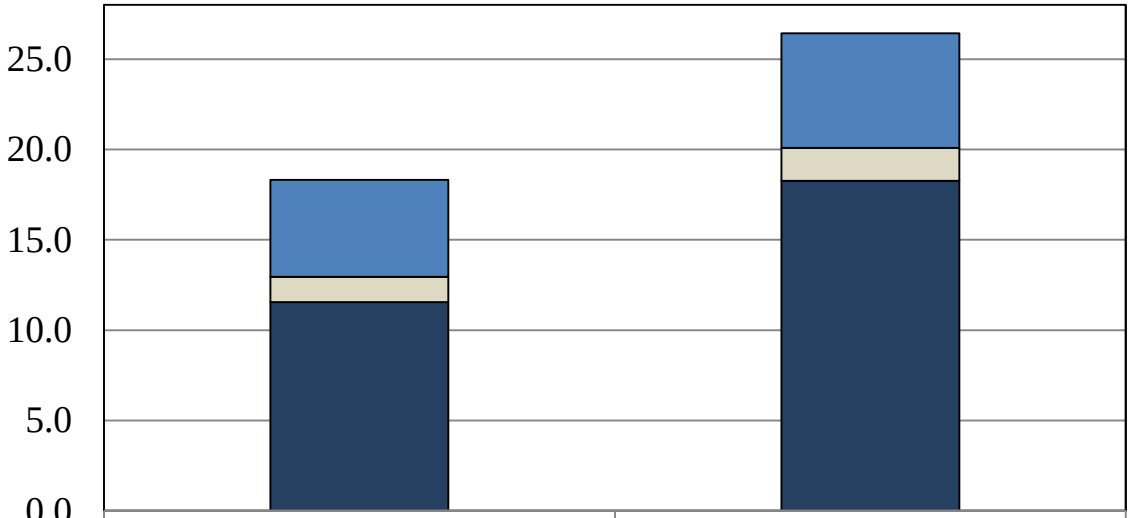


	SSRH 17/18	SSRH 18/19	YRH 17/18	YRH 18/19	VRH 17/18	VRH 18/19	CEHHC 17/18	CEHHC 18/19	CRHCC 17/18	CRHCC 18/19	AH 17/18	AH 18/19	SMRH 17/18	SMRH 18/19	CBRH 17/18	CBRH 18/19	QEII 17/18	QEII 18/19
Indate Rate (%)	0.7	0.1	0.5	1.3	1.1	2.0	0.2	0.9	0.4	0.6	0.1	0.6	0.7	1.3	1.0	1.2	1.5	1.4
B/AB Outdate Rate (%)	0.2	0.6	0.3	0.3	1.7	0.9	0.6	1.3	0.1	0.1	0.3	0.3	0.3	1.9	1.0	2.0	0.3	0.2
A/O Outdate Rate (%)	0.2	0.5	0.1	0.5	0.5	1.1	0.6	1.7	1.9	3.4	1.0	0.4	0.6	0.8	2.0	0.4	0.2	0.3
Indate (Units)	8	1	6	14	21	43	4	13	3	4	2	7	8	13	37	41	206	202
B/AB Outdate (Units)	3	8	4	3	31	19	10	20	1	1	4	4	4	18	38	66	49	28
A/O Outdate (Units)	3	6	1	6	9	24	10	25	14	23	14	5	7	8	74	14	30	46
Total Discard Rate (%)	1.1	1.2	1.0	2.1	3.3	4.0	1.5	3.9	2.5	4.1	1.5	1.4	1.6	4.0	3.9	3.6	2.0	1.9
% of NS Discard	1.6	1.4	1.3	2.2	7.0	8.3	2.7	5.6	2.1	2.7	2.3	1.5	2.2	3.7	17.0	11.6	32.6	26.5

The outdate discard rates are broken down by: B & AB outdates and A & O outdates. At a glance, it is preferable to keep the "dark blue" representing discard rate of A and O units at less than 2%. One of the 10 sites was unsuccessful at achieving a discard rate at or below 2.0% for A and O units. The NSPBCT implemented blood component guidelines based on the AABB Clinical Practice Guidelines recommending adherence to a more restrictive transfusion strategy. Utilization has decreased, however inventory has not been fully adjusted to align and therefore an increase in discards was not unexpected. The work to look at RBC inventory levels has been identified as a priority at the provincial level.

Figure 9b illustrates the same information for the IWK but is separated due to the difference in scale.

Figure 9b: Discard Rates and Proportion of Provincial Discards in IWK



	IWK 17/18	IWK 18/19
Indate Rate (%)	5.4	6.3
B/AB Outdate Rate (%)	1.4	1.8
A/O Outdate Rate (%)	11.5	18.3
Indate (Units)	80	91
B/AB Outdate (Units)	21	26
A/O Outdate (Units)	172	262
Total Discard Rate (%)	18.3	26.4
% of NS Discard	31.2	36.4

6.2 Breakdown of Discards by Blood Type

Table 2 demonstrates a breakdown of the outdate discards by blood type for a one year period. A breakdown of the indate discards is *not* shown here as indate blood type counts are not reported.

Table 2: Breakdown of Outdate Discards by Blood Type for April 2018 to March 2019

Region/Facility	AB -	AB +	A -	A +	B -	B +	O -	O +
SSRH	0	0	0	1	4	4	5	0
YRH	0	0	2	2	2	1	2	0
VRH	0	9	5	18	4	6	0	1
CEHHC	0	9	5	19	5	6	0	1
CRHCC	0	0	2	18	0	1	0	3
AH	0	0	0	3	2	2	0	2
SMRH	0	0	3	2	2	16	2	1
CBRH	13	30	6	2	9	14	6	0
QEII	7	11	5	6	5	5	18	17
IWK	0	3	80	59	1	22	75	48

The remainder of this section of the report is comprised of site, annual RBC distribution and discards graphs. They are meant to illustrate the progress each site has made and also to identify those sites that still may require adjustments to their inventory management practices.

Note that distribution graphs for each site is followed by its red blood cell discard graph over the same fiscal years.

7 Next Steps

Hospitals in Nova Scotia maintain a lean inventory of red cells. As a result, Nova Scotia hospitals experience impacts before other hospitals in Canada when minor shortages within Canadian Blood Services occur. It is recommended that the NAC National Blood Shortages working group, the inventory management subcommittee and CBS establish mechanisms to consider this data when making inventory fulfillment and redistribution decisions. The NSPBCT will continue working with all sites on inventory levels now that the *Nova Scotia Guideline for Blood Component Utilization in Adult and Pediatrics* has been implemented and demand has decreased.

Appendix A 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 B Description of Fields for Red Blood Cell Discards

Appendix B provides a list of use types that are used when calculating discard rates for the figures and tables contained within this report. Product types included are allogeneic, autologous and directed RBC.

Use 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

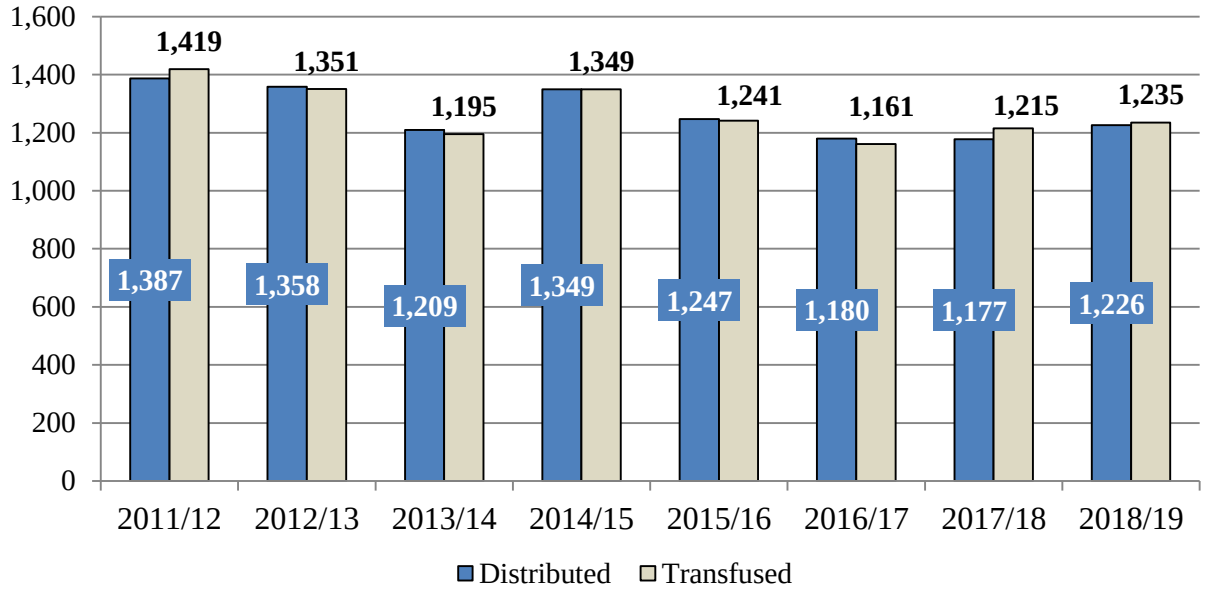
Appendix C New Site Grouping

Full Facility Name	*Acronym*	*Formerly*
South Shore Regional Hospital	**SSRH**	**DHA 1**
Fisherman's Memorial Hospital		
Queens General Hospital		
Yarmouth Regional Hospital	**YRH**	**DHA 2**
Digby General Hospital		
Roseway Hospital		
Valley Regional Hospital	**VRH**	**DHA 3**
Annapolis Community Health Centre		
Eastern Kings Memorial Community Health Centre		
Soldiers Memorial Hospital		
Western Kings Memorial Health Centre		
Colchester East Hants Health Centre	**CEHHC**	**DHA 4**
Lillian Fraser Memorial Hospital		
Cumberland Regional Health Care Centre	**CRHCC**	**DHA 5**
North Cumberland Memorial Hospital		
South Cumberland Community Care Centre		
All Saints Springhill Hospital		
Bayview Memorial Health Centre		
Aberdeen Hospital	**AH**	**DHA 6**
Sutherland Harris Memorial Hospital		
St. Martha's Regional Hospital	**SMRH**	**DHA 7**
Eastern Memorial Hospital		
Guysborough Memorial Hospital		
St. Mary's Memorial Hospital		
Strait Richmond Hospital		
Cape Breton Regional Hospital	**CBRH**	**DHA 8**
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**	**DHA 9**
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**

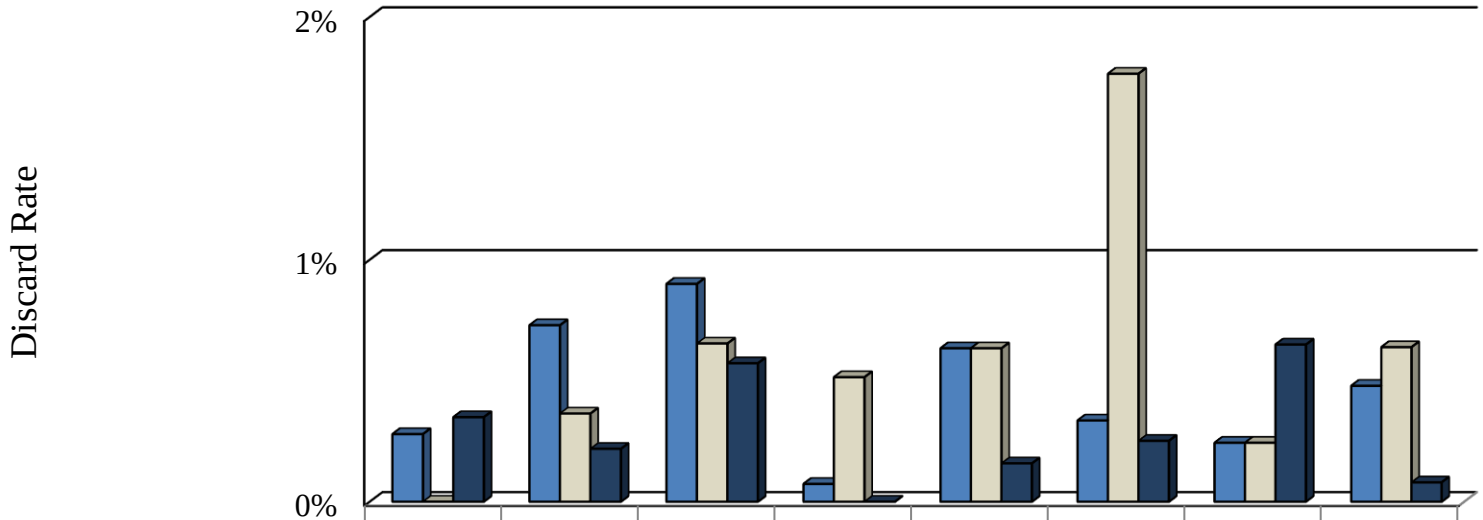
Appendix D Regional Data

SSRH - South Shore Regional Hospital

RBC Units Distributed and Transfused by Fiscal Year



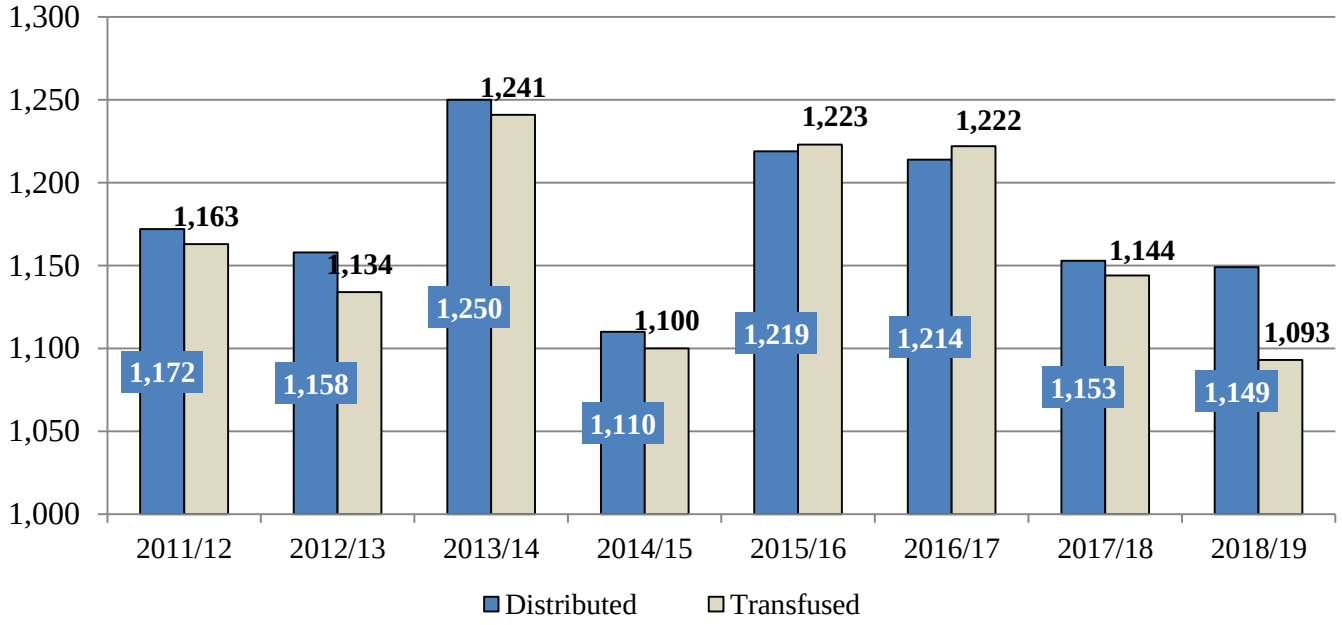
Annual Red Blood Cell Discard Rates



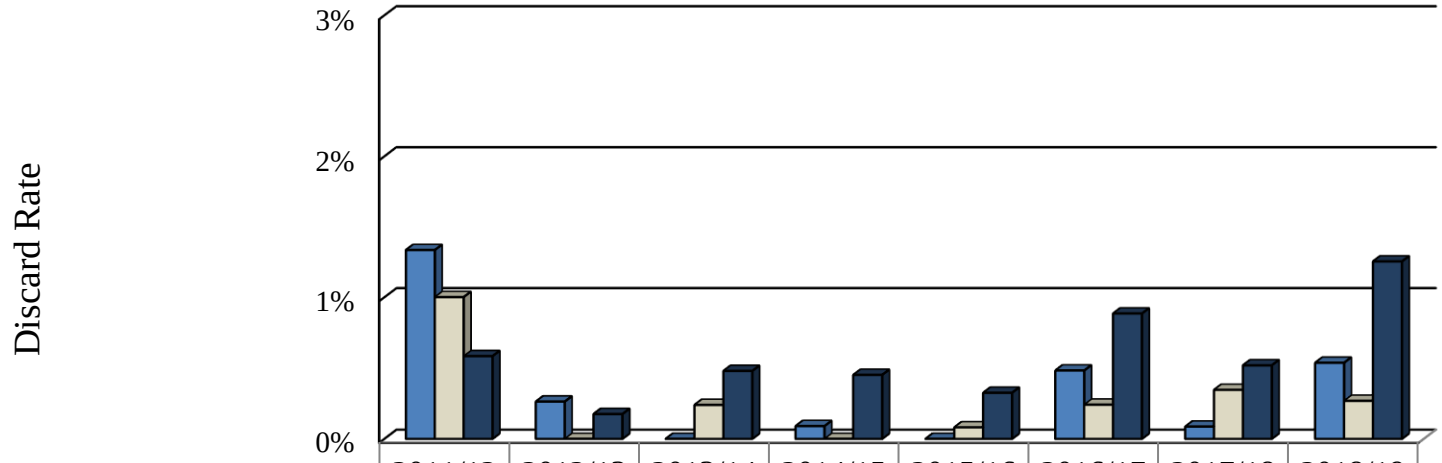
	2011/12	2012/13	2013/14	2014/15	2015/16	2016/17	2017/18	2018/19
A & O Outdate Discards	0.3%	0.7%	0.9%	0.1%	0.6%	0.3%	0.2%	0.5%
B & AB Outdate Discards	0.0%	0.4%	0.7%	0.5%	0.6%	1.8%	0.2%	0.6%
Indate Discards	0.4%	0.2%	0.6%	0.0%	0.2%	0.3%	0.7%	0.1%

YRH – Yarmouth Regional Hospital

RBC Units Distributed and Transfused by Fiscal Year



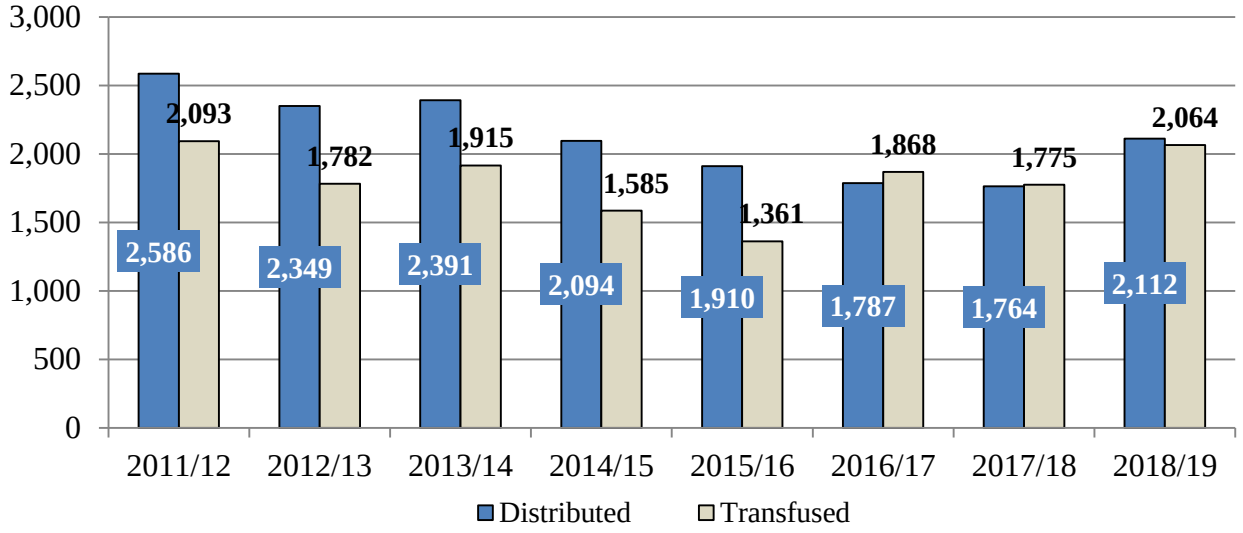
Annual Red Blood Cell Discard Rates



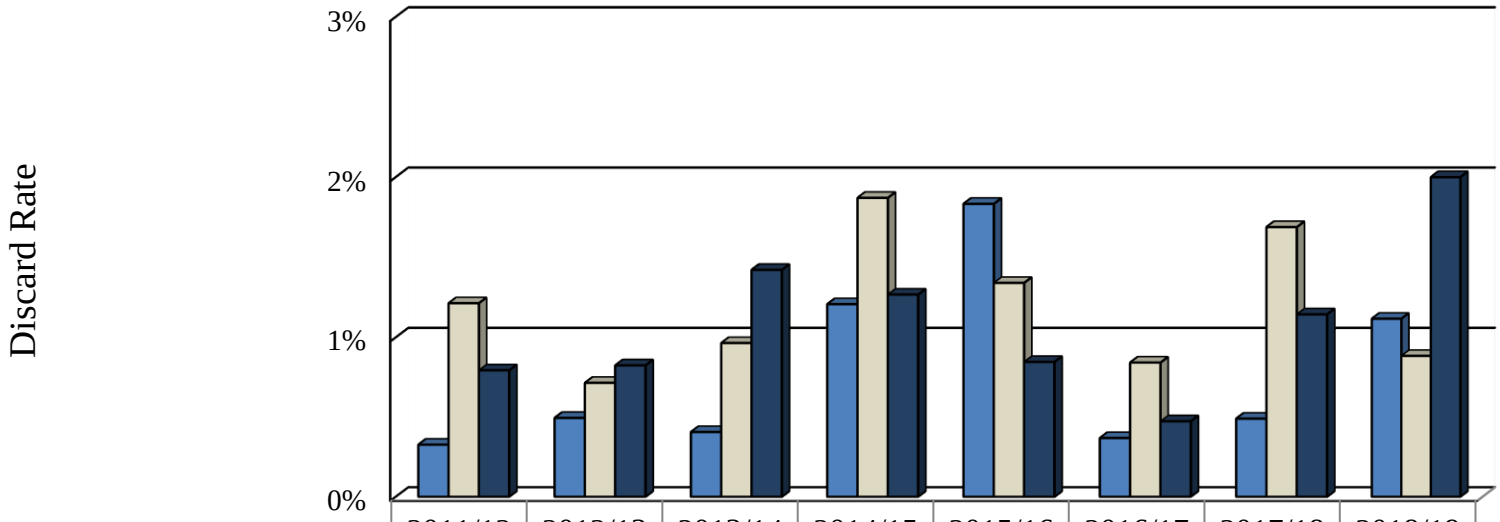
	2011/12	2012/13	2013/14	2014/15	2015/16	2016/17	2017/18	2018/19
A & O Outdate Discards	1.3%	0.3%	0.0%	0.1%	0.0%	0.5%	0.1%	0.5%
B & AB Outdate Discards	1.0%	0.0%	0.2%	0.0%	0.1%	0.2%	0.3%	0.3%
Indate Discards	0.6%	0.2%	0.5%	0.5%	0.3%	0.9%	0.5%	1.3%

Valley Regional Hospital

RBC Units Distributed and Transfused by Fiscal Year



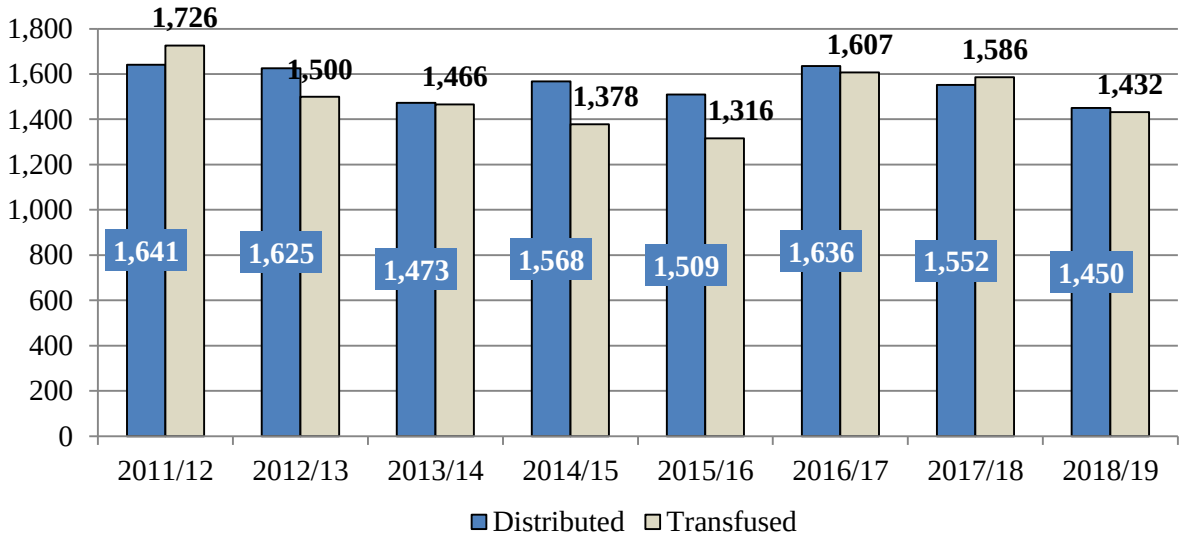
Annual Red Blood Cell Discard Rates



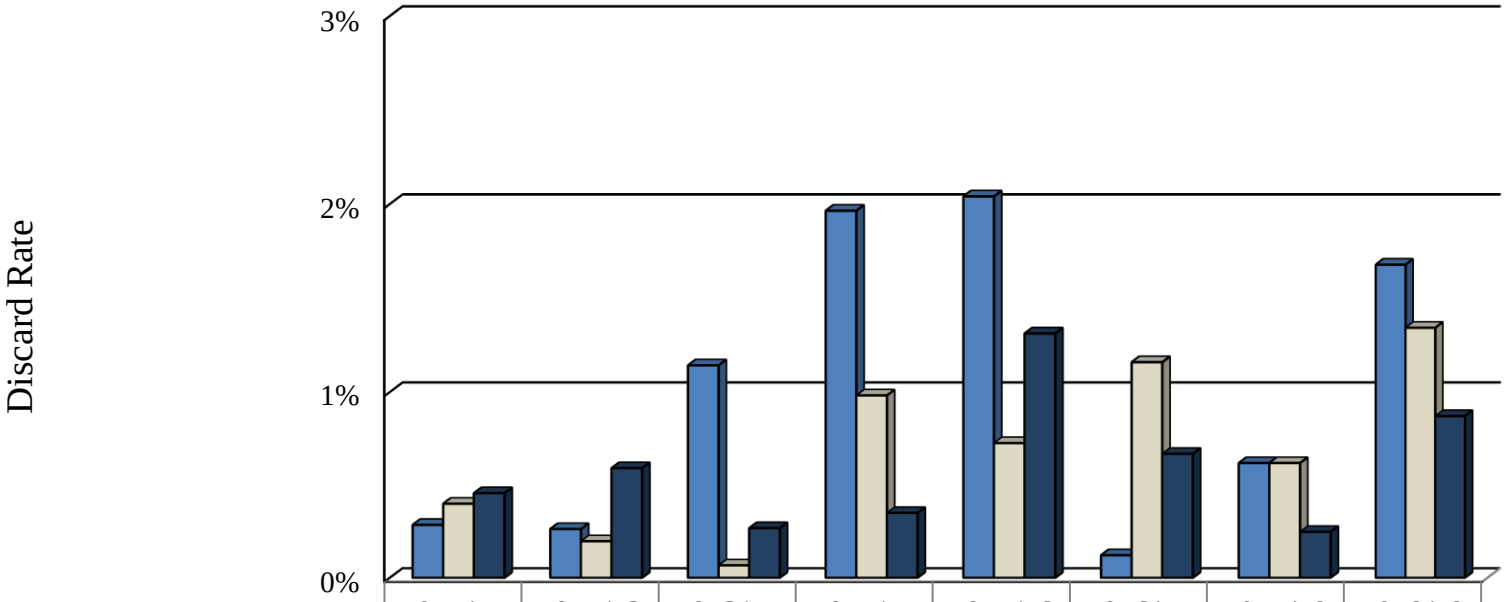
	2011/12	2012/13	2013/14	2014/15	2015/16	2016/17	2017/18	2018/19
A & O Outdate Discards	0.3%	0.5%	0.4%	1.2%	1.8%	0.4%	0.5%	1.1%
B & AB Outdate Discards	1.2%	0.7%	1.0%	1.9%	1.3%	0.8%	1.7%	0.9%
Indate Discards	0.8%	0.8%	1.4%	1.3%	0.8%	0.5%	1.1%	2.0%

CEHHC - Colchester East Hants Health Centre

RBC Units Distributed and Transfused by Fiscal Year



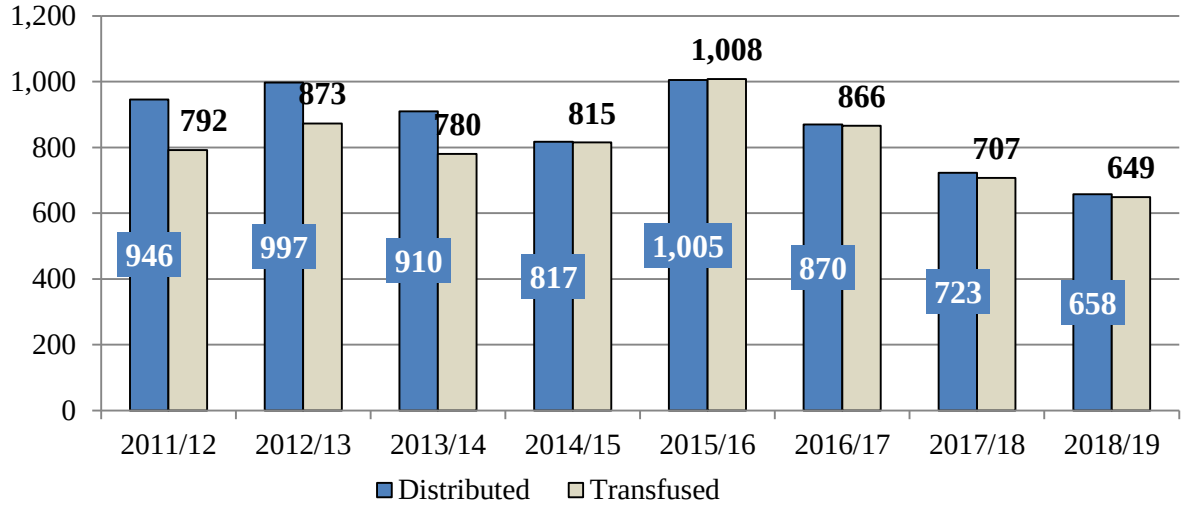
Annual Red Blood Cell Discard Rates



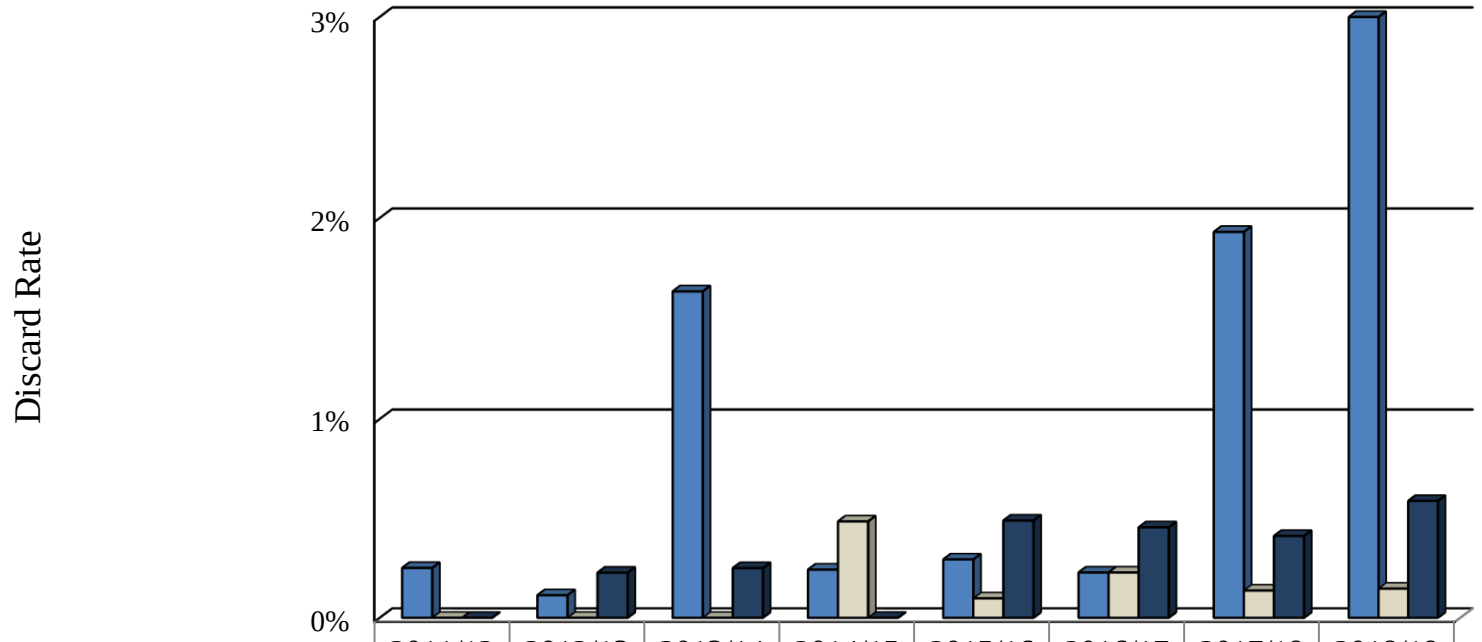
	2011/12	2012/13	2013/14	2014/15	2015/16	2016/17	2017/18	2018/19
A & O Outdate Discards	0.3%	0.3%	1.1%	2.0%	2.0%	0.1%	0.6%	1.7%
B & AB Outdate Discards	0.4%	0.2%	0.1%	1.0%	0.7%	1.2%	0.6%	1.3%
Indate Discards	0.5%	0.6%	0.3%	0.4%	1.3%	0.7%	0.2%	0.9%

CRHCC - Cumberland Regional Health Care Centre

RBC Units Distributed and Transfused by Fiscal Year



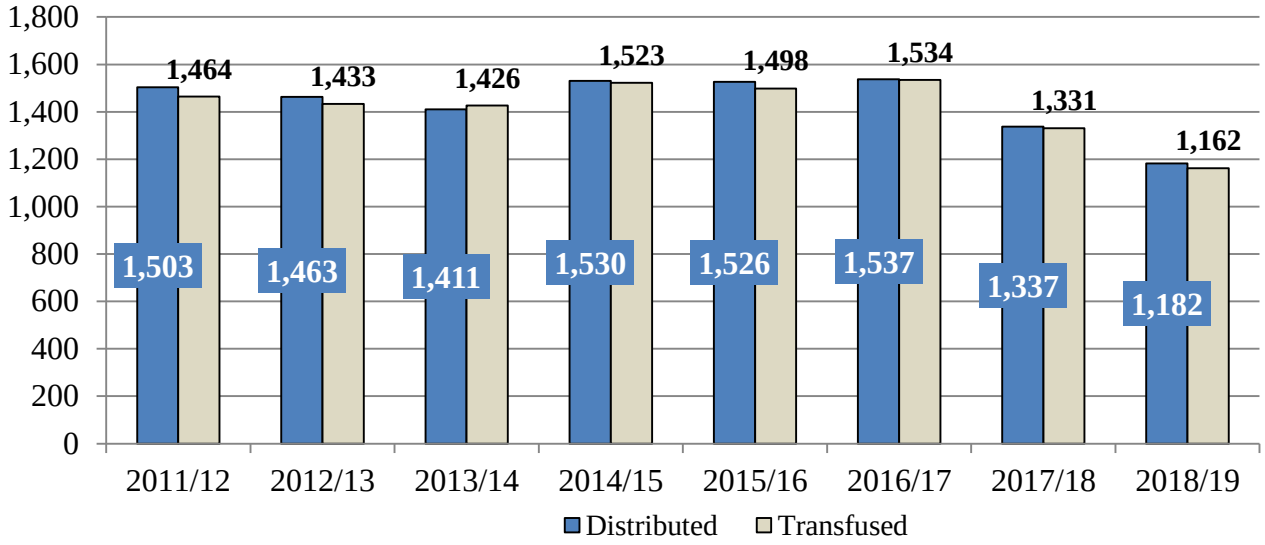
Annual Red Blood Cell Discard Rates



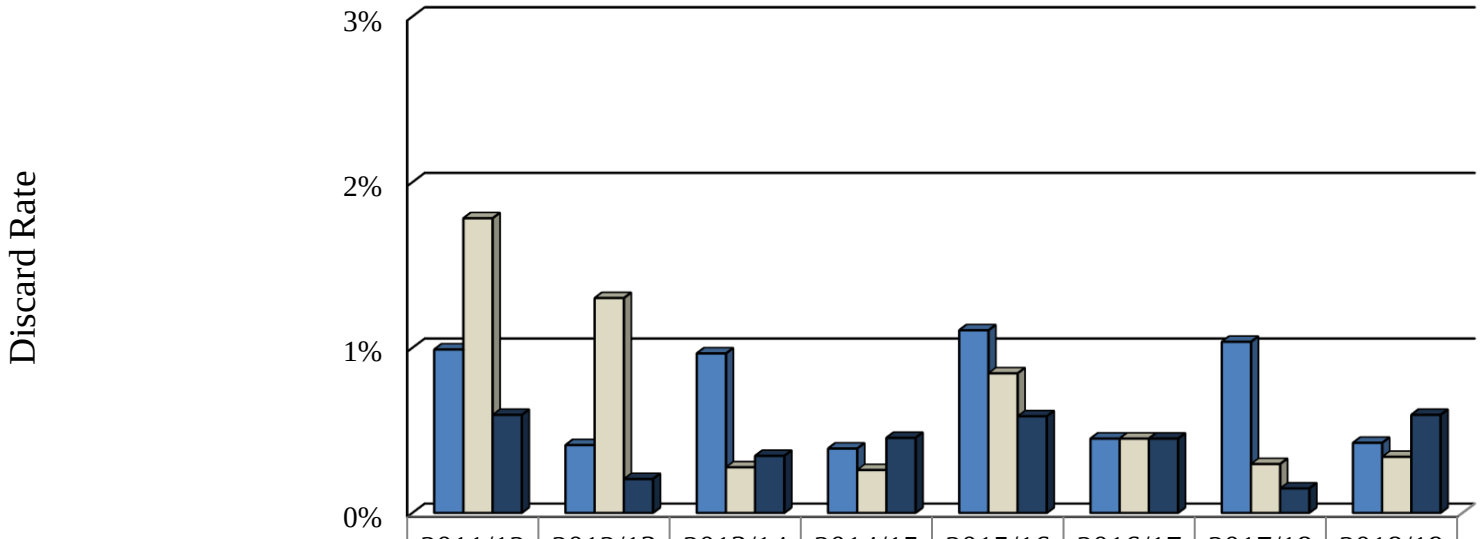
	2011/12	2012/13	2013/14	2014/15	2015/16	2016/17	2017/18	2018/19
A & O Outdate Discards	0.3%	0.1%	1.6%	0.2%	0.3%	0.2%	1.9%	3.4%
B & AB Outdate Discards	0.0%	0.0%	0.0%	0.5%	0.1%	0.2%	0.1%	0.1%
Indate Discards	0.0%	0.2%	0.3%	0.0%	0.5%	0.5%	0.4%	0.6%

AH – Aberdeen Hospital

RBC Units Distributed and Transfused by Fiscal Year



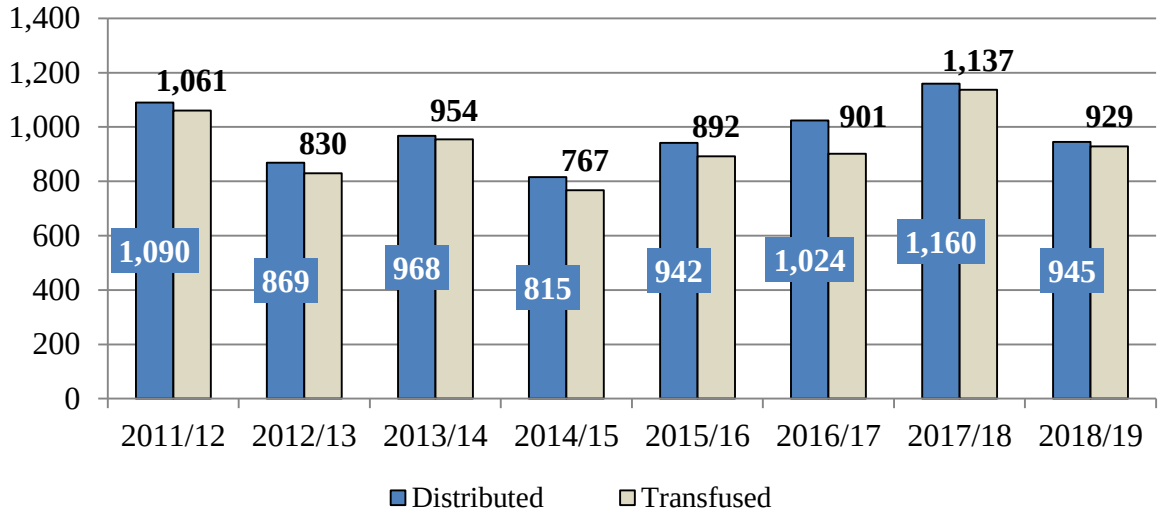
Annual Red Blood Cell Discard Rates



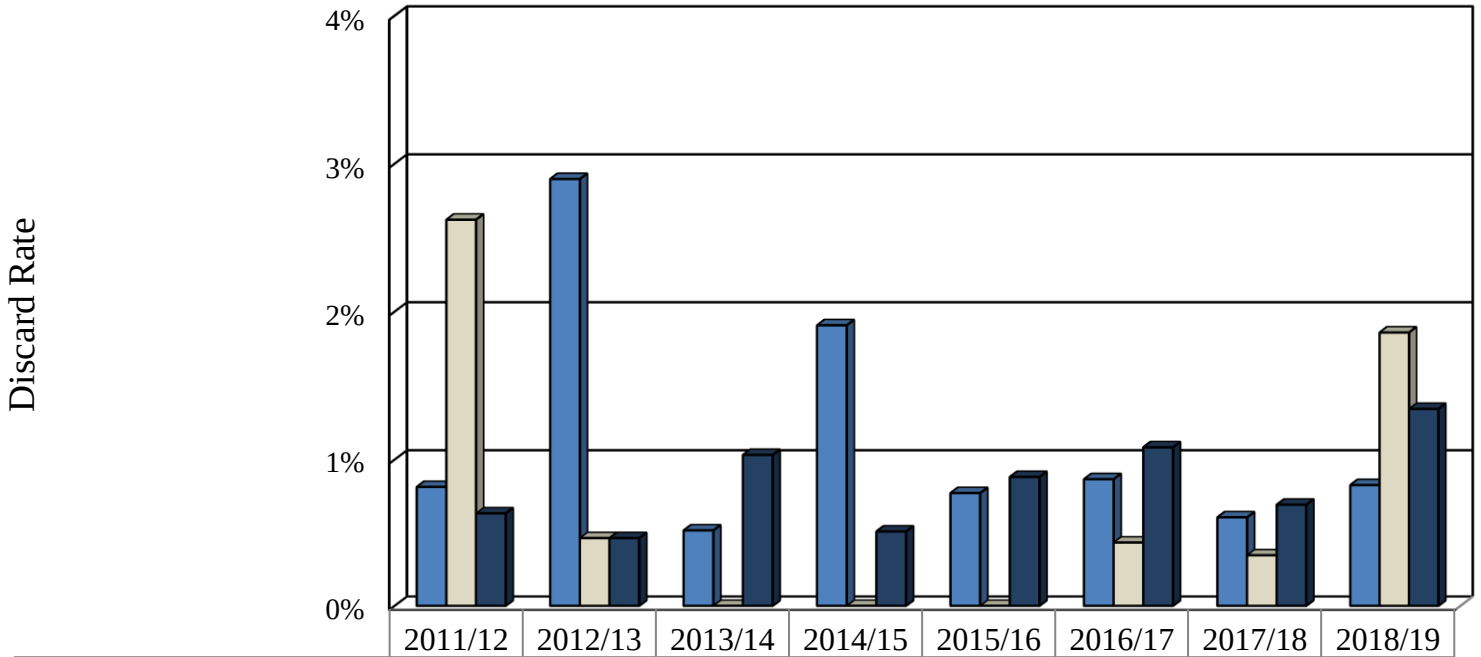
	2011/12	2012/13	2013/14	2014/15	2015/16	2016/17	2017/18	2018/19
A & O Outdate Discards	1.0%	0.4%	1.0%	0.4%	1.1%	0.5%	1.0%	0.4%
B & AB Outdate Discards	1.8%	1.3%	0.3%	0.3%	0.8%	0.5%	0.3%	0.3%
Indate Discards	0.6%	0.2%	0.3%	0.5%	0.6%	0.5%	0.1%	0.6%

SMRH – St. Martha's Regional Hospital

RBC Units Distributed and Transfused by Fiscal Year



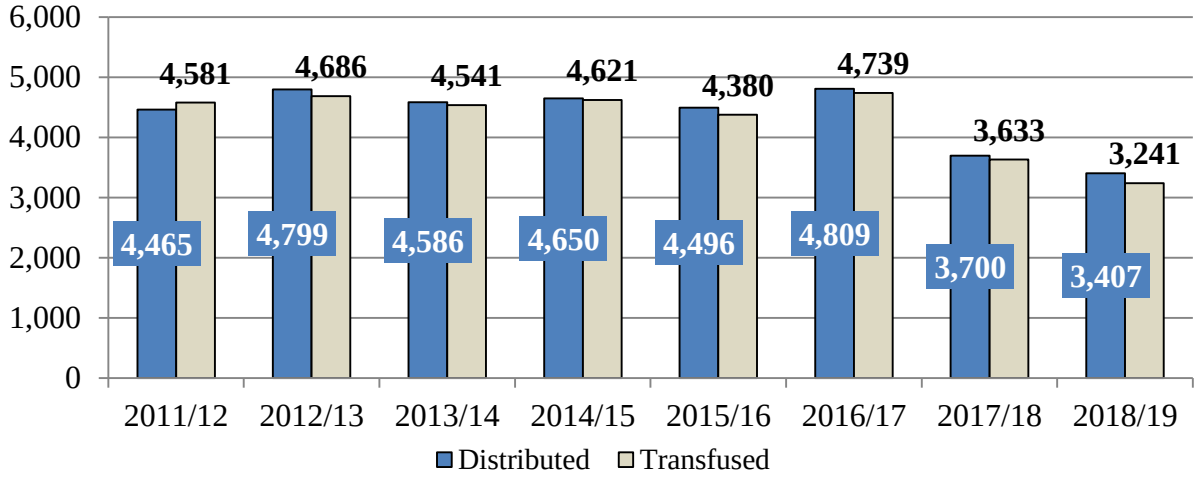
Annual Red Blood Cell Discard Rates



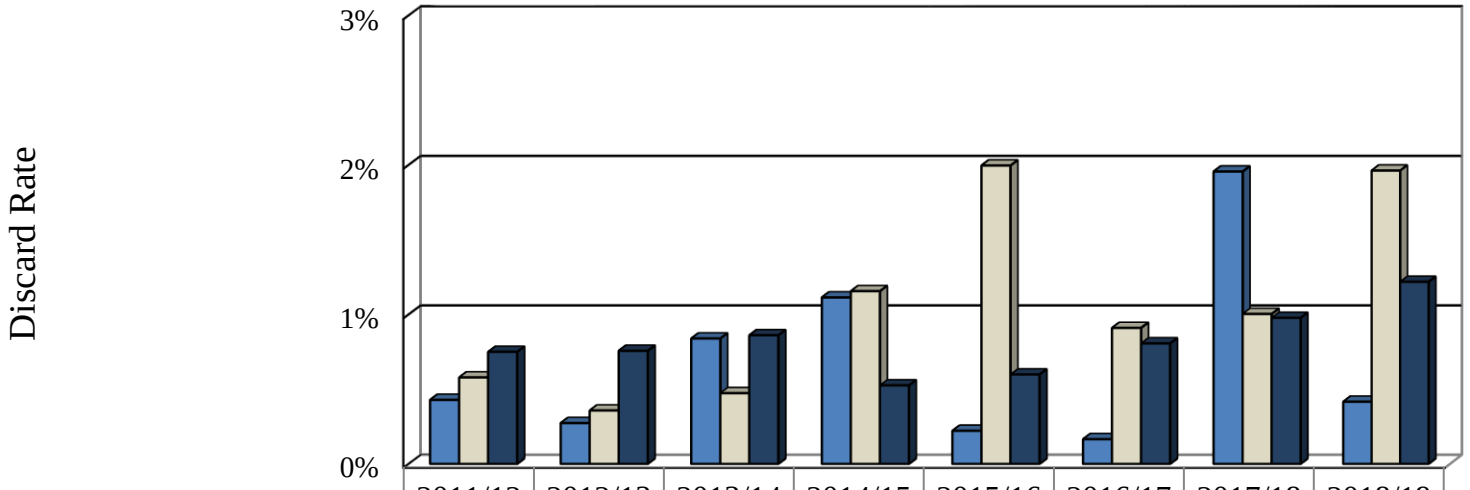
	2011/12	2012/13	2013/14	2014/15	2015/16	2016/17	2017/18	2018/19
A & O Outdate Discards	0.8%	2.9%	0.5%	1.9%	0.8%	0.9%	0.6%	0.8%
B & AB Outdate Discards	2.6%	0.5%	0.0%	0.0%	0.0%	0.4%	0.3%	1.9%
Indate Discards	0.6%	0.5%	1.0%	0.5%	0.9%	1.1%	0.7%	1.3%

CBRH - Cape Breton Regional Hospital

RBC Units Distributed and Transfused by Fiscal Year



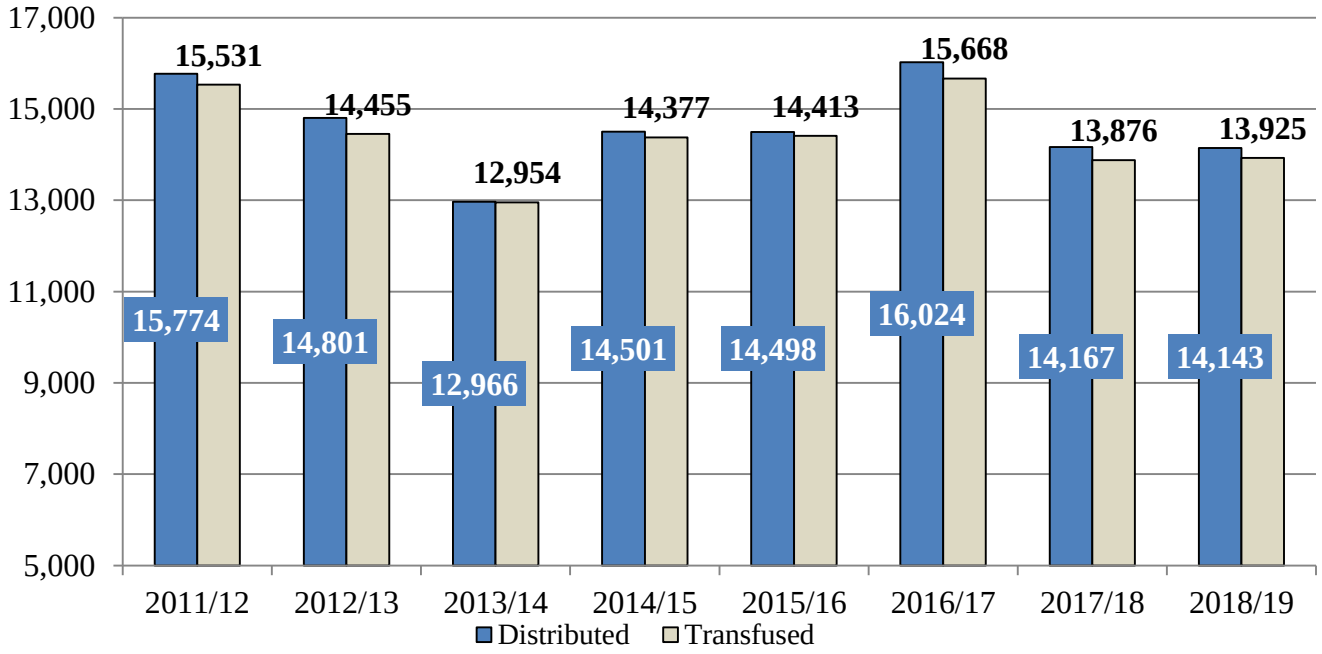
Annual Red Blood Cell Discard Rates



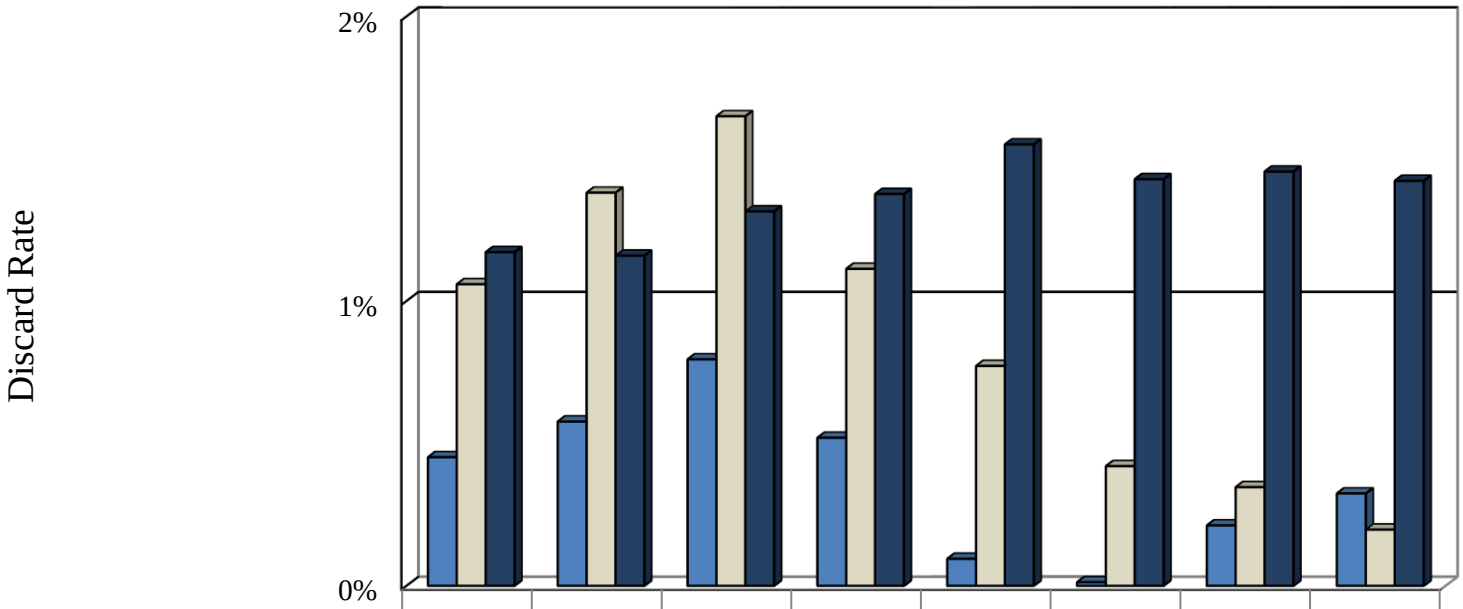
	2011/12	2012/13	2013/14	2014/15	2015/16	2016/17	2017/18	2018/19
A & O Outdate Discards	0.4%	0.3%	0.8%	1.1%	0.2%	0.2%	2.0%	0.4%
B & AB Outdate Discards	0.6%	0.4%	0.5%	1.2%	2.0%	0.9%	1.0%	2.0%
Indate Discards	0.8%	0.8%	0.9%	0.5%	0.6%	0.8%	1.0%	1.2%

QEII: QEII Health Sciences Centre

RBC Units Distributed and Transfused by Fiscal Year



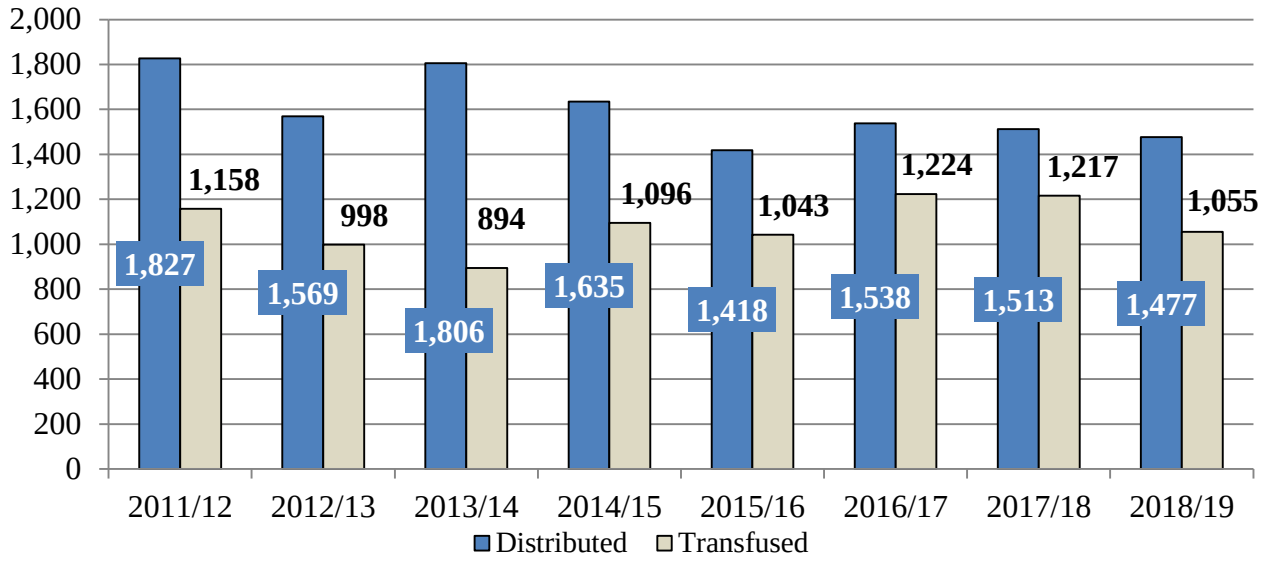
Annual Red Blood Cell Discard Rates



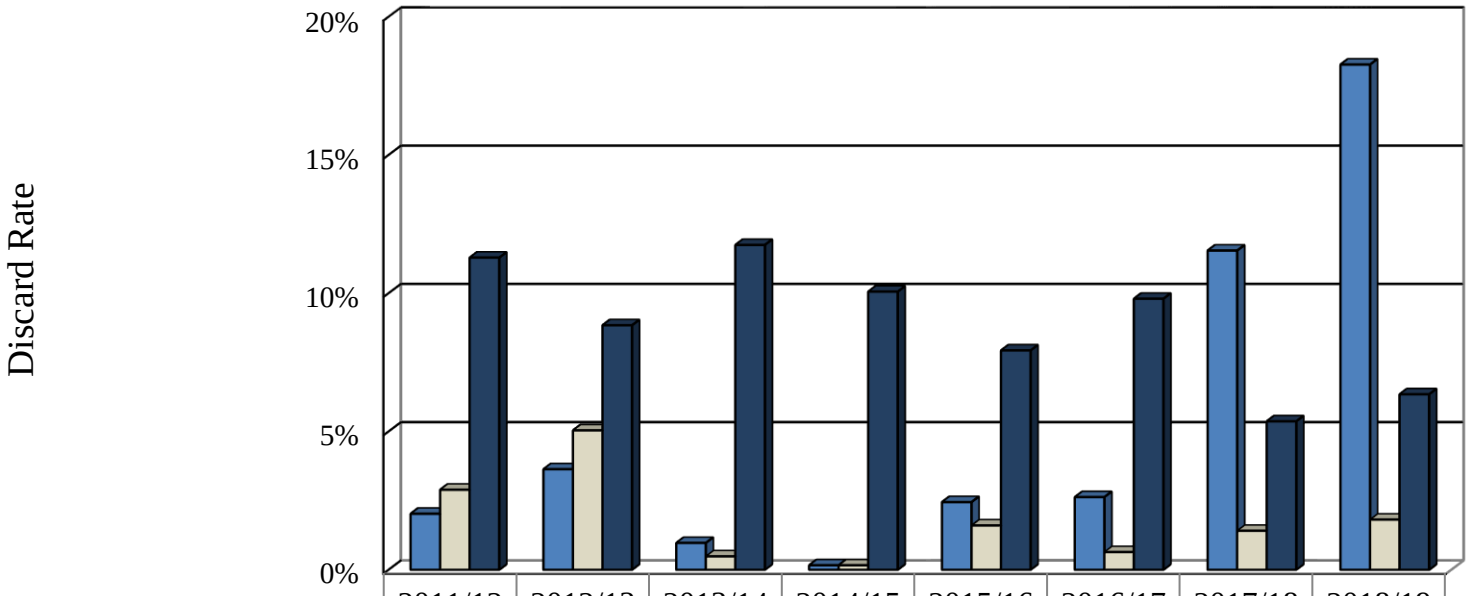
	2011/12	2012/13	2013/14	2014/15	2015/16	2016/17	2017/18	2018/19
A & O Outdate Discards	0.5%	0.6%	0.8%	0.5%	0.1%	0.0%	0.2%	0.3%
B & AB Outdate Discards	1.1%	1.4%	1.6%	1.1%	0.8%	0.4%	0.3%	0.2%
Indate Discards	1.2%	1.2%	1.3%	1.4%	1.6%	1.4%	1.5%	1.4%

IWK Health Centre

RBC Units Distributed and Transfused by Fiscal Year



Annual Red Blood Cell Discard Rates



	2011/12	2012/13	2013/14	2014/15	2015/16	2016/17	2017/18	2018/19
A & O Outdate Discards	2.0%	3.6%	1.0%	0.2%	2.4%	2.6%	11.5%	18.3%
B & AB Outdate Discards	2.9%	5.0%	0.5%	0.2%	1.6%	0.6%	1.4%	1.8%
Indate Discards	11.3%	8.8%	11.7%	10.1%	7.9%	9.8%	5.4%	6.3%