Blood products


Stem cells

HÉMA-QUÉBEC

Stable products


Human tissues

Mother's milk

# 2015–2016 ANNUAL REPORT

*A year of transformation*

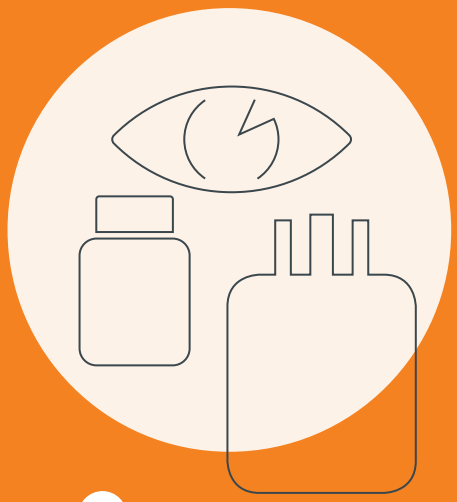
# Héma-Québec in numbers

**326,712**
Registered blood donors (all types of donation)

**57,115**
Registered stem cell donors

**1,372**
Employees

**16,000**
Volunteers



**478,036**
Labile blood products delivered to hospitals

**4,734**
Human tissues delivered to hospitals

**380,078**
Stable products delivered to hospitals

**2,095**
Bottles of mother's milk delivered to hospitals

**15**
Units of cord blood delivered

**71,684**
Litres of plasma sent for fractionation

**1,840**
Blood drives organized

**3,708**
Analyses performed by the Reference and Stem Cell Laboratory (patient cases)

**147**
Research projects

**$393M**
Annual revenue

2015–2016

# Teamwork to face the challenges of our mission

The 2015–2016 fiscal year was one of major changes. Héma-Québec not only welcomed Serge Maltais as President and Chief Executive Officer, but also three new vice-presidents.

This breath of new life within Héma-Québec's senior management provided an opportunity to optimize governance and align ourselves with best practices, with an engaged Board of Directors. We also paid particular attention to the efficiency of the various processes within an accountability framework.

Moreover, reflection surrounding the 2017–2020 strategic plan was begun and the process was completely revised to ensure the increased participation of stakeholders, including all Board committees and advisory committees, which include recipients of biological products of human origin, doctors, researchers and various specialists, particularly in information resources.

Héma-Québec's mission is fulfilled on a daily basis thanks to donors, employees and volunteers. We would also like to recognize the support of the Héma-Québec Foundation. The people who make up these teams share a common goal: to enable others to enjoy a better life. Thank you all for your steadfast commitment.

Moreover, I would like to thank our departing colleagues and directors for the significant contributions they have made: Lucie Letendre, Dr. Annie Lagacé, Dr. Serge Montplaisir and Dr. Patricia Pelletier. I am also pleased to welcome five new directors: Trang Hoang and Daniel Beaupré, which come from the scientific research community; Jean-Frédéric Lafontaine and Pierre Thivierge, from the business community, and Wilson Sanon, from the group of donors and volunteers. In keeping with the efforts made to recruit donors that reflect the diversity of Québec's population, particular focus was placed on this in putting together the Board of Directors.

All of the work done in recent months will enable us to be better equipped to fulfill our mission of giving life!

Martine Carré, ICD.D
*Chair of the Board of Directors*

# A year of transformation

I had the privilege of joining the great Héma-Québec team in May 2015. This first year was a time of major changes.

Our team was transformed in 2015–2016. The Management Committee welcomed three new vice-presidents: in Finance and Administration, Quality and Regulatory Affairs and Human Resources.

First and foremost, I would like to thank our employees, the members of senior management, the directors and the members of the Board advisory committees for their welcome and their ongoing support.

**The safety and sufficiency of the supply remain priorities**

We keep a close watch on the emergence of new blood-borne diseases and do not hesitate to apply the necessary precautionary measures to ensure that our products are safe. Accordingly, we have introduced a new criteria related to the Zika virus.

We also improved the safety of blood platelets while increasing their shelf-life by introducing a new bacterial culture method. As a result, the risk of contracting a bacterial infection dropped from 1 in 100,000 to 1 in a million.

Pathogen reduction technologies are a proactive safety measure intended to counter not only existing risks of infection but also those that are still unknown. Due to Health Canada's impending approval of a technology that can be used for plasma, we have undertaken an evaluation of their use in our activities.

We have continued our efforts to increase Québec's sufficiency with respect to plasma used to manufacture medications. This project has translated into Héma-Québec's increased permanent presence on the territory of Québec, with the opening of donor centres in Saguenay, Sherbrooke and Gatineau. Moreover, by reducing Québec's dependence on plasma collected abroad, the new PLASMAVIE and GLOBULE centres contribute to regional economic development.

Another highlight: the successful implementation of the ePROGESA software solution to support Héma-Québec's blood management activities. This solution allows to improve the safety of blood collection activities. Blood drives are now computerized and paperless.

We end this year with the satisfaction of knowing that we have carried out all of our activities in accordance with the requirements of the current budgetary context related to public finances.

Thank you to the donors, volunteers, community partners throughout Québec and employees for enabling our organization to focus relentlessly on excelling and innovating for better health!

Serge Maltais
*President and Chief Executive Officer*

# TABLE OF CONTENTS

**Héma-Québec's 2015–2016 annual report covers the financial year from April 1, 2015 to March 31, 2016.**

# MISSION

**To efficiently meet the needs of the Québec population for safe, optimal-quality blood and blood products, human tissues, cord blood, mother's milk and cellular products; to develop and provide expertise and specialized, innovative services in the field of human biological products.**

# VISION

**To excel and innovate for better health.**

# To excel and innovate for better health: fundamental values to achieve this

**In a context in which Héma-Québec's vision is linked to the consistency of ethical and motivational behaviors, the organizational values are essential benchmarks with respect to the professional behavior and skills needed by all employees.**

In 2015, an employee consultation process was undertaken to identify the organizational values that best represent and incorporate the desired behaviors in support of Héma-Québec's vision and mission.

The values identified to support the actions, decisions and behaviors valued at Héma-Québec are as follows: integrity/honesty, respect, commitment and accountability.

These common values shared by all of our employees reflect the aspirations and commitment of the great Héma-Québec team to "excel and innovate for better health." In October 2015, the Board of Directors ratified these organizational values.

## INTEGRITY/HONESTY

Act in accordance with one's words and values, both on a personal and organizational level, and comply with laws, policies and directives, while respecting commitments with honesty and conviction.

Communicate in a transparent and sincere manner and tell things how they are to foster a climate of trust and partnership.

## RESPECT

Accept individual differences and each person's right to express his or her opinions, ideas, and different points of view.

Listen to others and recognize their expertise, values and qualities in a spirit of collaboration and team work.

## COMMITMENT

Contribute to creating and maintaining an environment that inspires people to excel.

Serve Héma-Québec's mission and work together to achieve excellence and expected results in an environment where each individual has the opportunity to succeed.

Give the best of oneself and contribute with heart and passion to the implementation of the vision and the creation of positive relationships with all of our partners, volunteers and donors.

## ACCOUNTABILITY

Take responsibility for one's actions, be accountable for the actions taken and results obtained in the performance of one's duties.

Take on the role that we have been given and demonstrate the independence needed to take actions and make decisions as required based on the situations that arise.

Take initiative, be open-minded and strive to develop one's full potential in keeping with the goals of the organization.

# ADMINISTRATIVE ORGANIZATION

## NON-PROFIT ORGANIZATION


## FOUNDED IN 1998

## ADMINISTERED BY A BOARD OF DIRECTORS

Members come from the following groups:

- donors and blood donation volunteers
- recipients
- doctors
- CEOs and executive directors of public facilities (health)
- public health
- scientific research community
- business community

## GOVERNED BY HEALTH CANADA

## BLOOD PRODUCTS

Management is part of Québec's health system.

Donor recruitment.

Collections, analyses, processing and delivery of finished products to hospitals.

## HUMAN TISSUES

Largest human tissue bank in Canada.

Collections, processing and distribution of the following human tissues: corneas, skin, bones, heart valves and tendons.

## STABLE PRODUCTS

Exclusive distribution for Québec.

Purchase of medications, management of the reserve and supply to hospitals.

## STEM CELLS

Management of the Stem Cell Donor Registry for Québec.

First and largest public cord blood bank operating in Canada.

## MOTHER'S MILK

Only public mothers' milk bank in Québec.

Donor recruitment and qualification.

Processing, analyses and distribution of milk to hospitals.


**77%**
Operations

**9%**
Administration

**5%**
Information Technology

**5%**
Quality and Regulatory Affairs

**4%**
Research and Development

**2**
**FACILITIES**

**1**
**REGIONAL**
**BLOOD DRIVE SERVICE**

**4**
**GLOBULE**
**BLOOD DONOR CENTRES**

**4**
**PLASMAVIE**
**PLASMA DONOR LOUNGES**
(including 2 with a GLOBULE space)

**3**
**MOBILE**
**BLOOD COLLECTION UNITS**

# TERRITORIAL DISTRIBUTION OF OUR CENTRES AND FACILITIES

Facilities GLOBULE PLASMAVIE PLASMAVIE-GLOBULE

**In 2015–2016, three new collection centres were opened.**

# CONTEXT AND HIGHLIGHTS

1

# Issues and priorities

Héma-Québec enjoys strong recognition in the life sciences sector in Québec. In order to continue to excel and innovate for better health, it must adapt to a constantly changing environment and seize opportunities for development.

# Increase plasma collection

**The collection of plasma for purposes of manufacturing medication is a key issue. Plasma is a blood component that is rich in protein. Thousands of Quebecers need products made with these proteins to treat conditions such as an immune deficiency or other diseases such as hemophilia.**

Immunoglobulins are among the plasma proteins used to manufacture medications. In 2015–2016, the volume of Québec plasma sent for fractionation (a process that isolates and purifies the proteins that will be used to manufacture medications) satisfied 17.7% of Québec's needs for immunoglobulins. The other portion came from abroad, essentially the United States. Héma-Québec plans to progressively increase the proportion of immunoglobulins obtained from Québec plasma.

National and international experts and the main Canadian users recommend that the percentage of immunoglobulin needs met with local plasma should be brought to 30%.

The launch of the PLASMAVIE Plasma Donor Lounges is a major element of the strategy implemented to attain an annual volume of 200,000 litres of plasma for fractionation by 2020. In 2015–2016, this volume was 71,684 litres.

Major milestones were reached in the past year: Héma-Québec opened three new PLASMAVIE Plasma Donor Lounges in Saguenay, Sherbrooke and Gatineau.

Moreover, since November 2015, apheresis plasma donations collected at the Québec City GLOBULE Blood Donor Centre are sent for fractionation.

# 17.7%

Self-sufficiency rate for intravenous immunoglobulin (IVIg) in Québec in 2015–2016

# eProgesa: successful deployment

**A new version of the eProgesa blood management software was deployed in May 2015. This upgrade opens the way for the electronic input of information related to the blood donation, including the self-administered medical questionnaire and the computerized processing of this data.**

Whether presenting proof of ID or filling in the medical questionnaire, everything is done electronically, providing greater data security. Moreover, integration of the selection criteria into the medical questionnaire algorithm is an innovation that places Héma-Québec among the world leaders in this area.

In the months following the deployment, donors were systematically consulted on the new process. More than 4,300 comments and suggestions helped to improve the blood donation experience.

The wait time and length of the process were among the most frequent negative comments. Various measures were taken to improve wait time management, including increasing the number of blood drives that take appointments. In 2015–2016, close to one-third of mobile blood drives offered this possibility.

The deployment of eProgesa was necessary in order to undertake other optimization and automation projects. For example, the donor will eventually be able to complete his/her questionnaire on Héma-Québec's Web site before going to a blood drive.


Whether presenting proof of ID or filling in the medical questionnaire, everything is done electronically, providing greater data security.


# Reduction of pathogens

## Technologies are used preventively in Europe to deactivate microbes that are likely to be found in blood platelets and plasma (there is no such technology for red blood cells).

These technologies act as an additional safety measure and allow for very significant gains in terms of infection risks that are as yet unknown. With respect to transfusion safety, these technologies are considered a proactive method for reducing pathogens, compared to the traditional approach, which involved targeting and excluding donors who are considered to be a risk and screening for infections using blood tests. This pathogen reduction process therefore serves to mitigate the risk as soon as it enters the transfusion chain.

In 2007, a conference on pathogen reduction, attended by international experts, recommended the introduction of these technologies once they were effective and made available.

One of these technologies, which can be used for plasma, is soon to be approved by Health Canada and has recently been authorized in the United States. In preparation for its imminent approval in Canada, Héma-Québec's Board of Directors has adopted a resolution to evaluate the use of this technology as part of the organization's activities. As at March 31, 2016, consultations with the various stakeholders had begun.

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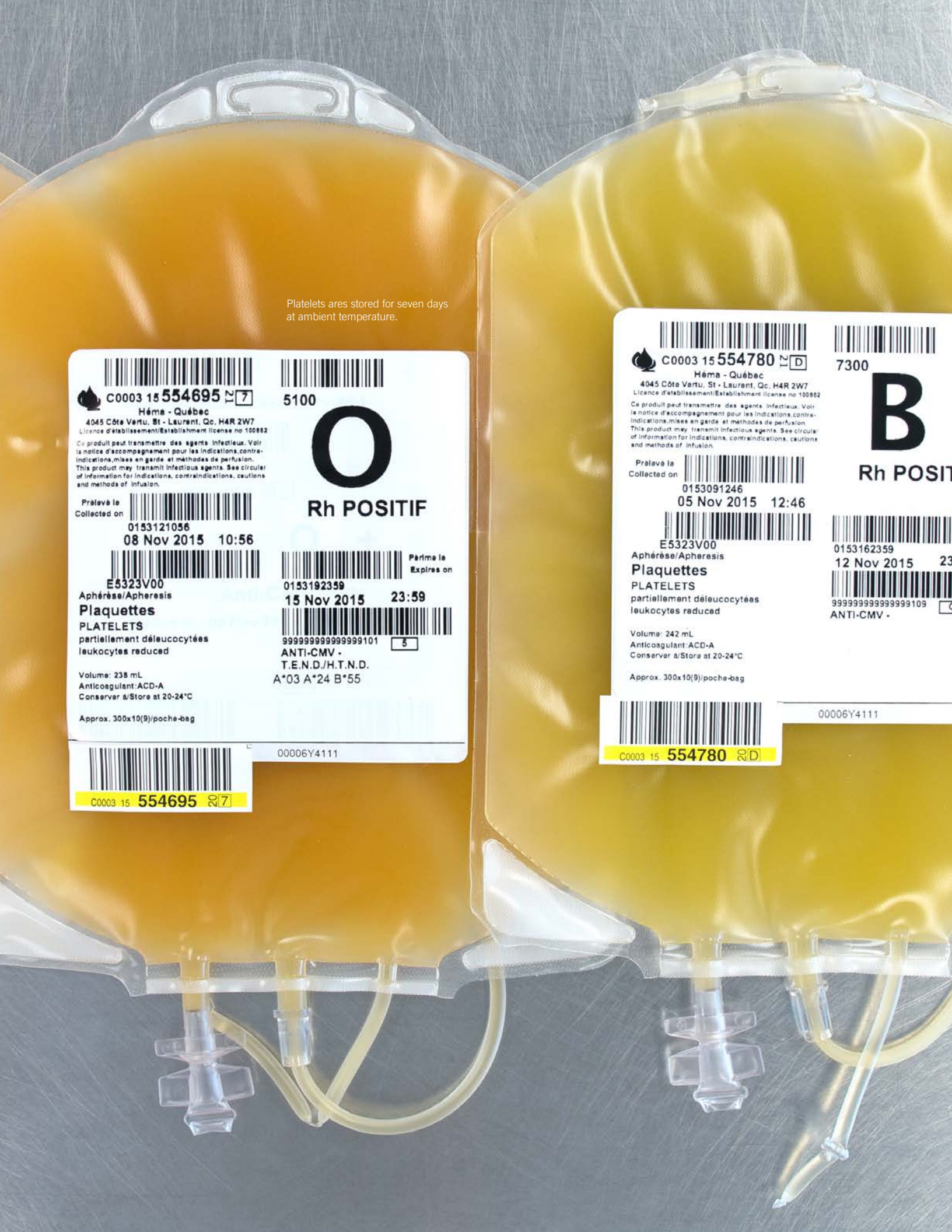
# Risk management

Héma-Québec applies strict standards in order to maintain the trust of the public and its clients. The safety and quality of the products distributed and the services provided are a priority at all levels of the organization. For this reason, risk management is proactive, systematic, structured and transparent.




Platelets ares stored for seven days at ambient temperature.

# LABILE BLOOD PRODUCTS

## Platelets: new measures that improve safety

**The bacterial contamination of platelets is one of the main risks associated with this product. Over the years, this issue required the implementation of several mitigation measures.**

The introduction of a platelet bacterial culture test was a major milestone, but a slight residual risk still remained despite this significant improvement. To reduce this risk, Héma-Québec implemented a new measure in 2014, that consisted in doubling the sampling volume of bacterial cultures, which increased the possibility of detecting the bacteria present in the product.

In 2015, a second phase involved extending the sampling period to obtain optimal sensitivity of the bacterial culture, thereby increasing the probability of detecting bacteria in the contaminated platelet concentrates to more than 90%.

To make this improvement possible, the expiry date of the platelet products also had to be increased from five to seven days. The regulatory authorities gave the green light to this new measure and authorized its deployment in October.

The safety measures implemented in 2015 had an impact on the fees for platelet products, which increased by 8.9%. However, the risk mitigation resulting from this measure fully justifies the investment. Moreover, since a decrease in the expiry rate of platelets is to be expected, savings for the health system are anticipated.

# PLATELETS

## MEASURES IMPLEMENTED

Sampling volume doubled

×2

Shelf life increased from 5 to 7 days

5 to 7 DAYS

## REDUCED RISK OF BACTERIAL CONTAMINATION

**BEFORE IMPLEMENTATION** 1/100,000

**AFTER IMPLEMENTATION** 1/1,000,000

# Emerging pathogens: Zika draws attention

## Héma-Québec constantly monitors emerging pathogens: bacteria, viruses or parasites that can be transmitted through blood.

The appearance of a new pathogen may lead to the implementation of measures. More than 20 pathogens are being monitored; Zika is one of them.

This virus drew a great deal of attention at the beginning of 2016. As a result of the risk posed by this virus in terms of transfusion, a blood donation qualification criterion was added, excluding any donor who has travelled outside of Canada, the continental United States or Europe from donating for a period of 21 days. This measure applies not only to the risks associated with the Zika virus, but also to other similar viruses, including Dengue Fever and Chikungunya.

In order to identify the individuals likely to present a risk related to these infections, a new question has been added to the questionnaire that donors must complete.

This precautionary measure will prevent people who may have contracted these infections in the affected countries from making a donation while they are still carrying the virus in their blood, which may be the case for several days after they return from their trip.

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**A blood donation qualification criterion was added, excluding any donor who has travelled outside of Canada, the continental United States or Europe from donating for a period of 21 days.**

# Replacing post-donation iron loss in Black women

## The Black communities are particularly affected by sickle-cell anemia, a hereditary blood disease whose treatment may require numerous transfusions at regular intervals.

One of the main complications related to repeated transfusions is the development of antibodies. This occurs when the transfused blood is not an optimal match with that of the recipient. The chances of finding blood that is an optimal match are much better when the donor and the recipient share a similar genetic makeup.

The needs have almost doubled since 2010, with approximately 80 patients needing frequent transfusions. Héma-Québec has put forth several efforts to reach out to a greater number of compatible donors. To date, more than 4,000 donors from the Black community have answered the call and contributed to the collective blood supply, but the needs continue to grow.

In order to increase the pool of donors from the Black community, Héma-Québec has set up a ground-breaking program.

Black women have a hemoglobin level that is physiologically lower than that of Caucasian women. As a result, one-third of those who register for a blood drive are prohibited from giving blood because their level is lower than 125 g/l. By lowering the criterion to 115 g/l for Black women, the program enables a greater number of them to give blood. Iron tablets are also given to them after they give blood to replace the iron lost during the donation. One of the objectives of the program is to assess the quantity of iron pills to be taken after a blood donation to replace the losses and improve eligibility for blood donation.

As at March 31, recruiting activities resulted in the registration of approximately 100 participants. The objective is to recruit 500.

This initiative complements the partnership with the *Association d'anémie falciforme du Québec*, which is very active in the Black community. Some 20 blood drives are organized in collaboration with groups and leaders in the Black community, and Héma-Québec also takes part in various events, including Black History Month.

Ludovic receives blood products on a regular basis. His family is very grateful for the support of donors in the Black community.

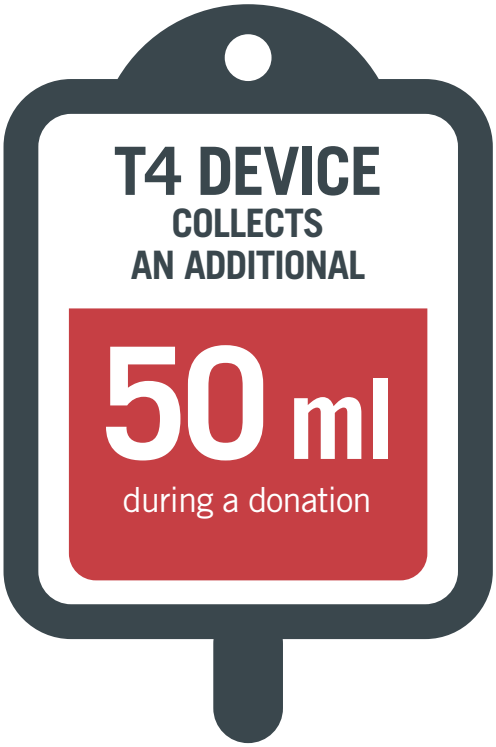

Leukoreduction is a blood filtering process that reduces the number of white blood cells in order to significantly reduce the risk of transfusion reactions

# Replacement of the collection device

**The T4 blood collection device was temporarily removed from service following its introduction in 2014 after checks revealed variations in the quantity of residual leukocytes following leukoreduction.**

Leukoreduction is a blood filtering process that reduces the number of leukocytes (white blood cells) in order to significantly reduce the risk of transfusion reactions. A review of the temperature control protocol for blood bags during packaging and transportation provided a permanent solution.

The deployment of this new process ensures compliance with the standards. As at March 31, 2016, Health Canada's approval was the only condition remaining to be met in order to re-deploy the T4 device. This device collects an additional 50 ml during a donation, increasing the collection from 450 ml to 500 ml. This contributes to the collection of additional plasma.



# New hemovigilance system for donors

**The safety of the donor is as important as that of the recipient. Although adverse reactions following a blood donation are not frequent and most often minor, they are nevertheless possible.**

To implement measures to prevent and reduce these adverse reactions, Héma-Québec updated its hemovigilance system for donors. Since October 2015, all reactions are documented, regardless of the severity, whereas before only the most severe were documented. This provides a better monitoring indicator for the adoption of appropriate preventive measures.

Héma-Québec took part in the development of standardized definitions of adverse reactions for the industry in collaboration with various organizations from the international community, including the International Haemovigilance Network, the International Society of Blood Transfusion (ISBT) and the AABB–Advancing Transfusion and Cellular Therapies Worldwide (formerly the American Association of Blood Banks). Héma-Québec's guide to adverse reactions related to blood donation is based directly on these standards. Héma-Québec is one of the first organizations to apply all of these definitions to its donor hemovigilance system.

# New measure for young female donors

**The risk of fainting when making a blood donation is higher for donors under the age of 23, and in particular women, who have a smaller volume of blood than men do.**

In order to prevent this undesirable effect, Héma-Québec modified the selection criterion concerning weight in 2015. This criterion stipulated that any individual weighing 50 kg or more, regardless of gender, could give blood. The weight and height of female donors under the age of 23 are now taken into consideration when verifying their eligibility to give blood. As a result, Héma-Québec ensures that it does not collect more than 15% of the estimated blood volume of a young female donor.

# MSM: request for revision submitted to Health Canada

**In 2013, Héma-Québec modified its blood donation eligibility criterion for men who have had sex with men (MSM). The exclusion was changed from permanent to temporary.**

Thus, any MSM became eligible as long as he had not had sex with a man in the past five years. This modification had been approved by the regulatory authorities as well as the recipient representatives.

However, there is new evidence to support a reduction in the temporary exclusion period from 5 years to 12 months. Following a recommendation by Héma-Québec's Safety Advisory Committee and Recipient Representatives Advisory Committee, the Board of Directors approved the proposed change to the eligibility criterion concerning MSMs. The Canadian Hemophilia Society also supported the modification. Héma-Québec and Canadian Blood Services submitted a joint request to Health Canada to reduce the exclusion period from 5 years to 12 months.

# Donations confirmed positive for markers of communicable diseases

## Héma-Québec analyzes all the blood donations it collects in order to detect blood-borne diseases.

If a positive result is obtained, the donation is destroyed and the donor is notified.

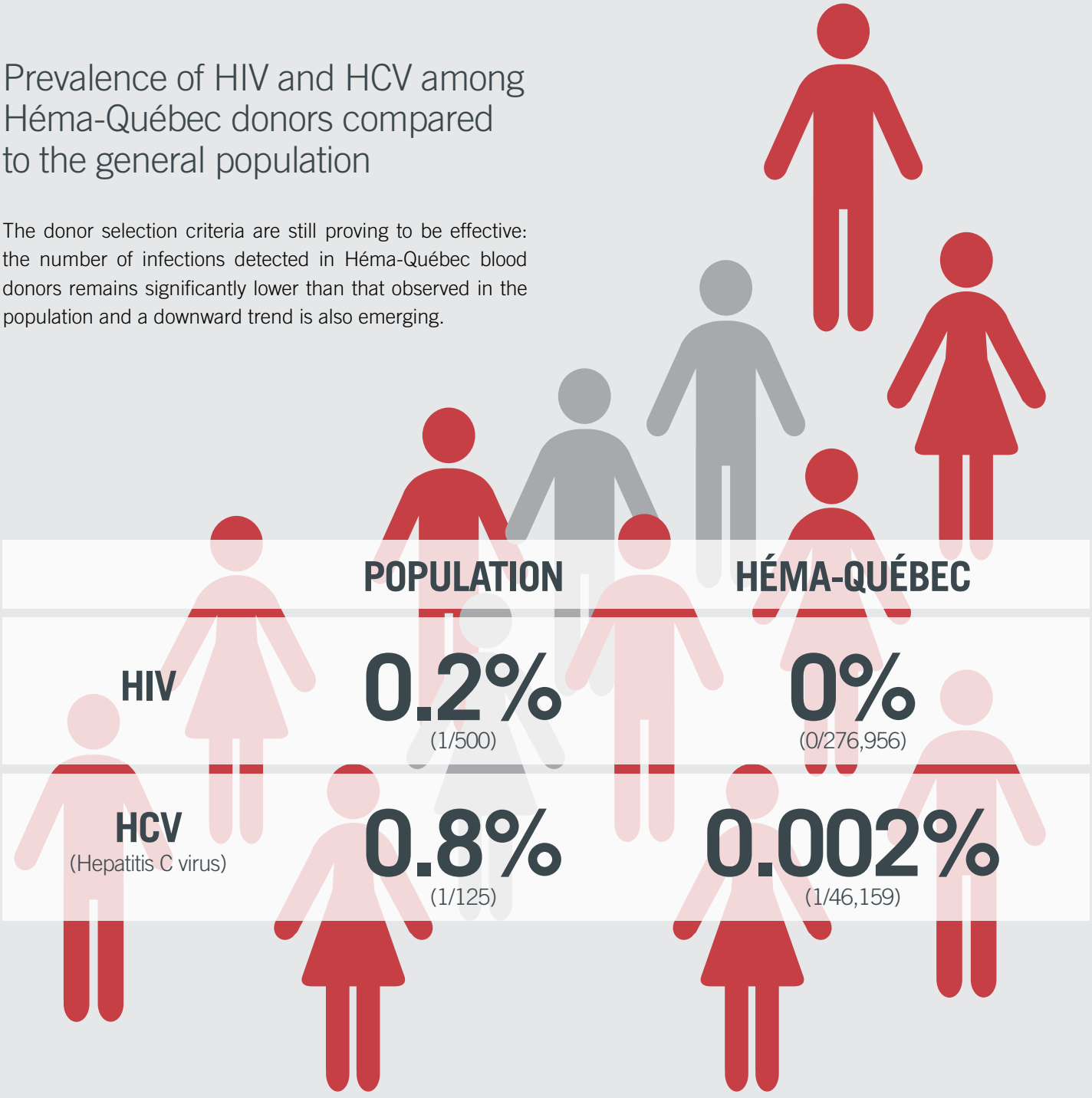
The significant reduction in donations confirmed positive for Hepatitis B can be attributed in part to the vaccination program against this disease, which started more than 20 years ago; the effects of this program started to be felt a few years ago and will become more pronounced in the future. This decrease is also the result of the systematic removal of positive results due to vaccination.

### DONATIONS CONFIRMED POSITIVE ACCORDING TO THE MARKERS

| | 2011–2012 | 2012–2013 | 2013–2014 | 2014–2015 | 2015–2016 |
|---|---|---|---|---|---|
| Human immunodeficiency virus (HIV) | 1 | 1 | 0 | 1 | 0 |
| Hepatitis C virus (HCV) | 21 | 7 | 22 | 12 | 6 |
| Hepatitis B virus (HVB) | 27 | 25 | 16 | 15 | 5 |
| Human T-cell lymphotropic virus (HTLV) | 2 | 7 | 0 | 1 | 4 |
| Syphilis | 18 | 24 | 23 | 17 | 6 |
| **Total number of donations** | **291,306** | **290,787** | **277,956** | **276,473** | **276,956** |

# Prevalence of HIV and HCV among Héma-Québec donors compared to the general population

The donor selection criteria are still proving to be effective: the number of infections detected in Héma-Québec blood donors remains significantly lower than that observed in the population and a downward trend is also emerging.




The plasma for use in manufacturing medications is collected with an apheresis device.

# Audits

The periodic audits of Héma-Québec's operating procedures by regulatory agencies reflect the level of quality control the organization has over its operations.

Every year, Health Canada audits the operations of the two Héma-Québec facilities in Montréal and Québec City. The GLOBULE Blood Donor Centres and PLASMAVIE Plasma Donor Lounges are audited every two years.

## HEALTH CANADA

Québec City **facility**
May 2015

**GLOBULE**
Québec City
May 2015

**GLOBULE**
Laval
November 2015

Montréal **facility**
December 2015

Facility licence renewed in accordance with the *Blood Regulations*

**PLASMAVIE-GLOBULE**
Saguenay
July 2015

**PLASMAVIE**
Sherbrooke
January 2016

**PLASMAVIE-GLOBULE**
Gatineau
March 2016

Facility license issued in accordance with the *Blood Regulations*

## AABB

Advancing Transfusion and Cellular Therapies Worldwide

**Quality and operations system**
of the Montréal and Québec City facilities
November 2015

Certification renewed in accordance with the standards of the AABB

## CNSC

Canadian Nuclear Safety Commission

**Irradiation of labile blood products**
at the Montréal facility
February 2016

CNSC permit renewed in accordance with the *Nuclear Safety and Control Act* and related regulations

Andy is a rare gem:
only 4% of registered stem cell donors are of Asian descent in Québec. The number drops to less than 1% worldwide.

# STEM CELLS

## Québec registry: better represent diversity

**When a stem cell transplant is needed to treat a patient, the characteristics of the transplanted cells must be as close as possible to those of the patient.**

Since these characteristics are hereditary, close family members are more likely to be compatible (1 out of 4 chances). In other cases, a compatible unrelated donor must be sought among the individuals listed in stem cell registries throughout the world.

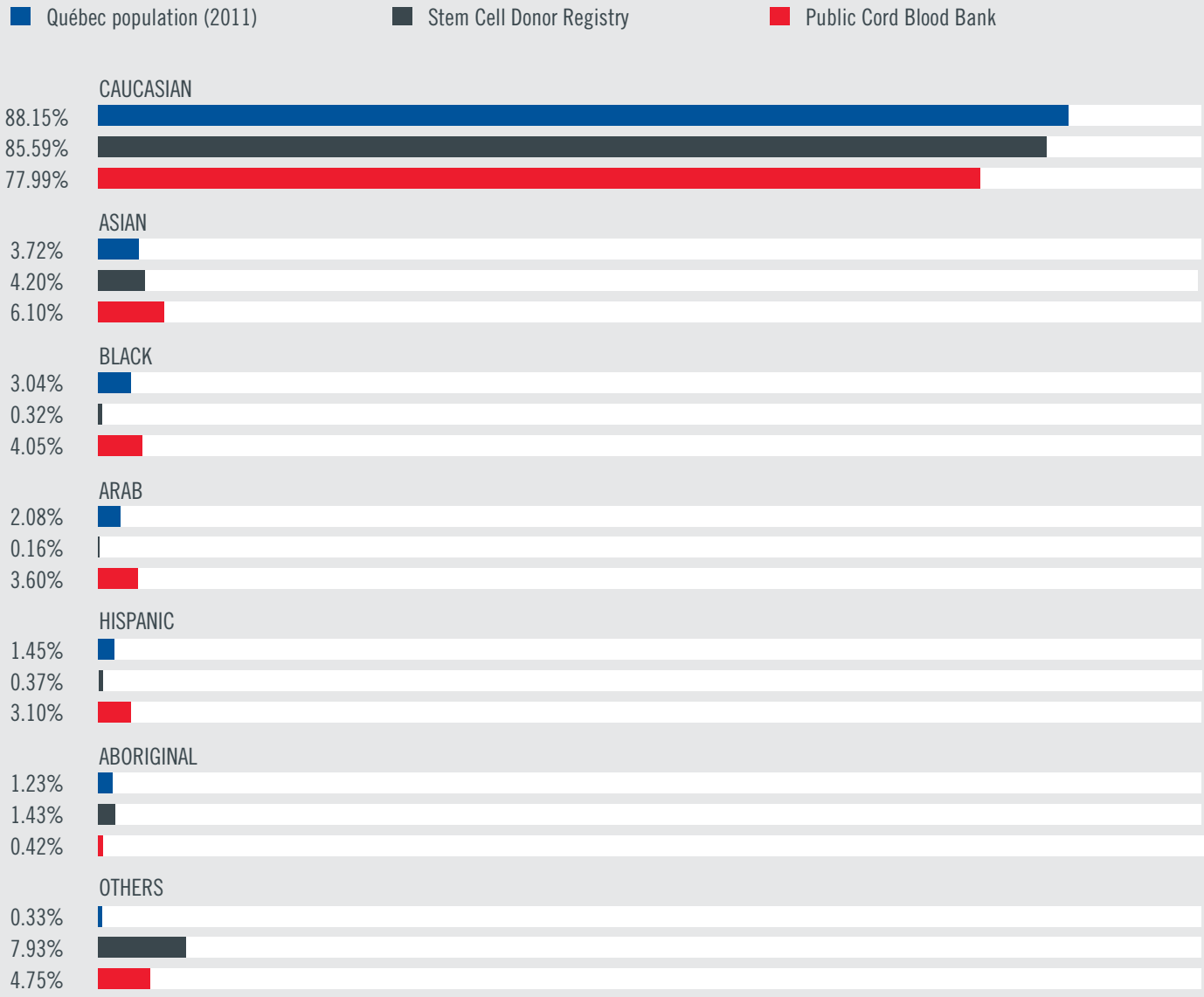
In concrete terms, the HLA markers determine the compatibility of stem cells. This is a particular system that requires very precise searches since there are more than 13,000 markers and this number increases every year. Finding a compatible donor for a patient in need of a stem cell transplant is therefore a challenge.

International stem cell donor registries are primarily made up of Caucasians, as is Héma-Québec's registry. The situation is similar with respect to the Public Cord Blood Bank. This is a major issue since a diversified registry representing the makeup of the Québec population would better meet potential needs.

Over the past year, awareness-raising activities were conducted in the regions targeted as having distinct HLA characteristics.

The First Nations are very poorly represented in Canadian registries and absent from international ones. The existing data on their HLA typing makes searches even more complex since it is difficult to evaluate the various compatible combinations. A study involving the Aboriginal communities is being developed in order to remedy this situation. The study, funded in part by the Héma-Québec Foundation, is intended to look at HLA distribution in the various communities. This would make it possible to demonstrate the differences between the communities and verify if their typing shares similarities with other populations around the world. At the same time, Héma-Québec will conduct awareness-raising activities to increase the participation of First Nations people in the registry.

## BREAKDOWN OF HUMAN BIOLOGICAL GROUPS IN THE POPULATION, THE REGISTRY AND THE PUBLIC CORD BLOOD BANK




# Audits

HEALTH CANADA

**PUBLIC CORD BLOOD BANK**
October, 2015

Certificate of registration renewed in accordance with the *Safety of Human Cells, Tissues and Organs for Transplantation Regulations*

# HUMAN TISSUES


Skin is stored at
a temperature of -80°C.

## Audits

**HEALTH CANADA**

**Process pertaining to human tissues (excluding heart valves)**
November 2015

**Québec Eye Bank of the *Centre universitaire d'ophtalmologie à Québec* (CUO)**
for which Héma-Québec acts as a central facility
January 2016

Certificates of registration renewed in accordance with the *Safety of Human Cells, Tissues and Organs for Transplantation Regulations*

**INTERTEK**
Organization mandated by Health Canada for ISO 13485 certification

**Human tissue quality system related to the production of heart valves (medical instruments)**
March 2016

ISO 13485 certification renewed for medical instruments


The distribution of mother's milk was resumed in September 2015.

# MOTHER'S MILK

## Toward a sustainable solution for a constant and sufficient supply

**On December 5, 2014, Héma-Québec informed Québec hospitals that it was interrupting the production and distribution of units of mother's milk from its bank. Donor recruitment and milk collection were maintained.**

The temporary suspension of the activities of the Public Mothers' Milk Bank was related to the decommissioning of pasteurization devices used by Héma-Québec. The milk bank was experiencing significant fluctuations in terms of quality control results and 39.5% of the batches did not meet the standards and were rejected. This rejection rate, which was much higher than the expected rate of 8%, prevented Héma-Québec from providing a stable supply to its clients.

Since that time, various corrective measures have been implemented, including a bacterial analysis before pasteurization, as well as measures taken with donors. Héma-Québec also consulted other milk banks to learn more about their practices and replaced certain equipment, including the pasteurizers, in its laboratory. The distribution of mother's milk was resumed in September 2015.

Moreover, a new strategy for recruiting mothers is being tested as a pilot project at the *Centre intégré de santé et de services sociaux (CISSS) de la Montérégie-Ouest.* At present, mothers are recruited for the milk bank in the hospitals that Héma-Québec has partnered with for the Public Cord Blood Bank. Although this procedure enables supply needs to be met, Héma-Québec wants to explore new strategies for recruiting mothers. The mothers recruited by the CISSS who qualify for donation will be met individually by Héma-Québec personnel, who will provide detailed instructions on the method to be followed, particularly with respect to the disinfection of the breast pump, so as to reduce the possibility of bacterial contamination of the milk as much as possible. Héma-Québec intends to recruit at least 80 donors as part of this pilot project in 2016.


Plasma is effective in treating serious burn victims or stopping hemorrhages.

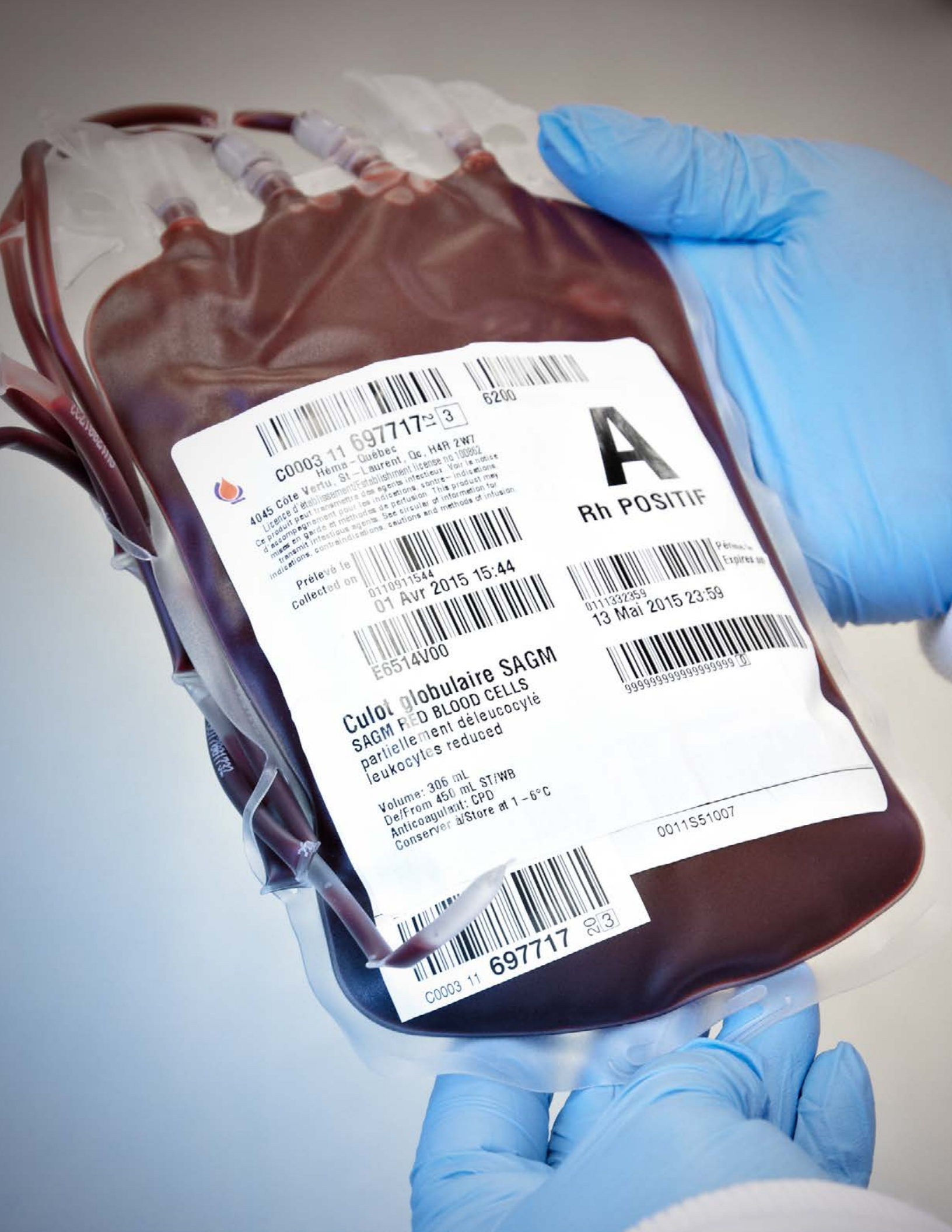
3

# Main activities and accomplishments

## 2016–2018 SUPPLY STRATEGY

Héma-Québec's labile blood product supply strategy is reviewed each year. The 2016–2018 strategy focuses specifically on the following strategic goals:

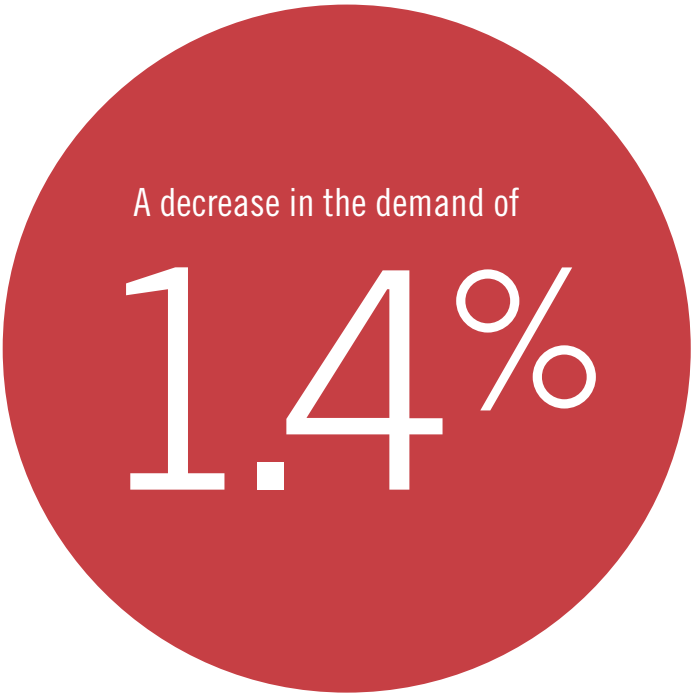
- increase the volume of plasma sent for fractionation;
- increase the number of collections in donor centres;
- increase workforce adaptability;
- develop a culture focused on continuous improvement, problem solving and accountability.


C0003 11 697717 2 3
6200
Héma-Québec
4045 Côte Vertu, St-Laurent, Qc, H4R 2W7
A
Rh POSITIF
Prélevé le
Collected on
01 Avr 2015 15:44
Expires on
13 Mai 2015 23:59
E6514V00
Culot globulaire SAGM
SAGM RED BLOOD CELLS
partiellement déleucocyté
leukocytes reduced
Volume: 306 mL
De/From 450 mL ST/WB
Anticoagulant: CPD
Conserver à/Store at 1-6°C
0011S51007
C0003 11 697717 2 3

# LABILE BLOOD PRODUCTS

## Changes in demand

**For a few years now, a decrease has been observed in the demand for labile blood products.**




This decline, which began three years ago, partially continued in 2015–2016. It stands at 1.4% for all labile blood products, representing an overall reduction of 10.8% since 2012–2013. Deliveries of red blood cells to hospitals decreased 2.2% (11.1% over three years). However, orders for platelets increased by 5.2% (reduction of 3.9% over three years). An upward trend for both products was observed in the final months of the fiscal year.

With respect to plasma, modifications to hospital medical practices have resulted in a 36% drop in demand since 2011–2012. This decrease stood at 17% this year. This strong trend partially explains the decision to use plasmapheresis donations made at the Laurier GLOBULE for fractionation from now on.

# LABILE BLOOD PRODUCTS DELIVERED TO HOSPITALS

| | 2011–2012 | 2012–2013 | 2013–2014 | 2014–2015 | 2015–2016 |
|---|---|---|---|---|---|
| **Total red blood cells** | **246,363** | **246,593** | **232,838** | **224,203** | **219,315** |
| Platelet pools[1] | 7,609 | 6,343 | 4,388 | 4,891 | 5,632 |
| Platelets collected by apheresis | 31,762 | 34,748 | 35,459 | 32,652 | 33,853 |
| **Total platelets[2]** | **196,855** | **205,455** | **199,235** | **187,715** | **197,425** |
| Plasma from whole blood – 250 ml | 32,992 | 30,914 | 25,961 | 13,319 | 15,207 |
| Plasma collected by apheresis – 250 ml | 10,163 | 11,368 | 10,464 | 16,945 | 14,323 |
| Plasma collected by apheresis – 500 ml | 6,083 | 6,250 | 5,488 | 6,086 | 2,834 |
| Equivalent plasma (apheresis 500 ml × 2) | 12,166 | 12,500 | 10,976 | 12,172 | 5,668 |
| **Total plasma[3]** | **55,321** | **54,782** | **47,401** | **42,436** | **35,198** |
| **Granulocytes** | **40** | **99** | **258** | **33** | **30** |
| **Cryoprecipitates** | **20,744** | **20,657** | **21,367** | **22,758** | **23,335** |
| **Cryoprecipitate supernatents** | **6,966** | **8,274** | **5,064** | **7,703** | **2,733** |
| **Grand total** | **526,289** | **535,860** | **506,163** | **484,848** | **478,036** |

[1] Platelets from five whole blood donations pooled together (a pool is equivalent to five buffy coats to which a plasma is added).

[2] "Total platelets" corresponds to the addition of the "platelet pools" and the "platelets collected by apheresis" multiplied by five.

[3] "Total plasma" is the sum of the "plasma from whole blood," the "plasma collected by apheresis – 250 ml" and the "equivalent plasma (apheresis 500 ml × 2)."

# RESULTS FOR WHOLE BLOOD DONATION

One of the effects of the downward trend concerning demand is a reduction in the number of donors and collections needed.

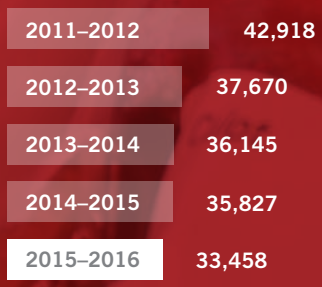
**Registered donors**


**Donors who donated**


**Donors who did not donate***

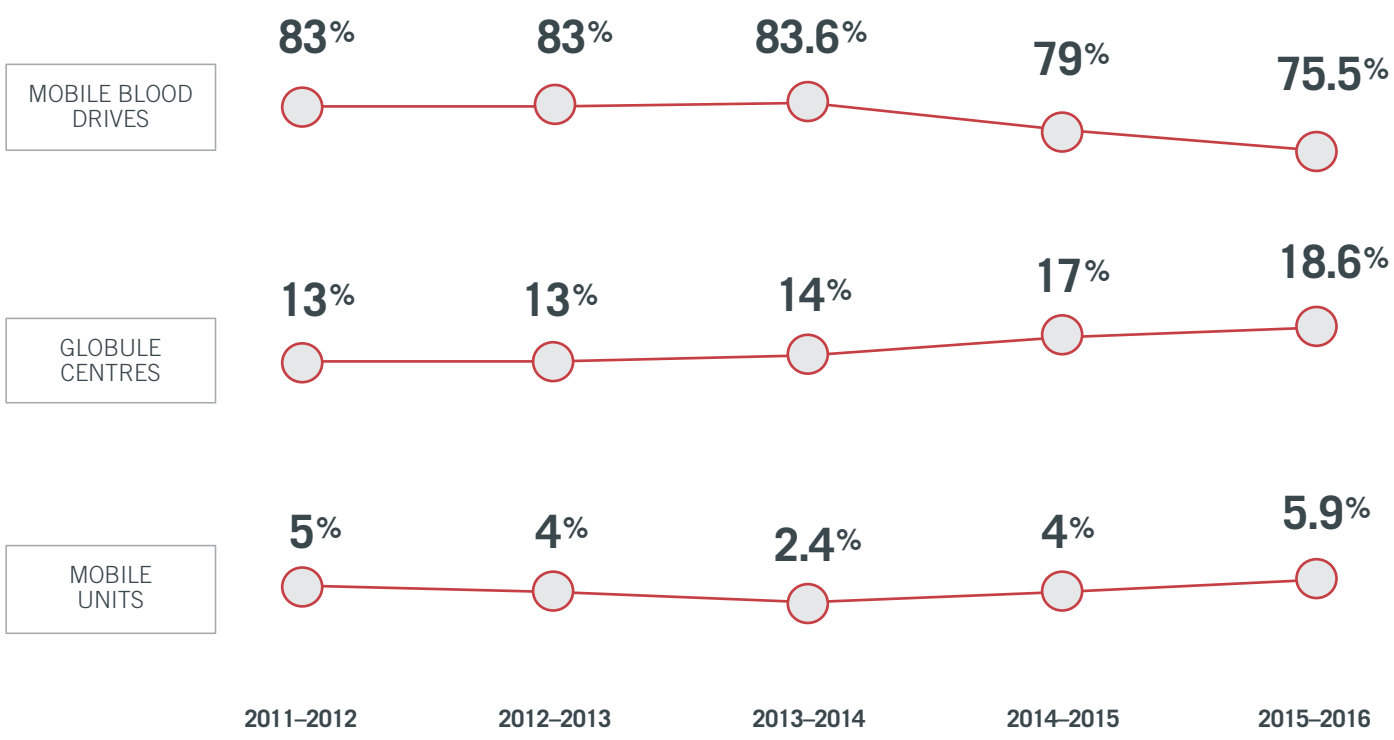

*The number of donors who did not donate corresponds to the registered donors who did not make any donations, but for whom an exclusion was issued the same day or within the seven days following the registration. This category also includes registered donors who were not excluded, but who did not complete a donation.

**New registered donors**

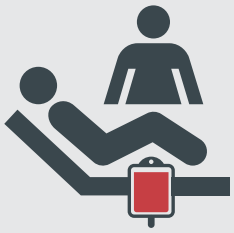


# Breakdown of whole blood collections

One of the focuses of the supply strategy is to increase the proportion of whole blood donations in the GLOBULE Blood Donor Centres. In addition to collecting whole blood, these facilities also collect targeted products based on needs through apheresis collections. This strategy is advantageous given the current fluctuation in demand. Moreover, the PLASMAVIE Plasma Donor Lounges in Saguenay and Gatineau, which opened their doors this year, include a GLOBULE space dedicated to whole blood donations.



## BLOOD DONATIONS IN NUMBERS



**18.6%**

of whole blood donations
are made in
**GLOBULE CENTRES**

**1,788**

**DONORS REGISTER**
on average
each week

Whole blood collections
increased


in
**GLOBULE CENTRES**

The unit cost
per collection is

**29%**

lower in
**GLOBULE CENTRES**
than at mobile blood drives


## COLLECTIONS IN GLOBULE BLOOD DONOR CENTRES

| | 2011–2012 | 2012–2013 | 2013–2014 | 2014–2015 | 2015–2016 |
|---|---|---|---|---|---|
| Whole blood | 32,139 | 32,440 | 33,014 | 39,303 | 41,578 |
| Apheresis platelets | 33,659 | 36,788 | 37,548 | 35,299 | 36,980 |
| Apheresis plasma – 500 ml | 9,781 | 10,004 | 10,712 | 12,201 | 8,676 |
| Apheresis plasma – 750 ml | – | – | – | – | 4,550[3] |
| Apheresis red blood cells | 8,911 | 9,120 | 8,658 | 6,847 | 4,594 |
| Apheresis plasma – 250 ml (including MC[1]) | 10,947 | 11,174 | 11,338 | 18,748[2] | 22,044 |
| Granulocytes | 58 | 138 | 275 | 33 | 38 |
| **Total volumes collected** | **95,495** | **99,664** | **101,545** | **112,431** | **118,460** |

[1] MC: donations made through multiple collections.

[2] The possibility of collecting plasma concurrently with each platelet donation (possible every 14 days instead of 56 days) accounts for a portion of the increase in 250 ml plasma collections.

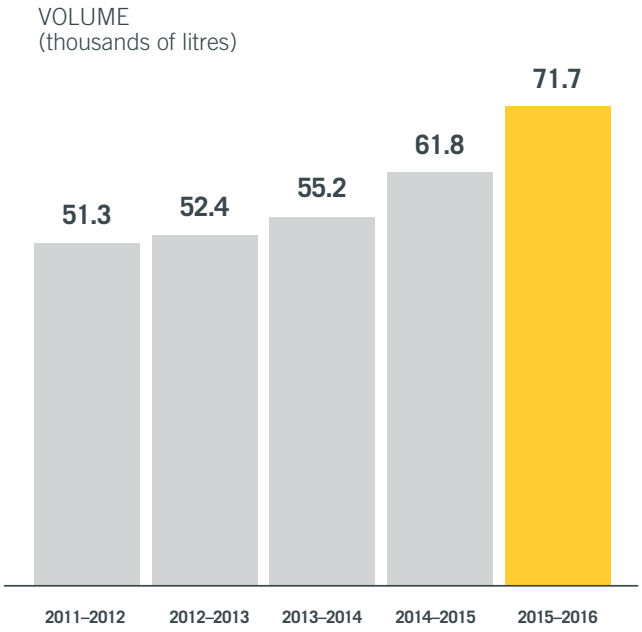
[3] Corresponds to the year in which the distribution started.

# PLASMA SELF-SUFFIENCY

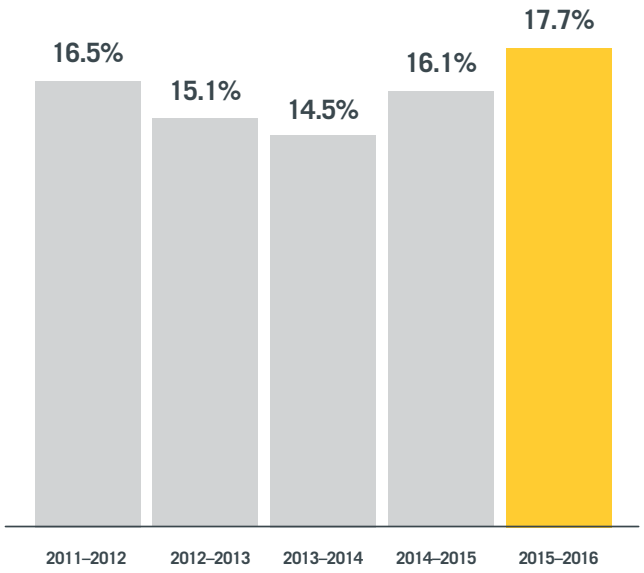
## Héma-Québec is aiming to increase the collection of plasma for fractionation in order to achieve a 30% self-sufficiency rate by 2020. In 2015–2016, this rate was 17.7%.

Over the course of the past year, 71,684 litres of plasma collected were sent for fractionation for purposes of manufacturing medications, compared to 61,824 litres in 2014–2015, for an increase of 16%. Since 2011–2012, this represents an increase of 40%. The increase in the demand for immunoglobulins is exerting downward pressure on the self-sufficiency rate, despite the increase in the quantity of plasma sent for fractionation.

QUANTITY OF PLASMA SENT FOR FRACTIONATION




IMMUNOGLOBULIN SELF-SUFFICIENCY RATE*




*Based on the quantity of plasma sent for fractionation compared to the immunoglobulin distributions made during the year.


# Fractionation plasma supply strategy

## The PLASMAVIE Lounges are an important part of Héma-Québec's strategy to increase the collection of plasma.

In addition to the PLASMAVIE Lounge in Trois-Rivières, three new centres were opened this year in accordance with the plan:

- Saguenay, PLASMAVIE-GLOBULE, July 17
- Sherbrooke, PLASMAVIE, January 29
- Gatineau, PLASMAVIE-GLOBULE, March 31

The results for the PLASMAVIE Lounges as a whole are promising, considering the fact that three of them opened their doors during the year and had not reached their cruising speed.

Efforts to recruit new plasma donors are fervently continuing since Héma-Québec has attained 76% of the collection objectives set in the supply strategy. It should be noted that a plasma donation can be made every six days, namely up to 50 times a year, whereas whole blood donations can only be made every 56 days.

As for the GLOBULE Blood Donor Centre in Québec City, which has been collecting plasma for fractionation since Fall 2015, the results are very encouraging: 4,550 collections were made in 5 months out of an objective of 5,000.

## PLASMAVIE IN NUMBERS

**3,607 DONORS**
made
**18,732**
**DONATIONS**

**669**
**APPOINTMENTS**
on average
per week

**5**
**DONATIONS PER YEAR**
on average per donor

**21%**
of donors made
**8 DONATIONS OR MORE**


Privigen is a medication manufactured from plasma.

# STABLE PRODUCTS

**As part of its mission to efficiently provide adequate quantities of safe, optimal quality blood and blood products and to meet the needs of Québec's population, Héma-Québec has an exclusive mandate to distribute stable products for Québec.**

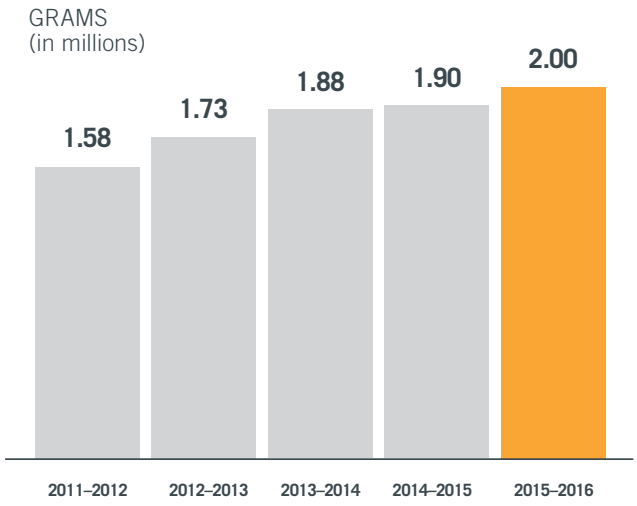
Stable products are medications that are primarily manufactured from plasma. Héma-Québec's role is not to manufacture stable products, but to negotiate the best price possible and purchase them from suppliers, manage the reserve and supply the hospitals. The organization distributes some 50 stable products, four of which are manufactured from the plasma it collects.

Stable products account for a large portion of Héma-Québec's budget. This sector alone represents 59% of the organization's total expenses, namely close to double those associated with collecting, processing, testing and distributing labile blood products.

## Distribution of stable products to hospitals

### Intravenous (IVIg) and subcutaneous (SCIg) polyvalent immunoglobulins

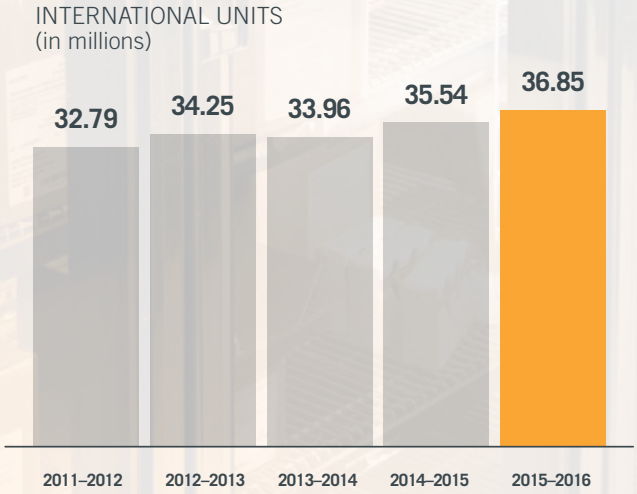
Immunoglobulins are the stable products that are most in demand and are used, among others things, as medication for people with an immune deficiency or neurological problems. These are the products for which the organization wants to increase its self-sufficiency. The increase in the demand is significant, amounting to an average of close to 6.2% per year over the last four years.



Héma-Québec distributes some 50 stable products, four of which are manufactured from the plasma it collects.

# Recombinant Factor VIII

After immunoglobulins, recombinant factor VIII is the second most important stable product in terms of distribution. This medication is intended for hemophiliacs, and the distribution of this product has grown an average of 3.3% over the past four years.



# STEM CELLS

## Stem Cell Donor Registry

**2014–2015 was an active year for the Stem Cell Donor Registry team, which registered close to 26,000 donors following campaigns by the families of patients waiting for a compatible donor.**

A return to normal was observed this year. Héma-Québec received and processed 4,447 registrations, which is still more than the average of 3,000 per year observed in the past. One issue remains important for the organization: of all the mouth swab kits sent out, only 57% were returned.

## Reference and Stem Cell Laboratory

**The Reference and Stem Cell Laboratory responds to many requests for specialized tests.**

These include requests from hospitals for phenotyped blood, erythrocyte or platelet immunology studies and erythrocyte genotyping studies, as well as HLA typings for the Stem Cell Donor Registry team.

The record increase in registrations with the Stem Cell Donor Registry in 2014–2015 had an impact once again this year on the number of HLA typings. Requests for other tests remained relatively stable.

## NUMBER OF SPECIALIZED ANALYSES PERFORMED

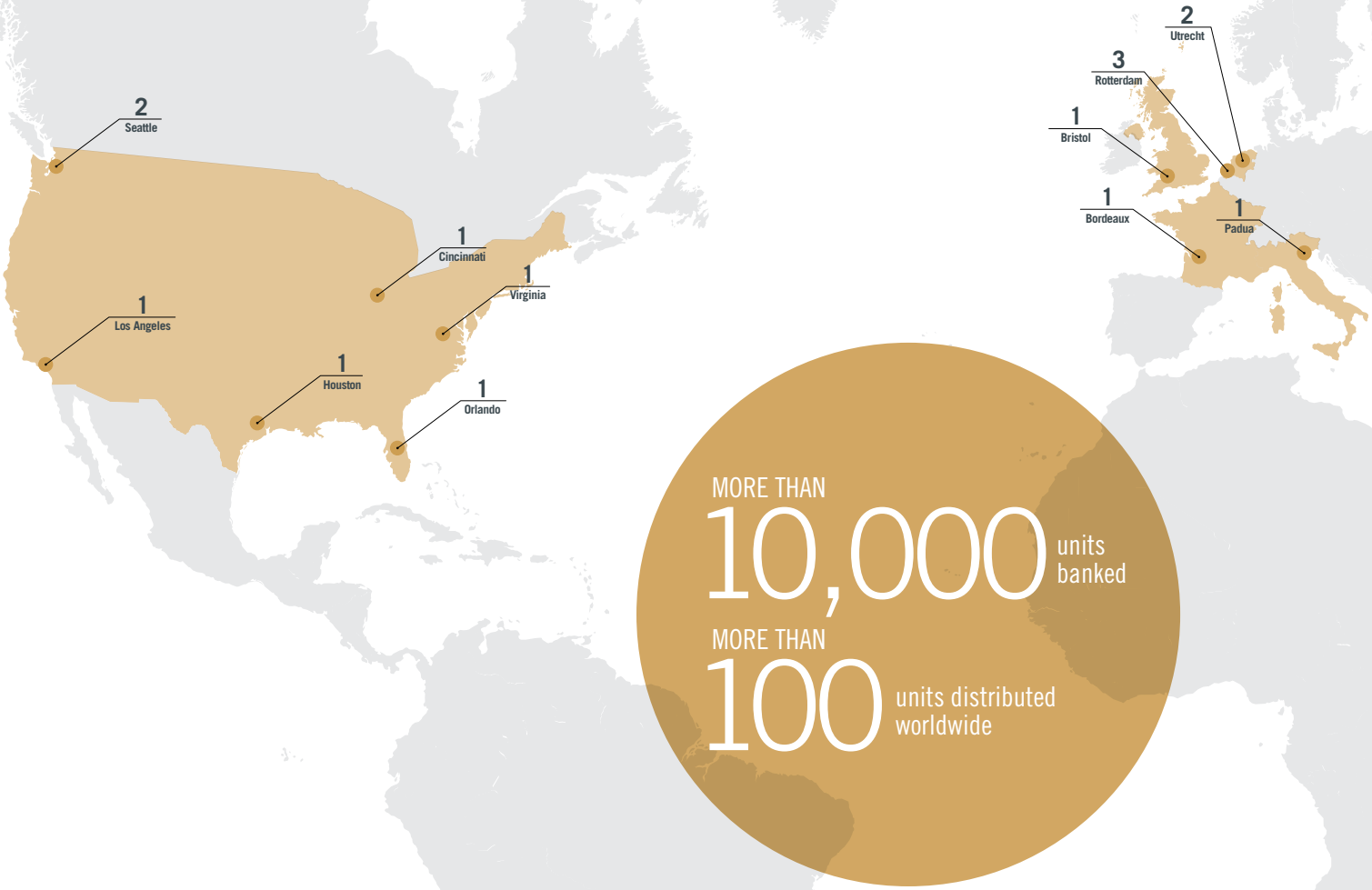
| | 2011–2012 | 2012–2013 | 2013–2014 | 2014–2015 | 2015–2016 |
|---|---|---|---|---|---|
| Erythrocyte immunology (patient cases) | 1,654 | 1,342 | 1,430 | 1,550 | 1,591 |
| Platelet immunology (patient cases) | 394 | 383 | 483 | 461 | 476 |
| Erythrocyte genotyping (patient cases) | 4,574 | 4,721 (550)* | 2,832 (588)* | 548* | 575 |
| HLA A, B, C, DR, DQ typing | 5,925 | 7,292 | 7,700 | 14,804 | 11,176 |

*The number of erythrocyte genotyping analyses represents the genotypes tested for patient cases. Several genotypes can be tested for a given patient and, up to now, the genotyping analyses performed have varied based on the request. Starting this year, patient cases are tested using a new genotyping platform with systematic complete genotyping. In order to better reflect estimates, erythrocyte genotyping is now expressed in number of patient cases.

## PHENOTYPED RED BLOOD CELLS DELIVERED TO QUÉBEC HOSPITALS

| 2011–2012 | 2012–2013 | 2013–2014 | 2014–2015 | 2015–2016 |
|---|---|---|---|---|
| 22,839 | 22,416 | 23,397 | 22,446 | 21,332 |

# Public Cord Blood Bank: a turning point year




MORE THAN
**10,000** units banked

MORE THAN
**100** units distributed worldwide

**Héma-Québec's Public Cord Blood Bank is the first of its kind operating in Canada. In the past year, it reached two important milestones: the 10,000th cord blood unit was banked and the 100th unit was distributed.**

At the end of the year, the Bank held 10,092 cords. Moreover, 15 units of cord blood were delivered in 2015–2016, representing a decrease of 29% compared to the previous year. This decrease is a phenomenon that has been observed in all cord blood banks around the world and may be attributed to financial causes as well as the development of a new transplant technique that uses adult stem cells.

Human tissues are removed with care
and with the utmost respect for the donor.

# HUMAN TISSUES

**The Héma-Québec human tissue bank is the largest in Canada and ranks first in terms of the volume and the variety of grafts offered. A first international export was made during the course of 2015–2016.**

**793** DONORS IN QUÉBEC

**4,734** HUMAN TISSUES DISTRIBUTED TO HOSPITALS
including 20% outside Québec

**92%** of the tissues distributed were collected and prepared by Héma-Québec; the rest were imported

## FIRST INTERNATIONAL DISTRIBUTION

101 skin tissues were distributed to Singapore under an agreement with SingHealth (the largest group of health facilities in Singapore)

Héma-Québec started collecting, processing and banking
**ARTERIAL TISSUES**

## REDUCTION
**IN WAITING TIME**
FOR CORNEAL TRANSPLANTS

| 2011 | 2016 |
|---|---|
| 5 years | Less than 6 months |

**66%** REDUCTION
**IN THE NUMBER OF PATIENTS**
waiting for a transplant

| FEBRUARY 2011 | APRIL 2016 |
|---|---|
| 704 patients | 239 patients |

## HUMAN TISSUE DISTRIBUTION

| | 2011–2012 | 2012–2013 | 2013–2014 | 2014–2015 | 2015–2016 |
|---|---|---|---|---|---|
| Valve and vascular products | 49 | 47 | 40 | 61 | 39 |
| Skin products | 1,322 | 1,231 | 1,340 | 1,090 | 1,489 |
| Musculoskeletal products (tendons, bone chips, femoral heads) | 923 | 1,281 | 1,292 | 1,371 | 1,768 |
| Corneas | 429 | 429 | 561 | 448 | 606 |
| Sclera | 79* | 381 | 445 | 416 | 460 |
| **IMPORTS** | | | | | |
| Imported human tissues | 259 | 96 | 85 | 28 | 73 |
| Imported corneas | 257 | 306 | 249 | 337 | 205 |
| Imported amniotic membranes | – | – | – | 92* | 94 |
| **Grand total** | **3,318** | **3,771** | **4,012** | **4,080** | **4,734** |

*Corresponds to the year in which the distribution began.

## HUMAN TISSUE DISTRIBUTION IN NUMBERS

INCREASE IN THE DISTRIBUTION OF
**HUMAN TISSUES**
OF **16%**

For skin tissues:
▲ **37%**

For musculoskeletal products:
▲ **29%**

SELF-SUFFICIENCY
**FOR CORNEAS**

Increase in local corneas:
▲ **35%**

Reduction in imported corneas:
▼ **39%**

One of the objectives for 2015–2016 was to achieve self-sufficiency in corneas. As at March 31, this objective was met.

**53%** OF THE SKIN PRODUCTS PREPARED **ARE EXPORTED OUTSIDE QUÉBEC**

Although the distribution of imported human tissues increased, these are primarily products that Héma-Québec does not process and that it distributes to hospitals that already order tissues produced locally.

The implementation of additional work shifts (evening, night and weekend) last March in response to the challenges faced by the human tissue bank will enable it to be more competitive and maximize supply and banking efforts for all tissue products offered by Héma-Québec. This measure should re-establish the optimal number of distributions for valve and vascular products.

# MOTHER'S MILK

**The purpose of the Public Mothers' Milk Bank is to efficiently meet the needs of premature babies born at 32 weeks or less who cannot be breastfed.**

In the last year, 661 mothers registered with the Public Mothers' Milk Bank. In concrete terms, 342 mothers were active and sent milk to Héma-Québec during the year, while the number of mothers needed is estimated at 300. In total, since distribution to hospitals where the needs are greatest resumed in 2015, 2,095 bottles have been distributed. This limited distribution does not yet satisfy 100% of the demand for premature babies born at 32 weeks or less.

## PUBLIC MOTHERS' MILK BANK IN NUMBERS

**661**
REGISTERED MOTHERS

**342**
ACTIVE DONORS

**2,095**
BOTTLES DISTRIBUTED

# RESULTS PERTAINING TO THE 2012–2015 STRATEGIC PLAN

Objective 1 To be a global model of quality

Objective 2 To be a Québec model of efficiency

Objective 3 To be a global model of innovation

OBJECTIVE 1

# TO BE A GLOBAL MODEL OF QUALITY

## Risk management and quality investigation

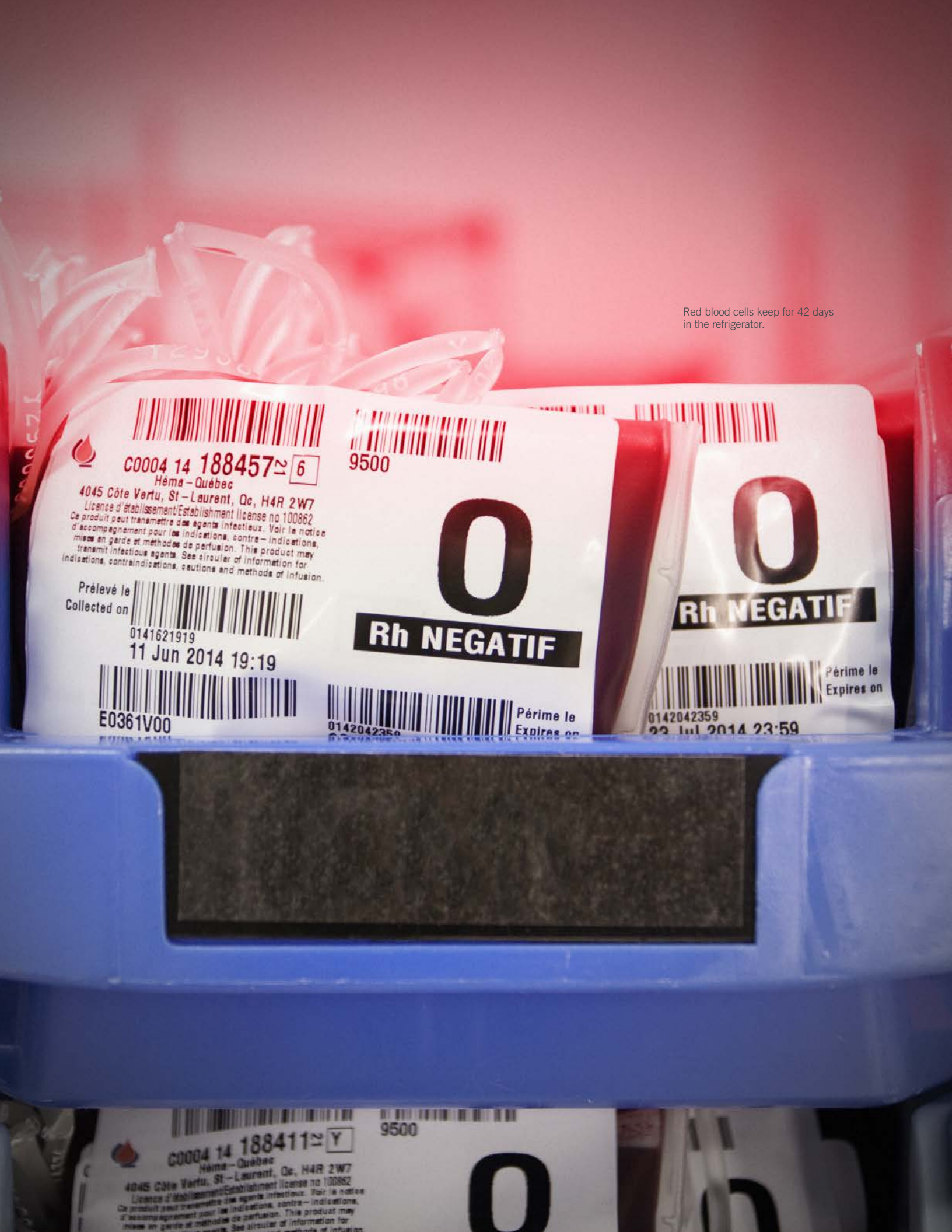
**The purpose of Héma-Québec's investigation program is to determine the causes and actions to take to reduce the number of non-compliances and product losses and to better meet the requirements of regulatory agencies.**

In June 2015, the implementation of the investigation process was completed with the adoption of a risk analysis matrix. This tool is used to detect and handle critical cases for which an investigation is necessary. The implementation of this matrix is an important element in the quality system that serves to improve risk management.

## Visual inspection guide

**The visual inspection of labile products is important throughout the entire production process, from collection to processing and shipping, to ensure the safety of the product.**

In November 2015, Héma-Québec produced and distributed a new guide to assist its employees in conducting visual inspections of blood products. Although it was created for Héma-Québec personnel, this tool is also available for any blood bank employee or individual responsible for transfusion safety in Québec's health network.




Red blood cells keep for 42 days in the refrigerator.

OBJECTIVE 2

# TO BE A QUÉBEC MODEL OF EFFICIENCY

## Stabilization of fees after adjustments for inflation

**As a result of the increases in efficiency noted since 2009, fee increases have once again been kept below inflation.**

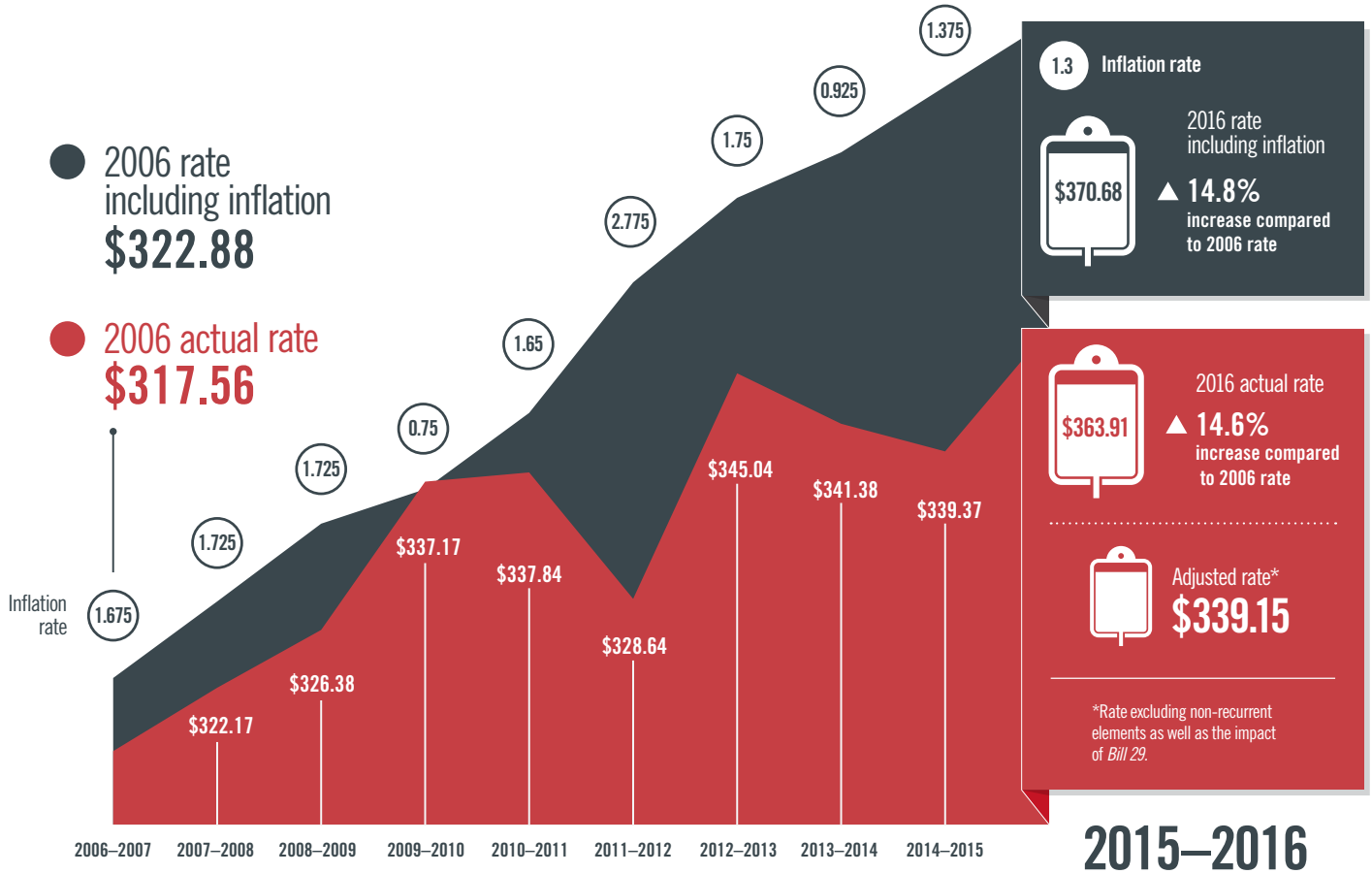
In 2015–2016, the rate for packed red blood cells, the main labile product distributed by Héma-Québec, was $363.91, compared to a rate of $370.68 indexed for inflation since 2006. This represents an increase of 7.2% compared to the 2014–2015 rate. This can essentially be attributed to:

- a $3.4 million increase in the cost of pensions following the coming into force of the *Act to amend the Supplemental Pension Plans Act mainly with respect to the funding of defined benefit pension plans* (hereinafter *Bill 29*), on January 1, 2016. Moreover, the impact of *Bill 29* on all activities amounts to close to $6 million;
- non-recurrent costs of close to $1.6 million; and
- the implementation of the digital blood drive project (i.e., the upgrading of the eProgesa application).

If we exclude the non-recurrent elements as well as the impact of *Bill 29*, the 2015–2016 rate for packed red blood cells decreased slightly to $339.15, representing a 0.1% decrease, while the inflation rate was 1.3%.

# PACKED RED BLOOD CELLS: CHANGES IN RATE

## **Actual** vs. **inflation**




**$26.1M**
**IN SAVINGS**
over nine fiscal years compared to the increase in the consumer price index (CPI)

**219,315**
**PACKED RED BLOOD CELLS DISTRIBUTED**

**$1.5M**
**IN SAVINGS**

Reduction of

**21%**

in the number of hours worked per product collected since 2010–2011

# Workforce adaptability

## The agreements signed with the unions concerning workforce adaptability have been implemented.

The duties of the registration clerks, the blood drive technical assistants and the drivers were thus diversified, enabling Héma-Québec to continue its efforts to improve efficiency. These agreements complement several projects that were implemented in recent years, such as the opening of a mobile blood drive regional centre on the South Shore and the implementation of the new job title of blood drive agent.

The number of hours worked per product collected has decreased significantly, i.e. by 21% since 2010–2011.

In the past year, a collected product required 1.58 hours of work. To facilitate the deployment and transition to the new eProgesa blood management system and the digital blood drive, the number of employees at blood drives and in the GLOBULE Centres had to be increased for a few months, increasing this index, which nevertheless decreased once again this year. The optimization of this tool and the process itself will enable Héma-Québec to continue its efforts to increase efficiency and reach an index of 1.25 hours per product collected.

### NUMBER OF HOURS WORKED PER PRODUCT COLLECTED


The graph above illustrates the number of hours worked per product collected in mobile blood drives and in GLOBULE Blood Donor Centres for the following five employment types: nurse, blood drive agent, blood drive technical assistant, registration clerk and driver.


262460
10
8
6
4

OBJECTIVE 3

# TO BE A GLOBAL MODEL OF INNOVATION

## Partnerships for better health

### Involvement of client users during calls for tenders: acceptance of change facilitated

The last step in the call for tenders concerning the renewal of the supply contracts for two stable products, factor VIII and recombinant factor IX, was completed at the start of 2015–2016. The distribution of new commercial preparations started on April 1.

It should be noted that this call for tenders was the result of collaboration between Héma-Québec, the representatives of a group of recipients and users of these medications within the medical profession. The selection committee was able to count on the expertise of two doctors from the *Centres de traitement de l'hémophilie du Québec* as well as two recipient representatives from the Canadian Hemophilia Society, which had commended the thoroughness of the call for tenders process. Participation of various stakeholders throughout the process promoted greater acceptance during the introduction of the new products last April. This approach has many benefits and it will be used again during future calls for tenders.

### The regulatory test laboratory expands its service offer

In keeping with the safety measures in place, any biological product of human origin must be subjected to a series of qualification tests in order to detect the possible presence of infections or other communicable diseases. This is the case for the products collected by Héma-Québec. It is also the case for the organs collected by Transplant Québec.

Before the organs from a donor are transplanted, a series of tests are conducted to determine if the donor carries a virus or infection that can be transmitted by blood. The results of these tests are needed promptly in order to ensure that the organ qualifies and is free from any virus. Certain tests are done in the hospitals while others must be done in a laboratory with the necessary equipment approved by Health Canada. This is the case for Héma-Québec's regulatory test laboratory. Héma-Québec and Transplant Québec have signed a service agreement to offer a service 24 hours a day, seven days a week, for the tests that are not performed in hospitals.

The collaboration of the union that represents the employees concerned has allowed for the addition of an on-call service to handle requests received outside regular business hours. Moreover, the engagement of the laboratory employees throughout the process was exemplary, perfectly reflecting the culture change underway at Héma-Québec. The laboratory is also committed to providing results within eight hours of receiving the samples. This objective has been reached since the average time required is a little under six hours. While Héma-Québec estimated that it would process approximately 70 samples per year, it processed 118 samples after only nine months of service, 44% of which were delivered during shifts when there are no regular laboratory activities.

## Collaboration with the *Centre hospitalier universitaire Sainte-Justine*

A new collaboration with the CHU Sainte-Justine will facilitate the search for compatible donors for patients with sickle cell anemia. This hospital treats many patients with sickle cell anemia, most of whom receive frequent blood transfusions. It should be reminded that the chances of finding blood that is an optimal match are much better when the donor and the recipient share a similar genetic makeup. The project involves the molecular typing of three blood group genes and will serve to identify patients with variants of these genes.

A therapeutic solution for graft versus host disease (GvHD) is also among the projects underway with the CHU Sainte-Justine. This disease occurs when the immune cells present in the graft react against the tissues and organs of the recipient (host). The mesenchymal stem cells (MSCs) have immunosuppressive properties that make them attractive for treating immune system disorders such as GvHD. The project therefore aims to produce therapeutic doses of MSCs extracted from umbilical cords in accordance with good manufacturing practices as a part of a clinical study. In the past year, Héma-Québec continued its work to develop the cell extraction process, in addition to developing a cell expansion process that would be used to manufacture therapeutic doses.

## Héma-Québec's erythrocyte immunology training acknowledged internationally

Héma-Québec offers erythrocyte immunology training for blood bank laboratory technicians in Québec. This program, which has been offered online since 2010, allows students to develop more advanced techniques for detecting antibodies to red blood cells in patients and is aimed at optimizing transfusion safety.

In addition to being offered in French and English, the training material was also translated into Spanish in the past year.

## ABOUT ERYTHROCYTE IMMUNOLOGY TRAINING

PROGRAM CREATED IN **2002**

IN ALL, MORE THAN **1,000** TRANSFUSION MEDICINE PROFESSIONALS HAVE REGISTERED

INCLUDING MORE THAN **100** HÉMA-QUÉBEC EMPLOYEES

**213** REGISTERED IN 2015–2016

MORE THAN **800** REGISTRATIONS SINCE THE PROGRAM WAS PUT ONLINE IN 2010

PARTICIPANTS FROM **30** COUNTRIES

INCLUDING

**71%** FRANCOPHONES

**20%** ANGLOPHONES

**9%** HISPANOPHONES

The courses meet the requirements of continuing education and are recognized by:

- *Ordre professionnel des technologistes médicaux*
- Canadian Society for Medical Laboratory Science
- American Society for Clinical Laboratory Science

The program receives support from the following organizations:

- Héma-Québec Foundation
- Grifols
- Pan American Health Organization

# First test bench at the Québec reference laboratory

An agreement signed with the European firm Bio-Rad, which develops and markets tests and diagnostic systems intended specifically for medical test laboratories and blood transfusion centres, covers the clinical evaluation of new equipment that is used to determine blood groups and identify antibodies. The Québec reference laboratory obtained this first test bench as a result of the volume and complexity of the samples it handles and its skills, which have been confirmed by ISO 15189. By the end of the project, hundreds of samples will have been tested using the device in order to compare the results with those obtained with the techniques routinely used in the laboratory.


The units of cord blood are shipped internationally in a cryo transporter that can maintain the temperature below -150°C.

# Innovations in research and development: cord blood stem cells, a sought-after resource

## Over the past year, several breakthroughs were made in research and development with regard to cord blood.

First, the cord blood banks experienced a world-wide shortage of a product used to thaw cord blood units. Héma-Québec therefore identified a substitute product and developed a new protocol for thawing samples. This new method was used successfully by Héma-Québec's Public Cord Blood Bank. This discovery also received international acknowledgement and the method elicited the interest of several laboratories around the world.

The use of umbilical cord blood as a source of stem cells for purposes of transplantation has grown at a steady rate over the last 30 years. However, the number of stem cells contained in one unit of cord blood generally limits their use to pediatric patients. In the past year, Héma-Québec discovered a method for producing many more stem cells from cord blood in the laboratory. This could therefore expand the range of patients who are eligible for cord blood stem cell transplantation.

Finally, as with the Stem Cell Donor Registry, the diversity of the Public Cord Blood Bank represents a major issue for Héma-Québec. A large majority of the women who donate to the bank are of Caucasian origin. In order to improve the diversity of the bank, Héma-Québec is evaluating the possibility of qualifying units of non-Caucasian origin using a new decision-making algorithm. The application of this algorithm would enable the organization to recover close to 17% of these units, which do not qualify based on current criteria.

**Héma-Québec discovered a method for producing many more stem cells from cord blood in the laboratory. This could therefore expand the range of patients who are eligible for cord blood stem cell transplantation.**

# A new tool to seize opportunities for improvement

**The *Boîte à idées* is a new element in the daily lives of Héma-Québec's employees. The suggestion box is an interactive tool, accessible on the organization's intranet portal, intended to make the most of the creative and innovative potential of all employees.**

This initiative is the result of a survey on innovation and is intended to encourage and promote the implementation of employee suggestions. The employees can suggest improvements or ask to have problems solved in the areas of efficiency, innovation or quality and follow their progress until they are deployed.

The projects submitted are highly varied. Ideas that were proposed and implemented include: Wi-Fi access in the Montréal and Québec City cafeterias, the ergonomic re-arrangement of work stations, the standardization of certain work methods and donation confirmation by e-mail.

Boîte à IDÉES

SINCE IMPLEMENTATION

**265** IDEAS PROPOSED

**69** IDEAS IMPLEMENTED

**92** IDEAS BEING IMPLEMENTED

**25** IDEAS BEING EVALUATED

**30 departments affected, primarily: mobile blood drives; planning, donor recruitment and marketing; and GLOBULE Centres.**

# Realignment of cell production activities

**In September 2015, Héma-Québec announced its intention to continue its cell therapy activities by concentrating on the research and development of products for which it is already active.**

Cell therapy projects will therefore involve blood products, human tissues or stem cells. In this manner, the activities are aligned with Héma-Québec's mission.

As a result of this new focus, the organization will abandon the C·LAVIE complex real estate project; a cell production facility that was to be built in the Michelet innovation space in the Québec City area. The white rooms already established at the National Optics Institute (NOI) will be sufficient for Héma-Québec's needs. They allow for the manufacturing of biotherapeutic products in a highly controlled and safe environment. The current projects in line with the new focus will be continued and discussions with partners whose projects qualify are ongoing.

# Updating of the Research and Development division mandate

**The mandate of this division was redefined during the past year as follows: "to contribute to the fulfillment of the organization's mission with our scientific expertise".**

The research and development team is continuing its innovation activities and provides support for operations while pursuing the development of its cell therapy activities with which Héma-Québec is already involved.

This mandate is supported by the following strategic choices:

- support operations by providing scientific expertise;
- develop processes and services;
- develop new products to:
    - maintain our position as a leader in the field of blood products, stem cells, mother's milk and human tissues; and
    - meet the needs of the Québec health system;
- train the next generation of scientists in the field of transfusion medicine.

Structural changes were also made within the division to support this focus and promote the efficiency and synergy of the various departments.

# Increased investment and innovation budgets

**Capital asset investments totalled $10.2 million for 2015–2016.**

Principal investments include those made for the PLASMAVIE donor centre in Sherbrooke and the PLASMAVIE-GLOBULE centre in Gatineau, as well as the digital blood drive project eProgesa software upgrade.

For the period covering the current strategic plan, this represents an average annual increase of 40% compared to the previous strategic plan.

Investments in research and development activities once again reached the target of 5% of the budget allocated for labile products, human tissues and stem cells in 2015–2016, as established in the organization's strategic plan.


Héma-Québec's research and development team assesses transfusion medicine technologies on a regular basis.

# ADMINISTRATION

1

# Activities and structure of the Board of Directors

This section summarizes the activities of the Board of Directors and its committees.

# Structure of the Board of Directors

## The activities of the Board of Directors were marked by the re-election of members to certain positions and the recent nomination of new directors.

In February 2016, Martine Carré was re-elected as the Chair of Héma-Québec's Board of Directors for a two-year mandate. She has held this position since 2013 and has been a Board member since 2007.

In April 2015, Michèle Beaupré Bériau was also re-elected as the Vice-Chair for a two-year mandate. She has been a Board member since 2012 and has served as the Vice-Chair since 2013.

The Governance and Ethics Committee continued its efforts with groups and associations throughout the year to find candidates that fit the skill profiles sought and established by the Board of Directors. Its objective is to maintain a proper balance of experience and expertise on the Board, based on the organization's activities, as well as to ensure the representation of:

- the various groups in the transfusion chain, pursuant to the *Act respecting Héma-Québec and the Biovigilance Committee*; and
- the diversity of Québec's population.

Following these activities, the candidates' files were submitted to the government in order to fill vacant positions and replace certain members whose mandates had come to an end. Thus, five directors were appointed in March 2016:

- **Trang Hoang** (scientific research community)
- **Daniel Beaupré** (scientific research community)
- **Jean-Frédéric Lafontaine** (business community)
- **Pierre Thivierge** (business community)
- **Wilson Sanon** (donor and volunteer groups)

# Changes to the Management Committee

The arrival of Serge Maltais as President and Chief Executive Officer was one of the highlights of the past year. The Board of Directors completed the selection process at the beginning of the year and welcomed Mr. Maltais to his new position in May 2015.

2015–2016 was also marked by changes to the Management Committee. The Human Resources Committee approved the appointment of three new vice-presidents following the hiring process:

- **Luc Vermeersch**, Finance and Administration;
- **Annie Gingras**, Quality and Regulatory Affairs;
- **Roselyne Zombecki**, Human Resources.

# Strategic planning

The Board of Directors approved management's recommendation to extend the 2012–2015 Strategic Plan to March 31, 2017.

Also, during a joint meeting of the Board of Directors and the Management Committee (MC) last March, the Board approved a process for the next strategic plan in which the Board is a stakeholder at each step.

This meeting completed the first phase, namely the preparation of the strategic planning exercise, and started the second phase, namely the establishment of strategic diagnostics as well as the analysis of the context and organizational capacities.

# Governance optimization

Throughout the year, actions were taken to optimize governance. This ongoing work served specifically to define the roles and responsibilities of the Board of Directors and the Management Committee as well as the types of documents submitted to the Board and its committees. These topics were the subject of more detailed discussion during the joint meeting of the Board and the MC.

# 2015–2018 supply strategy

The Board approved the supply strategy covering the period from 2015 to 2017 in October 2015. In it, Héma-Québec reiterates its desire to improve the efficiency of operations while maintaining the safety and sufficiency of the supply. It also reaffirms the importance of its strategic choice to optimize the collection of plasma.

# Reorientation of cell production

The Board of Directors confirmed the new focus proposed, namely to concentrate cell therapy actions on Héma-Québec's products, as specified on page 79.

# Risk management

Héma-Québec's risk management policy was reviewed by the Board of Directors in April 2015. This review improved the risk management matrices, used mainly to determine the seriousness and frequency of risks. Moreover, the revised policy further clarifies the relationship between the risks, the mission and the strategic objectives.

# Relations with the Héma-Québec Foundation

Over the course of the year, the executive management of Héma-Québec and of Héma-Québec Foundation as well as the chairs of their respective Board of Directors have agreed on a few common directions, while preserving the independence of both organizations. In more concrete terms, the two organizations worked together to determine priority projects for which Héma-Québec would need financing, thereby highlighting the support role of the Foundation in some of Héma-Québec's activities. Eventually, a recognition plan will be developed. The governance and ethics committees will follow-up on this.

Of special note, the Héma-Québec Foundation has signed a major partnership agreement with Toyota. The renowned car manufacturer donated $120,000 to the Public Mothers' Milk Bank in January 2016.

# BOARD OF DIRECTORS

## BOARD OF DIRECTORS

| Categories represented | Members |
|---|---|
| RECIPIENTS | *Chair*<br>**Martine Carré**<br>Corporate Director<br>Leucan Member |
| PUBLIC HEALTH COMMUNITY | *Vice-Chair*<br>**Michèle Beaupré Bériau**<br>Secretary General<br>*Institut national de santé publique du Québec* |
| HÉMA-QUÉBEC | *Secretary*<br>**Serge Maltais**<br>President and Chief Executive Officer<br>Héma-Québec |
| PRESIDENT AND CEOs AND EXECUTIVE DIRECTORS OF PUBLIC INSTITUTIONS WITHIN THE MEANING OF THE *ACT RESPECTING HEALTH SERVICES AND SOCIAL SERVICES* | **René Carignan, CPA, CA**<br>Financial and Tax Consultant |
| DONORS AND VOLUNTEERS | **Wilson Sanon**<br>President, founder and executive director<br>*Association d'anémie falciforme du Québec* |
| *COLLÈGE DES MÉDECINS DU QUÉBEC* | **Dr. Jean-Marie Leclerc**<br>Hematologist-oncologist<br>*Centre hospitalier universitaire Sainte-Justine* |
| SCIENTIFIC RESEARCH COMMUNITY | **Trang Hoang**<br>Principal Investigator and Laboratory Director<br>Hematopoiesis and Leukemia research unit,<br>Institute for Research in Immunology and Cancer |
| | **Daniel Beaupré**<br>Full professor in the Department of Organization and Human resources<br>School of Management, *Université du Québec à Montréal* |
| BUSINESS COMMUNITY | **Christine Beaubien**<br>Corporate Director<br>President, Groupe BSC |
| | **Jean-Frédéric Lafontaine**<br>Director, Government Relations–Québec<br>AstraZeneca Canada Inc. |
| | **Pierre Thivierge, CPA, CA**<br>President, Octium Solutions Inc.<br>Chief Financial Officer, *Quadra Chimie ltée* |
| *ORDRE DES COMPTABLES PROFESSIONNELS AGRÉÉS DU QUÉBEC* | **Pierre-Yves Desbiens, CPA, CA**<br>Vice-President, Finance and Operations<br>NEOMED Institute |
| BIOVIGILANCE COMMITTEE OBSERVER | Vacant |

# BOARD COMMITTEES



## EXECUTIVE COMMITTEE

- **Martine Carré**, Chair of the Board of Directors
- **Michèle Beaupré Bériau,** Vice-Chair of the Board of Directors
- **Serge Maltais,** Secretary of the Board of Directors
- **René Carignan, CPA, CA,** Director
- **Dr. Patricia Pelletier** (outgoing member)

## GOVERNANCE AND ETHICS COMMITTEE

- **Michèle Beaupré Bériau**, Chair
- **Martine Carré**
- **Dr. Annie Lagacé** (outgoing member)

## AUDIT COMMITTEE

- **René Carignan, CPA, CA,** Chair
- **Christine Beaubien**
- **Pierre-Yves Desbiens, CPA, CA**
- **Lucie Letendre, CPA, CGA** (outgoing member)

## HUMAN RESOURCES AND COMPENSATION COMMITTEE

- **Martine Carré,** Chair
- **Christine Beaubien**
- **Dr. Jean-Marie Leclerc**
- **René Carignan, CPA, CA** (guest member)
- **Lucie Letendre, CPA, CGA** (outgoing member)

## INFORMATION RESOURCES COMMITTEE

| | |
|---|---|
| DIRECTOR MEMBERS | **Christine Beaubien,** Chair |
| | **Martine Carré** |
| | **René Carignan, CPA, CA** |
| EXTERNAL MEMBERS | **Michèle Bureau**<br>Consultant, Information Technology and Electronic Affairs<br>*Bureau et Associés inc.* |
| | **Robert Charbonneau**<br>Advisor, Information Technology |
| | **Pierre Montminy**<br>Senior Advisor<br>Head of IT practices, *E3 Services Conseils* |

# ADVISORY COMMITTEES

## RECIPIENT REPRESENTATIVES ADVISORY COMMITTEE

| Fields represented | Members |
|---|---|
| COCQ-SIDA | *Chair*<br>**Michel Morin** |
| *ASSOCIATION DES PATIENTS IMMUNODÉFICIENTS DU QUÉBEC* | **Martine Allard**<br>**Jacques Dagnault** |
| CANADIAN HEMOPHILIA SOCIETY, QUÉBEC BRANCH | **Marius Foltea**<br>**Pascal Mireault** |
| CANADIAN TRANSPLANT ASSOCIATION | **Gaston Martin** |
| *ASSOCIATION D'ANÉMIE FALCIFORME DU QUÉBEC* | **Delano George** |
| LEUCAN | **Pierre Verret** |
| MUSCULAR DYSTROPHY CANADA, QUÉBEC REGION | **Pascale Rousseau** |
| BOARD OBSERVERS | **Martine Carré**<br>**Wilson Sanon** |

# SAFETY ADVISORY COMMITTEE

| Fields represented | Members |
|---|---|
| PUBLIC HEALTH | *Chair*<br>**Dr. Bryce Larke**<br>Medical Virologist<br>Virology, ProvLab, Edmonton, Canada |
| INFECTIOUS DISEASES | **Dr. Susan Stramer**<br>Vice-President of Scientific Affairs,<br>Biomedical Services<br>American Red Cross, Gaithersburg, United States |
| | **Dr. Hans L. Zaaijer**<br>Professor<br>Sanquin Blood Supply Foundation, Academic Medical Centre,<br>Amsterdam, Netherlands |
| EPIDEMIOLOGY | **Dr. Steven Kleinman**<br>Biomedical Consultant<br>Victoria, Canada |
| TRANSFUSION MEDICINE AND PRACTICES | **Dr. Luiz Amorim**<br>President and Chief Executive Officer<br>Hemorio, Rio de Janeiro, Brazil |
| | **Dr. Rebecca Cardigan**<br>National Head of Components Development<br>NHS Blood and Transplant, Cambridge,<br>United Kingdom |
| | **Dr. James P. Aubuchon**<br>President and Chief Executive Officer<br>Bloodworks Northwest, Seattle, United States |
| | **Dr. Louis M. Katz**<br>Chief Medical Officer<br>America's Blood Centers, Washington, United States |
| | **Dr. Reinhard Henschler**<br>Head Director and Head Medical Services<br>Swiss Red Cross Blood Services<br>Chur and Zurich, Switzerland |
| CANADIAN BLOOD SERVICES | **Dr. Margaret Fearon**<br>Medical Director, Medical Microbiology<br>Canadian Blood Services, Toronto, Canada |
| PUBLIC REPRESENTATIVE | **David Page**<br>Executive Director<br>Canadian Hemophilia Society, Montréal, Canada |
| REPRESENTATIVE OF THE RECIPIENT REPRESENTATIVES ADVISORY COMMITTEE | **Marius Foltea**<br>Canadian Hemophilia Society, Québec branch<br>Montréal, Canada |
| BOARD OBSERVER | Vacant |

# SCIENTIFIC AND MEDICAL ADVISORY COMMITTEE

| Fields represented | Members |
|---|---|
| IMMUNOLOGY | *Chair*<br>**Yves St-Pierre**<br>Full Professor<br>*INRS – Institut Armand-Frappier,* Laval, Canada |
| | **Srini V. Kaveri**<br>Director<br>Office of the *Centre national de la recherche scientifique (CNRS),* New Delhi, India |
| DIAGNOSTIC TECHNOLOGY | **Michel Houde**<br>Senior Consultant, Medical Device Development<br>LOK Group North America, Laval, Canada |
| TRANSFUSION MEDICINE | **Dr. Jean-François Hardy**<br>Anesthesiologist<br>*Centre hospitalier de l'Université de Montréal*<br><br>Full Professor, Anesthesiology Department<br>*Université de Montréal,* Montréal, Canada |
| | **Dr. Vincent Laroche**<br>Hematologist and Blood Bank Director<br>and Associate Director of Clinical Research<br>*Centre hospitalier affilié universitaire de Québec*<br><br>Hematologist and Blood Bank Director,<br>Québec Heart and Lung Institute, Canada |
| BIOTECHNOLOGY | **Bernard Massie**<br>Director<br>Bioprocess Centre, National Research Council of Canada<br>(Biotechnology Research Institute), Montréal, Canada |
| HEMATOPOIESIS | **Julie Audet**<br>Assistant Professor<br>Associate Director<br>Institute of Biomaterials and Biomedical Engineering,<br>University of Toronto, Canada |
| CANADIAN BLOOD SERVICES | **William P. Sheffield**<br>Associate Director, Research and Principal Investigator<br>Centre for Innovation, Canadian Blood Services, Ottawa, Canada<br><br>Professor, Pathology and Molecular Medicine<br>McMaster University, Hamilton, Canada |
| REPRESENTATIVE OF THE RECIPIENT REPRESENTATIVES ADVISORY COMMITTEE | **Marius Foltea**<br>Canadian Hemophilia Society, Québec branch<br>Montréal, Canada |
| HÉMA-QUÉBEC BOARD OBSERVER | Vacant |

# CELL AND TISSUE PRODUCTION ADVISORY COMMITTEE

## Members

*Chair*
**Dr. François Auger**
Full Professor, Surgery
Director
*Centre de recherche en génie tissulaire de l'Université Laval/LOEX,* Québec City, Canada

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**Dr. Amit Bar-Or**
Professor, Neurology and Neurosurgery
Director, Experimental Therapeutics Program
Scientific Director, Clinical Research Unit
Associate Director
Montreal Neurological Institute, Canada

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**Dr. Elie Haddad**
Full Professor, Department of Pediatrics, Department of Microbiology, Infectiology and Immunology, *Université de Montréal*
Head of Pediatric Immunology, Rheumatology and Allergology
Director of the "Viral and Immune Disorders and Cancers" Research Axis
*Centre hospitalier universitaire Sainte-Justine,* Montréal, Canada

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**Dr. Jacques Galipeau**
Professor, Hematology and Medical Oncology and Pediatrics
Emory University/Winship Cancer Institute, Atlanta, United States

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**Dr. Réjean Lapointe**
Full Professor
Department of Medicine, Faculty of Medicine, *Université de Montréal*
*Centre de recherche du CHUM, Institut du cancer de Montréal (ICM),* Canada

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**Dr. Denis-Claude Roy**
Scientific Director,
*Centre d'excellence en thérapie cellulaire (CETC)*
*Hôpital Maisonneuve-Rosemont,* Montréal, Canada

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# RESEARCH ETHICS COMMITTEE

| Fields represented | Members |
|---|---|
| LAW | **Geneviève Cardinal Atty**<br>Chair, Research Ethics Committee, *Centre hospitalier universitaire Sainte-Justine,* Montréal, Canada |
| LAW, SUBSTITUTE LEGAL EXPERT | **Mélanie Champagne Atty**<br>Borden Ladner Gervais,<br>Montréal, Canada |
| RESEARCH FIELD SPECIALISTS | *Chair*<br>**Clermont Dionne**<br>Full Professor<br>Faculty of Medicine, *Université Laval*<br><br>Researcher<br>CHU de Québec Research Centre–Université Laval, Population Health and Optimal Health Practices Axis, Québec City, Canada |
| | **Michel Vincent**<br>Full Professor<br>Department of Molecular Biology, Medical Biochemistry and Pathology<br>Institute for Integrative Systems Biology,<br>Faculty of Medicine, *Université Laval,* Québec City, Canada |
| | **Jacques J. Tremblay**<br>Professor-Researcher<br>CHU de Québec Research Centre – *Université Laval,*<br>Reproduction, Mother and Youth Health, Québec City, Canada |
| BLOOD DONORS | **Pierre McDuff**<br>Member<br>Association of Blood Donation Volunteers, Montréal, Canada |
| RECIPIENT REPRESENTATIVES ADVISORY COMMITTEE, ETHICIST | **Michel Morin**<br>Assistant Director<br>COCQ-Sida, Montréal, Canada |
| SUBSTITUTE ETHICIST | **Johane de Champlain Atty**<br>Vice-President and Ethics Advisor<br>*Comité central d'éthique de la recherche (MSSS),* Montréal, Canada |

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# Management Committee

From left
to right:

**Yves Blais**

Vice-President,
Research and Development

**Dr. Marc Germain**

Vice-President,
Medical Affairs,
and Medical Director,
Human Tissues

**Smaranda Ghibu Atty**

Vice-President,
Corporate Affairs

**Luc Vermeersch**

Vice-President,
Finance and
Administration

**Serge Maltais**

President and Chief
Executive Officer

**Simon Fournier**

Vice-President,
Information Technology

**Annie Gingras**

Vice-President,
Quality and
Regulatory Affairs

**Marco Décelles**

Vice-president and
Chief Operating
Officer

**Roselyne Zombecki**

Vice-President,
Human Resources

# LEGISLATIVE REQUIREMENTS

1 Compliance with laws

2 Directors' code of ethics

1

# Compliance with laws

The laws, regulations or policies that include accountability obligations for the Héma-Québec annual report are:

- the *Sustainable Development Act;*
- the *Act respecting the Ministère du Conseil exécutif,* which provides for the publication of the directors' code of ethics and cases handled under this code;
- the *Regulation respecting the distribution of information and the protection of personal information;*
- the *Policy on the use and quality of French within the government;*
- the *Policy for the funding of public services;*
- the *Act respecting workforce management and control within government departments, public sector bodies and networks and state-owned enterprises.*

# Sustainable Development Act

2015–2016 marked the last period during which the *Government Sustainable Development Strategy* launched in 2009 applied. Héma-Québec continued to implement its sustainable development plan, in addition to developing a new plan in accordance with the guidelines of the 2015–2020 government strategy. It was approved by the Management Committee in March 2016.

## GOVERNMENT OBJECTIVE 1

**Make people increasingly aware of the sustainable development concept and principles. Promote knowledge and experience sharing in this area and assimilate knowledge and know-how facilitating its implementation.**

Awareness-raising activities for the personnel:

- sustainable development awareness-raising campaign;
- training on taking the 16 sustainable development principles into account, offered on the Intranet.

## GOVERNMENT OBJECTIVE 4

**Continue developing and promoting a culture of prevention and define conditions that are beneficial for health, safety and the environment.**

Following measures maintained:

- annual flu vaccination program for the employees;
- ergonomic assessments of workstations;
- creation and distribution of tools promoting a prevention culture on the Intranet.

New:

The *Policy concerning the reimbursement of fees for physical activities and sports events* was improved.

The serology laboratory was retrofitted in keeping with the results of in-depth ergonomic studies. The project received an award in a competition.

## GOVERNMENT OBJECTIVE 6

**Apply environmental management measures and an ecoresponsible procurement policy to departments and government agencies.**

**Identify potential markets in which sustainable development criteria can be applied and use these criteria in calls for tenders and in the marketplace.**

Maintenance of actions undertaken to integrate sustainable development criteria in all Héma-Québec's activities, specifically:

- sustainable development clauses in contracts and calls for tenders, where applicable;
- purchase and use of recycled supplies favored.

## GOVERNMENT OBJECTIVE 7

**Promote reduction in the amount of energy, natural resources and materials used to produce and market goods and services.**

Héma-Québec continued to collect email addresses in order to reduce the use of paper in its communications with donors. More than 15,000 additional email addresses were obtained during the course of the year. Email communications increased 23% whereas a 35% reduction in direct mailing was observed.

New:

As a result of the deployment of the new computerized process at blood drives, Héma-Québec is proud to have eliminated the use of paper for the blood donation file, since it has been replaced by an electronic questionnaire.

## GOVERNMENT OBJECTIVE 14

**Focus on family life and facilitate the conciliation of work, school and personal life.**

Héma-Québec maintained the *Policy reconciling work and personal life,* providing greater flexibility in the organization of work time.

## GOVERNMENT OBJECTIVE 24

**Increase citizens' involvement in their community.**

Maintenance and intensification of awareness-raising efforts in collaboration with the Association of Blood Donation Volunteers, specifically in CEGEPS and universities, corporations and during various events related to blood donation. Maintaining the number of active volunteers contributing to blood drives and all of Héma-Québec's activities also remains a priority.

## OBJECTIVE 5

### QUÉBEC'S AGENDA 21 FOR CULTURE

**Foster cultural development among citizens as well as access to and participation in cultural activities. Encourage amateur cultural activities and cultural mediation. Include citizens in the cultural policy development process at all levels. Treat cultural activities as an opportunity for learning and building citizenship.**

**New introductory photography courses sessions**

Introductory photography courses were once again offered in Montréal and Québec. Two photography enthusiasts made their expertise available to close to 30 employees outside their work hours.


Jeanne and Rolande, volunteers at the Sherbrooke PLASMAVIE Plasma Donors Lounge.

# Act respecting the *Ministère du Conseil exécutif*

Héma-Québec's directors, who are public administrators under this law, are held to the highest ethical and professional standards, thereby fostering and preserving public trust and transparency in the management of Québec's blood system and other biological products of human origin managed by the organization.

Pursuant to the Regulation respecting the ethics and professional conduct of public office holders, the directors of Héma-Québec adopted a governance framework and directors' code of ethics in 1999. It is reviewed annually by the Governance and Ethics Committee. The directors sign a form every year certifying that they are committed to complying with the governance framework.

Finally, a verification of the directors' declarations of interests is performed at the beginning of every Board or committee meeting and included in the minutes. No incident was dealt with under the directors' code of ethics and no failure to comply with it was reported.

The directors' code of ethics can be consulted on page 111 of this document.

# Regulation respecting the distribution of information and the protection of personal information

Major modifications to the *Regulation respecting the distribution of information and the protection of personal information* came into effect on April 1, 2015.

They are intended to promote a culture of transparency through the proactive distribution of information. Essentially, the modifications reinforce Article 4 of the Regulation, which states that a public organization must distribute various documents and types of information on its Internet site. Héma-Québec certifies that it complies with the Regulation.

## Requests for access to information

In 2015–2016, 18 requests for access to documents held by Héma-Québec and 8 requests for access or corrections to personal information were received. All of the requests were processed within the time frame prescribed in the *Act respecting access to documents held by public bodies and the protection of personal information.* Among these, one was the subject of a request for revision.

HANDLING OF ACCESS REQUESTS ACCORDING TO THEIR NATURE

| Nature of the requests | Handling of the requests | 2015–2016 | Total |
|---|---|---|---|
| Administrative documents | Accepted | 11 | **18** |
| | Partially accepted | 4[1] | |
| | Refused | 3[2] | |
| Personal information | Accepted | 4 | **8** |
| | Partially accepted | 2[3] | |
| | Refused | 2[4] | |

[1] Provisions justifying the decisions rendered: 1, 15, 21, 22, 23, 24, 25, 27, 31, 32, 37, 39, 57 and 59 of the Act.

[2] Provisions justifying the refusals: 1, 21, 22 and 37 of the Act.

[3] Provisions justifying the decisions rendered: 1, 32, 59, 88 of the Act and 9 of the Charter of Human Rights and Freedoms.

[4] Provisions justifying the refusals: 27 and 32 of the Act.

# Information security committee

The Information Security Committee provides support for information security management and coordination activities, in particular by monitoring the measures implemented to ensure the integrity, security and confidentiality of the information collected and held by Héma-Québec. In accordance with the *Regulation respecting the distribution of information and the protection of personal information,* the persons in charge of information security, access to information and personal information and document management sit on the committee.

In April 2015, during an audit of the financial statements, the computer auditors followed up on the recommendations issued in the report to those responsible for governance. The corrections and recommendations made following the observations made in previous years were to the satisfaction of the *Vérificateur général du Québec. No observation was raised this year.*

In the past year, a contract was signed with a firm specializing in information security that will join its expertise to that of Héma-Québec to help improve the security of its technology park. Specifically, the firm has been mandated to conduct annual intrusion tests and security tests on all our computer systems as well as to conduct a proactive review and security tests prior to and following the acquisition or deployment of a technological solution.

With regard to raising employees' awareness, weekly electronic communications were sent to them, allowing CSI to distribute fact sheets about the principles of security and the protection of information and personal information.

# Policy on the use and quality of French within the government (*Politique gouvernementale relative à l'emploi et à la qualité de la langue française dans l'administration*)

In the past year, Héma-Québec's language policy was submitted to the *Office québécois de la langue française* for approval in accordance with the *Politique gouvernementale relative à l'emploi et à la qualité de la langue française dans l'Administration* (policy on the use and quality of French within the government).

Certain adjustments were made during the course of 2015–2016 and discussions with the Office are ongoing.

# Policy for the funding of public services

In accordance with the *Policy for the Funding of Public Services,* information about the Héma-Québec fees to which it applies is provided below.

| Invoicing other than to Québec hospitals (in thousands of dollars) | Revenue | Costs | Level of financing attained |
|---|---|---|---|
| Sale of labile and stable products | 158.6 | 160.9 | 98.6% |
| Sale of human tissues and stem cells | 1,464.9 | 1,647.8 | 88.9% |

Héma-Québec's financial statements published in the annual report include the fees for all products. Note 3 of the financial statements explains the methods for setting the fees for the blood products supplied by Héma-Québec and the means for revising and indexing them.

# Act respecting workforce management and control within government departments, public sector bodies and networks and state-owned enterprises

The *Act respecting workforce management and control within government departments, public sector bodies and networks and state-owned enterprises* was adopted by the National Assembly in December 2014 to strengthen the mechanisms for managing and controlling the workforces of public organizations. Héma-Québec certifies that it has complied with the provisions of the act to which it is subject. In particular, in accordance with the prescribed conditions and terms, it submitted to the *Conseil du trésor* the required information regarding the authorized service contracts.

Héma-Québec also periodically informed the Minister of Health and Social Services about the number of its employees, providing a breakdown per job category, in accordance with the terms established by the *Conseil du trésor.*

Héma-Québec established a staffing level for 2015–2016. The target was a 1% reduction in relation to the total number of hours paid for the previous financial year. However, the organization actually increased its paid hours by 4.2 %. This difference, which was the subject of a report submitted to the *Ministère de la Santé et des Services sociaux* during the course of the year, can be attributed to various large-scale projects that required the hiring of personnel. Almost 75% of the difference was caused by the opening of the three PLASMAVIE Plasma Donor Lounges as part of the plasma self-sufficiency strategy. The upgrading of the eProgesa blood management application resulted in an additional, non-recurrent expense representing 13.2% of the difference and additional activities were added to Héma-Québec's mandates, representing 10.2% of the difference.

Héma-Québec continues to do everything possible to achieve the set target. The implementation of the new production application as well as other measures should contribute to this. However, the increase in hours will continue in 2016–2017 for the deployment of the PLASMAVIE Plasma Donor Lounges and in response to the expected increase in demand.

# NUMBER OF EMPLOYEES AND HOURS BY EMPLOYMENT CATEGORY

| HÉMA-QUÉBEC | | COMPARISON OF 2014–2015 AND 2015–2016 | | | | | |
|---|---|---|---|---|---|---|---|
| **Employment sub-category determined by the *Secrétariat du Conseil du Trésor*** | | **Values observed** | **Hours worked** | **Overtime hours** | **Total hours paid** | **Full-time equivalent** | **Number of employees** |
|  | Management personnel | 2014–2015 | 286,780 | 10 | 286,790 | 158 | 178 |
| | | 2015–2016 | 300,403 | 7 | 300,410 | 165 | 192 |
| | | Difference | 4.8% | (30.0%) | 4.7% | 4.4% | 7.9% |
|  | Professional personnel | 2014–2015 | 361,515 | 3,806 | 365,321 | 199 | 237 |
| | | 2015–2016 | 373,725 | 2,921 | 376,646 | 205 | 231 |
| | | Difference | 3.3% | (23.2%) | 3.1% | 3.0% | (2.5%) |
|  | Nursing personnel | 2014–2015 | 309,742 | 17,586 | 327,328 | 170 | 258 |
| | | 2015–2016 | 358,859 | 15,941 | 374,800 | 197 | 298 |
| | | Difference | 15.9% | (9.4 %) | 14.5% | 15.9% | 15.5% |
|  | Office personnel, technicians and employees of similar status | 2014–2015 | 988,086 | 39,556 | 1,027,642 | 543 | 719 |
| | | 2015–2016 | 998,935 | 41,943 | 1,040,878 | 549 | 711 |
| | | Difference | 1.1% | 6.0% | 1.3% | 1.1% | (1.1%) |
|  | Workers, maintenance and service personnel | 2014–2015 | 118,199 | 9,156 | 127,355 | 65 | 88 |
| | | 2015–2016 | 121,536 | 9,069 | 130,605 | 67 | 88 |
| | | Difference | 2.8% | (0.9%) | 2.6% | 3.1% | 0.0% |
|  | Students and interns | 2014–2015 | 419 | 5 | 424 | 0 | 1 |
| | | 2015–2016 | 2,106 | 22 | 2,128 | 1 | 4 |
| | | Difference | 402.6% | 340.0% | 401.9% | 100% | 300.0% |
| **TOTAL** | | **2014–2015** | **2,064,741** | **70,119** | **2,134,860** | **1,135** | **1,481** |
| | | **2015–2016** | **2,155,564** | **69,903** | **2,225,467** | **1,184** | **1,524** |
| | | **Variation** | **4.4%** | **(0.3%)** | **4.2%** | **4.3%** | **2.9%** |

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# Directors' code of ethics

# Directors' code of ethics

## PREAMBLE

Héma-Québec's mission is to efficiently provide adequate quantities of safe, optimal blood components and substitutes, human tissues, and cord blood to meet the needs of all Quebecers as well as to provide and develop expertise along with specialized and innovative services and products in the fields of transfusion medicine and human tissue transplantation. This mandate is pursuant to the *Act respecting Héma-Québec and the biovigilance committee* and to the recommendations of the Commission of Inquiry into the Blood System in Canada, headed by the Honourable Horace Krever.

Héma-Québec's directors, who are public administrators in accordance with the *Act respecting the Ministère du Conseil exécutif* (R.S.Q. M-30), are held to the highest ethical and professional standards, thereby fostering and preserving public trust and transparency in its mission.

## CODE OF ETHICS

### 1. GENERAL PROVISIONS

#### Definitions

In this code of ethics, unless the context dictates otherwise, the terms and expressions below are used as follows:

1.1 "Director or member of the Board of Directors": Person appointed to the Héma-Québec Board of Directors by the government, as well as the President and Chief Executive Officer, who is an ex officio member of the Board of Directors and acts as Secretary;

1.2 "Conflict of interest": Any real, apparent, potential or future situation in which a director may be inclined to give preference to his or her personal interest, or the interest of a related party, to the detriment of Héma-Québec;

1.3 "Board": Héma-Québec's Board of Directors;

1.4 "Related party": Individuals related by blood, adoption or marriage, or who have been living in a conjugal relationship for at least one year, as well as any organization, partnership or other entity in which the director or his/her friends and family may have a controlling interest.

#### Application and interpretation

1.5 This code of ethics applies to Héma-Québec's directors.

1.6 The code of ethics is not a substitute for any statutory, regulatory or ethical provision applicable to Héma-Québec directors, including those set out in the *Regulation respecting the ethics and professional conduct of public office holders.*

Where such provisions differ, Héma-Québec directors shall abide by the more stringent provision. Moreover, in case of doubt, they must act in the spirit of the principles described in the provisions.

1.7 The code of ethics in no way rules out the drafting of additional guidelines or rules pertaining to certain more specific sectors of activity or situations.

## 2. MANAGEMENT DUTIES

2.1 Directors are appointed to contribute to the fulfillment of Héma-Québec's mission as part of their mandate. In carrying out their duties, they must adhere to the obligations imposed upon them by the laws, the constitution and the rules and regulations and act within the limits of the power conferred upon them.

2.2 The director must perform his/her duties with care and reserve:

2.2.1 The director must be rigorous and independent, and act in the best interests of Héma-Québec.

2.2.2 The behavior of a director must be impartial.

2.2.3 The director must act within the limits of his/her mandate.

2.2.4 The director must be courteous and his/her relationships must be characterized by good faith so as to maintain the trust and consideration required by his/her role.

2.2.5 The director must not in any way participate in illicit activities.

2.2.6 In the carrying out of his/her duties and responsibilities, the director must make decisions without regard for any partisan political consideration. Moreover, he/she must demonstrate restraint in the public expression of personal opinions in matters directly concerning the activities of Héma-Québec and in which the Board of Directors has been involved.

2.3 The director must act with honesty, loyalty and solidarity:

2.3.1 The director must act with integrity and impartiality in the best interests of Héma-Québec.

2.3.2 The director must actively take part in the development and implementation of the general directions of Héma-Québec, which in no way precludes his or her right to dissent.

2.3.3 The director must be loyal and upstanding to his/her colleagues and honest in his/her dealings with them.

2.3.4 The director must dissociate the fulfillment of his/her duties from the promotion or exercise of his/her professional or business activities, save for the President and Chief Executive Officer, who is at the exclusive service of Héma-Québec.

2.4 The director must act with skill, diligence and efficiency:

2.4.1 The director must exercise his/her skills and abilities, demonstrating diligence and effectiveness in carrying out his/her mandate. He/she must also demonstrate independent professional judgment.

2.4.2 The director is responsible and accountable for all his/her actions taken in the performance of his/her duties.

2.4.3 The director must make informed decisions, taking into account any necessary expertise if need be and considering each file in its entirety.

2.4.4 All members of the Board of Directors must actively participate in the Board's work and attend meetings regularly. They must also be assiduous when taking part in Board committees.

2.4.5 The director must show discernment in the courses of action and choices he/she favors.

2.5 The director must act according to the rules of confidentiality:

2.5.1 The director must respect the confidential nature of any information that comes to his/her attention in the course of his/her duties or by virtue of his/her position.

The first clause is not intended to restrict necessary communications between Board members.

2.5.2 The director must not use confidential information that comes to his/her attention during the course of his/her duties for the purpose of obtaining a direct or indirect advantage, now or in the future, for him/herself or a related party.

## 3. CONFLICTS OF INTEREST

### General provisions

3.1 The director must at all times maintain a high level of independence and avoid any situation in which there could be a personal advantage, direct or indirect, either now or in the future, which could jeopardize his/her independence, integrity or impartiality.

3.2 The director must prevent any conflict of interest or appearance thereof and avoid putting him/herself in a position that could ultimately prevent him/her from fulfilling his/her duties.

3.3 The director must avoid any situation which could compromise his/her capacity to fulfill his/her duties in an impartial, objective, professional and independent manner.

3.4 The director shall not commingle the assets of Héma-Québec with his/her own; he/she shall not use the assets of Héma-Québec for his/her personal gain or the gain of a related party.

3.5 The director may not use Héma-Québec's services or information for his/her personal benefit or for the benefit of a related party.

3.6 The director may not exercise his/her duties in his own interest or in the interest of a related party.

3.7 The director must not accept a current or future advantage from anyone if he/she has knowledge, evidence or reason to believe that this current or future advantage is granted to him/her for the purpose of influencing his/her decision.

3.8 The director shall not make a commitment to a third or related party nor grant that party any guarantee with regard to a vote he/she may be required to cast or to any decision whatsoever that may be made by the Board of Directors.

3.9 The director must avoid any situation in which he/she could be in a conflict of interest. Without limiting the scope of the foregoing, the director:

3.9.1 Is in a conflict of interest when the interests in question are such that he/she may be brought to show preference for some of them to the detriment of Héma-Québec, or where his/her judgment and loyalty could be negatively affected.

3.9.2 Is not independent from a given decision if there is a personal advantage or advantage to a related party, now or in the future, as described in article 3.1.

**Preventive measures**

3.10 At the start of each meeting, the director must declare any existing conflict of interest to the Chair and ensure the disclosure is recorded in the minutes.

3.11 The President and Chief Executive Officer may not, under penalty of dismissal, have a direct or indirect interest in a corporate body, partnership or other entity which could lead to a conflict of interest between him/herself and Héma-Québec. However, dismissal shall not be invoked if the interest is devolved upon the President and Chief Executive Officer by succession or gift, provided he/she renounces it or disposes of it promptly.

Any other director having a direct or indirect interest in a corporate body, partnership, or other entity which could lead to a conflict of interest between him/herself and Héma-Québec must, under penalty of dismissal, declare this interest in writing to the Chair of the Board and, if need be, abstain from participating in any deliberation or decision related to said corporate body, partnership or other entity in which he/she has an interest. The director must also withdraw from the meeting for the duration of the deliberations and vote concerning the matter.

3.12 The director must demonstrate impartiality:

3.12.1 The director shall not solicit, accept or demand any gift, favor, other advantage or consideration, for him/herself or a related party, either directly or indirectly, now or in the future, which could compromise his/her independence, integrity or impartiality; such is the case of gifts, favors, advantages or considerations other than what is customary and of modest value.

3.12.2 The director must not award, offer to award or promise to award to a third party a gift, favor or other advantage or consideration that could compromise his/her independence, integrity or impartiality.

## 4. POLITICAL ACTIVITIES

4.1 Any director who intends to run for public office must inform the Chair of the Board of Directors.

4.2 A Chair of the Board of Directors or President and Chief Executive Officer who wishes to run for public office must tender his/her resignation.

## 5. POST-MANDATE MEASURES

5.1 After his/her mandate expires, the director must maintain confidentiality and refrain from disclosing any non-public data, information, debate or discussion to which he/she was privy by virtue of his/her position at Héma-Québec.

5.2 In the year following the expiration of his/her mandate, the director may not participate, either on his/her own behalf or that of a third party, in a procedure, negotiation or other operation to which Héma-Québec is a party and with regard to which he/she has information that is not available to the public.

As well, the director must refrain from offering advice based on information that is not publicly available regarding Héma-Québec or another corporate body, partnership or entity with which he/she has had significant direct dealings in the course of the year preceding the conclusion of his/her mandate.

5.3 A director who has relinquished his/her duties must act in such a way so as not to reap undue advantage from his/her previous duties in the service of Héma-Québec.

## 6. RESPONSIBILITIES AND SANCTIONS

6.1 Compliance with the code of ethics is an integral part of the duties and obligations of directors.

6.2 A director who observes an ethical failure, perceived or real, must inform the Chair of the Board of Directors. If this failure involves the Chair of the Board of Directors, the director must inform the Chair of the Governance Committee.

6.3 The Chair of Héma-Québec's Board of Directors or, in the cases involving him or her, the Chair of the Governance Committee, must investigate to ensure that the code of ethics is respected and applied.

6.4 A director who infringes upon any of the provisions in the code of ethics leaves him/herself open to the sanctions outlined in the Regulation respecting the ethics and professional conduct of public office holders, in accordance with the procedure established in said regulation.

6.5 Héma-Québec's Board of Directors shall revise this code of ethics on an annual basis to ensure that it adequately reflects changes in the laws, rules, regulations and situations specific to Héma-Québec.

6.6 Each director undertakes to sign the code of ethics agreement form appended hereto at the start of his/her mandate and every year thereafter.

This code was adopted by the Board of Directors on May 7, 2014.

Since Héma-Québec was founded in 1998, no case has ever had to be dealt with under the directors' code of ethics. 2015–2016 was no exception.

# OUTREACH

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# Publications

# PUBLICATIONS

**Chabot D, Trépanier P, Ringuette-Goulet C, Loubaki L, Bazin R.** (2016) "Role of the CD62L expression pathway in the IVIg inhibition of cytotoxic T cell responses." *Immunochemistry & Immunopathology*, 2: 117.

**Delage G, Dubuc S, Germain M.** (2015) "An exploration of risk factors for acquisition of hepatitis E among Québec blood donors." *Vox Sanguinis*, 109 (suppl. 1): 242.

**Delage G, Dubuc S, Germain M.** (2015) "Rate of underreporting of West Nile virus-related neurological disease (WNND) in Québec in the summer of 2012." *Transfusion*, 55 (Suppl. 3S): 16A.

**Delage G, Gingras S, Rhainds M.** (2015) "A population-based study on blood lead levels in blood donors." *Transfusion*, 55 (11): 2633-2640.

**Delage G, Grégoire Y, Lebrun A.** (2015) "Double red blood cell donors with increased ferritin levels: a descriptive study." *Transfusion*, 55 (12): 2842-2846.

**Delage C, Lacroix J, Popovsky MA, Robillard P, Robitaille N, Drouin S, Rioux M, Grenier J, Julien A, Laroche V.** (2015) "Risk factors of TACO cases reported to the Québec hemovigilance system." *Transfusion*, 55 (suppl. 3S): 40A.

**Du Pont-Thibodeau G, Robitaille N, Gauvin F, Thibault L, Rivard GÉ, Lacroix J, Tucci M.** (2016) "Incidence of hypotension and acute hypotensive transfusion reactions following platelet concentrate transfusions." *Vox Sanguinis*, 110 (2): 150-158.

**Flegel WA, de Castilho SL, Keller MA, Klapper EB, Moulds JM, Noizt-Pirenne F, Shehata N, Stack G, St-Louis M, Tormey CA, Waxman DA, Weinstock C, Wendel S, Denomme GA.** "Molecular immunohematology round table discussions at the AABB Annual Meeting, Philadelphia 2014." *Blood Transfusion*, DOI: 10.2450/2015.0130-15 (posted online on December 21, 2015).

**Germain M.** "The risk of allowing blood donation from men having sex with men after a temporary deferral: predictions versus reality." *Transfusion*, DOI: 10.1111/trf.13541 (posted online on March 7, 2016).

**Germain M, Godin G.** "The relative efficacy of telephone and email reminders to elicit blood donation." *Vox Sanguinis*, DOI: 10.1111/vox.12316 (posted online on July 21, 2015 ).

**Goldman M, Land K, Robillard P, Tomasulo P, Wiersum-Osselton J.** (2015) "Development of standard definitions for surveillance of complications related to blood donations." *Vox Sanguinis*, 109 (suppl. 1): 37.

**Goldman M, Land K, Robillard P, Wiersum-Osselton J.** (2016) "Development of standard definitions for surveillance of complications related to blood donation." *Vox Sanguinis*, 110: 185-188.

**Jobin C, Cloutier M, Simard C, Néron S.** (2015) "Heterogeneity of in vitro-cultured CD34+ isolated from peripheral blood." *Cytotherapy*, 17 (10): 1472-1484.

**Loubaki L, Chabot D, Bazin R.** (2016) "NLRP10, a potential contributor to the anti-inflammatory effects of IVIg in sepsis." *Immunochemistry & Immunopathology*, 2: 118.

**Mongeau-Martin G, Ndao M, Libman M, Delage G, Ward BJ.** (2015) "A family cluster of Chagas disease detected through selective screening of blood donors: a case report and brief review." *Canadian Journal of Infectious Diseases and Medical Microbiology*, 26 (3): 157-161.

**O'Brien SF, Delage G, Scalia V, Lindsay R, Bernier F, Dubuc S, Germain M, Pilot G, Yi QL, Fearon MA.** (2016) "Seroprevalence of Babesia microti infection in Canadian blood donors." *Transfusion*, 56 (1): 237-243.

**O'Brien SF, Delage G, Seed CR, Pillonel J, Fabra CC, Davison K, Kitchen A, Steele WR, Leiby DA.** (2015) "The epidemiology of imported malaria and transfusion policy in 5 non-endemic countries." *Transfusion Medicine Reviews*, 29 (3): 162-171.

**O'Brien SF, Delage G, Seed CR, Pillonel J, Fabra CC, Davison K, Kitchen A, Steele WR, Leiby DA.** (2015) "Comparison of policies to address imported malaria in 5 non-endemic countries." *Vox Sanguinis*, 109 (suppl. 1): 238.

**Padet L, Loubaki L, Bazin R.** (2015) "Use of IVIg to identify potential miRNA targets for allograft rejection and GvHD therapy." *Clinical Transplantation*, 29 (06): 543-546.

**Paris-Robidas S, Brouard D, Émond V, Parent M, Calon F.** (2016) "Internalization of targeted quantum dots by brain capillary endothelial cells in vivo."*Journal of Cerebral Blood Flow & Metabolism*, 36 (04): 731-742.

**Petrik J, Lozano M, Seed CR, Faddy HM, Keller AJ, Prado Scuracchio PS, Wendel S, Andonov A, Fearon M, Delage G, Zhang J, Shih JW, Gallian P, Djoudi R, Tiberghien P, Izopet J, Dreier J, Vollmer T, Knabbe C, Aggarwal R, Goel A, Ciccaglione AR, Matsubayashi K, Satake M, Tadokoro K, Jeong SH, Zaaijer HL, Zhiburt E, Chay J, Teo D, Chua SS, Piron M, Sauleda S, Echevarría JM, Dalton H, Stramer SL.** (2016) "Hepatitis E." *Vox Sanguinis*, 110 (1): 93-103.

**Robert MC, Choronzey ME, Lapointe J, Guavin Meunier LP, Harissi-Dagher M, Germain M, Mabon M, Brunette I.** (2015) "Evolution of corneal transplantation in the province of Québec from 2000 to 2011." *Cornea*, 34 (8): 880-887.

**Robillard P, Grégoire Y, Delage G, Germain M.** (2015) "Trends in blood component utilization in Québec with international comparisons: where is the floor transfusion ratio?" *Transfusion*, 55 (suppl. 3S): 154A.

**Robillard P, Grégoire Y, Delage G, Germain M.** (2015) "Recent trends in blood component transfusions at a population level." *Vox Sanguinis*, 109 (suppl. 1): 13.

**Vassallo R, Goldman M, Germain M, Lozano M, Biomedical Excellence for Safer Transfusion (BEST) Collaborative.** (2015) "Preoperative autologous blood donation: warning indications in an era of improved blood safety." *Transfusion Medicine Reviews*, 29 (4) : 268-275.

The research and development team supports all of the organization's activities.

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# Institutional and Scientific Presentations

# INSTITUTIONAL AND SCIENTIFIC PRESENTATIONS

## *Association des médecins hématologues et oncologues du Québec* (AMHOQ) Conference, Québec City, Canada, April 30 to May 3, 2015

### POSTER

**Lebrun A.** "Hémochromatose."

### INVITED LECTURE

**Blais Y.** "Services, recherche et production cellulaire."

## Canadian Blood and Marrow Transplant Group (CBMTG) Annual Conference, Montréal, Canada, May 13 to 16, 2015

### POSTERS

**Dumont N, Laganière J.** "In vitro production of megacaryocyte progenitors from non-qualified cord blood units for clinical applications."

**Jobin C, Simard C, Néron S.** "Cord blood thawing: comparison of alternative thawing solutions relative to Dextran based solution."

**Letarte C, Fournier D, Chevrier MC, Bazin R.** "Pre-processing storage temperature effects on the potency of cord blood stem cells."

**Simard C, Jobin C, Néron S.** "Post-thaw CD34 enumeration: stability of sample before analysis."

### WORKSHOP

**Chevrier MC, Chouinard MC, Dakkak M, Fournier D, Gérard D, Hébert A, Jobin C, Joron S, Maheux A, Martin L, Néron S, Simard C.** "Conference-laboratory workshop on the enumeration of CD34 cells in post-thaw cord blood samples."

## Canadian Society of Transfusion Medicine (CSTM) Annual Conference, Winnipeg, Canada, May 21 to 24, 2015

### POSTERS

**Delage G, Myhal G, Grégoire Y.** "Evaluating the psychological impact of three different letters notifying donors of exclusion following false positive screening test results."

**Rioux D, Tu S, Perreault J, Patskovsky S, Meunier M, Brouard D.** "Gold-silver alloy nanoparticles for DNA sensing and as contrast agents for cell tagging applications."

### INVITED LECTURES

**Delage G.** "Bacterial contamination of platelets: new developments in mitigation strategies."

**Germain M.** "Emerging infectious diseases abroad: how to mitigate the risk they pose to transfusion at home."

## 31st Annual Ophthalmology Research Day (JARO), Québec City, Canada, June 5, 2015

### INVITED LECTURE

**Thibault L.** "Les gouttes oculaires de plasminogène, l'aventure d'Héma-Québec."

## 25th Regional Congress of the International Society of Blood Transfusion (ISBT), London, United Kingdom, June 27 to July 1, 2015

### ORAL PRESENTATIONS

**Goldman M, Land K, Robillard P, Tomasulo P, Wiersum-Osselton J.** "Development of standard definitions for surveillance of complications related to blood donations."

**Robillard P, Grégoire Y, Delage G, Germain M.** "Recent trends in blood component transfusions at a population level."

### POSTERS

**de Korte D, Croxon H, Petrick J, Thibault L, Marks DC, Seltsam A, Acker A, Biomedical Excellence for Safer Transfusion (BEST) Collaborative.** "In vitro evaluation of the effects of timing of irradiation on stored red cell concentrates."

**Delage G, Dubuc S, Germain M.** "An exploration of risk factors for acquisition of hepatitis E among Québec blood donors."

**O'Brien SF, Delage G, Seed CR, Pillonel J, Fabra CC, Davison K, Kitchen A, Steele WR, Leiby DA.** "The epidemiology of imported malaria and transfusion policy in 5 nonendemic countries."

### INVITED LECTURES

**Germain, M.** "Comparison of donor and general population demographics – a BEST Collaborative group study."

**Germain, M.** "MSM and blood donation: retrofitting the existing prediction models."

## America's Blood Centers (ABC) Summer Meeting, Philadelphia, United States, August 4 to 6, 2015

### INVITED LECTURE

**Delage G.** "Hepatitis E virus and transfusion: is there reason for concern?"

## Mesenchymal Stem Cell Conference (MSC) 2015: Adult Stem Cell Therapy & Regenerative Medicine, Cleveland, United States, August 17 to 19, 2015

### POSTERS

**Chabot D, Rouleau P, Loubaki L, Bazin R.** "Optimization of a mouse model of GvHD for the pre-clinical evaluation of mesenchymal stromal cell efficacy."

**Loubaki L, Tremblay T, Bazin R.** "MSC overconfluence potentially affects their adherence to plastic."

## Red Cell Genotyping 2015: Precision Medicine, Bethesda, United States, September 10, 2015

### INVITED LECTURE

**St-Louis M.** "PCR-free blood group genotyping using a nanobiosensor."

## Graft-Versus-Host Disease Symposium and Canadian Blood Services/Héma-Québec Symposium, Montréal, Canada, September 18 and 19, 2015

### INVITED LECTURE

**Laganière J.** "Towards novel cord blood and induced pluripotent stem cell-derived products."

## AABB Annual Meeting, Anaheim, United States, October 24 to 27, 2015

### ORAL PRESENTATIONS

**Delage C, Lacroix J, Popovsky MA, Robillard P, Robitaille N, Drouin S, Rioux M, Grenier J, Julien A, Laroche V.** "Risk factors of TACO cases reported to the Québec hemovigilance system."

**Delage G, Dubuc S, Germain M.** "Rate of underreporting of West Nile virus-related neurological disease (WNND) in Québec in the summer of 2012."

### POSTERS

**de Grandmont MJ, Girard M, Leclerc S, Dussault N, Bédard C, Brouard D, Thibault L.** "Excursion of frozen plasma units to ambient temperature: how long bags can be left out of controlled temperature storage?"

**Delage G, Grégoire Y, Germain M.** "Evaluating the return rates of donors eligible for re-entry after a falsely positive screening test for Syphilis, HCV, HBV and HIV."

**Fournier D, Simard C, Cloutier M, Jobin C, Néron S.** "Implementing a routine flow cytometry assay for nucleated red blood cells counts in cord blood units."

**Girard M, de Grandmont MJ, Cayer MP, Leclerc S, Laforce-Lavoie A, Fournier D, Delage G, Cloutier M, Thibault L.** "Influence of dilution and analysis delay on the effectiveness of sterility testing of cord blood units?"

**Robillard P, Grégoire Y, Germain M, Delage G.** "Trends in blood component utilization in Québec with international comparisons: where is the floor transfusion ratio?"

### INVITED LECTURES

**Robillard P.** "Revenge of the hemovigilance experts."

**Robillard P.** "Increasing safety through electronic donor health questionnaire."

## 21st Annual Meeting of the FRQS Vision Health Research Network (VHRN), Québec City, Canada, November 6, 2015

### POSTER

**Girard M, Bédard C, Cayer MP, Nolin MÈ, de Grandmont MJ, Dion J, Laliberté I, Germain M, Jacques A, Thibault L.** "La préparation de gouttes oculaires de plasminogène pour le traitement de la conjonctivite ligneuse : un nouveau rôle pour les banques de sang!"

## *Fédération des médecins spécialistes du Québec* (FMSQ) Interdisciplinary Training Day, Québec City, Canada, November 13, 2015

### INVITED LECTURE

**Germain M.** "Les agents pathogènes émergents en transfusion et les nouvelles technologies d'inactivation applicables aux produits labiles : une (très) brève mise à niveau."

## Meetings of the Montréal and Québec City transfusion medicine advisory committees and experts of the *Réseaux universitaires intégré de santé* (RUIS)

### June 12, 2015

#### ORAL PRESENTATIONS

**Lebrun A.** "WinRho en post-partum."

**Lebrun A.** "Collecte de plasma : ajustement de production.»

**Lebrun A.** "Ig monoclonale vs donneurs de plasma."

#### POSTER

**Lebrun A.** "Hémochromatose."

### November 20, 2015

#### ORAL PRESENTATIONS

**Lebrun A.** "Hémochromatose."

**Lebrun A.** "La médecine transfusionnelle dans le nouveau contexte des grappes – Réflexion et discussion."

## 57th Annual Meeting of the American Society of Hematology, Orlando, United States, December 5 to 8, 2015

#### POSTER

**Lebrun A, Rousseau J, Constanzo-Yanez J, Éthier C, St-Louis M.** "Hemin: a salvage treatment for a patient with severe autoimmune hemolytic anemia and reticulocytopenia."

## OBGYN Department Scientific Meetings, CHU de Sainte-Justine, Montréal, Canada, February 5, 2016

#### INVITED LECTURE

**Bazin R, Bittencourt H.** "Le cordon ombilical comme thérapie cellulaire des complications de la greffe des cellules souches hématopoïétiques."

## BioConnexion, Université Laval, Québec, Canada, March 15, 2016

#### INVITED LECTURE

**Bazin R.** "Héma-Québec : beaucoup plus que le don de sang!"

# FINANCIAL STATEMENTS

for the year ended March 31, 2016

# Table of contents

# MANAGEMENT'S REPORT

The financial statements of Héma-Québec in this annual report were drawn up by management, which is responsible for their preparation, presentation and the significant judgments and estimates included therein. This responsibility involves the selection of appropriate accounting policies that comply with Canadian Public Sector Accounting Standards. The financial information presented elsewhere in this annual report is consistent with that provided in the financial statements.

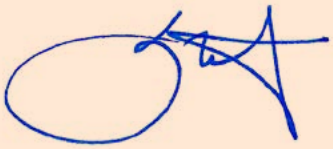
To fulfil its mandate, management maintains a system of internal accounting controls designed to provide reasonable assurance that assets are safeguarded and that transactions are duly approved and properly recorded on a timely basis and in a manner suitable for preparing reliable financial statements.

Héma-Québec recognizes that it is responsible for conducting its affairs in accordance with the statutes and regulations governing it.

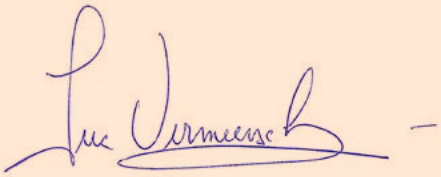
The Board of Directors monitors the manner in which management carries out its financial reporting responsibilities and approves the financial statements. It is assisted in its responsibilities by the Audit Committee whose members are not part of management. The Committee meets with management and the Auditor General of Québec, reviews the financial statements and recommends their approval to the Board of Directors.

The Auditor General of Québec has audited the financial statements of Héma-Québec in accordance with Canadian generally accepted auditing standards. His independent auditor's report states the nature and scope of the audit and expresses his opinion.

The Auditor General of Québec has full and unrestricted access to the Audit Committee to discuss any matter related to his audit.



**Serge Maltais**
President and Chief Executive Officer



**Luc Vermeersch, CPA, CA**
Vice-president, Administration and Finance

Montréal, June 15, 2016

# INDEPENDENT AUDITOR'S REPORT

To the National Assembly

## Report on the Financial Statements

I have audited the accompanying financial statements of Héma-Québec, which comprise the statement of financial position as at March 31, 2016, and the statements of operations and accumulated surplus, remeasurement gains and losses, changes in net debt and cash flows for the year then ended, and a summary of significant accounting policies and other explanatory information included in the notes to the financial statements.

### *Management's responsibility for the financial statements*

Management is responsible for the preparation and fair presentation of these financial statements in accordance with Canadian public sector accounting standards, and for such internal control as Management determines is necessary to enable the preparation of financial statements that are free from material misstatement, whether due to fraud or error.

### *Auditor's responsibility*

My responsibility is to express an opinion on these financial statements based on my audit. I conducted my audit in accordance with Canadian generally accepted auditing standards. Those standards require that I comply with ethical requirements and plan and perform the audit to obtain reasonable assurance about whether the financial statements are free from material misstatement.

An audit involves performing procedures to obtain audit evidence about the amounts and disclosures in the financial statements. The procedures selected depend on the auditor's judgment, including the assessment of the risks of material misstatement of the financial statements, whether due to fraud or error. In making those risk assessments, the auditor considers internal control relevant to the entity's preparation and fair presentation of the financial statements in order to design audit procedures that are appropriate in the circumstances, but not for the purpose of expressing an opinion on the effectiveness of the entity's internal control. An audit also includes evaluating the appropriateness of accounting policies used and the reasonableness of accounting estimates made by Management, as well as evaluating the overall presentation of the financial statements.

I believe that the audit evidence I have obtained is sufficient and appropriate to provide a basis for my audit opinion.

### *Opinion*

In my opinion, the financial statements present fairly, in all material respects, the financial position of Héma-Québec as at March 31, 2016 and the results of its operations, its remeasurement gains and losses, changes in net debt and its cash flows for the year then ended, in accordance with Canadian public sector accounting standards.

## Report on other legal and regulatory requirements

As required by the *Auditor General Act* (CQLR, c. chapter V-5.01), I report that, in my opinion, for the year ended on March 31, 2016, the accounting principles in these standards have been applied on a basis consistent with that of the preceding year.

For the Auditor General of Québec,

**Jean-Pierre Fiset, CPA auditor, CA**
Assistant Auditor General

Montréal, June 15, 2016

## STATEMENT OF OPERATIONS AND ACCUMULATED SURPLUS FOR THE YEAR ENDED MARCH 31, 2016
## (in thousands of dollars)

| | 2016 BUDGET | 2016 ACTUAL | 2015 ACTUAL |
|---|---|---|---|
| **REVENUES** | | | |
| Blood products (note 3) | 377,819 | 349,465 | 332,902 |
| Grants from the Government of Québec | 36,142 | 32,101 | 37,210 |
| Human tissues | 3,834 | 3,576 | 3,312 |
| Stem cells | 2,292 | 3,094 | 2,331 |
| Cord blood | 2,695 | 1,915 | 1,726 |
| Interest | 386 | 296 | 590 |
| Other | 3,028 | 3,235 | 2,975 |
| | **426,196** | **393,682** | **381,046** |
| **EXPENSES** (note 4) | | | |
| Stable products | 269,108 | 221,066 | 220,661 |
| Labile products | 128,847 | 125,370 | 117,183 |
| Other sectors | 28,241 | 32,340 | 27,666 |
| | **426,196** | **378,776** | **365,510** |
| **ANNUAL OPERATING SURPLUS (before undernoted)** | **–** | **14,906** | **15,536** |
| Transfer of previous year's surplus (note 5) | – | (15,536) | (5,957) |
| Project cancellation - C·LAVIE complex (note 5) | – | (2,414) | – |
| **ANNUAL OPERATING SURPLUS (SHORTFALL)** | **–** | **(3,044)** | **9,579** |
| **ACCUMULATED OPERATING SURPLUS, BEGINNING OF YEAR** | | 20,021 | 10,442 |
| **ACCUMULATED OPERATING SURPLUS, END OF YEAR** (note 5) | | **16,977** | **20,021** |

*The accompanying notes are an integral part of the financial statements.*

## STATEMENT OF REMEASUREMENT GAINS AND LOSSES FOR THE YEAR ENDED MARCH 31, 2016
## (in thousands of dollars)

| | 2016 | 2015 |
|---|---|---|
| **ACCUMULATED REMEASUREMENT GAINS, BEGINNING OF YEAR** | 22,389 | 7,179 |
| **Unrealized gains (losses) attributable to the following:** | | |
| Derivatives | (13,443) | 22,114 |
| Exchange rate | (115) | 275 |
| **Amount reclassified to operating surplus** | | |
| Derivatives | (22,114) | (7,071) |
| Exchange rate | (275) | (108) |
| **Net remeasurement gains (losses) for the year** | **(35,947)** | **15,210** |
| **ACCUMULATED REMEASUREMENT GAINS (LOSSES), END OF YEAR** | **(13,558)** | **22,389** |

*The accompanying notes are an integral part of the financial statements.*

## STATEMENT OF FINANCIAL POSITION AS AT MARCH 31, 2016
## (in thousands of dollars)

| | 2016 | 2015 |
|---|---|---|
| **FINANCIAL ASSETS** | | |
| Cash and cash equivalents | 12,211 | 21,685 |
| Accounts receivable (note 6) | 11,940 | 8,018 |
| Inventories held for sale (note 7) | 47,662 | 38,203 |
| Derivatives (note 16) | – | 22,114 |
| | **71,813** | **90,020** |
| **LIABILITIES** | | |
| Accounts payable and accrued liabilities (note 8) | 42,324 | 35,070 |
| Deferred grants from the Government of Québec (note 9) | 1,265 | 1,272 |
| Prepayments from the Government of Québec (note 5) | – | 5,957 |
| Non-interest bearing advance from the Government of Québec | 6,235 | 5,758 |
| Derivatives (note 16) | 13,443 | – |
| Debt (notes 10 and 11) | 49,252 | 47,177 |
| Employee future benefit liability (note 12) | 10,879 | 5,990 |
| | **123,398** | **101,224** |
| **NET DEBT** | **(51,585)** | **(11,204)** |
| **NON-FINANCIAL ASSETS** | | |
| Tangible capital assets (note 13) | 48,457 | 47,963 |
| Prepaid expenses (note 14) | 3,617 | 3,426 |
| Supply inventories (note 15) | 2,930 | 2,225 |
| | **55,004** | **53,614** |
| **ACCUMULATED SURPLUS** | **3,419** | **42,410** |
| Accumulated operating surplus (note 5) | 16,977 | 20,021 |
| Accumulated remeasurement gains (losses) | (13,558) | 22,389 |
| | **3,419** | **42,410** |
| **Contractual commitments** (note 17) | | |
| **Contingencies** (note 18) | | |

*The accompanying notes are an integral part of the financial statements.*

ON BEHALF OF THE BOARD OF DIRECTORS,

**Martine Carré, ICD.D**
Chair of the Board of the Directors

**René Carignan, CPA, CA**
Chair of the Audit Committee

## STATEMENT OF CHANGES IN NET DEBT FOR THE YEAR ENDED MARCH 31, 2016
## (in thousands of dollars)

| | 2016 BUDGET | 2016 ACTUAL | 2015 ACTUAL |
|---|---|---|---|
| **ANNUAL OPERATING SURPLUS (SHORTFALL)** | – | **(3,044)** | **9,579** |
| **Changes due to tangible capital assets:** | | | |
| Additions | (18,322) | (10,212) | (10,072) |
| Amortization | 7,967 | 7,173 | 5,854 |
| Loss (gain) on disposal and write-off | – | 1,540 | (6) |
| Writedown | – | 1,003 | – |
| Proceeds on disposal | – | 2 | 8 |
| | **(10,355)** | **(494)** | **(4,216)** |
| **Change due to other non-financial assets:** | | | |
| Acquisition of prepaid expenses | | (4,291) | (4,195) |
| Use of prepaid expenses | | 4,100 | 3,626 |
| Acquisition of supply inventories | | (18,626) | (18,770) |
| Use of supply inventories | | 17,921 | 19,281 |
| | | **(896)** | **(58)** |
| **Net remeasurement gains (losses) for the year** | | (35,947) | 15,210 |
| **(Increase) decrease in net debt** | **(10,355)** | **(40,381)** | **20,515** |
| **NET DEBT, BEGINNING OF YEAR** | (11,204) | (11,204) | (31,719) |
| **NET DEBT, END OF YEAR** | **(21,559)** | **(51,585)** | **(11,204)** |

*The accompanying notes are an integral part of the financial statements.*

## STATEMENT OF CASH FLOWS FOR THE YEAR ENDED MARCH 31, 2016
## (in thousands of dollars)

| | 2016 | 2015 |
|---|---|---|
| **OPERATING ACTIVITIES** | | |
| **Annual operating surplus (deficiency)** | (3,044) | 9,579 |
| Items not affecting cash and cash equivalents | | |
| Amortization of tangible capital assets | 7,173 | 5,854 |
| Effective rate debt adjustment | 48 | 44 |
| Loss (gain) on disposal and write-off of tangible capital assets | 1,540 | (6) |
| Writedown on tangible capital assets | 1,003 | – |
| Unrealized foreign exchange gain (loss) on cash and non-cash working capital items denominated in foreign currencies | (390) | 167 |
| | **6,330** | **15,638** |
| Changes in assets and liabilities related to operating activities | | |
| Accounts receivable | (3,922) | (832) |
| Inventories held for sale | (9,459) | 292 |
| Accounts payable and accrued liabilities | 8,477 | 774 |
| Deferred grants from the Government of Québec | (7) | (10,367) |
| Prepayments from the Government of Québec | (5,957) | 5 957 |
| Advance from the Government of Québec | 477 | (18,531) |
| Prepaid expenses | (191) | (569) |
| Supply inventories | (705) | 511 |
| Employee future benefit liability | 4,889 | 1,395 |
| **Cash flows related to operating activities** | **(68)** | **(5,732)** |
| **INVESTING ACTIVITIES RELATED TO TANGIBLE CAPITAL ASSETS** | | |
| Acquisition of tangible capital assets | (11,435) | (9,195) |
| Proceeds on disposal of tangible capital assets | 2 | 8 |
| **Cash flows used in investing activities related to tangible capital assets** | **(11,433)** | **(9,187)** |
| **FINANCING ACTIVITIES** | | |
| Increase in debt | 9,944 | 10,500 |
| Debt repayment | (7,917) | (7,819) |
| **Cash flows from financing activities** | **2,027** | **2,681** |
| **DECREASE IN CASH AND CASH EQUIVALENTS** | **(9,474)** | **(12,238)** |
| **CASH AND CASH EQUIVALENTS, BEGINNING OF YEAR** | 21,685 | 33,923 |
| **CASH AND CASH EQUIVALENTS, END OF YEAR** | **12,211** | **21,685** |
| **ADDITIONAL INFORMATION** | | |
| Interest paid | 1,168 | 1,205 |
| Interest received | 308 | 612 |
| Acquisition of tangible capital assets funded by accounts payable and accrued liabilities | 771 | 1,994 |

*The accompanying notes are an integral part of the financial statements.*

## 1. INCORPORATION AND NATURE OF OPERATIONS

Héma-Québec, constituted on March 26, 1998 by letters patent issued under Part III of the Companies Act (CQLR, chapter C-38), is continued in accordance with the provisions of the *Act respecting Héma-Québec and the biovigilance committee (CQLR, chapter H-1.1)*. Héma-Québec's mission is to efficiently meet the needs of the Québec population for safe, optimal-quality blood and blood products, human tissues, cord blood, mother's milk and cellular products; to develop and provide expertise and specialized, innovative services in the field of human biological products. Héma-Québec operates in a regulated environment in compliance with the requirements of the *Food and Drug Act* (R.S.C., 1985, c. F-27) and its related regulations. To fulfil its mission, Héma-Québec also meets the requirements and regulations of several Canadian and international standards. Under its incorporating statute, Héma-Québec is a legal person not established for pecuniary gain (not-for-profit organization) and is not subject to income taxes.

## 2. SIGNIFICANT ACCOUNTING POLICIES

For purposes of preparing financial statements, Héma-Québec mainly uses the *CPA Canada Handbook* – Public Sector Accounting. The use of any other source in the application of accounting policies must be consistent with the latter.

### Use of estimates

The preparation of the financial statements of Héma-Québec in accordance with Canadian Public Sector Accounting Standards requires management to make estimates and assumptions that affect the reported amounts of assets and liabilities, the disclosure of contingent assets and liabilities at the date of the financial statements and the recognition of amounts of revenues and expenses for the financial statement reporting period. The main estimates consist of the useful life of capital assets, the valuation of inventories for sale, the allowance for pay equity and the employee future benefit liability. Actual results could differ from management's best estimates.

### Financial instruments

Financial instruments comprise financial assets and liabilities as well as derivatives. Their assessment depends on their classification, as described below.

| | |
|---|---|
| Cash and cash equivalents | Cost |
| Trade accounts and other receivables | Cost |
| Trade accounts payable, salaries and accrued vacation | Cost |
| Prepayments from the Government of Québec | Cost |
| Advance from the Government of Québec | Cost |
| Derivatives | Fair value |
| Debt | Amortized cost using the effective interest method |

Héma-Québec uses derivative financial instruments to manage currency risk. Unrealized gains and losses on foreign exchange contracts are recorded up until the period in which the remeasurement of gains and losses is settled, and upon settlement, the accumulated balance of remeasurement gains or losses will be reclassified to the statement of operations and the accumulated surplus.

### Hierarchy of fair value measurements

Financial instruments recorded at fair value are classified using a fair value hierarchy that reflects the significance of the inputs used in making the measurements. The fair value measurement hierarchy requires the use of observable market data whenever available. The fair value hierarchy has the following levels:

*Level 1*: The fair value measurements are based on quote prices (unadjusted) in active markets for identical assets or liabilities.

## 2. SIGNIFICANT ACCOUNTING POLICIES (cont'd)

### Hierarchy of fair value measurements (cont'd)

*Level 2:* The fair value measurements are based on inputs other than quoted prices included within Level 1 that are observable either directly (i.e., as prices) or indirectly (i.e., derived from prices).

*Level 3:* The fair value measurements are based on inputs that are not based on observable market data (unobservable inputs).

The derivative financial instruments are classified within Level 2 of the fair value measurement hierarchy (the fair value of derivatives is based on inputs other than quoted prices included in Level 1 that are observable for the asset or liability, either directly (i.e., as prices) or indirectly (i.e., derived from prices).

### REVENUES

Revenues are accounted for on an accrual basis. Revenues resulting from the sale of products are recognized once all the risks and rewards of ownership have been transferred to clients, while revenues from services are recognized as the services are rendered.

Revenues derived from Government of Québec grants are recognized in the period where events giving rise to such revenues occurred, provided the grants are authorized and all eligibility criteria, if any, are met. Grants are presented as deferred grants where the provisions imposed by the transferor create an obligation that meets the definition of a liability. Deferred grants are reduced, and an equivalent amount of grant revenues is recognized as the conditions relative to the liability are met.

### EXPENSES

### Employee benefit plans

Héma-Québec offers its employees defined benefit and defined contribution pension plans. Contributions are made by both Héma-Québec and plan members. Héma-Québec also provides its employees with certain post-employment benefits accounted for under "other plans", while providing certain retirees with health and life insurance benefits.

The cost of retirement benefits for the period is actuarially determined using the projected benefit method prorated on service. The cost of retirement benefits is measured using net current period benefit cost, amortization of actuarial gains and losses, and employee future benefit obligation interest expense, less the expected return on plan assets. Plan amendments give rise to a past service cost, which is recognized as an expense in the year of the amendments.

Employee future benefit obligations are actually determined using the projected benefit method prorated on services and management's best estimates as to the expected rate return on plan investments, inflation rate, discount rate, rate of compensation increase, employee retirement ages and assumed health care cost trends.

The market-related value approach is used to calculate the value of assets and expected return on assets smoothed over a five-year period.

Actuarial gains or losses arise from, in particular, the difference between the actual return on plan assets and the expected return on plan assets, as well as the difference between plan experience and the actuarial assumptions used to determine the employee future benefit obligation, as well as changes to these assumptions. Actuarial gains and losses are amortized over the average expected remaining service life of participating employees.

An employee future benefit asset or liability is presented in the statement of financial position to reflect the difference at year-end between the value of employee future benefit obligations and the value of plan assets, net of unamortized actuarial gains and losses and valuation allowance.

## 2. SIGNIFICANT ACCOUNTING POLICIES (cont'd)

### FINANCIAL ASSETS

#### Cash and cash equivalents

Héma-Québec's policy consists in presenting bank balances, in cash and cash equivalents, including bank overdrafts whose balances fluctuate frequently from being positive to overdrawn, as well as the line of credit used to make up cash deficiencies.

#### Inventories held for sale

Inventories held for sale, consisting of inventories of blood products (labile and stable), cord blood, human tissue, and mother's milk, are measured at the lower of cost and recoverable amount, with cost determined using the average cost method. Recoverable value is the estimated selling price less the related variable selling expenses.

#### Foreign currency translation

Foreign currency transactions are accounted for at the average monthly exchange rate. Monetary assets and liabilities denominated in foreign currency are translated at the exchange rate in effect on the statement of financial position date, whereas non-monetary items are translated at the historical average monthly exchange rate. Fluctuations in foreign exchange give rise to foreign exchange gains or losses recorded under remeasurement of gains and losses until the settlement period, at which point the accumulated balance of remeasurement of gains and losses is reclassified under the statement of operations and accumulated surplus.

### LIABILITIES

#### Advance from the Government of Québec

The ministère de la Santé et des Services sociaux (MSSS) annually confirms a budgetary level with Héma-Québec for the acquisition of blood products by hospitals. Héma-Québec therefore records, under Advance from the Government of Québec, the amounts received from the MSSS for payment of expenses for labile and stable products on behalf of the hospitals. Any payments exceeding the sales of blood products to hospitals is recovered in accordance with a timeline agreed upon between the MSSS and Héma-Québec.

### NON-FINANCIAL ASSETS

By their nature, the non-financial assets of Héma-Québec are normally used to provide future services.

#### Tangible capital assets

Tangible capital assets are recorded at cost, which consists of expenses directly attributable to their acquisition, and amortized on a straight-line basis over their useful lives commencing on the date they are ready for commissioning, using the following rates:

| | |
|---|---|
| Building, betterment to building and other | from 10 to 25 years |
| Machinery and automotive equipment | 5 and 10 years |
| Office furniture and equipment | 5 and 10 years |
| Computer hardware and software | 3 years |
| Systems development | 5 and 7 years |

Land and tangible capital assets under construction or development are not amortized.

When conditions indicate that a tangible capital asset no longer contributes to Héma-Québec's ability to provide goods and services, or that the value of future economic benefits associated with the tangible capital asset is less than its net book value, the cost of the tangible capital asset is reduced to reflect the decline in the asset's value. Write-downs are accounted for as expenses for the year in the statement of operations and accumulated surplus and are not subsequently reversed.

For the year ended March 31, 2016 (tabular amounts are in thousands of dollars, unless otherwise indicated)

## 3. BLOOD PRODUCTS

The budgeted prices for all blood products are submitted every year to SigmaSanté, which is the body designated by the Minister of Health and Social Services to manage joint supplies under Section VI of the *Act respecting Héma-Québec and the biovigilance committee.* Following consultations with the Blood System Procurement and Financing Management Committee (PFMC), the budgeted prices are confirmed by SigmaSanté. The PFMC is an advisory committee to the Québec government's *Direction de la biovigilance*, which falls under the purview of the *Direction générale des services de santé et médecine universitaire.* The PFMC's role is to make recommendations on financial and accounting issues relating to the supply of blood products.

## 4. EXPENSES

| | | | | 2016 | 2015 |
|---|---|---|---|---|---|
| | **STABLE PRODUCTS** | **LABILE PRODUCTS** | **OTHER SECTORS** | **TOTAL** | **TOTAL** |
| Stable products | 239,118 | – | – | 239,118 | 215,108 |
| Salaries and benefits | 389 | 88,907 | 12,229 | 101,525 | 88,659 |
| Medical and blood drive supplies | 2 | 25,074 | 5,557 | 30,633 | 29,690 |
| Foreign exchange gain | (29,203) | (108) | (475) | (29,786) | (10,934) |
| Building and premises | – | 10,117 | 160 | 10,277 | 9,764 |
| Amortization of tangible capital assets | 4 | 6,698 | 471 | 7,173 | 5,854 |
| Purchase of cord blood, stem cells, labile products and human tissue | – | 2 | 5,163 | 5,165 | 4,395 |
| Freight and shipping | 46 | 4,128 | 442 | 4,616 | 4,560 |
| Purchased services | 9,448 | (12,553) | 7,167 | 4,062 | 3,839 |
| Information technology | – | 3,246 | 10 | 3,256 | 2,756 |
| Advertising and public relations | – | 3,018 | 171 | 3,189 | 3,463 |
| Interest on long-term debt | – | 1,163 | – | 1,163 | 1,247 |
| Insurance | – | 850 | – | 850 | 742 |
| Writedown on tangible capital assets | – | 628 | – | 628 | – |
| Other interest and bank charges | – | 74 | – | 74 | 198 |
| Gain on disposal of tangible capital assets | – | (2) | – | (2) | (6) |
| Other expenses | 2 | 5,440 | 1,057 | 6,499 | 6,546 |
| **Subtotal** | **219,806** | **136,682** | **31,952** | **388,440** | **365,881** |
| Plasma for fractionation* | 12,470 | (12,470) | – | – | – |
| Change in inventories** | (11,210) | 1,158 | 388 | (9,664) | (371) |
| **Total** | **221,066** | **125,370** | **32,340** | **378,776** | **365,510** |

** Some expenses related to plasma for fractionation are incurred for labile products and reallocated to stable products on the basis of costs incurred. The costs are allocated based on units shipped to the fractionator.*
*** Change in inventories include stable products, plasma for fractionation, labile products, cord blood, human tissue and mother's milk.*

For the year ended March 31, 2016 (tabular amounts are in thousands of dollars, unless otherwise indicated)

## 5. ACCUMULATED OPERATING SURPLUS

As required by the provisions of section 25 of the *Act respecting Héma-Québec and the biovigilance committee*, any funding surpluses resulting from the application of prices are paid into the General Fund of the Consolidated Revenue Fund, unless a prior agreement between the MSSS and Héma-Québec is entered into on the use of the surplus.

In September 2015, Héma-Québec decided to reorient its cell production activities and cancel its C·LAVIE complex production project. The $3.570 million surplus reserved for this project was withdrawn and the amounts spent on and invested in tangible capital assets for this project were written-off and are reported separately in the statement of operations and accumulated surplus.

Héma-Québec remitted the surplus of $15.536 million from 2014–2015 activities, as requested by the Minister of Health and Social Services ($5.957 million in 2015). This recovery is made against the advances to finance the sale of labile and stable products.

Héma-Québec will be requesting an authorization from the Minister of Health and Social Services for reserving the $14.906 million surplus from fiscal 2015–2016 to finance its inventories.

| | | | | 2016 | 2015 |
|---|---|---|---|---|---|
| | SURPLUS RESERVE | INVESTED IN TANGIBLE CAPITAL ASSETS | OPERATIONS | TOTAL | TOTAL |
| **ACCUMULATED OPERATING SURPLUS, BEGINNING OF YEAR** | **2,082** | **1,488** | **16,451** | **20,021** | **10,442** |
| Withdrawn amount - C·LAVIE complex | (2,082) | (1,488) | 3,570 | – | – |
| Project cancellation - C·LAVIE complex | – | – | (2,414) | (2,414) | – |
| Annual operating surplus | – | – | 14,906 | 14,906 | 15,536 |
| Transfer of prior year's surplus | – | – | (15,536) | (15,536) | (5,957) |
| **ACCUMULATED OPERATING SURPLUS, END OF YEAR** | **–** | **–** | **16,977** | **16,977** | **20,021** |

## 6. ACCOUNTS RECEIVABLE

| | 2016 | 2015 |
|---|---|---|
| Sales taxes | 1,879 | 1,992 |
| Trade accounts receivable | 2,070 | 2,066 |
| Other receivables | 7,991 | 3,960 |
| | **11,940** | **8,018** |

## 7. INVENTORIES HELD FOR SALE

| | 2016 | 2015 |
|---|---|---|
| Stable products | 31,436 | 25,525 |
| Plasma for fractionation | 11,920 | 6,675 |
| Labile products | 2,139 | 3,448 |
| Cord blood | 1,435 | 1,830 |
| Human tissue | 685 | 725 |
| Mother's milk | 47 | – |
| | **47,662** | **38,203** |

For the year ended March 31, 2016 (tabular amounts are in thousands of dollars, unless otherwise indicated)

## 8. ACCOUNTS PAYABLE AND ACCRUED LIABILITIES

| | 2016 | 2015 |
|---|---|---|
| Trade accounts payable | 28,097 | 20,668 |
| Salaries and accrued vacation | 11,278 | 11,776 |
| Benefits | 1,786 | 1,454 |
| Deferred revenues | 1,073 | 1,077 |
| Accrued interest payable | 90 | 95 |
| | **42,324** | **35,070** |

## 9. DEFERRED GRANTS FROM THE GOVERNMENT OF QUÉBEC

In August 2015, the MSSS authorized Héma-Québec to defer the surplus balance of the grant, to be used only for the purposes intended. The variations are explained as follows:

| | 2016 | 2015 |
|---|---|---|
| Beginning balance | 1,272 | 11,639 |
| Grants received | 33,366 | 35,343 |
| Expenses: Synagis products and other services | (32,101) | (37,210) |
| MSSS recovery | (1,272) | (8,000) |
| MSSS administrative adjustment | – | (500) |
| **Ending balance** | **1,265** | **1,272** |

## 10. CREDIT FACILITIES

Héma-Québec was authorized by the Minister of Health and Social Services to establish a borrowing plan under section 78 of the *Financial Administration Act,* CQLR chapter A-6.001. Under this borrowing plan, Héma-Québec may borrow over the short term or under credit facilities from financial institutions or the Québec Minister of Finance, as manager of the Financing Fund, and over the long term from the said Minister. The authorized amount for the period beginning April 1, 2015 and ending March 31, 2018 aims to make up funding needs not exceeding $94.6 million and the authorized amount for the previous plan ended March 31, 2015 was $62 million. The borrowings provided for under these plans serve primarily to fund bank overdrafts, asset acquisition and renewal, loan renewals and the implementation of product safety improvement projects. Héma-Québec's borrowing terms comprise rates similar or equivalent to Government of Québec rates.

Héma-Québec also has a $15 million revolving line of credit with a financial institution under terms that may be changed at the bank's option. An amount of $99 thousand had been drawn down as at March 31, 2016 (nil as at March 31, 2015) under this line of credit, which is repayable at any time.

## 11. DEBT

| | 2016 | 2015 |
|---|---|---|
| Borrowings from the Financing Fund repayable in monthly instalments of 474 (principal only) (478 in 2015), at fixed rates ranging from 1.24% to 3.09% (1.24% to 3.31% in 2015), maturing from 2017 to 2026. | 23,220 | 18,493 |
| Borrowings from the Financing Fund repayable in monthly instalments of 223 (principal only) (223 in 2015), at fixed rates ranging from 1.80% to 3.93% (1.80% to 3.93% in 2015), renewable from 2017 to 2023 and maturing from 2021 to 2031. | 26,032 | 28,684 |
| | **49,252** | **47,177** |

For the year ended March 31, 2016 (tabular amounts are in thousands of dollars, unless otherwise indicated)

## 11. DEBT (cont'd)

Assuming renewal under the same terms, principal repayments on debt over the upcoming years are as follows:

| | |
|---|---|
| 2017 | 8,318 |
| 2018 | 7,588 |
| 2019 | 6,599 |
| 2020 | 5,766 |
| 2021 | 4,087 |
| 2022 and thereafter | 16,894 |

## 12. EMPLOYEE FUTURE BENEFIT LIABILITY

Héma-Québec has several funded and unfunded defined benefit plans to ensure that pension, post-retirement and post employment benefits are paid to most employees. The actuarial valuations of the retirement plans were carried out as at December 31, 2014. The employee future benefit obligations shown as at March 31, 2016 and retirement benefit expense for the fiscal year then ended are based on an extrapolation of the latest actuarial valuations.

The defined benefit plans are based on years of service and final average salary. They also provide for partial indexation of pension benefits based on inflation.

Actuarial valuations of the other post-retirement and post-employment benefit plans were carried out as at January 1, 2016. The employee future benefit obligations shown as at March 31, 2016 and retirement benefit expense for the fiscal year then ended are based on an extrapolation of that latest actuarial valuation.

Héma-Québec also has defined contribution plans under which the commitment is limited to the total value of the individual accounts of plan participants.

Actuarial gains and losses are amortized over the expected average remaining service life of active participating employees, which is 11 years for the unionized employee pension plan, 13 years for the non-unionized employee pension plan, 6 years for the supplemental pension plan, 15 years for extended health and life insurance plans and 2 years for post-employment benefits.

### CLASSIFICATION OF EMPLOYEE FUTURE BENEFIT LIABILITY (ASSET)

| | 2016 | 2015 |
|---|---|---|
| Pension plans | 4,215 | (416) |
| Other plans | 6,664 | 6,406 |
| **Total employee future benefit liability** | **10,879** | **5,990** |

### RECONCILIATION OF FINANCIAL POSITION

| | 2016 | | 2015 | |
|---|---|---|---|---|
| | PENSION PLANS | OTHER PLANS | PENSION PLANS | OTHER PLANS |
| Employee future benefit obligation | 192,008 | 5,852 | 180,101 | 7,078 |
| Pension plan assets | 196,163 | – | 176,991 | – |
| **Financial position (surplus) deficit** | **(4,155)** | **5,852** | **3,110** | **7,078** |
| Unamortized actuarial gain (loss) | 2,329 | 812 | (3,526) | (672) |
| Change in valuation allowance | 6,041 | – | – | – |
| **Employee future benefit liability (asset), end of year** | **4,215** | **6,664** | **(416)** | **6,406** |

For the year ended March 31, 2016 (tabular amounts are in thousands of dollars, unless otherwise indicated)

## 12. EMPLOYEE FUTURE BENEFIT LIABILITY (cont'd)

### EMPLOYEE FUTURE BENEFIT OBLIGATION

| | 2016 | | 2015 | |
|---|---|---|---|---|
| | **PENSION PLANS** | **OTHER PLANS** | **PENSION PLANS** | **OTHER PLANS** |
| Employee future benefit obligation, beginning of year | 180,101 | 7,078 | 161,594 | 5,891 |
| Current period benefit cost | 10,867 | 3,047 | 10,190 | 2,285 |
| Interest expense on obligation | 10,014 | 113 | 9,247 | 144 |
| Benefits paid | (6,892) | (2,902) | (5,908) | (2,268) |
| Cost of plan amendments | – | – | (28) | – |
| Actuarial (gain) loss | (2,082) | (1,484) | 5,006 | 1,026 |
| **Employee future benefit obligation, end of year** | **192,008** | **5,852** | **180,101** | **7,078** |

### PENSION PLAN ASSETS

| | 2016 | | 2015 | |
|---|---|---|---|---|
| | **PENSION PLANS** | **OTHER PLANS** | **PENSION PLANS** | **OTHER PLANS** |
| Pension plan assets, beginning of year | 176,991 | – | 157,874 | – |
| Employer contributions | 8,555 | – | 5,466 | – |
| Employee contributions | 4,668 | – | 4,626 | – |
| Expected return on plan assets | 10,070 | – | 9,118 | – |
| Benefits paid | (6,892) | – | (5,908) | – |
| Actuarial gain on plan assets | 2,771 | – | 5,815 | – |
| **Pension plan assets, end of year** | **196,163** | **–** | **176,991** | **–** |

### MARKET VALUE OF PLAN ASSETS AS AT MARCH 31

| | 2016 | | 2015 | |
|---|---|---|---|---|
| Shares | 95,676 | 49% | 108,828 | 57% |
| Bonds | 64,220 | 33% | 77,437 | 40% |
| Other | 36,405 | 18% | 6,354 | 3% |
| **Total** | **196,301** | **100%** | **192,619** | **100%** |

### ACTUAL RETURN ON PLAN ASSETS

| | 2016 | 2015 |
|---|---|---|
| Expected return on plan assets | 10,070 | 9,118 |
| Actual return on plan assets | 12,841 | 14,933 |
| **Actuarial gain on plan assets** | **2,771** | **5,815** |
| Actual rate of return | 7.13% | 9.34% |

For the year ended March 31, 2016 (tabular amounts are in thousands of dollars, unless otherwise indicated)

## 12. EMPLOYEE FUTURE BENEFIT LIABILITY (cont'd)

### EMPLOYEE FUTURE BENEFIT EXPENSE FOR THE YEAR

| | 2016 | | 2015 | |
|---|---|---|---|---|
| | PENSION PLANS | OTHER PLANS | PENSION PLANS | OTHER PLANS |
| Current period net benefit cost | 6,199 | 3,047 | 5,564 | 2,285 |
| Amortization of actuarial losses | 1,002 | – | 1,007 | – |
| Cost of plan amendments | – | – | (28) | – |
| Unamortized loss recognized against decrease in amendments | – | – | 28 | – |
| Change in valuation allowance | 6,041 | – | – | – |
| **Benefit expense** | **13,242** | **3,047** | **6,571** | **2,285** |
| Interest expense on obligation | 10,014 | 113 | 9,247 | 144 |
| Expected return on plan assets | (10,070) | – | (9,118) | – |
| **Benefit interest expense** | **(56)** | **113** | **129** | **144** |
| **Total benefit expense** | **13,186** | **3,160** | **6,700** | **2,429** |

### SIGNIFICANT ASSUMPTIONS

| | 2016 | | 2015 | |
|---|---|---|---|---|
| | PENSION PLANS | OTHER PLANS | PENSION PLANS | OTHER PLANS |
| **Employee future benefit obligation as at March 31** | | | | |
| Unionized employee plan discount rate | 5.35% | 2.50% | 5.55% | 2.20% |
| Non-unionized employee plan discount rate | 5.45% | 2.50% | 5.65% | 2.20% |
| Rate of compensation increase | 3.45% | 3.45% | 3.75% | 3.75% |
| Inflation rate | 2.20% | – | 2.50% | – |
| **Benefit expense for the years ended March 31** | | | | |
| Unionized employee plan discount rate | 5.55% | 2.20% | 5.70% | 3.50% |
| Non-unionized employee plan discount rate | 5.65% | 2.20% | 5.70% | 3.50% |
| Expected rate of return on plan assets: | | | | |
| Unionized employee plan | 5.55% | – | 5.70% | – |
| Non-unionized employee plan | 5.65% | – | 5.70% | – |
| Rate of compensation increase | 3.75% | 3.75% | 3.75% | 3.75% |
| **Demographic factors** | | | | |
| Mortality | CPM-2014 projected using improvement scale CPM-B | | CPM-2014 projected using improvement scale CPM-B | |

For the year ended March 31, 2016 (tabular amounts are in thousands of dollars, unless otherwise indicated)

## 13. TANGIBLE CAPITAL ASSETS

| | 2016 | | | | | | |
|---|---|---|---|---|---|---|---|
| | LAND | BUILDING, BETTERMENT TO BUILDING AND OTHER | MACHINERY AND AUTOMOTIV EQUIPMENT | OFFICE FURNITURE AND EQUIPEMENT | COMPUTER HARDWARE AND SOFTWARE | SYSTEMS DEVELOPMENT | TOTAL |
| **Cost** | | | | | | | |
| Beginning balance | 2,140 | 45,064 | 25,736 | 4,340 | 12,138 | 13,867 | 103,285 |
| Additions | – | 3,556 | 3,552 | 320 | 1,419 | 1,365 | 10,212 |
| Disposals and write-off** | – | (1,542) | (199) | – | (615) | – | (2,356) |
| Writedown** | – | – | (1,003) | – | – | – | (1,003) |
| **Ending balance*** | **2,140** | **47,078** | **28,086** | **4,660** | **12,942** | **15,232** | **110,138** |
| **Accumulated amortization** | | | | | | | |
| Beginning balance | – | 21,394 | 14,502 | 3,962 | 10,051 | 5,413 | 55,322 |
| Amortization for the year | – | 2,192 | 2,167 | 126 | 1,098 | 1,590 | 7,173 |
| Disposals and write-off | – | – | (199) | – | (615) | – | (814) |
| **Ending balance** | **–** | **23,586** | **16,470** | **4,088** | **10,534** | **7,003** | **61,681** |
| **Net book value** | **2,140** | **23,492** | **11,616** | **572** | **2,408** | **8,229** | **48,457** |

| | 2015 | | | | | | |
|---|---|---|---|---|---|---|---|
| | LAND | BUILDING, BETTERMENT TO BUILDING AND OTHER | MACHINERY AND AUTOMOTIV EQUIPMENT | OFFICE FURNITURE AND EQUIPEMENT | COMPUTER HARDWARE AND SOFTWARE | SYSTEMS DEVELOPMENT | TOTAL |
| **Cost** | | | | | | | |
| Beginning balance | 2,140 | 42,482 | 25,200 | 4,331 | 11,577 | 10,543 | 96,273 |
| Additions | – | 2,664 | 2,600 | 226 | 1,258 | 3,324 | 10,072 |
| Disposals | – | (82) | (2,064) | (217) | (697) | – | (3,060) |
| **Ending balance*** | **2,140** | **45,064** | **25,736** | **4,340** | **12,138** | **13,867** | **103,285** |
| **Accumulated amortization** | | | | | | | |
| Beginning balance | – | 19,310 | 14,545 | 4,026 | 9,813 | 4,832 | 52,526 |
| Amortization for the year | – | 2,166 | 2,021 | 153 | 933 | 581 | 5,854 |
| Disposals | – | (82) | (2,064) | (217) | (695) | – | (3,058) |
| **Ending balance** | **–** | **21,394** | **14,502** | **3,962** | **10,051** | **5,413** | **55,322** |
| **Net book value** | **2,140** | **23,670** | **11,234** | **378** | **2,087** | **8,454** | **47,963** |

*The ending balance includes the following tangible capital assets under development:

| | LAND | BUILDING, BETTERMENT TO BUILDING AND OTHER | MACHINERY AND AUTOMOTIV EQUIPMENT | OFFICE FURNITURE AND EQUIPEMENT | COMPUTER HARDWARE AND SOFTWARE | SYSTEMS DEVELOPMENT | TOTAL |
|---|---|---|---|---|---|---|---|
| 2016 | – | 1,418 | 1,073 | 86 | 478 | 189 | 3,244 |
| 2015 | – | 2,348 | 747 | – | 294 | 3,505 | 6,894 |

*** The cancellation of the C·LAVIE complex construction project represents a write-off of $1.542 million in tangible capital assets under development in the Building, betterment to building and other category as well as a $375 thousand writedown in Machinery and automotive equipment.*

For the year ended March 31, 2016 (tabular amounts are in thousands of dollars, unless otherwise indicated)

## 14. PREPAID EXPENSES

| | 2016 | 2015 |
|---|---|---|
| Deferred emphyteutic lease charges – Université Laval | 1,097 | 1,157 |
| IT licenses and support contract | 1,041 | 913 |
| Municipal and school taxes | 564 | 604 |
| Laboratory equipment service and maintenance contract | 328 | 262 |
| Insurance | 160 | 357 |
| Other | 427 | 133 |
| | **3,617** | **3,426** |

## 15. INVENTORY SUPPLIES

| | 2016 | 2015 |
|---|---|---|
| Blood drive equipment | 2,879 | 2,138 |
| Laboratory equipment | 51 | 87 |
| | **2,930** | **2,225** |

## 16. RISK MANAGEMENT AND FINANCIAL INSTRUMENTS

### Risk management

In the normal course of its operations, Héma-Québec is exposed to various financial risks, described below. Management assesses these risks and implements strategies to minimize their impact on its performance.

### I. Credit risk

Credit risk is the risk that one party to a financial instrument will cause a financial loss for the other party by failing to discharge an obligation. Héma-Québec is exposed to credit risk resulting from the possibility that parties may default on their financial obligations, where there is a concentration of transactions with a same party or a concentration of third-party financial obligations with similar economic characteristics that would be affected in the same way by future developments. Héma-Québec's financial instruments exposed to credit risk include cash and cash equivalents, trade accounts receivable and other receivables.

The credit risk associated with cash and cash equivalents is limited as the counterparty is a Canadian chartered bank which is assigned a high credit rating by national rating agencies.

Credit risk arising from trade accounts receivable is limited as the main receivables are associated with the sale of cord blood, stem cells and human tissue or services mainly for government organizations that are included in the Government of Québec's reporting entity. Such receivables are collectible during the year.

Other receivables include mainly discounts receivable under contractual agreements with suppliers. Credit risk is limited as these receivables are provided for under the contracts and Héma-Québec has met its purchase obligations. These amounts are collectible within 60 days after the end of the fiscal year.

The carrying amount of Héma-Québec financial instruments exposed to credit risk represents the maximum amount of credit risk to which the organization is exposed and totalled $22 million ($28 million in 2015) in the statement of financial position. None of these financial instruments was written down and management estimates that the credit quality of all instruments which have not been written down or are past due is strong as at the date of the financial statements.

For the year ended March 31, 2016 (tabular amounts are in thousands of dollars, unless otherwise indicated)

## 16. RISK MANAGEMENT AND FINANCIAL INSTRUMENTS (cont'd)

### II. Liquidity risk

Liquidity risk is the risk that Héma-Québec may not have the necessary funds to meet its cash needs or to finance its obligations in respect of its financial liabilities as they mature. Liquidity risk also includes the risk that Héma-Québec will not be able to liquidate its financial assets on a timely basis at a reasonable price.

Héma-Québec actively manages its cash and cash equivalents that arise from its operations and believes it has sufficient liquidity and credit facilities to ensure the necessary funds to meet its current and long-term financial obligations at a reasonable cost, if required. Credit facilities are disclosed in note 10.

As at March 31, 2016 and 2015, the contractual maturities of the financial liabilities were as follows:

| | 2016 | | | | |
|---|---|---|---|---|---|
| | **2017** | **2018** | **2019 AND THEREAFTER** | **TOTAL** | **CARRYING VALUE** |
| Trade accounts payable, salaries and accrued vacation | 39,375 | – | – | 39,375 | 39,375 |
| Advance from the Government of Québec | 6,235 | – | – | 6,235 | 6,235 |
| Interest on debt | 1,224 | 1,043 | 3,835 | 6,102 | 5,890 |
| Debt | 8,318 | 7,588 | 33,346 | 49,252 | 49,464 |
| **Total non-derivative financial instruments** | **55,152** | **8,631** | **37,181** | **100,964** | **100,964** |
| Derivative financial instruments | 13,443 | – | – | 13,443 | 13,443 |
| **Total financial instruments** | **68,595** | **8,631** | **37,181** | **114,407** | **114,407** |

| | 2015 | | | | |
|---|---|---|---|---|---|
| | **2016** | **2017** | **2018 AND THEREAFTER** | **TOTAL** | **CARRYING VALUE** |
| Trade accounts payable, salaries and accrued vacation | 32,444 | – | – | 32,444 | 32,444 |
| Prepayments from the Government of Québec | 5,957 | – | – | 5,957 | 5,957 |
| Advance from the Government of Québec | 5,758 | – | – | 5,758 | 5,758 |
| Interest on debt | 1,216 | 1,037 | 4,204 | 6,457 | 6,253 |
| Debt | 7,869 | 6,852 | 32,456 | 47,177 | 47,381 |
| **Total non-derivative financial instruments** | **53,244** | **7,889** | **36,660** | **97,793** | **97,793** |
| Derivative financial instruments | (22,114) | – | – | (22,114) | (22,114) |
| **Total financial instruments** | **31,130** | **7,889** | **36,660** | **75,679** | **75,679** |

### III. Market risk

Market risk is the risk that the market value or future cash flows of a financial instrument will fluctuate because of changes in market prices. Market risk is threefold, comprising interest rate risk, currency risk and other price risk. Héma-Québec is exposed to interest rate risk and currency risk.

*Interet rate risk:*

Interest rate risk is the risk that the fair value or future cash flows of a financial instrument will fluctuate due to changes in market interest rates. Héma-Québec's debts bear interest on a fixed rate basis. Accordingly, Héma-Québec's exposure to both cash flow interest rate risk and market risk is minimal since Héma-Québec does not intend to repay them early.

For the year ended March 31, 2016 (tabular amounts are in thousands of dollars, unless otherwise indicated)

## 16. RISK MANAGEMENT AND FINANCIAL INSTRUMENTS (cont'd)

### III. Market risk (cont'd)

*Currency risk:*

In the normal course of operations, Héma-Québec purchases its stable products primarily in U.S. dollars and is therefore exposed to fluctuations of that currency. Héma-Québec has established a currency risk management policy and enters into derivative financial instruments to manage currency risk exposures particularly through foreign exchange contracts. To manage the currency risk related to the purchase of stable products and medical and blood drive supplies, stem cells, cord blood and human tissue, Héma-Québec entered into 26 foreign exchange contracts to cover 90% of its expected foreign currency requirements in the amount of US$145.6 million at a rate of 1.391 for the period from April 1, 2016 to March 16, 2017 (in 2015, 26 foreign exchange contracts in the amount of US$171.6 million at a rate of 1.1377 for the period from April 2, 2015 to March 17, 2016).

As at March 31, 2016, unrealized losses on foreign exchange contracts in the amount of $13 million were recorded in the statement of remeasurement gains and losses (unrealized gains of $22 million as at March 31, 2015) and are measured based on the difference between the foreign currency purchase contract rates and the rate of 1.2987 on quoted prices (unadjusted) in active markets for identical instruments, as at March 31, 2016 (1.2666 as at March 31, 2015).

The statement of financial position includes the following amounts in Canadian dollars with respect to financial assets and liabilities denominated in foreign currencies:

| | 2016 | 2015 |
|---|---|---|
| **U.S. dollars** | | |
| Cash and cash equivalents | 10,290 | 2,759 |
| Trade accounts and other receivables | 4,756 | 2,725 |
| Trade accounts payable | 9,338 | 4,609 |
| **Euro** | | |
| Trade accounts payable | 103 | – |

An 8% change in the U.S. dollar exchange rate (8% in 2015), corresponding to market volatility in the last 12 months, would not have any material effect on the annual surplus from operations or on the remeasurement of gains and losses taking into account the financial assets and liabilities denominated in foreign currencies held by Héma-Québec as at the date of the financial statements.

## 17. CONTRACTUAL OBLIGATIONS

Héma-Québec has entered into long-term leases expiring at various dates over the next 19 years for its operating facilities and administrative premises. In some instances, the leases for premises include a renewal option of up to five years.

The lease expense for the premises for the year ended March 31, 2016 amounted to $3.3 million ($2.9 million in 2015). Future minimum payments under long-term leases are as follows:

| | |
|---|---|
| 2017 | 3,273 |
| 2018 | 3,151 |
| 2019 | 2,657 |
| 2020 | 2,294 |
| 2021 | 2,298 |
| 2022 and thereafter | 22,857 |

## 18. CONTINGENCIES

Héma-Québec is exposed to various claims and legal actions in the normal course of operations. Management believes that a sufficient provision has been created regarding the potential outlays arising from those disputes and foresees no adverse material effect on the financial position or results of Héma-Québec.

## 19. RELATED PARTY TRANSACTIONS

In addition to the related party transactions already disclosed in the financial statements and measured at the exchange amount, Héma-Québec is related to all government departments, special funds, agencies and public enterprises controlled directly or indirectly by the Government of Québec or subject to joint control or common significant influence by the Government of Québec. Héma-Québec has not entered into any commercial transactions with these related parties that were not in the normal course of operations and subject to business terms that are usual and customary. These transactions are not disclosed separately in the financial statements.

## 20. COMPARATIVE FIGURES

Certain prior-year figures have been reclassified to conform to current-year presentation.

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