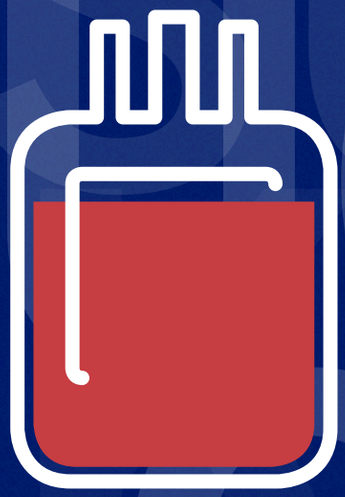
MOTHER'S MILK



BLOOD PRODUCTS

STEM CELLS

STABLE PRODUCTS

HUMAN TISSUES

HÉMA-QUÉBEC

2021 CORPORATE PRESENTATION

MISSION

To efficiently meet the needs of the Québec population for quality blood and other biological products of human origin.

VISION

To become a strategic partner for the Québec health system.

A GREAT TEAM DEDICATED TO THE GIFT OF LIFE

NEAR

195,800

blood, plasma, stem cell, human tissue and mother's milk

DONORS

THOUSANDS OF VOLUNTEERS

1,412

EMPLOYEES

DEDICATED PARTNERS

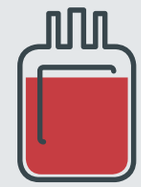
THOROUGH DIRECTORS

Their commitment enables Héma-Québec to provide hospitals with more than **800,000 products** every year and support professionals in the healthcare system by providing specialized, innovative services.

$436 MILLION

ANNUAL REVENUES

SECTORS OF ACTIVITY



BLOOD PRODUCTS

Blood is the fluid that flows through the body's veins and arteries.

It is made up of plasma, in which three types of cells are suspended: red blood cells, white blood cells and platelets.

Every 80 seconds, someone in Québec needs blood. It may be following an accident, during surgery or to treat an illness.

STABLE PRODUCTS

Stable products are medications that are manufactured primarily from plasma, the liquid part of blood that transports blood cells and nutrients in the body.

Thousands of Quebecers need plasma to treat various illnesses, including neurological disorders, immune deficiencies and other diseases, such as hemophilia.

STEM CELLS

Stem cells are the "parent" cells from which all other blood cells develop.

They are found in bone marrow, peripheral (circulating) blood and umbilical cord blood.

For some diseases, stem cell transplants are a patient's only chance of survival. Some diseases cause the destruction or abnormal functioning of the bone marrow. The treatment of last resort consists in replacing the patient's stem cells with those of a healthy person.

HUMAN TISSUES

Human tissues can be collected for transplantation purposes.

These include, for example, ocular tissues, heart valves, skin tissues, arterial tissues and musculoskeletal tissues.

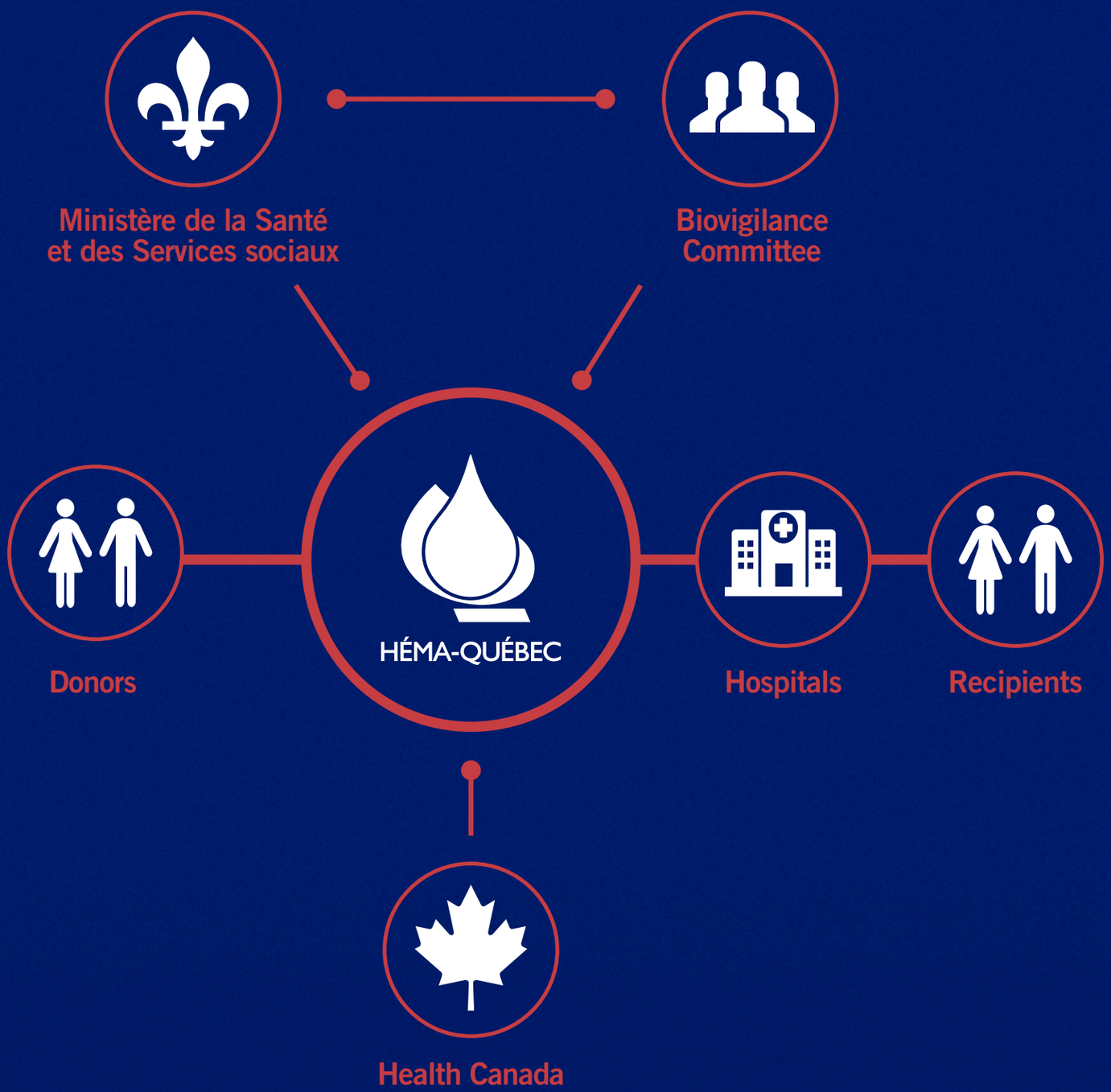
One tissue donation can help up to 20 people, whether to restore sight with a corneal transplant or to treat a serious burn victim with skin grafts.

MOTHER'S MILK

Human milk from a bank is particularly beneficial for infants born extremely preterm who cannot be breastfed by their mother.

It reduces the risk of developing a serious intestinal disease.

BLOOD AND BIOLOGICAL PRODUCTS OF HUMAN ORIGIN SYSTEM IN QUÉBEC



FROM SUPPLIER OF BLOOD PRODUCTS TO EXPERT IN BIOLOGICAL PRODUCTS OF HUMAN ORIGIN

1998

Start of Héma-Québec operations as supplier of blood products and medications manufactured from plasma (stable products)

2001

Creation of the Human Tissue Bank

Opening of the first GLOBULE Blood Donor Centre

2003

Creation of the Public Cord Blood Bank

2005

Operational start-up of the first GLOBULE Mobile Blood Donation Unit

2011

Creation of the Compensation plan for victims of a Héma-Québec product

2013

Revision of the *Act respecting Héma-Québec*: mandate expanded to biological products of human origin

Opening of the first PLASMAVIE Plasma Donor Lounge

Héma-Québec assumes full management of the Stem Cell Donor Registry in Québec

2014

Creation of the Québec Public Mothers' Milk Bank

2018

Héma-Québec mandated by the MSSS to develop an information system on the traceability of blood products (SIIATH)

PERMANENT PRESENCE THROUGHOUT QUÉBEC

- Facility
- GLOBULE Blood Donor Centre
- Mobile Blood Drive Regional Centre
- PLASMAVIE Plasma Donor Lounge
- PLASMAVIE with a blood donation area
- Drop-off point for mother's milk

Saguenay

Lebourgneuf

Québec City

Sainte-Foy

Trois-Rivières

Saint-Laurent

Laval

Montréal

Gatineau

Brossard

Sherbrooke

In addition to thousands of mobile blood drives across the province!

BLOOD PRODUCTS

As the exclusive supplier of blood products in Québec, Héma-Québec is responsible for recruiting donors and for collecting, testing, processing and delivering products to hospitals.

COLLECTION METHODS

CENTRES

30%

MOBILE UNITS

0%*

BLOOD DRIVES

70%

*Due to the safety measures required by the pandemic situation, there were no mobile blood drives.

AT A GLANCE

138,209
REGISTERED DONORS
(all types of donations)

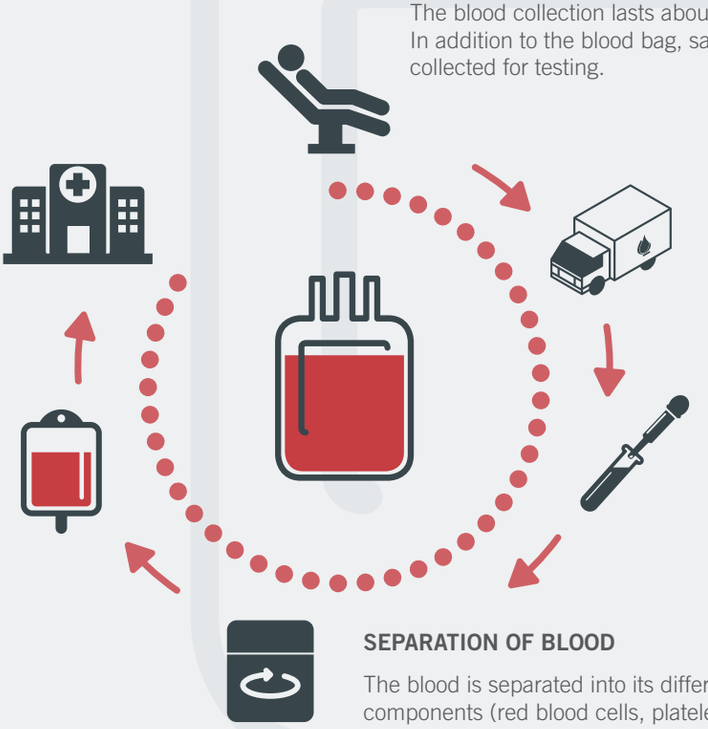
364,707
TOTAL VISITS
to collection sites
(all types of donations)

1,182
BLOOD DRIVES

1.84
BLOOD DONATIONS
per donor per year, on average

295,669
BLOOD PRODUCTS
delivered to hospitals

FROM DONATION TO DISTRIBUTION



DONATION

The blood collection lasts about ten minutes. In addition to the blood bag, sample tubes are collected for testing.

TRANSPORTATION

The blood bags and samples are sent to one of Héma-Québec's laboratories.

ANALYSES

The samples are sent to a qualification lab to determine the donor's blood group and to screen for the presence of infections.

SEPARATION OF BLOOD

The blood is separated into its different components (red blood cells, platelets, plasma).

STORAGE

Compliant products are labelled and stored, ready to be sent to hospitals.

DELIVERY

The products are delivered to hospitals. The components used vary depending on patients' needs.

STABLE PRODUCTS

Héma-Québec is the exclusive distributor of stable products for Québec. It is responsible for supply strategies, the purchase of medications manufactured primarily from plasma (stable products), the management of the inventory and distribution to hospitals. It also looks after donor recruitment, collection and testing, and sending part of the plasma it collects for fractionation.

485,547

STABLE PRODUCTS

delivered

Approximately

50

DIFFERENT PRODUCTS

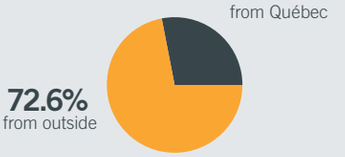
distributed, including 4 from plasma collected by Héma-Québec

IMPROVING PLASMA SUFFICIENCY

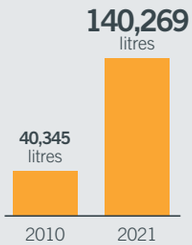
intended for manufacturing medication

Immunoglobulins are the most widely used stable products in Québec that the organization is aiming to increase the sufficiency of. In 2020–2021, the plasma volume used to manufacture medication met 27.9% of Québec's immunoglobulin needs.

Immunoglobulin sufficiency rate



Increased amount of plasma collected for manufacturing medication



Sufficiency relies on the generosity of donors

19,502

PLASMA DONORS
registered

6.29

DONATIONS PER DONOR
per year, on average

FROM DONATION TO DISTRIBUTION

DONATION

Plasma donations are collected in donor centres, by appointment. The collection lasts approximately 45 minutes. Plasma can be donated every six days, up to 50 times a year.

FREEZING

Plasma is quickly frozen after collection. The faster it is frozen, the more protein can be extracted from it.

ANALYSES

Samples are sent to the qualification laboratory. All donations are tested.

FRACTIONATION

The plasma is sent to fractionation plants. These high-tech plants extract the proteins and use them to manufacture medications.

RETURN OF PRODUCTS TO HÉMA-QUÉBEC AND STORAGE

The finished products are then returned to Héma-Québec and stored, ready for shipment to hospitals.

DELIVERY

The products are delivered to hospitals.

STEM CELLS

Héma-Québec is responsible for donor recruitment, qualification and management of the Stem Cell Donor Registry for Québec. This computerized bank includes the files of nearly 53,000 individuals who could eventually be called upon to donate their stem cells to a patient. Héma-Québec's registry is certified as complying with the highest international standards and is linked to the international network of the World Marrow Donor Association (WMDA).

The Public Cord Blood Bank (PCBB) provides access to a complementary source of stem cells, other than those from bone marrow or peripheral blood. Like Héma-Québec's registry of adult donors, the PCBB is an integral part of the international registry of the World Marrow Donor Association. Héma-Québec is responsible for donor recruitment and the processing and banking of cord blood units. It is the first operational public cord blood bank in Canada.

STEM CELL DONOR REGISTRY
AT A GLANCE

3,364
REGISTRATION RECEIVED
in 2020–2021

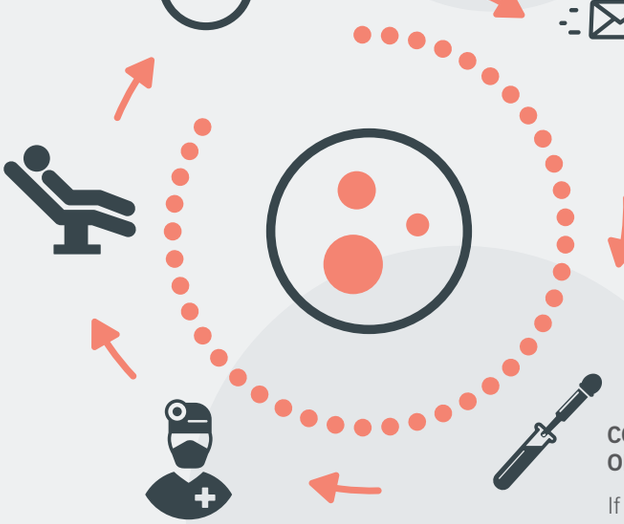
52,982
REGISTERED DONORS
in Québec

Héma-Québec is part of a global network that includes

MORE THAN
38 MILLION
POTENTIAL DONORS

138
QUÉBEC PATIENTS
received an unrelated transplant

STEM CELL DONATION: STEP BY STEP



REGISTRATION

Any person who qualifies can enrol in the Registry and receive a buccal swab collection kit in the mail.

DETERMINATION OF GENETIC PROFILE AND ADDITION TO THE REGISTRY

Samples returned to Héma-Québec are used to determine the genetic profile of the potential donor, who is then added to the international registry.

CONFIRMATION OF COMPATIBILITY

If a person is potentially compatible with a patient, Héma-Québec conducts advanced tests to confirm their genetic compatibility with that of the patient.

PATIENT REQUIRING A STEM CELL TRANSPLANT

For some patients, a stem cell transplant is the only chance of survival.

PREPARATION OF THE DONATION

The potential donor undergoes a general physical examination to confirm if they are healthy enough to make the donation.

STEM CELL DONATION

If all conditions are met, the donation can take place. Two types of donations are possible: bone marrow or peripheral stem cells.

THE PATIENT IS TRANSPLANTED

The transplant occurs approximately 24 to 48 hours after the donation.

POST-DONATION FOLLOW-UP

The donor is followed up until full recovery.

PUBLIC CORD BLOOD BANK

AT A GLANCE

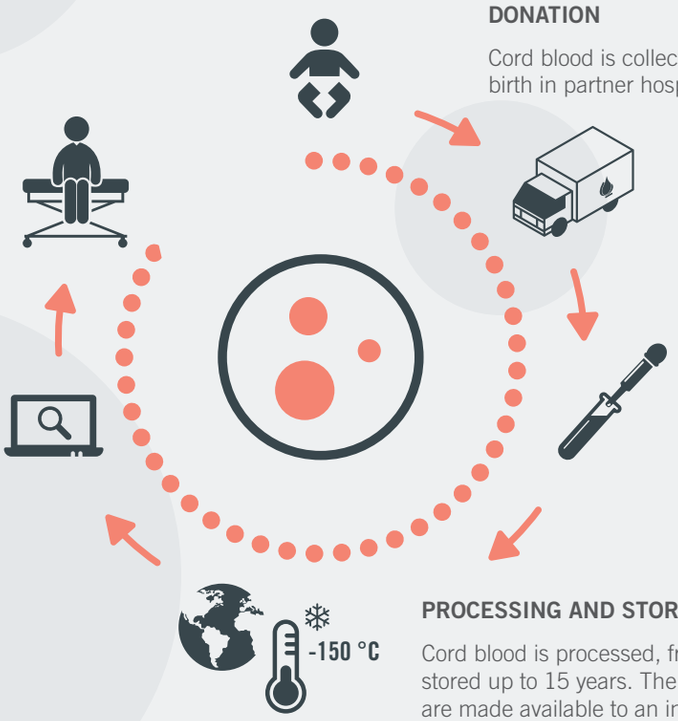
2,917
MOTHERS REGISTERED
in the Public Cord Blood Bank

11,699
UNITS BANKED
at March 31, 2021

22
UNITS DISTRIBUTED
worldwide in 2020–2021

9
PARTNER HOSPITALS

FROM DONATION TO TRANSPLANTATION



DONATION

Cord blood is collected at birth in partner hospitals.

TRANSPORTATION

Cord blood is transported to Héma-Québec.

QUALIFICATION

Cord blood is qualified based on strict criteria.

PROCESSING AND STORAGE

Cord blood is processed, frozen at -150°C and stored up to 15 years. The units of cord blood are made available to an international registry.

CALL AND SEARCH

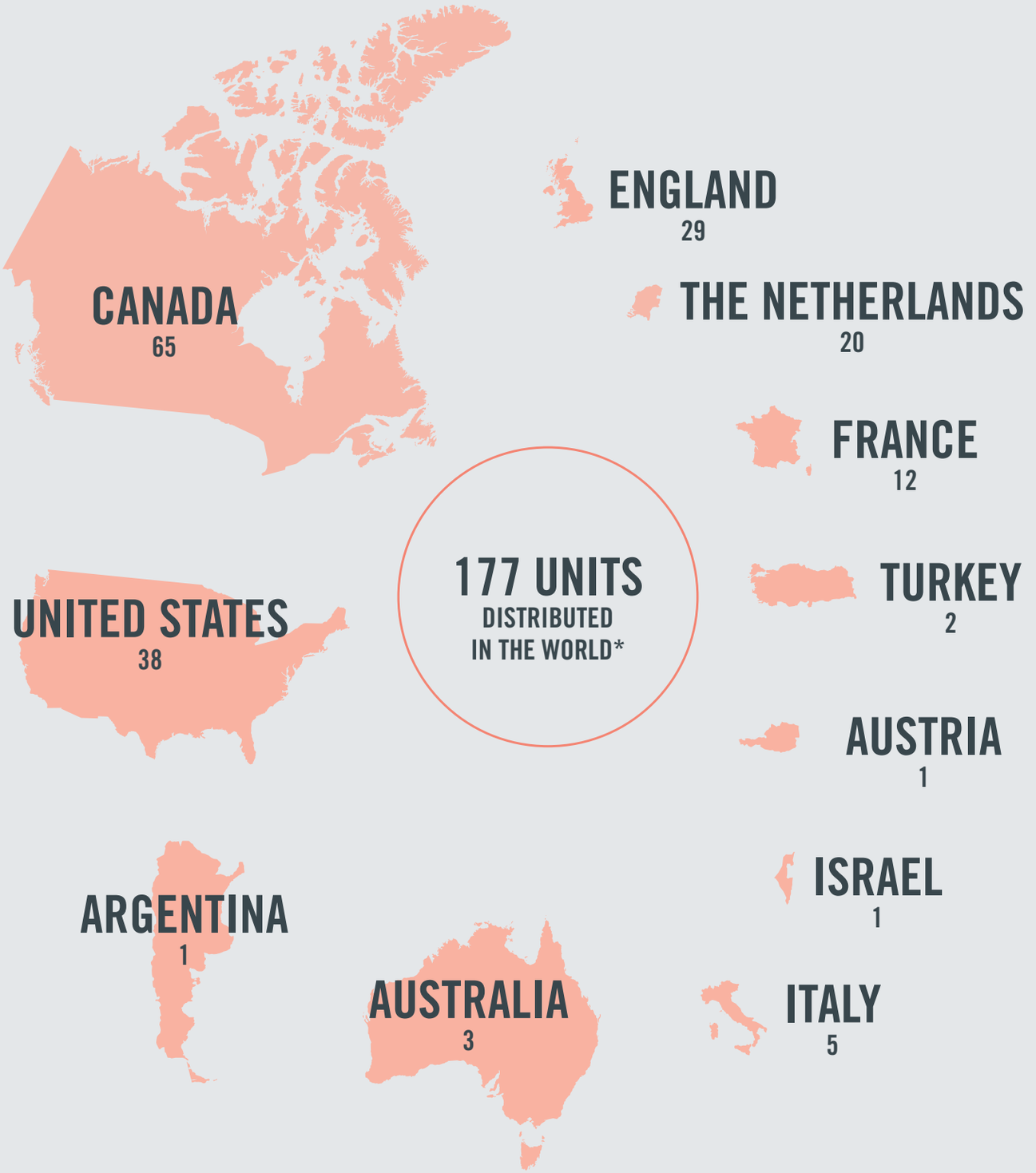
When the Registry receives a call, Héma-Québec conducts a search for a unit that is compatible with the patient awaiting a stem cell transplant.

TRANSPLANT

The patient is transplanted.

PUBLIC CORD BLOOD BANK

INTERNATIONAL DISTRIBUTION OF CORD BLOOD UNITS



The Stem Cell Donor Registry is linked to the international donor bank of the World Marrow Donor Association (WMDA), which provides access to more than 38 million potential stem cell donors.

In 2020, the Héma-Québec registry received accreditation from the WMDA, certifying that it complies with the highest international standards.

* Since 2008.

HUMAN TISSUES

Héma-Québec manages the only public human tissue bank in Québec. It is responsible for collecting, processing, qualifying and distributing human tissues to meet the needs of hospitals. One of the team's missions is to raise awareness among health professionals of the importance of referring potential donors.

AT A GLANCE

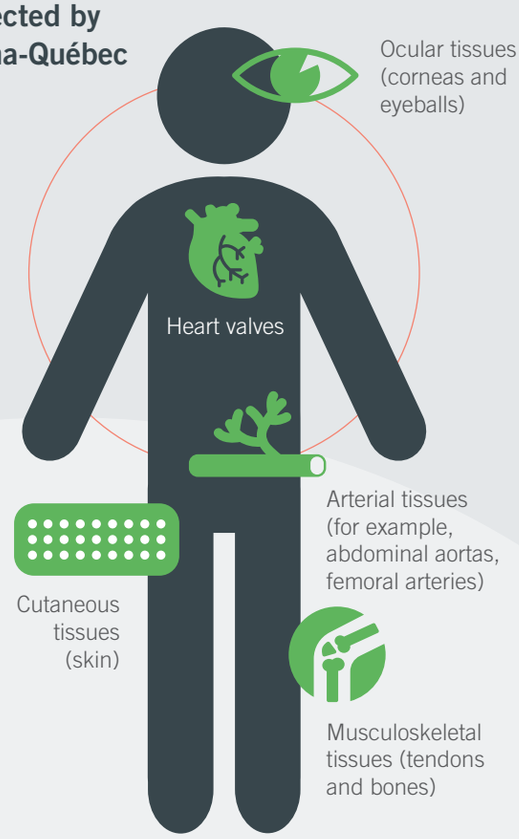
5,390
DONOR REFERRALS
received

752
TISSUE DONORS

4,834
TISSUES DISTRIBUTED
to hospitals

A partnership with the CORONER
enables Héma-Québec to increase its ability to make human tissues available in quantity and quality to meet the needs of the population.

Human tissues collected by Héma-Québec



FROM DONOR REFERRALS TO TRANSPLANTATION

DONOR REFERRALS

Health professionals refer donors to Héma-Québec.

CONSENT

Consent registries are checked. Whether the consent is entered in the registry or not, it is important to share the donor's decision to consent to donating tissue with family members, since they are the ones who speak on behalf of the donor after death.

QUALIFICATION

Héma-Québec conducts a thorough evaluation to verify the donor's eligibility.

COLLECTION

Héma-Québec collects the tissues.

PROCESSING AND STORAGE

The tissues are processed and stored until they are transplanted. Most tissues can be preserved for up to five years, with the exception of corneas, which cannot be preserved beyond 14 days.

TRANSPLANTATION

The surgeon transplants the tissues. One donation of human tissues can help up to 20 people.

MOTHER'S MILK

Héma-Québec operates Québec's only Public Mothers' Milk Bank. Its mandate is to provide pasteurized human milk to infants born preterm at 32 weeks' gestation or earlier who require medical care and whose mothers cannot breastfeed. The organization is responsible for donor recruitment and qualification, the processing and analysis of milk, as well as its distribution to hospitals.

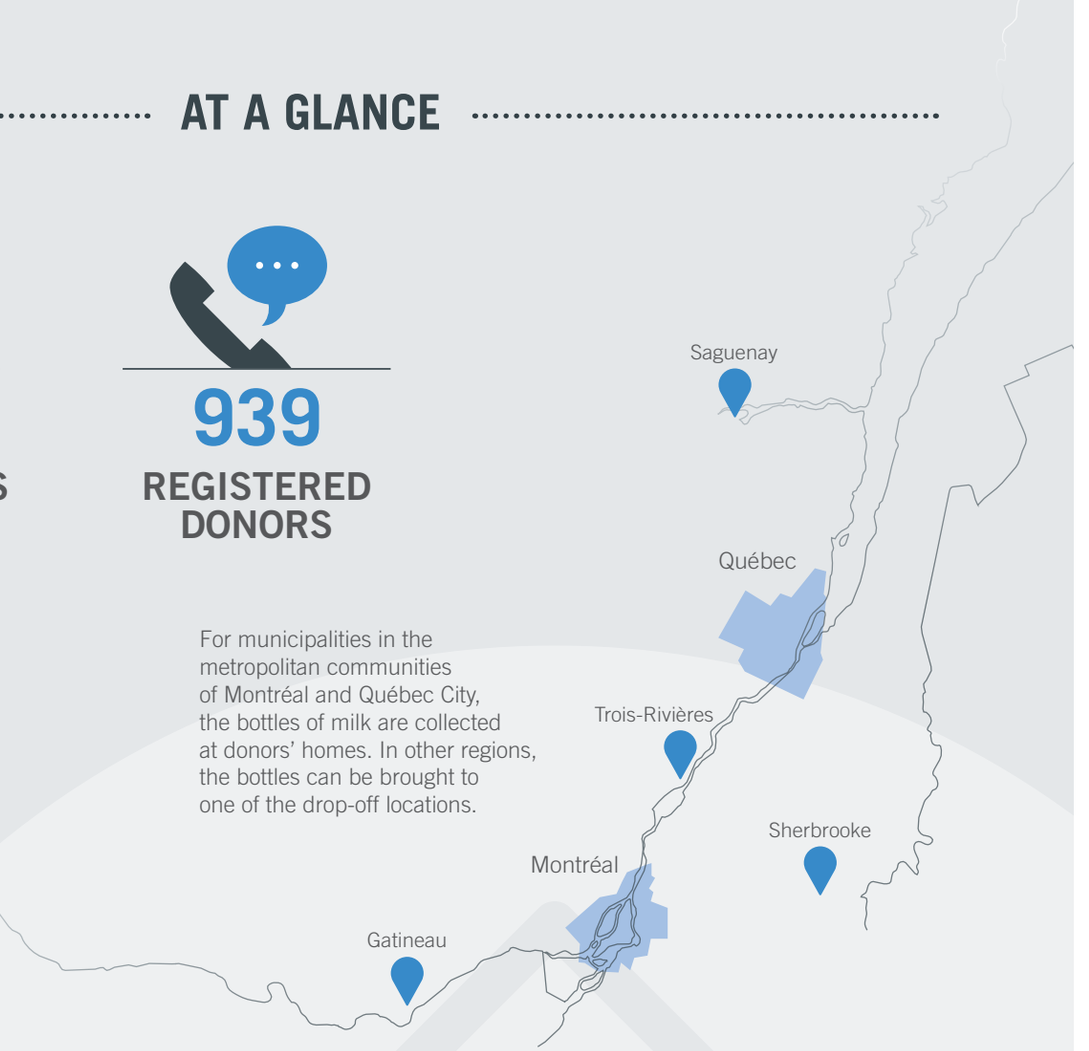
AT A GLANCE

379
ACTIVE DONORS
during the year

939
REGISTERED DONORS

19,249
BOTTLES
distributed

For municipalities in the metropolitan communities of Montréal and Québec City, the bottles of milk are collected at donors' homes. In other regions, the bottles can be brought to one of the drop-off locations.



FROM DONATION TO DISTRIBUTION

DONATION

Héma-Québec supplies bottles; mothers collect their milk at home and freeze it.

PICK-UP OR DROP-OFF

Depending on the region, the bottles of milk are collected at the donor's home or brought by the donor to a drop-off point.

POOLING OF DONATIONS

Héma-Québec mixes the donations of several donors by lot.

PASTEURIZATION

The milk is pasteurized to eliminate viruses and bacteria.

MICROBIOLOGICAL ANALYSES AND STORAGE

Héma-Québec tests the milk to ensure that it is safe for recipients. If the results are compliant, the milk is frozen and stored for one year from the date of the first donation.

DELIVERY

The milk is distributed to hospitals and destined for extremely preterm babies who cannot be breastfed by their mother.

SPECIALIZED LABORATORY SERVICES

In addition to meeting the needs of the Québec population as a supplier of biological products of human origin, Héma-Québec provides specialized laboratory services to its Québec healthcare system partners.

Hospitals

Héma-Québec is recognized as a referral centre for the provision of medical biology services to Québec's healthcare institutions.

4,948
ANALYSIS REQUESTS
received from hospitals in 2020–2021

- Complex cases in erythrocyte and platelet immunology: **2,139 analyses** (patient cases)
- Blood type erythrocyte genotyping: **3,907 analyses** (patient cases and donors)
- HLA typing: **3,563 analyses**
- Screening for virological markers: **933 analyses** (donors in hospitals)
- Phenotyping: **23,920 packed red blood cells** delivered to hospitals

Transplant Québec

Héma-Québec's specialized laboratories support Transplant Québec by conducting qualification tests to determine whether a potential organ donor is a carrier of a blood-borne infection.

113
SAMPLES TESTED
in 2020–2021

Phenotyped packed red blood cells

Héma-Québec has added phenotype K (Kell) to its range of automated analyses for inventorying phenotyped packed red blood cells intended for women of child-bearing potential. Other phenotypes (including C, c, E, e) have also been added in order to meet the needs for phenotyped packed red blood cells among patients with sickle cell anemia, among others.

More than
5
PHENOTYPES ADDED
to the automated analyses in 2020–2021

INNOVATION

Héma-Québec is contributing to several initiatives that foster innovation to benefit Québec's healthcare system. Whether by improving operations at various levels or by creating partnerships, the organization promotes innovation and continuous improvement through its various activities.

3

SCIENTIFIC STUDIES

conducted in order to better understand COVID-19

This way, Héma-Québec is contributing to the efforts being undertaken to better understand and control the COVID-19 pandemic, by conducting studies of public interest.

5

PARTNERSHIPS

for the supply of human tissues

41

SCIENTIFIC PUBLICATIONS

MAIN RESEARCH AND DEVELOPMENT AREAS

Operational support

- Evaluation of new technologies
- Improvements in operational methods and processes
- Qualification testing of biological products

Research and development

- New product development
- Basic research
- Epidemiological research
- Research on trends in the use of human-derived biological products

Use of research results

- Outreach through communications
- Protection and use of intellectual property

BLOOD PRODUCTS
STABLE PRODUCTS
STEM CELLS
HUMAN TISSUES
MOTHER'S MILK

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HÉMA-QUÉBEC

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