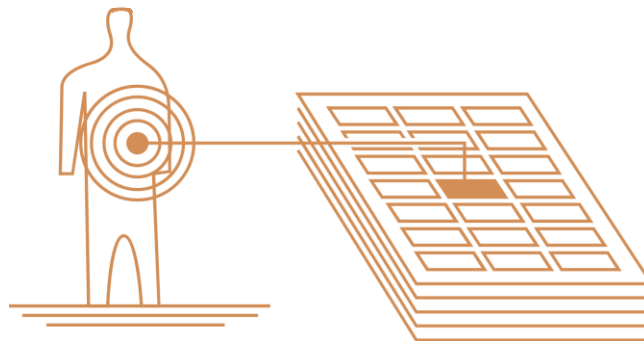




Canadian Blood Services

*Donation and Transplantation  
Canadian Eye and Tissue Banking Statistics  
January 1 to December 31, 2015*

A Report from the Canadian Eye and Tissue Data Committee



Extracts of the information in this report may be reviewed, reproduced or translated for educational purposes, research or private study but not for sale or for use in conjunction with commercial purposes. Any use of the information should be accompanied by an acknowledgement of Canadian Blood Services and the Eye and Tissue Data Committee as the source. Any other use of this publication is strictly prohibited without prior permission from Canadian Blood Services.

Canadian Blood Services assumes no responsibility or liability for any consequences, losses or injuries, foreseen or unforeseen, whatsoever or howsoever occurring, which might result from the implementation, use or misuse of any information or recommendations in this report. This report contains recommendations that must be assessed in the context of a full review of applicable medical, legal and ethical requirements in any individual case.

Production of this report has been made possible through a financial contribution from Health Canada, and the Provincial and Territorial governments. The views expressed herein do not necessarily represent the views of the Federal, Provincial or Territorial governments.

Canadian Blood Services  
1800 Alta Vista Drive  
Ottawa, Ontario K1G 4J5  
Canada  
613-739-2300  
Email: [info@blood.ca](mailto:info@blood.ca)

## Executive Summary

Canadian Blood Services, on behalf of the Eye and Tissue Data Committee (ETDC), receives quarterly data submissions from all Canadian eye and tissue programs. Data definitions have been established and data training delivered to the Canadian eye and tissue community.

Canadian Blood Services maintains and collates data for review by the Eye and Tissue Data Committee. The purpose of this report is to provide information and insights into the Canadian supply of, and demand for, ocular and tissue allografts across Canada.

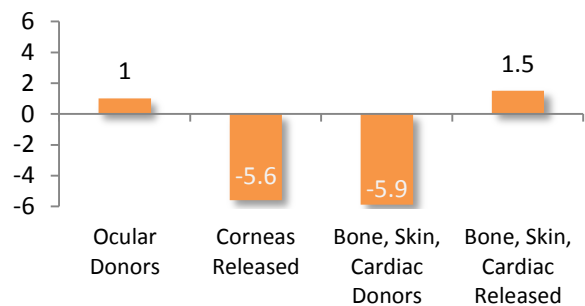
Prospective data collection was initiated in 2012. 2015 data was submitted from 16 eye and tissue banks representing a census of all Canadian eye and tissue banking activity. The only data set which is not a census of Canadian activity is approach and consent rate; analysis presented is based on the 13 programs which submitted this metric and provides visibility to the consent rate within those programs. Data on allografts imported by Canadian hospitals from the United States was not available.

In 2015 Canadian Eye and Tissue Banks received 46,381 referrals for potential tissue donors. In those approached 52% consented to tissue donation. Tissue was recovered from 4,473 deceased donors and 557 living donors resulting in the production of 16,105 grafts released into inventory for transplantation; 5,563 ocular (cornea and sclera) and 10,542 tissue (bone, skin, cardiac, surgical bone and amnion). This represents a 2% production decrease from 2014; and a total allograft production decrease of 7.9% from 2013.

There has been a 0.8% decrease in deceased tissue donation between 2014 and 2015. There has been a continued decrease in living tissue donation with an 18% decrease in surgical bone donation between 2014 and 2015.

There has been a 1.0% increase in the number of donors where ocular tissue was recovered yet a 5.6% decrease in corneas produced and released to inventory and a 5.0% decrease in corneal transplants (Keratoplasty) between 2014 and 2015. There has been a 5.9% decrease in the yield of cornea grafts (# corneas released for transplant per donor) decreasing from 1.02 to 0.96 per donor between 2014 and 2015.

**% Change Between 2014 & 2015**



Data indicates that in 2015, 51% of all cornea transplants (keratoplasty) performed in Canada were endothelial keratoplasty; requiring post recovery processing of the cornea prior to transplantation. Descemet Membrane Endothelial Keratoplasty (DMEK) continues to increase in demand and in 2015 accounted for 24% of all endothelial keratoplasties.

In 2015 there was a 5.9% decrease in the number of deceased donors where musculoskeletal, skin and or cardiac tissue was recovered and a total decrease in this recovery of 23.6% from 2013.

There was a 1.5% increase in the number of bone, cardiac and skin grafts processed and released to inventory from deceased donors in 2015 despite the decrease in donors. In 2015 the distribution from inventory of non-ocular grafts; musculoskeletal, skin, cardiac, surgical bone and amnion to transplantation increased 3.3% from 11,588 to 11,965 grafts.

Amnion production dropped 55% in 2015; from 598 to 271 grafts.

This prospective data collection provides all jurisdictions with insight into tissue donation activity as well as to the Canadian production and distribution of ocular and tissue grafts. Canadian eye and tissue programs are to be commended on their leadership and their contributions to this data analysis.

This report provides valued information documenting changes in system performance between 2013, 2014 and 2015 and provides insight into the current tissue environment.

Moving forward, Canadian Blood Services will continue to work with the Eye and Tissue

communities to advance and improve data collection and collation of performance data to support all programs and stakeholders in their valuable efforts to provide the donation and allograft services Canadians require.



## Table of Contents

Executive Summary.....	3
1.0 Introduction .....	6
2.0 2015 Canadian View of Tissue Donation and Transplantation .....	7
3.0 Comparative Analysis.....	8
3.1 Canadian Eye and Tissue Banks .....	8
3.2 Canadian Eye and Tissue Banking Activity .....	8
4.0 2015 Canadian Eye & Tissue Banking Deceased Donation Activity .....	9
4.1 Total Donor Referrals.....	9
4.2 Consent Rate.....	9
4.3 Deceased Donor Breakdown.....	10
4.4 Deceased Donor Analysis.....	10
5.0 2015 Canadian Eye & Tissue Banking Living Donation Activity .....	11
5.1 Living Donors – Surgical Bone .....	11
5.2 Living Donors – Surgical Bone Released to Inventory.....	11
5.3 Living Donors – Surgical Bone Distributed to Transplant .....	12
5.4 Living Donors – Amnion Donors.....	12
5.5 Living Donors – Amnion Processed and Released to Inventory .....	13
5.6 Living Donors – Amnion Distributed to Transplant.....	13
6.0 2015 Canadian Eye & Tissue Production and Distribution Activity .....	14
6.1 Total Corneas Distributed for Transplant .....	14
6.2 Type of Endothelial Keratoplasty .....	15
6.3 Tissue Grafts Processed and Released to Inventory: Type of Graft.....	16
6.4 Tissue Grafts Distributed to Transplant: Type of Graft.....	16
Conclusion.....	17
Appendix A: Definitions .....	18
Appendix B: Eye and Tissue Data Committee Membership .....	20
Appendix C: List of Contributing Programs.....	21
Appendix D: List of Products Programs Distribute.....	22

## 1.0 Introduction

Canadian eye and tissue programs, in collaboration with Canadian Blood Services, support the collection, collation and analysis of system performance data. Data definitions are established (see Appendix A).

The Eye and Tissue Data Committee ETDC (see Appendix B) provides advice and collaboration on definitions, collection and analysis of data related to eye and tissue banking activity in Canada.

Canadian Blood Services is the repository for the data, supports data management and analytics, provides secretariat support and collaborates with the Eye and Tissue Data Committee in the analysis and presentation of data.

Prospective data collection was initiated in 2012. 2015 data was submitted from 16 eye and tissue banks (see Appendix C) representing a census of all Canadian eye and tissue banking activity.

A summary of products produced and or distributed by each eye and tissue banks is detailed. (see Appendix D).

In 2010 Canadian Blood Services published two reports, “Supply of Human Allograft Tissue in Canada” and “Demand for Ocular Tissue in Canada”, which detail the 2008 system performance activity of Canadian eye and tissue banks excluding Quebec.<sup>1,2</sup> Héma-Québec published a 2008/2009 annual report detailing system performance activity for Quebec.<sup>3</sup> These reports allow for an estimation of 2008 Canadian system performance activity which is presented in some instances for comparison.

The following reports on Canadian eye & tissue banking donation, production and distribution statistics for Canadian eye and tissue banks, for January 1 to December 31, 2015 and a comparative analysis of Canadian system performance 2013, 2014 and 2015.

Canadian Blood Services and the Eye and Tissue Data Committee would like to express our sincere appreciation to the members of the Canadian tissue community who participate in this data collection for the time and expertise they provide to the collection and collation of national activity data.

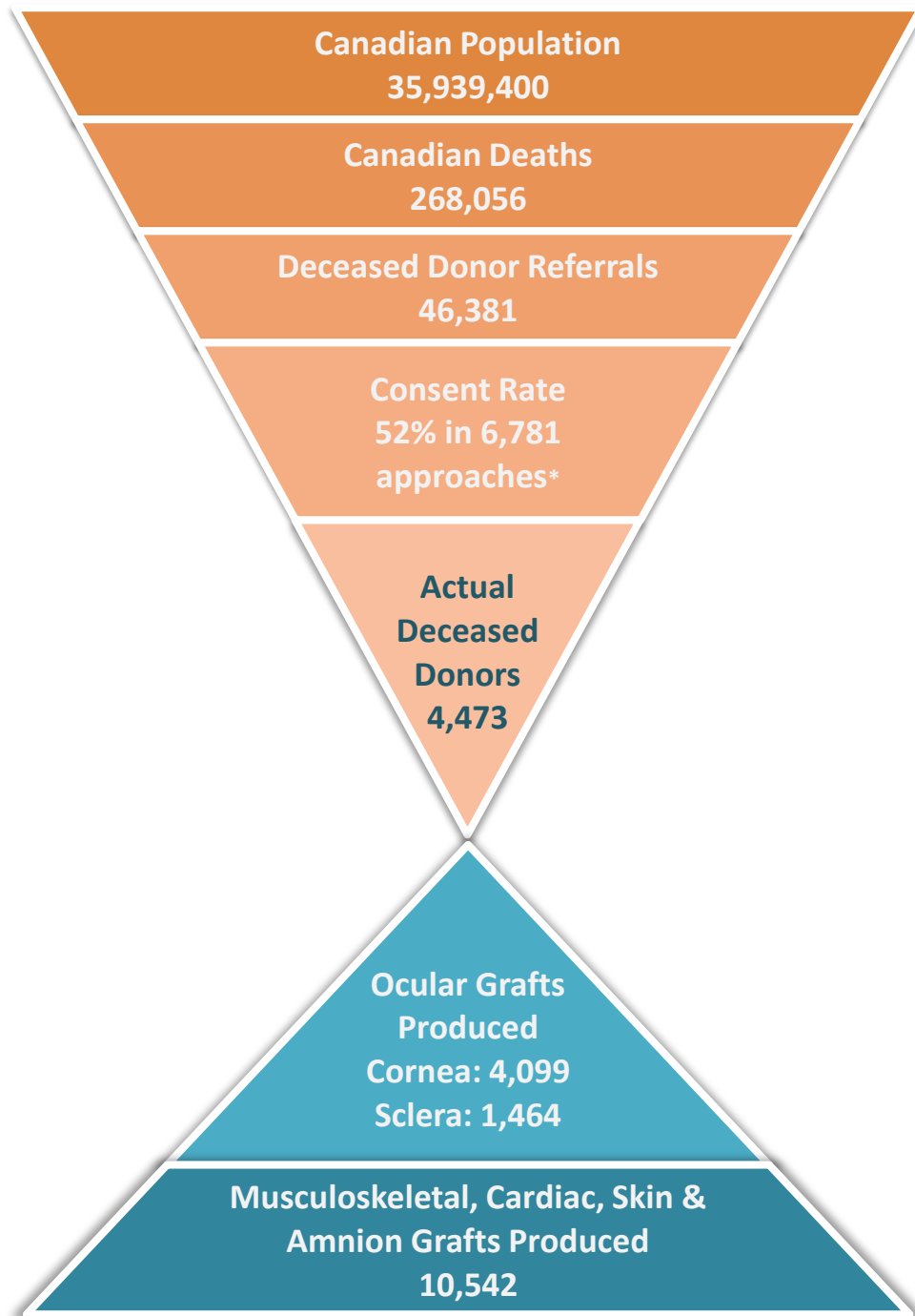
---

<sup>1</sup> Canadian Blood Services (2010). Supply of Human Allograft Tissue in Canada - Final Report 2010, [www.organsandtissues.ca](http://www.organsandtissues.ca)

<sup>2</sup> Canadian Blood Services (2010). Demand for Ocular Tissue in Canada - Final Report January 2010 [www.organsandtissues.ca](http://www.organsandtissues.ca)

<sup>3</sup> Héma-Québec (2009). 2008-2009 Annual Report – March 2009 [www.hema-quebec.ca](http://www.hema-quebec.ca)

## 2.0 2015 Canadian View of Tissue Donation and Transplantation



Population and death data sourced from Statistics Canada. Chart adapted from the Australian Government, Australian Organ and Tissue Donation and Transplantation Authority, Annual Report 2013-2014, Figure 8: Australia's potential organ donor population.

\*13 programs collect data on the number of approaches and consent rate, this data documented a 52% consent rate.

### 3.0 Comparative Analysis

#### 3.1 Canadian Eye and Tissue Banks

Type of Bank	2008	2013	2014	2015
Comprehensive Tissue Banks*	5	6	6	6
Eye Banks	7	4	4	4
Musculoskeletal Banks	4	3	3	3
Skin Banks	1	1	1	1
Cardiac Banks	1	1	1	1
Surgical Bone Banks*	7	2	1	1
Total	25	17	16	16

\*“Comprehensive” is defined as recovering and/or processing more than one tissue type. A “surgical bone bank” is defined as a bank which recovers only surgical bone. Some musculoskeletal and comprehensive banks recover surgical bone.

#### 3.2 Canadian Eye and Tissue Banking Activity

Total Canadian Activity	2013	2014	2015	% Change
Deceased donor referrals	41,594	45,154	46,381	2.7%
Total deceased donors	4,383	4,510	4,473	-0.8%
Donors where ocular tissue was retrieved	4,146	4,248	4,292	+1.0%
Deceased donors where bone, cardiac and or skin was retrieved	772	627	590	-5.9%
Surgical bone donors	700	669	549	-17.9%
Corneas produced and released for transplant	4,004	4,344	4,099	-5.6%
Corneas transplanted - keratoplasty*	3,284	3,259	3,097	-5.0%
Cornea yield: Number of corneas processed/released per ocular donor	0.97	1.02	0.96	-5.9%
Total bone, skin and cardiac grafts processed and released into inventory in deceased donors	11,297	9,709	9,856	+1.5%
Total non-ocular grafts distributed to transplantation (bone, skin, cardiac, surgical bone, amnion grafts)	12,480	11,588	11,965	+3.3%
Total all eye and tissue grafts processed and released to inventory (deceased & living donors - ocular, bone, skin, cardiac, surgical bone, amnion grafts)	17,480	16,428	16,105	-2.0%

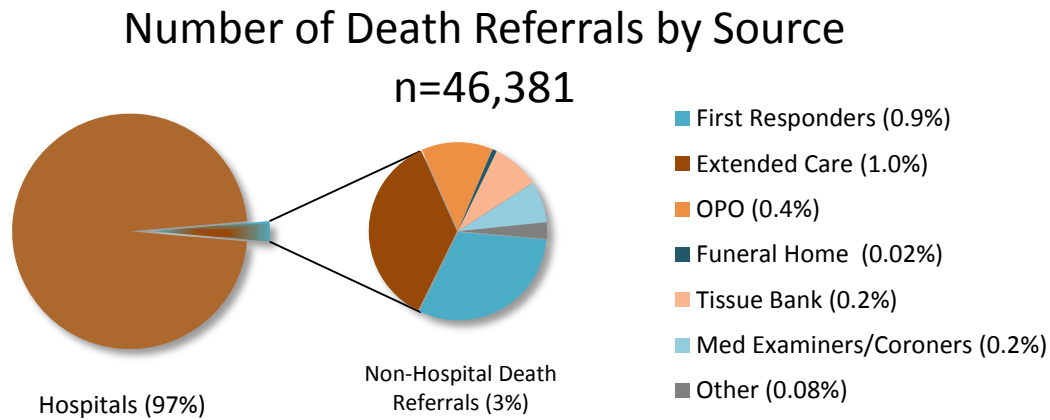
\* Data limitation: In 2015 an additional 64 corneas were distributed with the end use identified as “unknown “ compared to 632 distributed for unknown end use in 2014 and 220 with unknown end use in 2013



## 4.0 2015 Canadian Eye & Tissue Banking Deceased Donation Activity

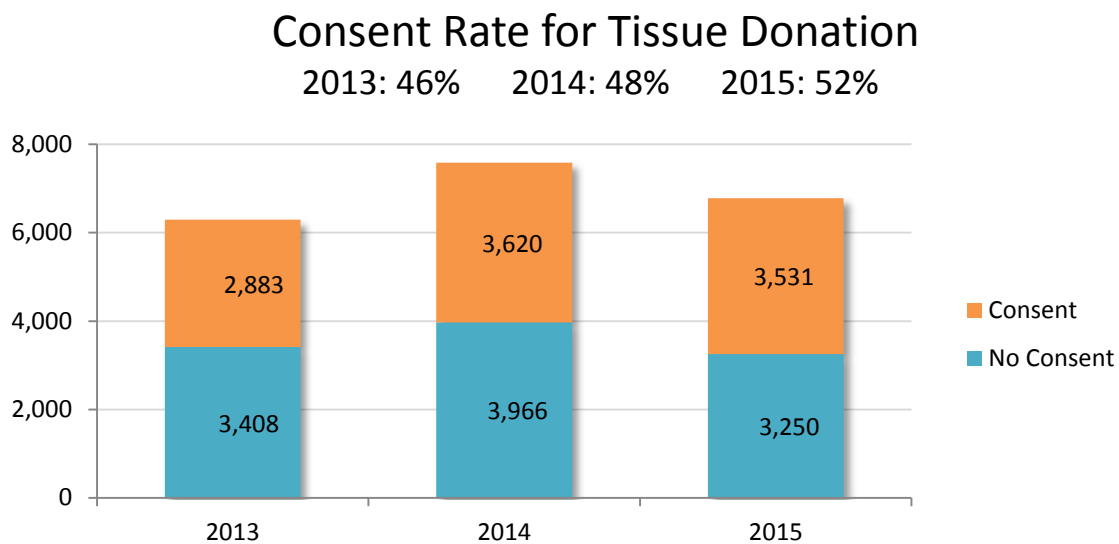
### 4.1 Total Donor Referrals

A total of 46,381 deaths were identified and referred for initial screening/consideration of tissue donation potential in 2015, an increase of 2.7% over 2014 referrals. (n=45, 154)



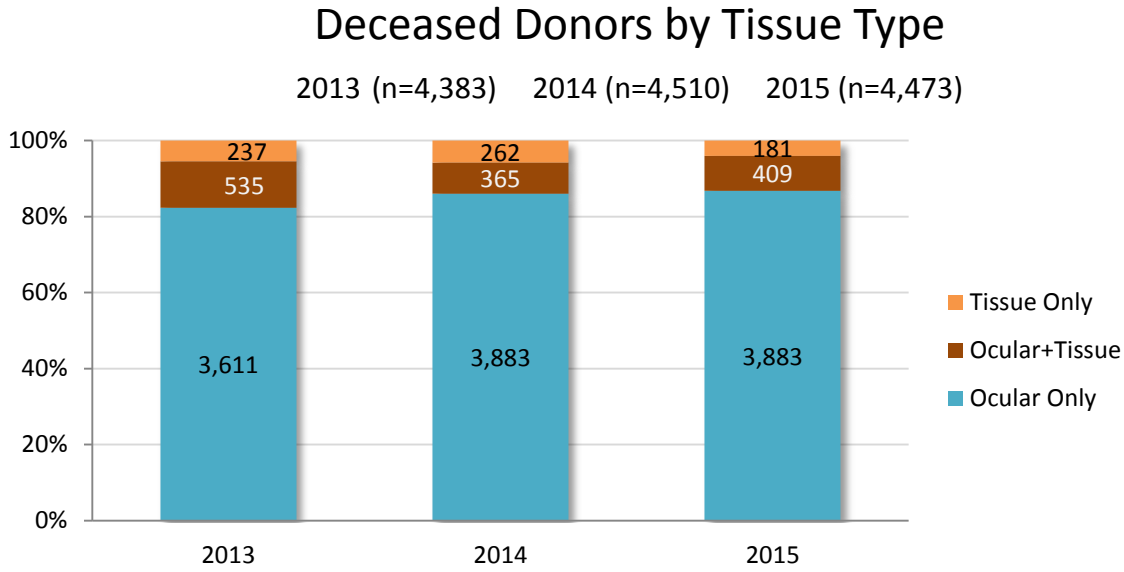
### 4.2 Consent Rate

In 2015, 13 programs were able to provide data on 6,781 approaches for deceased tissue donation. A consent rate of 52% was identified.



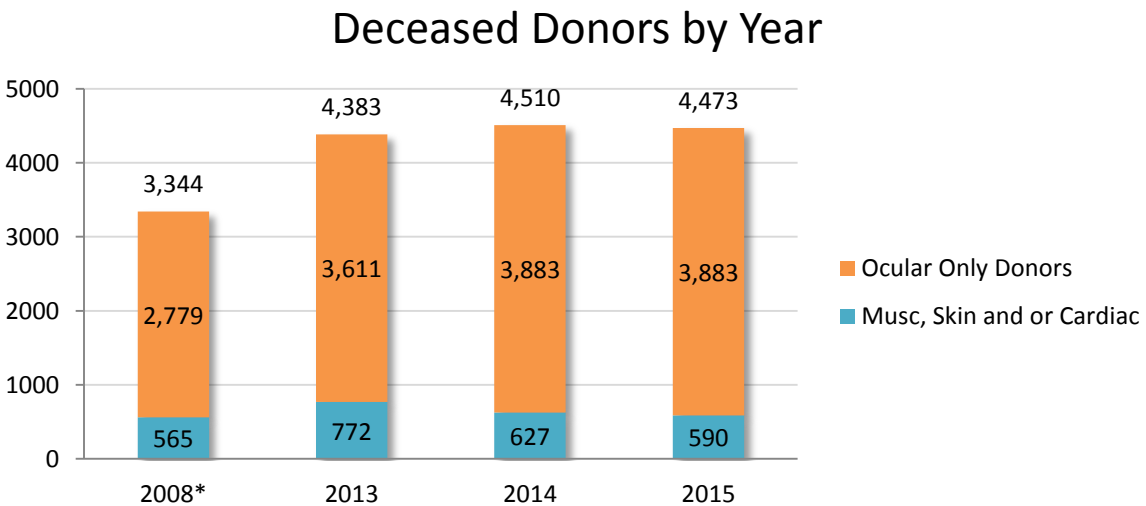
### 4.3 Deceased Donor Breakdown

In 2015 there were 4,473 deceased tissue donors in Canada. The vast majority of these donors (87%) were ocular only donors.



### 4.4 Deceased Donor Analysis

The total number of deceased donors has remained relatively stable over the last three years; however there has been a 24% decrease in the number of donors where musculoskeletal, skin or cardiac tissue was recovered since 2013. 2015 activity has reverted back to 2008 levels.



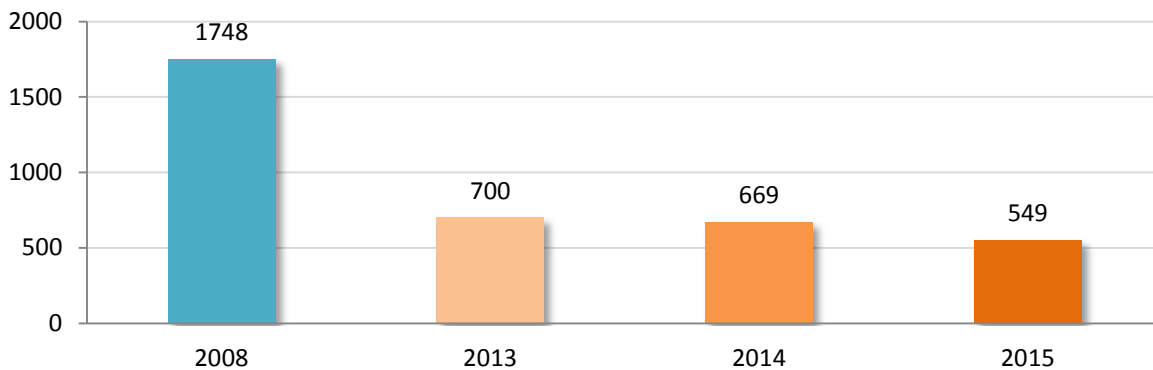
\* 2008 data on tissue donors was estimated from best available data.

## 5.0 2015 Canadian Eye & Tissue Banking Living Donation Activity

### 5.1 Living Donors – Surgical Bone

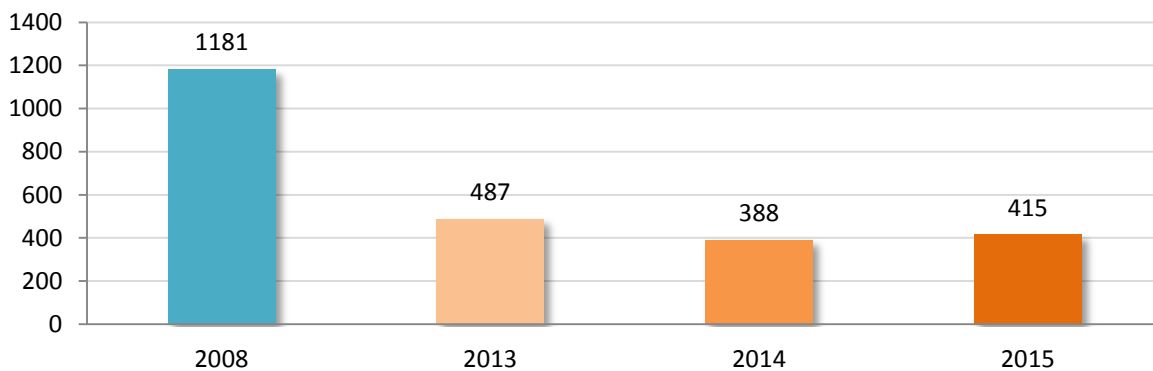
In 2015, five programs reported recovering bone from living donors; recovering femoral heads during total hip replacement surgery. There has been a 69% decrease in surgical bone donation between 2008 and 2015 (n=1,199). There has been an 18% decrease in 2015 (n=120) from 2014 levels. In 2015 approximately 75% of surgical bone recovered was released into inventory. The number of surgical bone grafts distributed for transplant continues to decrease in line with the decrease in recoveries.

### Surgical Bone Recoveries by Year

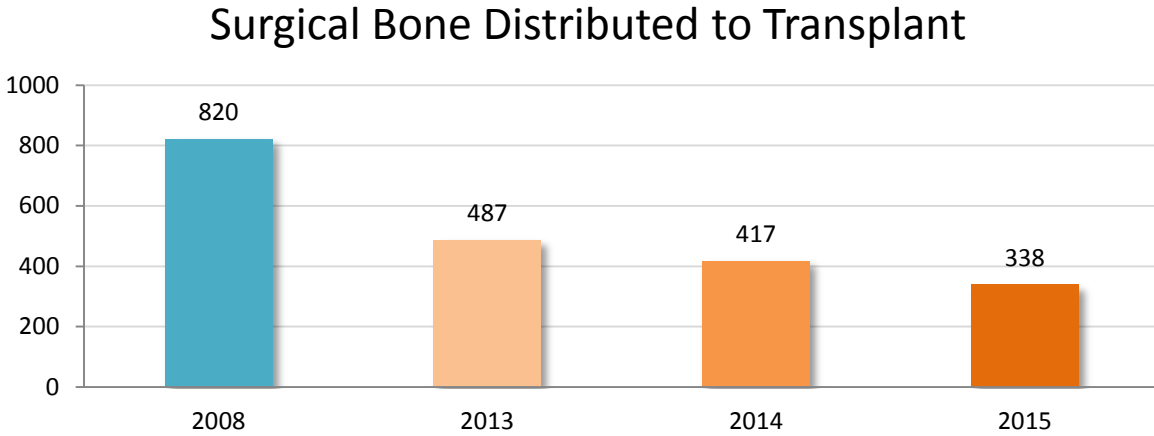


### 5.2 Living Donors – Surgical Bone Released to Inventory

### Surgical Bone Released to Inventory

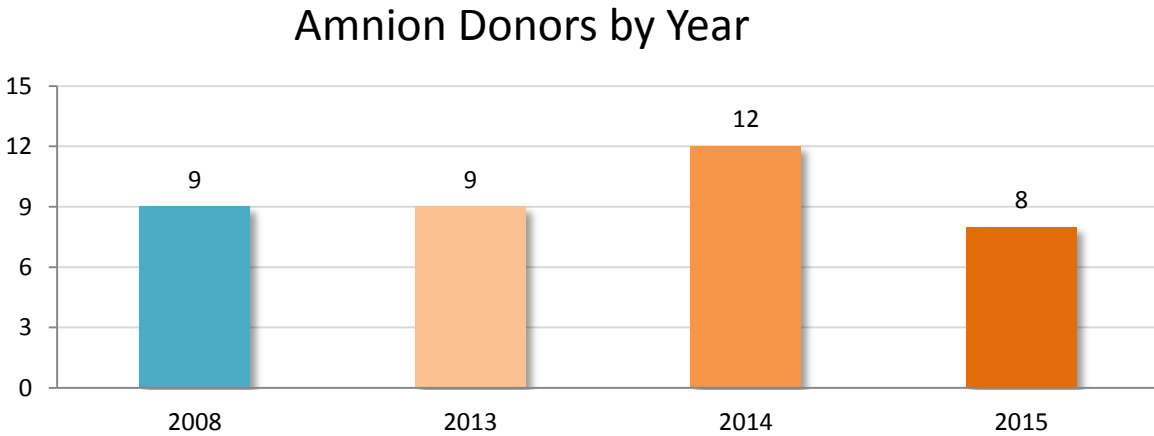


### 5.3 Living Donors – Surgical Bone Distributed to Transplant



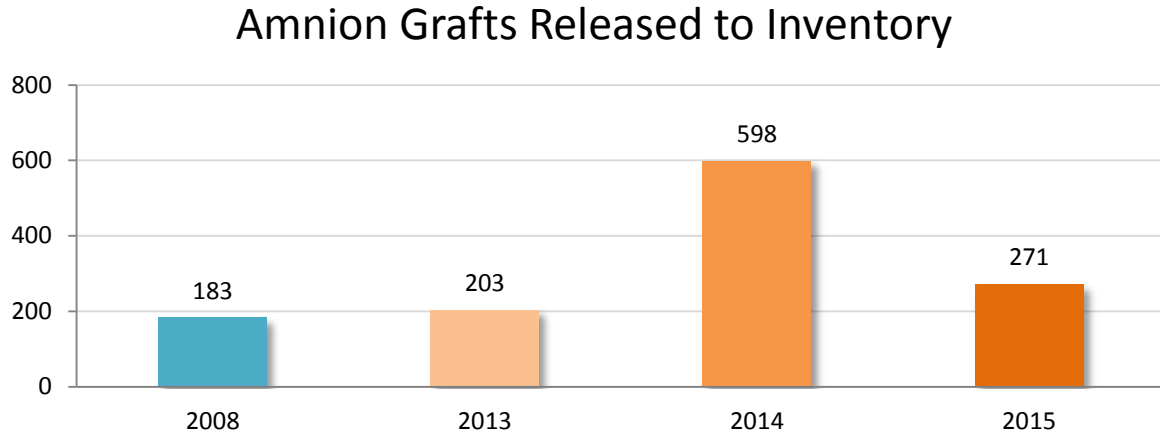
### 5.4 Living Donors – Amnion Donors

In 2013, three programs reported recovering amnion from 9 living donors and produced 203 grafts. In 2014 and 2015 there were four programs recovering amnion producing 598 grafts from 12 donors in 2014 and 271 grafts from 8 donors in 2015.<sup>5</sup>



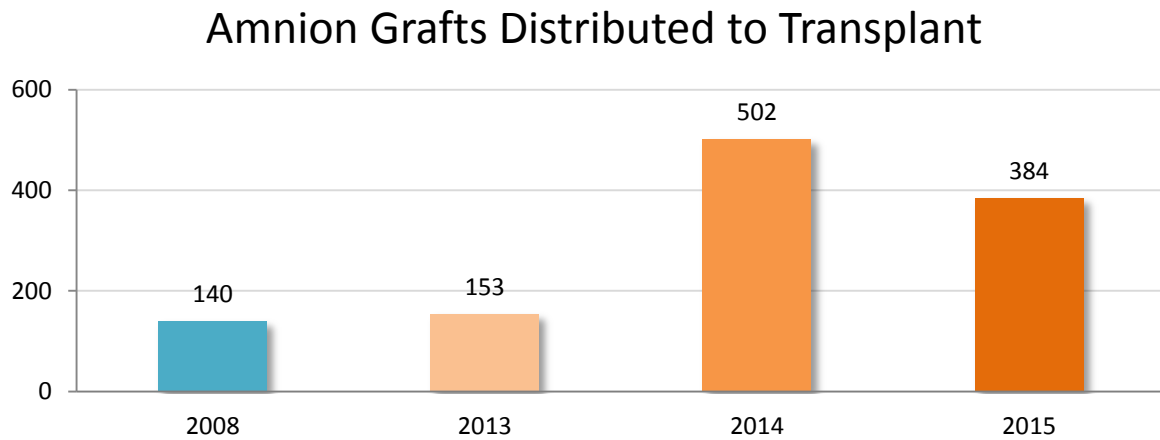
<sup>5</sup> In 2016 a data omission was identified; in previous reports a program producing amnion was omitted. Data was revised to 2008 to incorporate this activity.

*5.5 Living Donors – Amnion Processed and Released to Inventory*



In 2013, three programs reported distributing 153 amnion grafts. In 2014 and 2015 there were four programs recovering amnion distributing 502 and 384 grafts to transplantation.

*5.6 Living Donors – Amnion Distributed to Transplant*



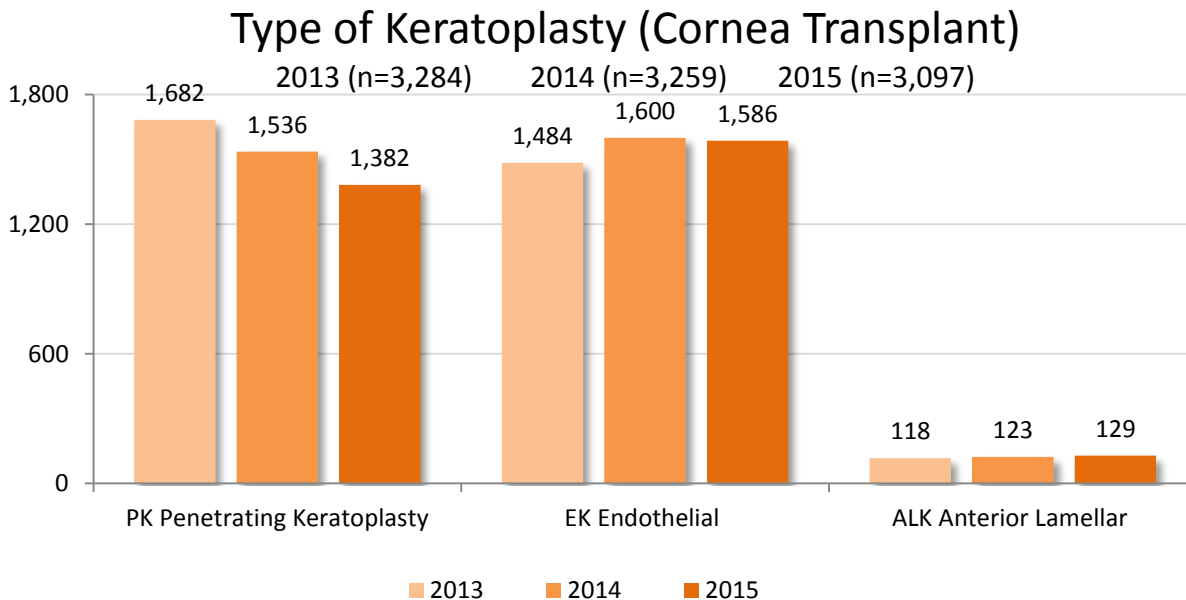
## 6.0 2015 Canadian Eye & Tissue Production and Distribution Activity

### 6.1 Total Corneas Distributed for Transplant

In 2015, Canadian eye banks produced/released 4,099 corneas for transplant, a 5.6% decrease below the 2014 production activity of 4,344 corneas. Of those 3,097 were distributed for cornea transplant (keratoplasty) as compared with 3,259 in 2014; a decrease of 5.0%. An additional 263 corneas were utilized in non-keratoplasty procedures including glaucoma shunt patch. A limitation in the data is corneas where the final use was detailed as “unknown” which included an additional 64 corneas in 2015 a significant improvement over the 632 unknown in 2014.

51% of all cornea transplants performed in Canada in 2015 were endothelial keratoplasty EK as compared to 49% in 2014.

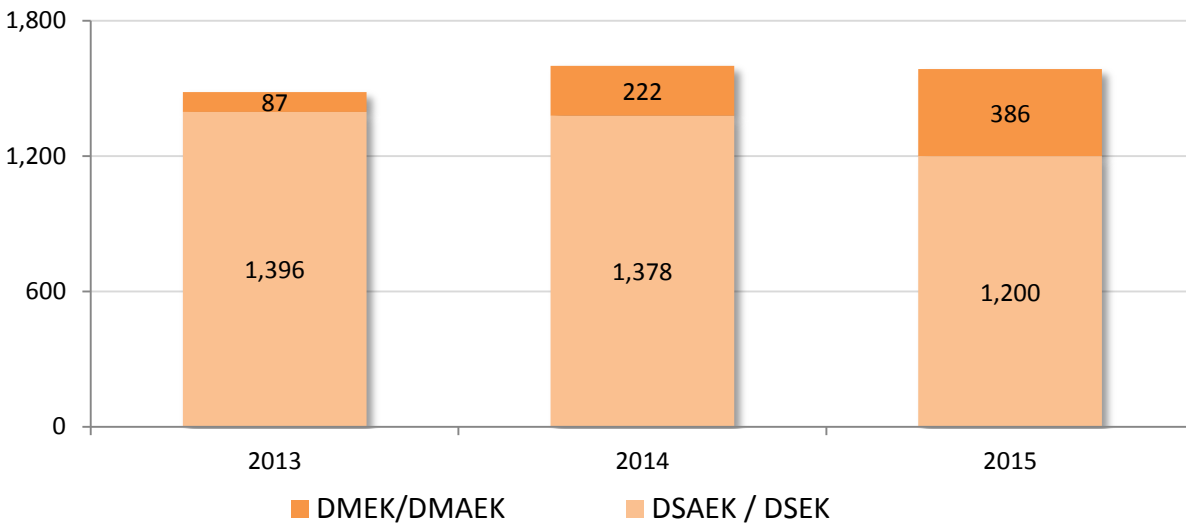
In 2015, four Canadian eye banks provided this processing service. In remaining regions the processing is completed by the surgeon in the operating room.



## 6.2 Type of Endothelial Keratoplasty

In Endothelial Keratoplasty the eye bank prepares the corneal tissue, or the surgeon prepares the corneal tissue in the operating room, removing specific layers of the cornea. Preparation or pre-cutting can be done manually (peel) or with a microtome (automated). There are 2 common methodologies; in Descemet's Stripping (automated) Endothelial Keratoplasty (DSAEK) the prepared (cut) graft is comprised of the donor tissue endothelium, Descemet's membrane and a thin, partial layer of the donor tissue's stroma. Descemet's Membrane Endothelial Keratoplasty (DMEK) involves the transplantation of only the Descemet's membrane and endothelial layer of the cornea. The DMEK peel has been described as a more technically challenging procedure than DSAEK but also has been reported to provide better, post-transplant patient visual acuity, lower rejection rates and faster visual recovery. The demand for DMEK continues to increase; representing 24% of EK corneas in 2015 as compared to 6% in 2013. In 2015 DMEK procedures were performed by transplanting ophthalmologists; no Canadian eye banks are currently providing this processing service.

### Type of Endothelial Keratoplasty

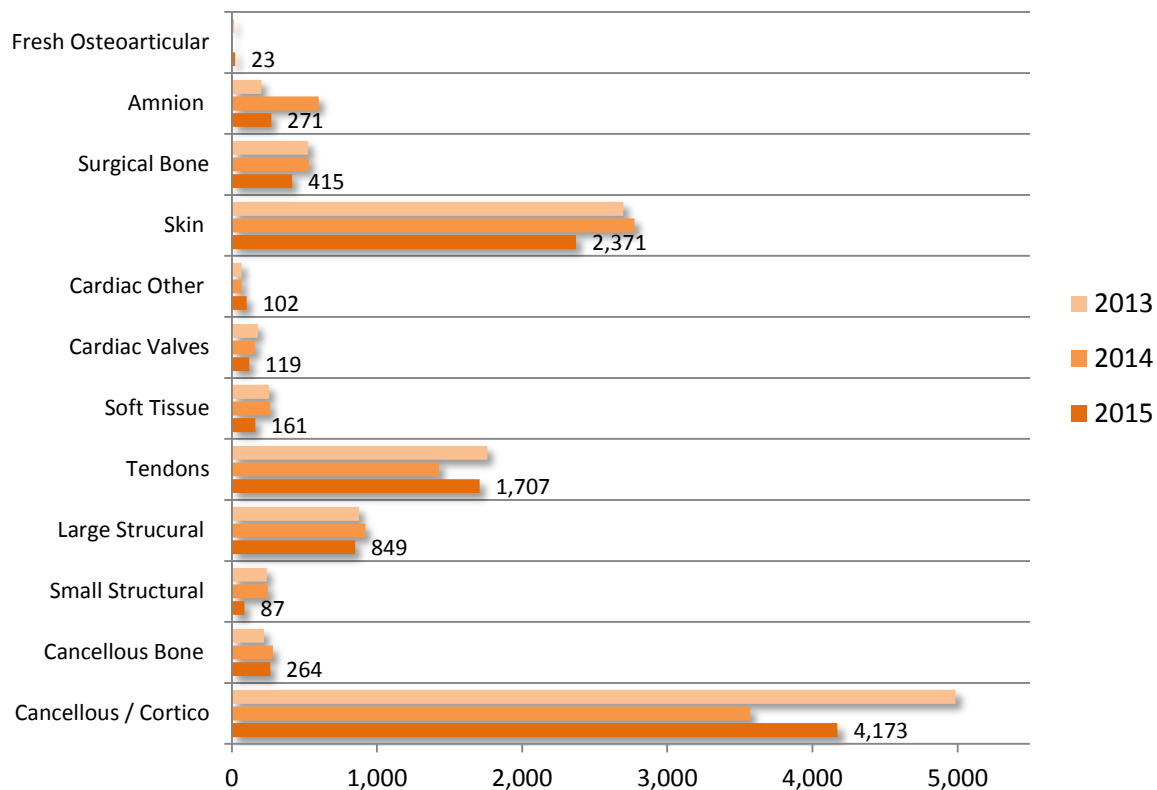


### 6.3 Tissue Grafts Processed and Released to Inventory: Type of Graft

In 2015, ten tissue banks<sup>6</sup> processed and released 10,542 musculoskeletal, cardiac, skin and amnion grafts, from deceased and living donors into inventory for transplant; detailed as 42% cancellous bone products, 23% skin grafts, 16% tendons, 9% structural bone, 3.9% surgical bone and 2% cardiac grafts.

There is essentially no change in total production from 2014 (n=10,837) but a significant reduction from the 2013 (n=12,045) production; a 12% decrease. In 2015 there has been a 16% increase in cancellous production (n=622), a 20% increase in tendon production (n=280), a 65% decrease in small structural graft production (n=160), a 55% decrease in amnion production (n=327) and a 14.5% decrease in skin graft production (n=403).

### Number of Grafts Processed & Released to Inventory



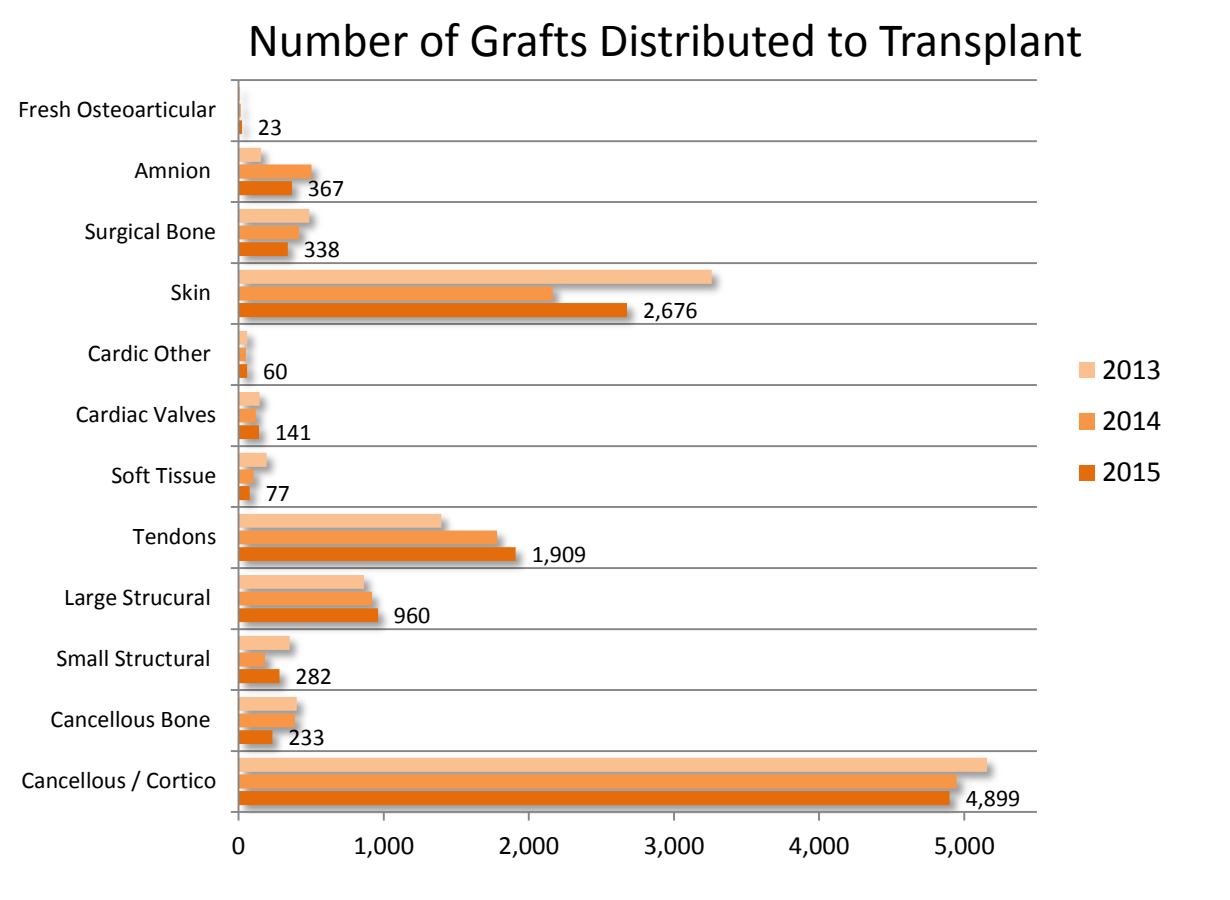
### 6.4 Tissue Grafts Distributed to Transplant: Type of Graft

In 2015, eleven tissue banks distributed 11,965 grafts to transplantation; essentially unchanged from the 2014 (n=11,588) and 2013 (n=12,480) distribution. There has been a 37% (n511) increase in the

<sup>6</sup> There are four banks in Ontario producing non ocular tissue; those banks submit program data to the Trillium Gift of Life Network who collates and provides an aggregate number for Ontario to this data base.



distribution of tendons since 2013 and a 27% decrease in amnion distribution in since 2014 (n=135). While ten banks produce allografts an eleventh has a relationship with American processors who produce allografts from donors recovered by that bank and return them for distribution.



### Conclusion

The prospective collection and collation of national eye and tissue bank activity provides insight into the Canadian supply and demand. As data accumulate, more sophisticated trend analysis will help inform donation and production targets and strategies to better align supply with demand.

## *Appendix A: Definitions*

**Amniotic Membrane:** Amniotic membrane is the innermost layer of the placenta consisting of a thick basement membrane and an avascular stromal matrix. It is used as a graft and as a dressing to facilitate ocular surface reconstruction and to promote healing. Its' use in plastic surgery (burns, wound care), orthopedic, dental and general surgery is increasing.

**Cancellous / Cortical Bone:** There are two types of osseous tissue that form bones; cancellous "spongy" bone and cortical "compact" bone. Tissue banks mill/grind bone into cancellous cortical particles or powder which is used to pack bone voids in surgical repairs.

**Chipped Bone:** Is bone that has been processed into morsels which is used to pack bone voids in surgical repairs.

**Consent Rate:** Is the ratio of donors where consent for donation is obtained to the number of donor families approached for consent.

**Deceased Donor:** Refers to a donor where tissue is recovered following cardiac or neurological death.

**Fresh Osteoarticular:** Osteoarticular refers to a bone graft that contains a joint surface; such as a knee. Fresh refers to the fact that in order to preserve viability of joint tissue the graft is not frozen or cryopreserved. These grafts are refrigerated and usually transplanted within weeks of recovery.

**Keratoplasty:** Keratoplasty is a surgical procedure also known as corneal transplantation where the procedure is described as a replacement of abnormal host tissue with healthy corneal tissue from a donor. The replacement of the corneal tissue can either be partial or full depending on the severity of damage in the cornea.

**Penetrating Keratoplasty:** Corneal transplant with replacement of all layers of the cornea, but retaining the peripheral cornea.

**Endothelial Keratoplasty (EK):** Endothelial keratoplasty is a corneal transplant procedure where only a patient's compromised posterior layers of the cornea are removed and replaced by similar posterior corneal layers of a donor cornea. The advent of this procedure occurred in the early to mid-2000s after fifty years of performing penetrating keratoplasty in nearly all corneal transplant surgeries. EK has clearly established itself as the standard of care for patients with endothelial dysfunction. There are a number of types of EK procedures including DSAEK and DMEK. They can be performed manually (peel) or automated (microtome).

**Descemet's Stripping (Automated) Endothelial Keratoplasty (DSAEK).** The vast majority of EK today is DSAEK where the eye bank precuts the corneal tissue, or the surgeon precuts the corneal tissue in the operating room. The prepared (cut) graft is comprised of the donor tissue endothelium, Descemet's membrane and a thin, partial layer of the donor tissue's stroma.

**Descemet's Membrane Endothelial Keratoplasty (DMEK):** DMEK involves the transplantation of only the Descemet's membrane and endothelial layer of the cornea. DMEK has been described as a more

technically challenging surgical procedure than DSAEK but also has been reported to provide better, post-transplant patient visual acuity, lower rejection rates and faster visual recovery.

**Deep Anterior Lamellar Keratoplasty (DALK or ALK):** Is a partial thickness corneal transplant procedure used to treat disease or injury confined to anterior layers of the cornea: the epithelium, Bowman's layer and stroma. DALK is most often used to treat keratoconus and corneal scarring.

**Living Donor:** A donor where tissue is recovered from a live person; such as femoral heads which are recovered during total hip replacements or amnion which is recovered from the placenta in live births.

**Ocular:** A general term which refers to the tissues of the eye which include the cornea and the sclera.

**Referral:** A referral is when a death is referred to a donation organization or tissue bank for consideration or evaluation of donation potential. In some jurisdictions all deaths are referred and in others frontline health professionals may do a pre-screening and only refer deaths which have no obvious contraindications to donation.

**Released to Inventory:** Refers to grafts that has been evaluated, and deemed safe and suitable for transplantation, by a medical director, through the appropriate quality review and made available for transplantation. Prior to release grafts in the production process are considered quarantined.

**Sclera:** The sclera is the part of the eye commonly known as the "white". It forms the supporting wall of the eyeball, and is continuous with the clear cornea. Scleral grafts are widely used in ophthalmologic surgery.

**Soft Tissue:** A generic term for muscle, fat, fibrous tissue or other supporting tissue matrix. In tissue banking it often refers to fascia lata; the sheets of fibrous tissue enveloping, separating or binding together muscles and orders. Fascia lata is processed into grafts for use in surgical repairs.

**Structural Bone Grafts:** These are bone grafts that are intended to support weight. They are classified into large or small. Large grafts include femurs, fibulas and humerus. Small grafts include sized grafts such as cortical dowels, wedges and rings.

**Surgical Bone:** Femoral heads can be recovered from total hip replacements and evaluated for suitability to transplant. These femoral heads are referred to as surgical bone. Surgeons grind the femoral head in the operating room to produce cancellous powder or particles. With the advent of bank produced pre-packaged cancellous and the increasing regulatory requirements the demand for surgical bone has declined.

**Tendon:** Is a band of tough, inelastic fibrous tissue that connects a muscle with its boney attachment. Tendons commonly banked for use it sports medicine surgery include Achilles, Patellar and Tibialis.

**Tissue:** Tissue is a general term which refers to musculoskeletal (bone), cardiac and skin tissue (non-ocular tissues)

**Yield:** Yield refers to the number of grafts which are recovered and released (deemed suitable) for transplant per donor. Yield can be affected by contamination, recovery technique, processing technique and donor factors such as age and comorbid diseases.

## Appendix B: Eye and Tissue Data Committee Membership

Member	Title	Program
Brenda Weiss (Chair)	Patient Care Manager Ophthalmology Clinic, Misericordia Eye Bank	Misericordia Health Centre, Winnipeg, MB
Mike Bentley	Manager, Transplant Services	Comprehensive Tissue Centre, Edmonton, AB
Mary Gatien	Director NB Organ Donor Program, Director NB Eye and Tissue Bank	New Brunswick Eye and Tissue Bank, Saint John and Moncton, NB
Mazen Dakkak	Business Development Officer	Héma-Québec, Québec City, QC
Ronn Ginther	Coordinator	Saskatchewan Transplant Program, Saskatoon, SK
Alison Halliday	Senior Technologist	Ontario Professional Firefighters' Skin Bank, Toronto, ON
Christine Humphreys Natalie Smigielski	Provincial Resource Centre Manager Clinical Specialist Tissue	Trillium Gift of Life Network, Toronto, ON
Cynthia Johnston	Quality Leader	Regional Tissue Bank, Halifax, NS
Mijani Ridic	Unit Manager, Lions Eye Bank	Southern Alberta Organ and Tissue Program, Calgary, AB
Gary Rockl	Senior Tissue Specialist	Southern Alberta Tissue Program Calgary, AB
Linda Sharpen	Manager	Eye Bank of Canada (Ontario Division), Toronto, ON
Chris Snow	Director	Tissue Bank Manitoba, Winnipeg, MB
Balram Sukhu	Manager	Mount Sinai Allograft Technologies, Toronto, ON
Ivan Yan	Head Technologist	Eye Bank of British Columbia, Vancouver, BC

## *Appendix C: List of Contributing Programs*

### British Columbia

- Eye Bank of British Columbia, Vancouver
- Island Health Bone Bank, Victoria

### Alberta

- Southern Alberta Tissue Program, Calgary
- Lions Eye Bank of Calgary, Calgary
- Comprehensive Tissue Centre, Edmonton

### Saskatchewan

- Saskatchewan Transplant Program, Saskatoon

### Manitoba

- Tissue Bank Manitoba, Winnipeg
- Misericordia Eye Bank, Winnipeg

### Ontario

Trillium Gift of Life Network manages the collation and submission of data from Ontario eye and tissue banks including:

- Eye Bank of Canada (Ontario Division), Toronto, Ontario
- The Hospital for Sick Children Tissue Laboratory, Toronto, Ontario
- Ontario Professional Fire Fighters Skin Bank, Toronto, Ontario
- Mount Sinai Allograft Technologies, Toronto, Ontario
- Lake Superior Centre for Regenerative Medicine, Thunder Bay, Ontario

### Quebec

- Héma-Québec, Saint Laurent

### New Brunswick

- New Brunswick Organ and Tissue Program; Ocular and Tissue Division, Saint John and Moncton

### Nova Scotia

- Regional Tissue Bank, Halifax

*Appendix D: List of Products Programs Distribute*

<b>]Canadian Eye Banks</b>	<b>PK Corneas</b>	<b>DSAEK Corneas</b>	<b>DMEAK Corneas</b>	<b>Sclera</b>	<b>Amnion</b>
<b>Eye Bank of British Columbia</b>	Y	Y	N	Y	N
<b>Lions Eye Bank of Calgary</b>	Y	Y	N	Y	N
<b>Comprehensive Tissue Centre</b>	Y	N	N	Y	Y
<b>Saskatchewan Transplant</b>	Y	N	N	Y	Y
<b>Misericordia Eye Bank</b>	Y	N	N	Y	Y
<b>Eye Bank of Ontario</b>	Y	Y	N	Y	Y
<b>Héma-Québec</b>	Y	N	N	Y	N
<b>New Brunswick Organ and Tissue Program</b>	Y	N	N	Y	N
<b>Regional Tissue Bank</b>	Y	Y	N	Y	N

<b>Canadian Tissue Banks</b>	<b>Cancellous Bone</b>	<b>Structural Bone</b>	<b>Rib or Cartilage</b>	<b>Tendon</b>	<b>Fresh Osteo</b>	<b>Soft Tissue</b>	<b>Cardiac</b>	<b>Skin</b>
<b>Island Health Bone Bank (Surgical Bone)</b>	Y	N	N	N	N	N	N	N
<b>Southern Alberta Tissue Program</b>	Y	Y	Y	Y	Y	Y	N	Y
<b>Comprehensive Tissue Centre</b>	Y	Y	Y	Y	N	Y	Y	Y
<b>Saskatchewan Transplant</b>	Y	Y	N	Y	N	N	N	N
<b>Tissue Bank Manitoba</b>	Y	Y	Y	Y	N*	Y	Y	Y
<b>RegenMed</b>	Y	Y	N	Y	N	N	N	N
<b>Mount Sinai Allograft Technologies</b>	Y	Y	N	Y	Y	N	N	N
<b>Hospital for Sick Children Tissue</b>	N	N	N	N	N	N	Y	N
<b>Ontario Professional Firefighters Skin Bank</b>	N	N	N	N	N	N	N	Y
<b>Héma-Québec</b>	Y	Y	N	Y	N	N	Y	Y
<b>New Brunswick Organ And Tissue</b>	Y	Y	N	N	N	N	N	N
<b>Regional Tissue Bank</b>	Y	Y	N	Y	Y	Y	Y	Y

\*planning in place for fresh osteoarticular