



# Estimating organ donor potential: *a comparable tool to track performance, identify gaps and help save lives*

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# Solid organs are in short supply

- More than 4,000 Canadians on waiting lists for a solid organ ( 75% of are waiting for a kidney )
- More than 200 Canadians die/year on waitlist

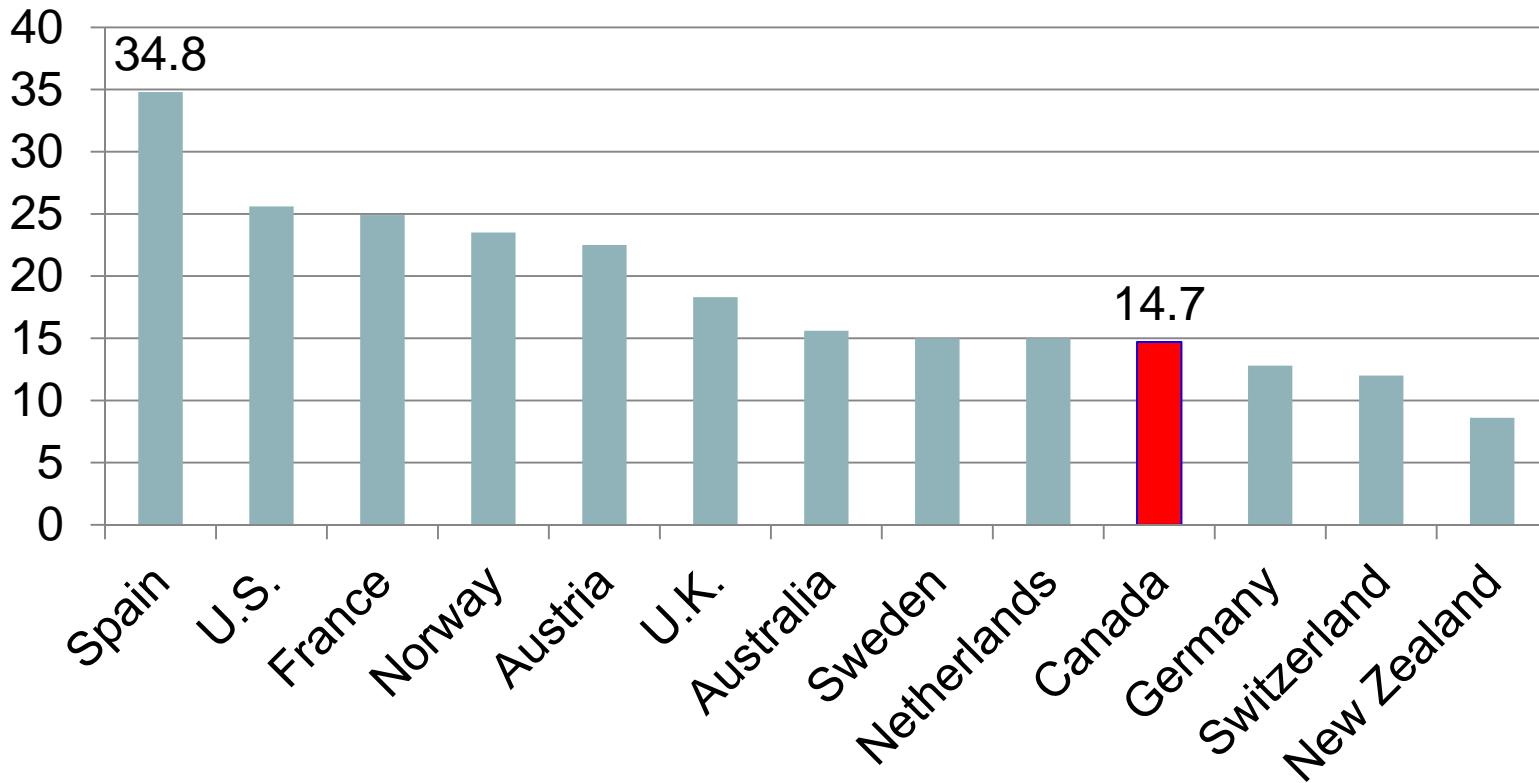


**1 ORGAN DONOR  
CAN SAVE 8 LIVES.**

IT ONLY TAKES **2** MINUTES FOR YOU TO REGISTER.

# International Deceased Organ Donation Rates

## 2012 Donors per Million





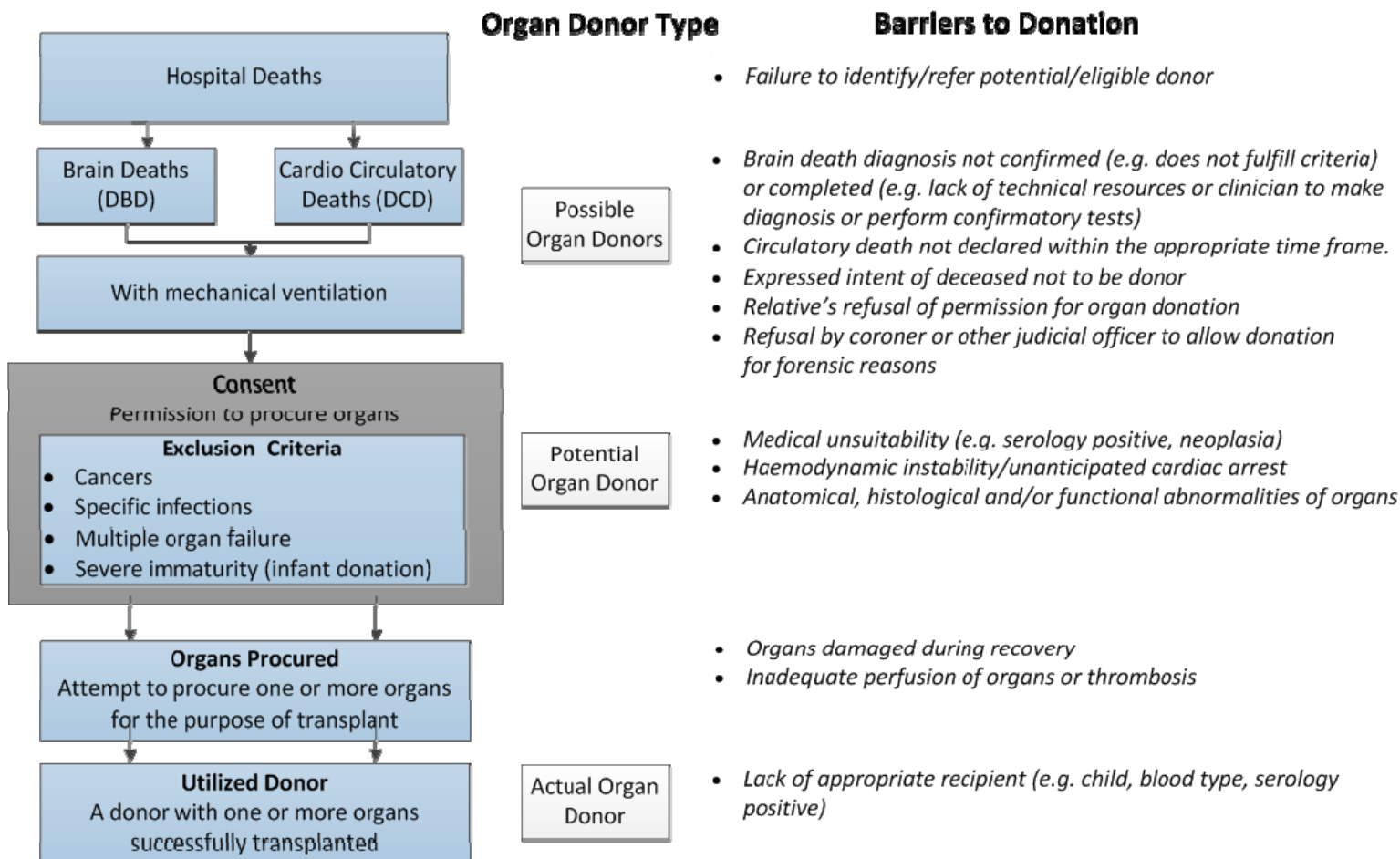
# Research questions

- What is the potential for deceased donation in Canada?
- How effectively are health systems converting potential donors into actual donors?
- What are some opportunities for improvement?
- What are factors associated with conversion?

# Organ Donation Pathway and Barriers to Donation



## WHO Organ Pathway and Barriers to Donation



# Methodology

Data sources (CIHI):

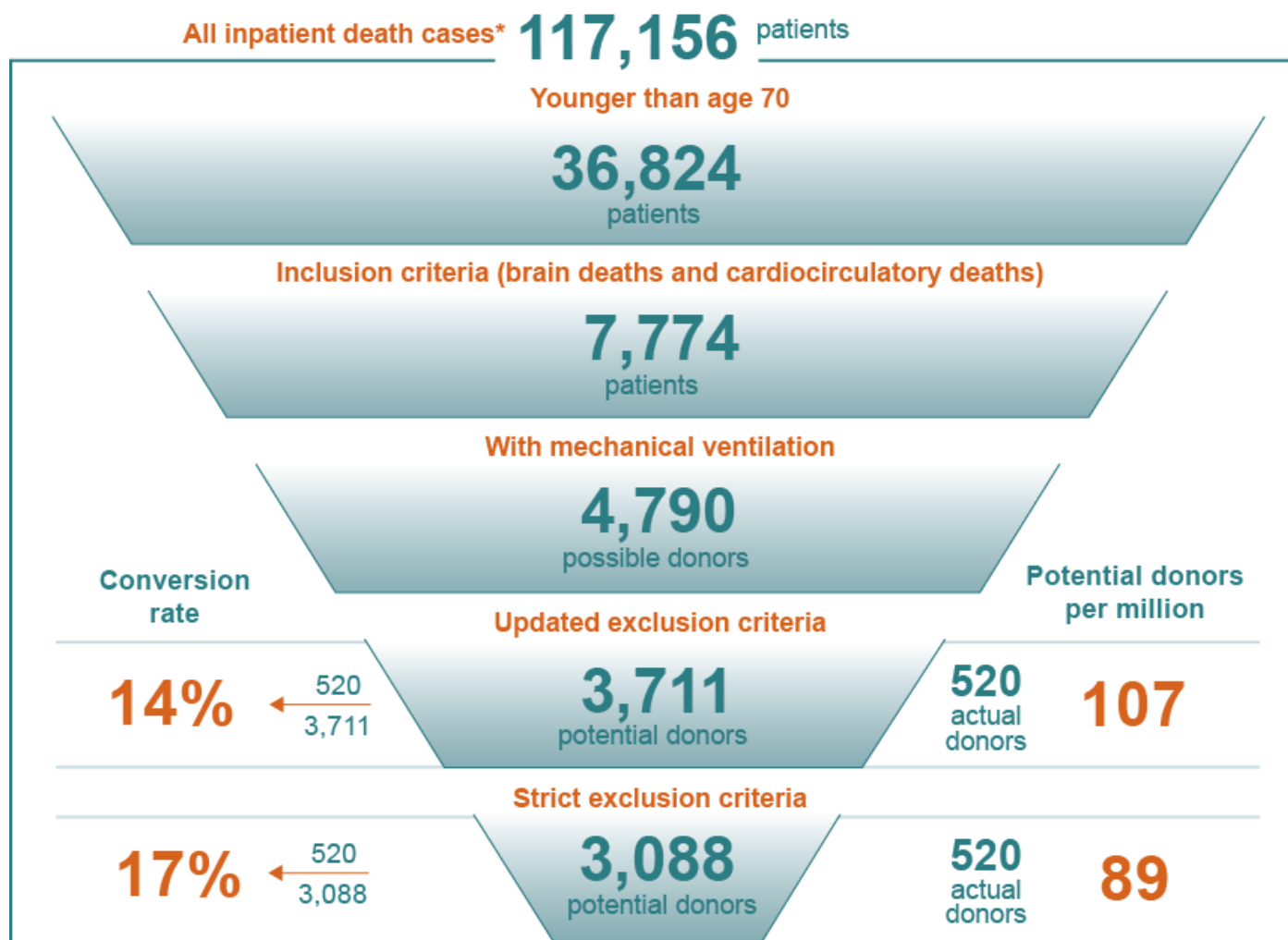
- **Hospital Morbidity Database (HMDB)** to potential donors
- **Canadian Organ Replacement Register (CORR)** to identify actual donors
- Conversion rate = 
$$\frac{\textit{Actual donors}}{\textit{Potential donors}}$$
- Linked data (Ontario only) for regression analysis



# Study limitations & complications

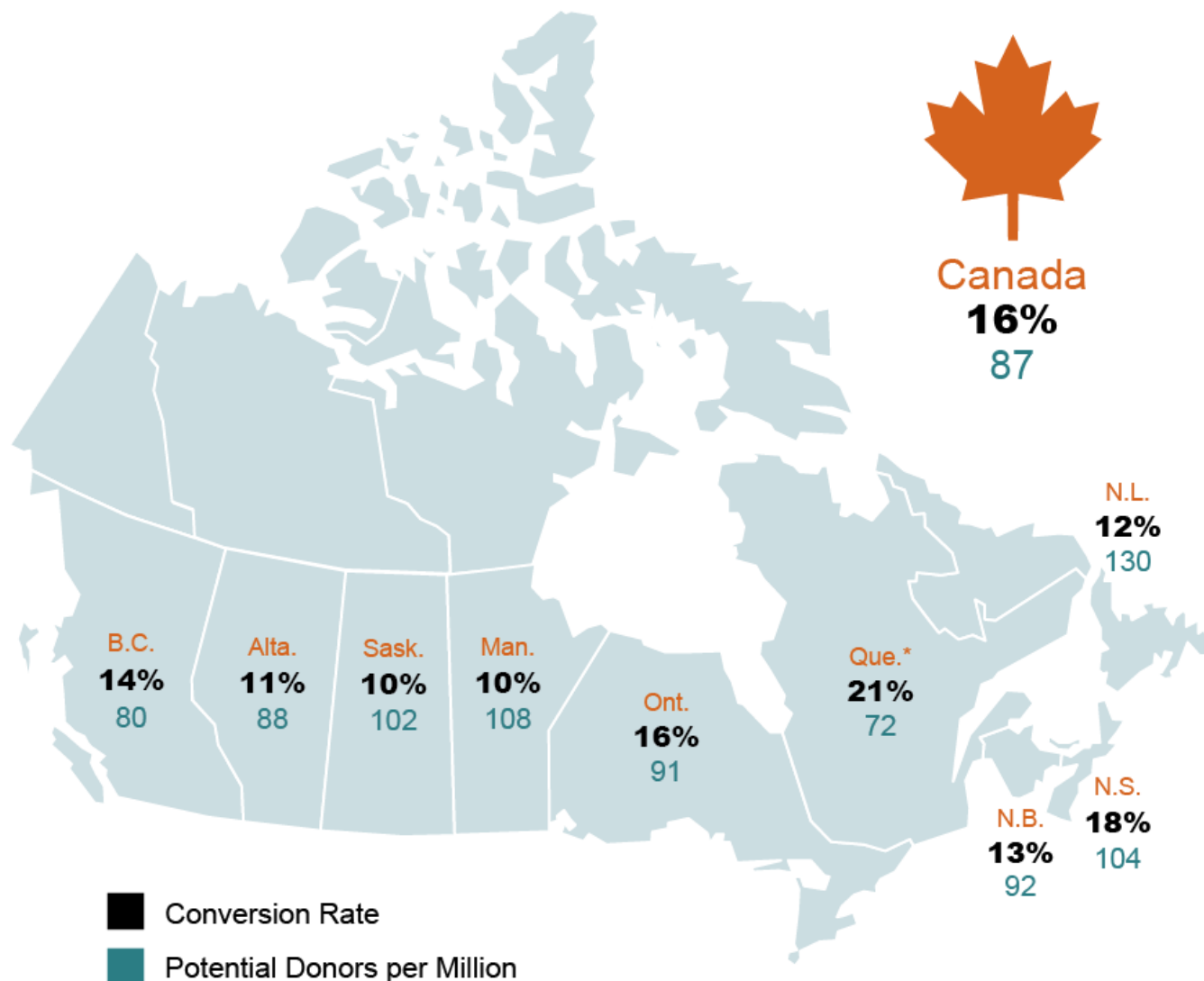
- No data on patient consent
- Exclusion criteria inconsistent
  - Strict (traditional) vs. updated criteria
- Discharge abstracts not as complete as full patient charts to determine eligibility... but...
  - Comprehensive: capture all deaths in all hospitals
  - Comparable
  - Repeatable

# Pathway to Deceased Organ Donor Potential in Canada, 2012\*





# Conversion Rates and Potential Donors per Million by Province, 2008 to 2012\*

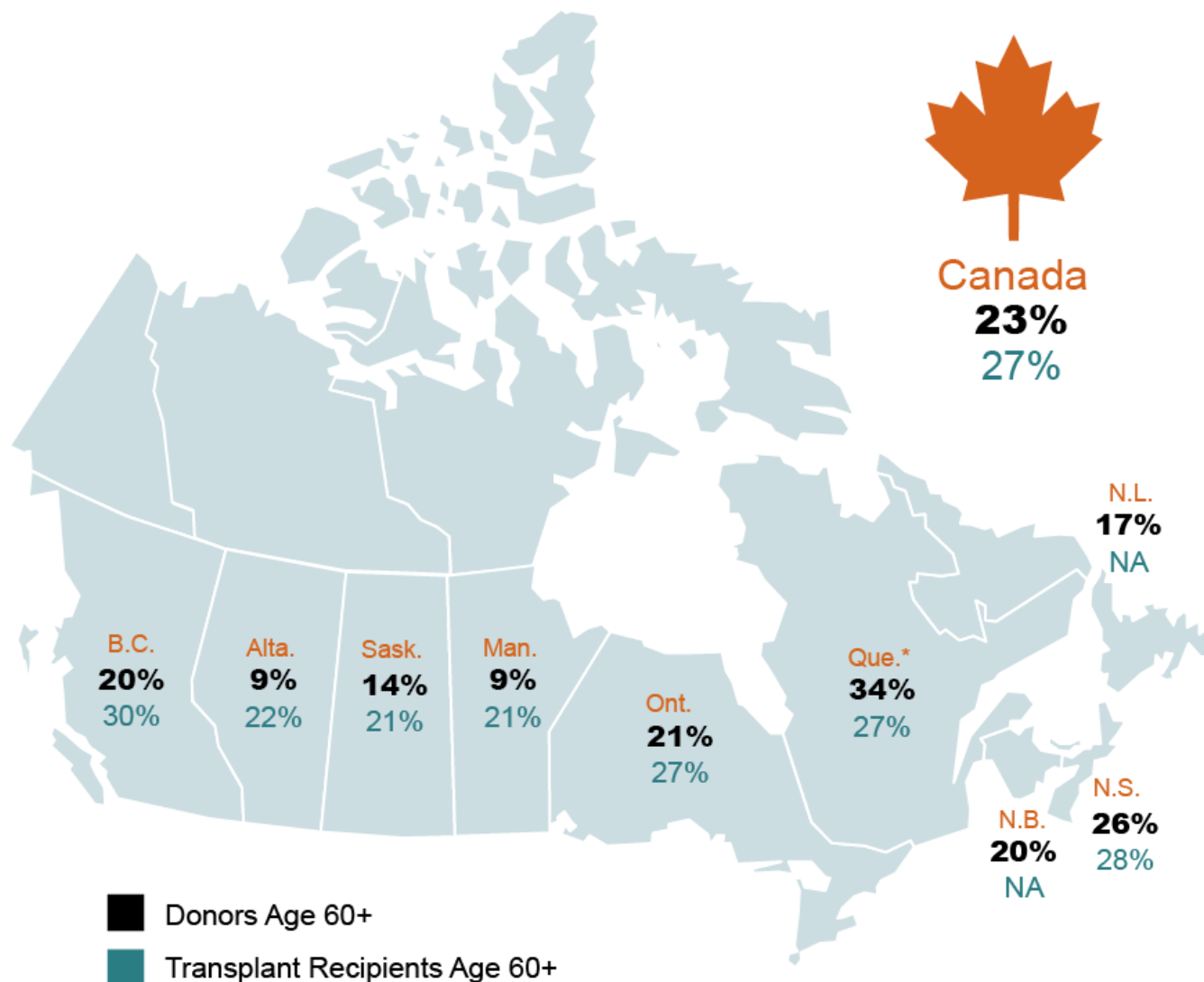


# Areas for improvement

## 1) Donation from older donors:

- Conversion rates of potential donors < 50 were:
  - **2 times** higher than for those age 50 -59
  - **4 times** those aged 60-69
- In Spain, 45% of donors were 60 and older (2009) vs. 23% in Canada (2008-2012)

# Percentage of Donors Age 60+ by Province (2008 to 2012)



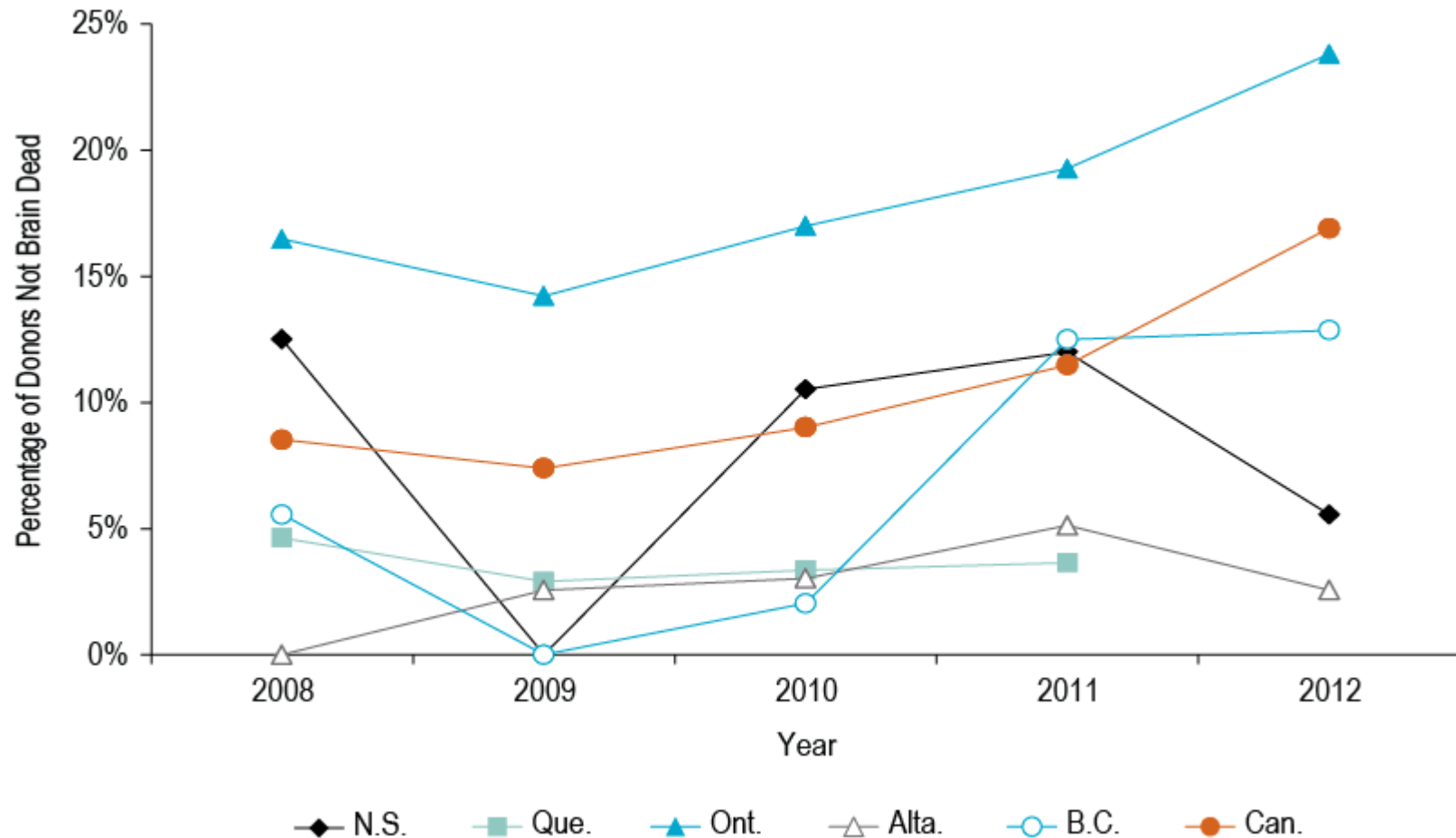


# Areas for improvement

## 2) Donation after cardiocirculatory death (DCD):

- Conversion rates of potential donors after brain death were **6 times** greater than for those with non-heart beating deaths
  - More than half of potential donors had cardiocirculatory deaths
- In the UK, DCD accounted for 40% of deceased donation vs. 17% in Canada (2012)

# Cardiocirculatory Death Donors as a % of Total Deceased Donors by Province, 2008 – 2012\*



## Areas for improvement

### 3) Organization of hospital care:

- Regression analysis (Ontario) found that:
  - Teaching hospitals were **60% more likely** to convert potential donors than community hospitals
  - Conversion **50% more likely** if patient dies during daytime
- Access to mechanical ventilation (across Canada)
  - **About half** of patients with brain or cardiocirculatory deaths did not become potential donors because they were not mechanically ventilated





## Key Messages

- **Wide variation in practice = opportunity for improvements**
  - 2 key areas: DCD and older donors
  - Lack of clear national standard for eligibility criteria
- **More than 3,500 additional organs/year could be made available if potential fully realized**
- **Organization of care can influence donation**
- **Better data required to understand other barriers to potential, e.g. consent**



Opinion / Editorials

## Canada's organ donor system is sorely in need of reform: Editorial

Canada's organ donor system is sorely in need of reform says a new report from the Canadian Institute for Health Information. Lives are at stake.



### Organ donation in Canada: The large gap between what is and what could be

Thursday, December 18, 2014

**THE VANCOUVER SUN**

B.C. falls below national organ donation rates, despite increases

Demand from older patients outstrips supply

BY ERIN ELLIS, VANCOUVER SUN DECEMBER 18, 2014



### Two-thirds of eligible organ donors in Canada don't get through process: report



### Only third of eligible organ donors identified

By Sheryl Ubelacker The Canadian Press





# Acknowledgements

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# Thank you!

For full report:

Search for:

“Deceased Organ Donor Potential in Canada”  
on CIHI website @ [www.cihi.ca](http://www.cihi.ca).