



**Normand Laberge**  
Vice-President  
Regulatory & Scientific Affairs  
Rx&D

# Globalization of Clinical Research: *Trends & Implications for Canada*

Canadian Clinical Trial Summit  
*September 15, 2011*

Canada's Research-Based  
Pharmaceutical Companies



Les compagnies de recherche  
pharmaceutique du Canada

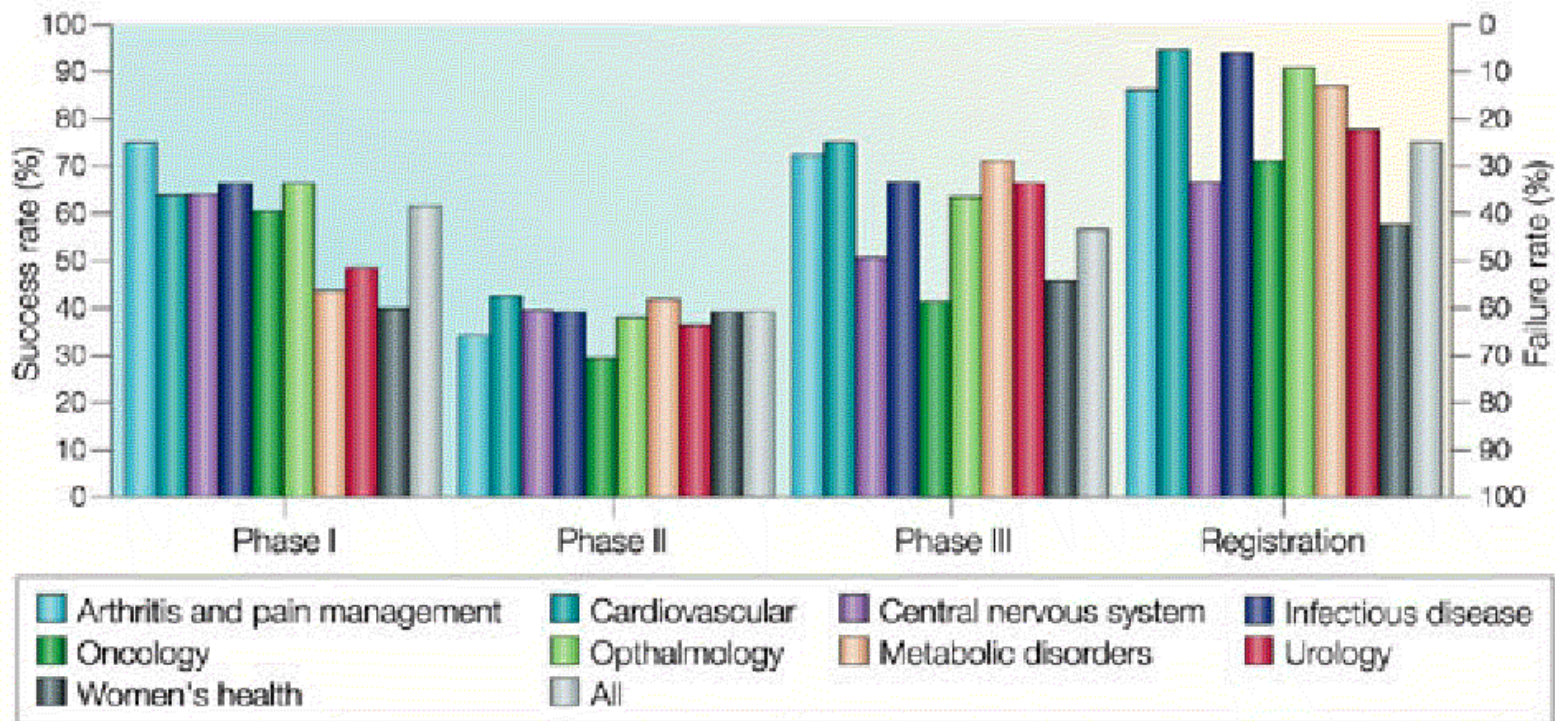


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# Success Rates by Phase and Therapeutic Area



Nature Reviews | Drug Discovery

Source: Nature Reviews | Drug Discovery, vol. 3, issue 8, 711-716 (August 2004), I. Kola and J. Landis: Can the Pharmaceutical Industry Reduce the Attrition Rate? Data from the top ten companies during 1991–2000 as obtained by Datamonitor in the Pharmaceutical Benchmarking Study

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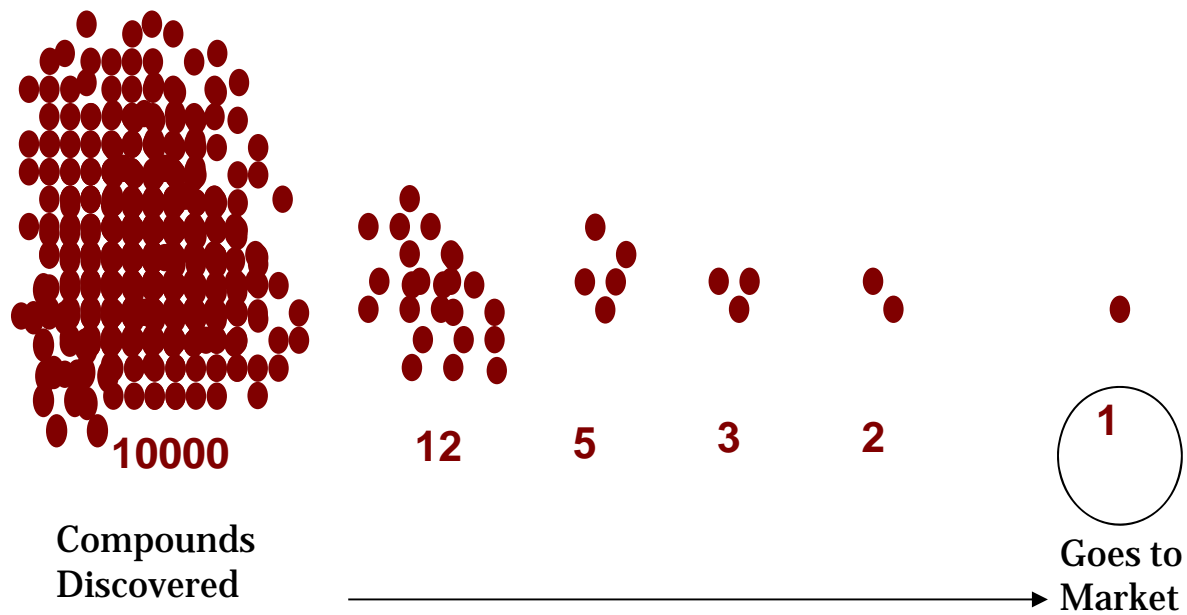
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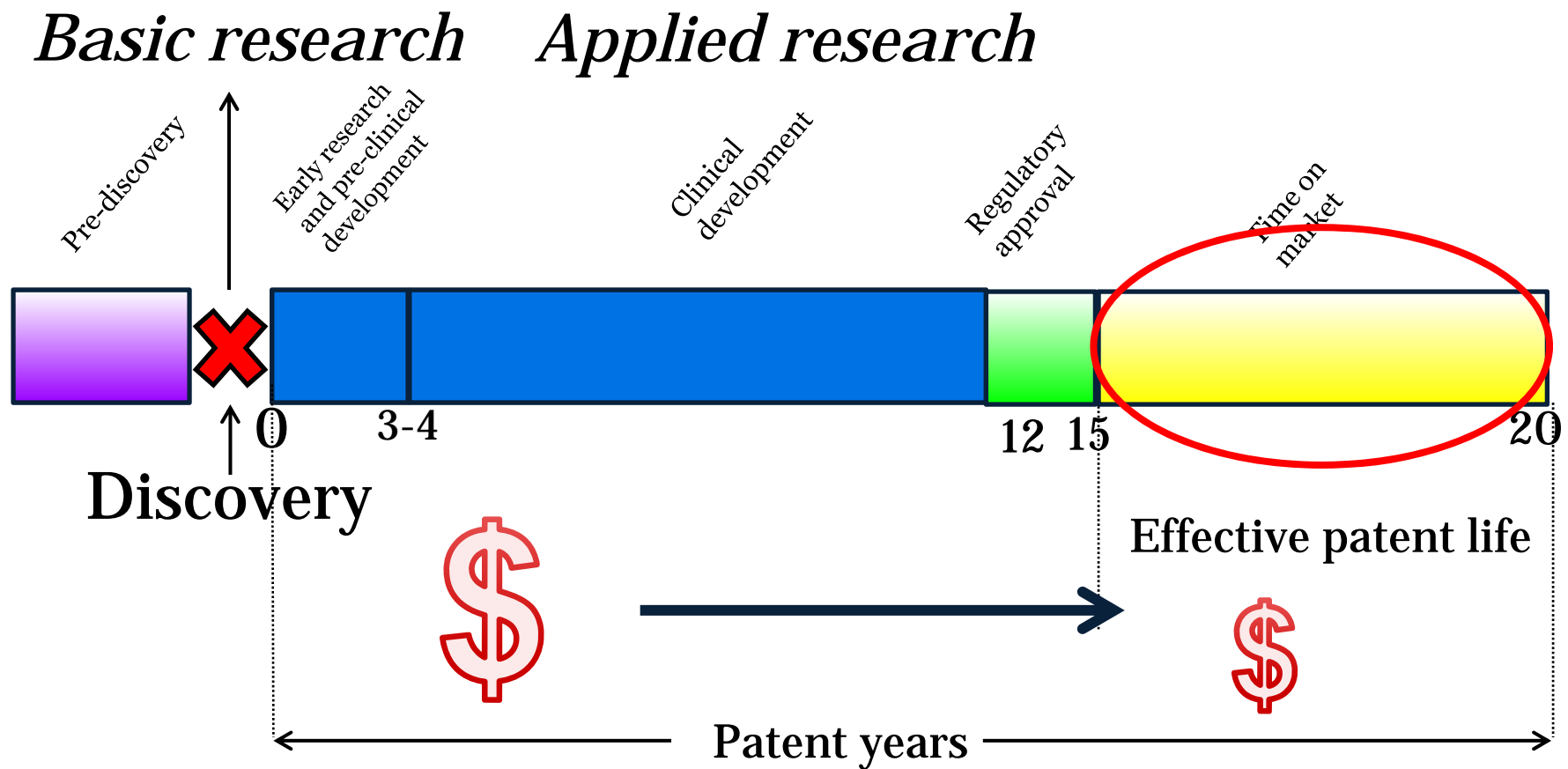


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# Success Rate



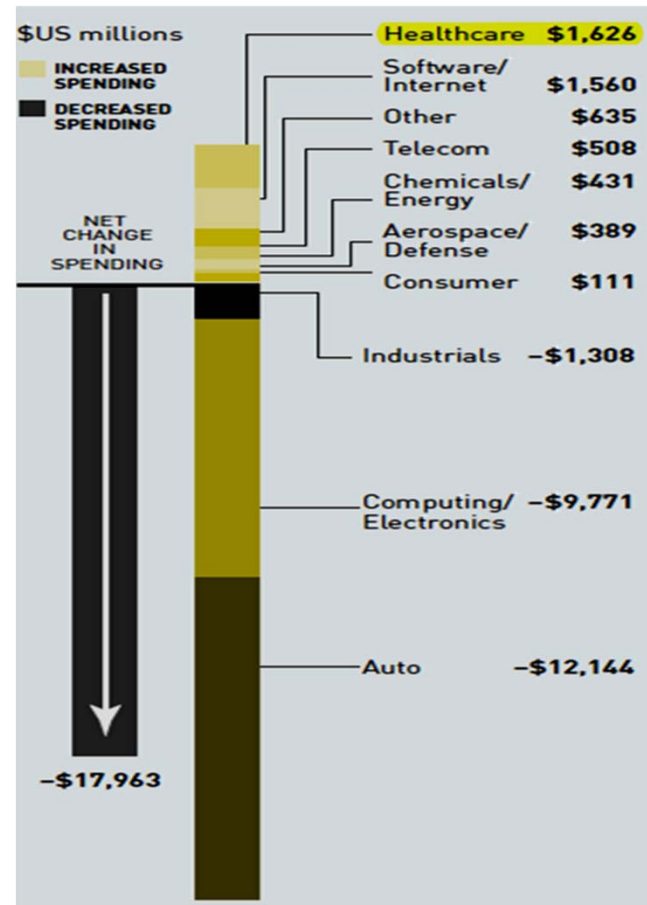
# New Drug Discovery and Development



# R&D Spending by Industry

Source: Booz Allen Report: THE GLOBAL INNOVATION 1000: How the Top Innovators Keep Winning, 2010

**Investments  
in Healthcare R&D  
were maintained**

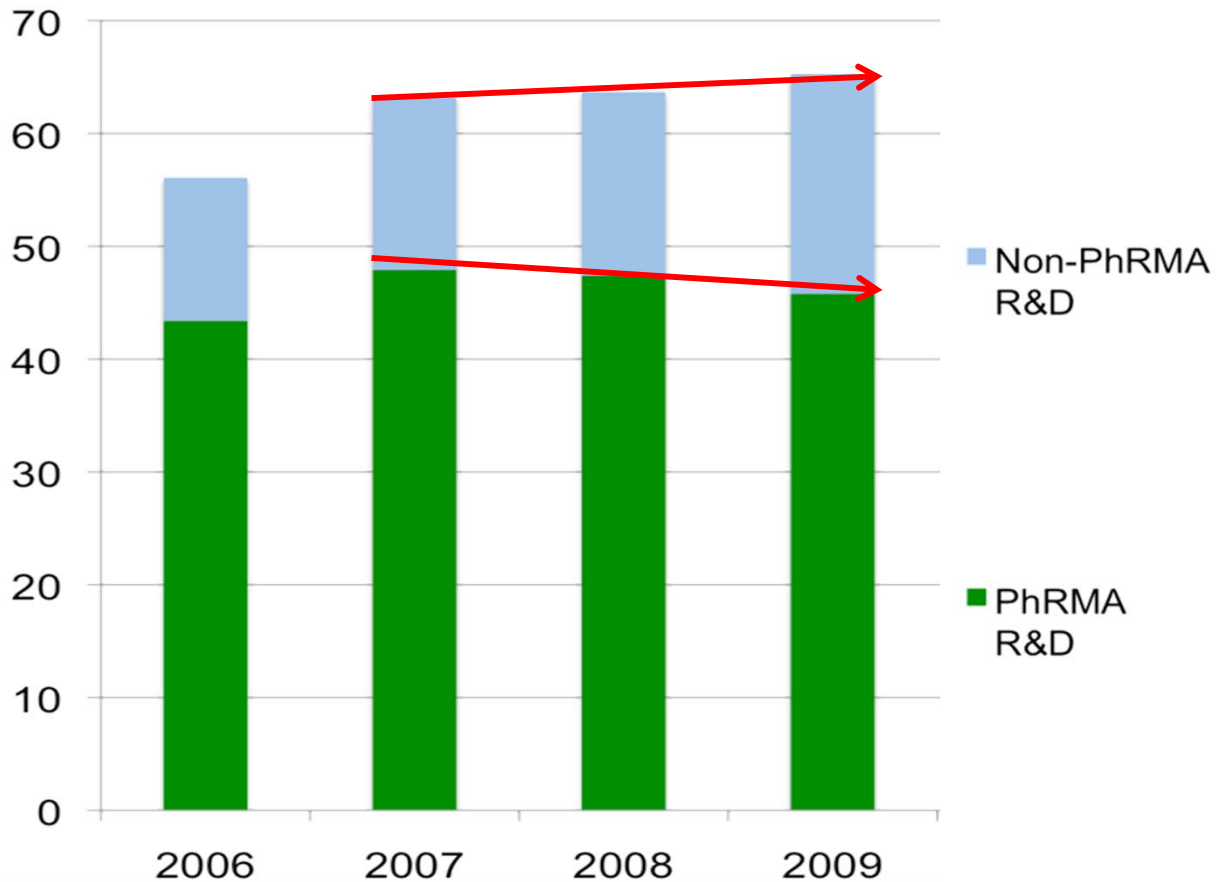


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# Biopharm R&D Investment (US\$B) by Year

Source: PhRMA Report: Profile  
Pharmaceutical Industry, 2010

**Investments  
From PhRMA  
Slowed down**



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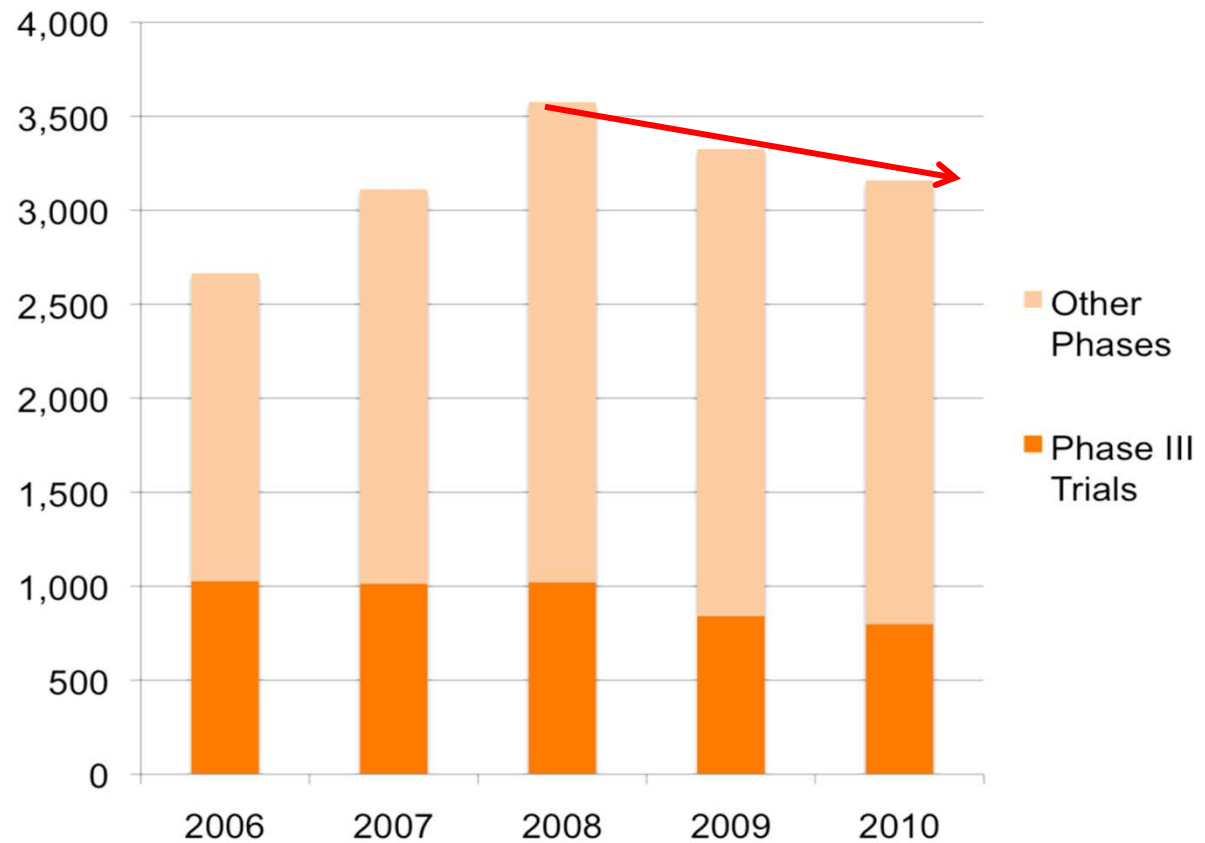


# Evolution of Number of Trials

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MIT-NBER-ViS Analysis of clinicaltrials.gov data (Sep 2005 – Sep 2010)

## Number of trials decreased



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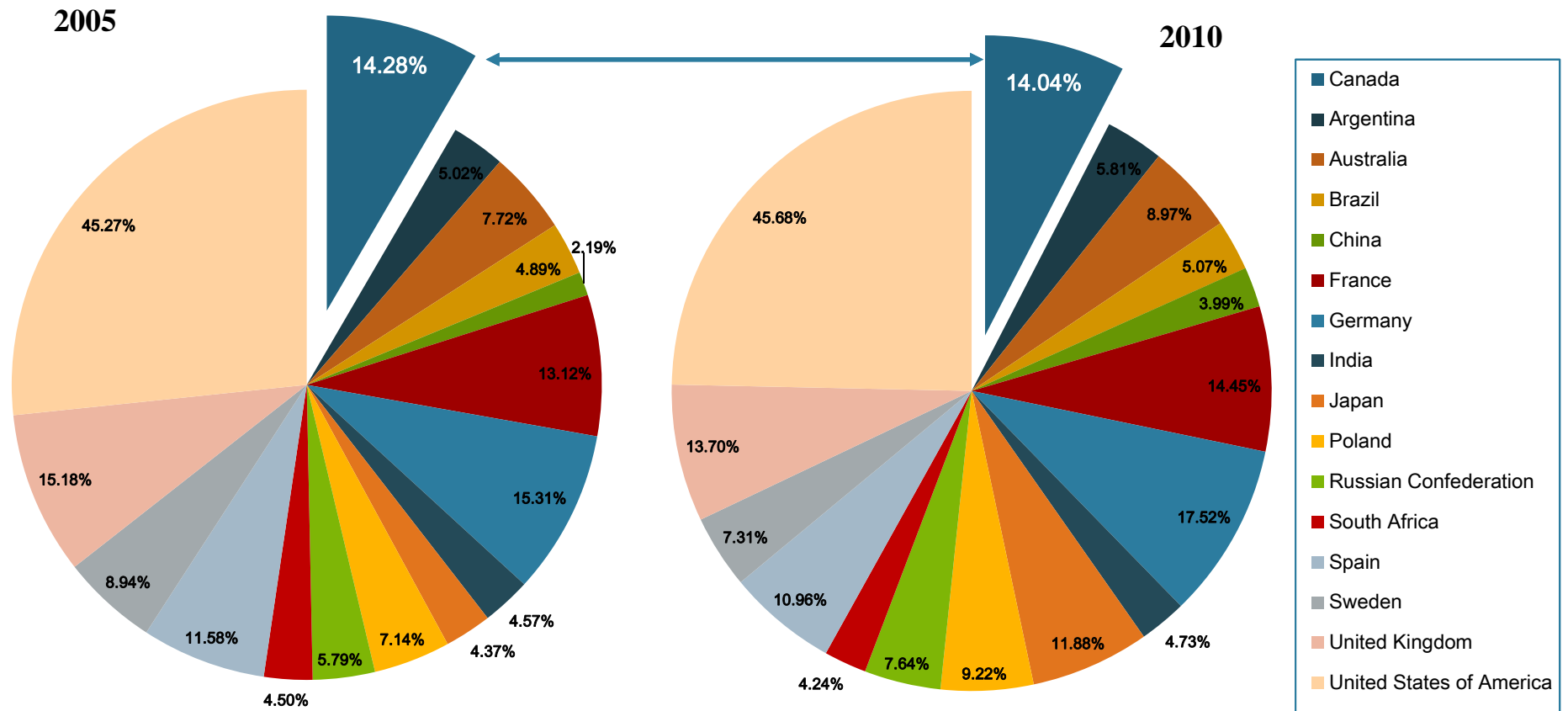
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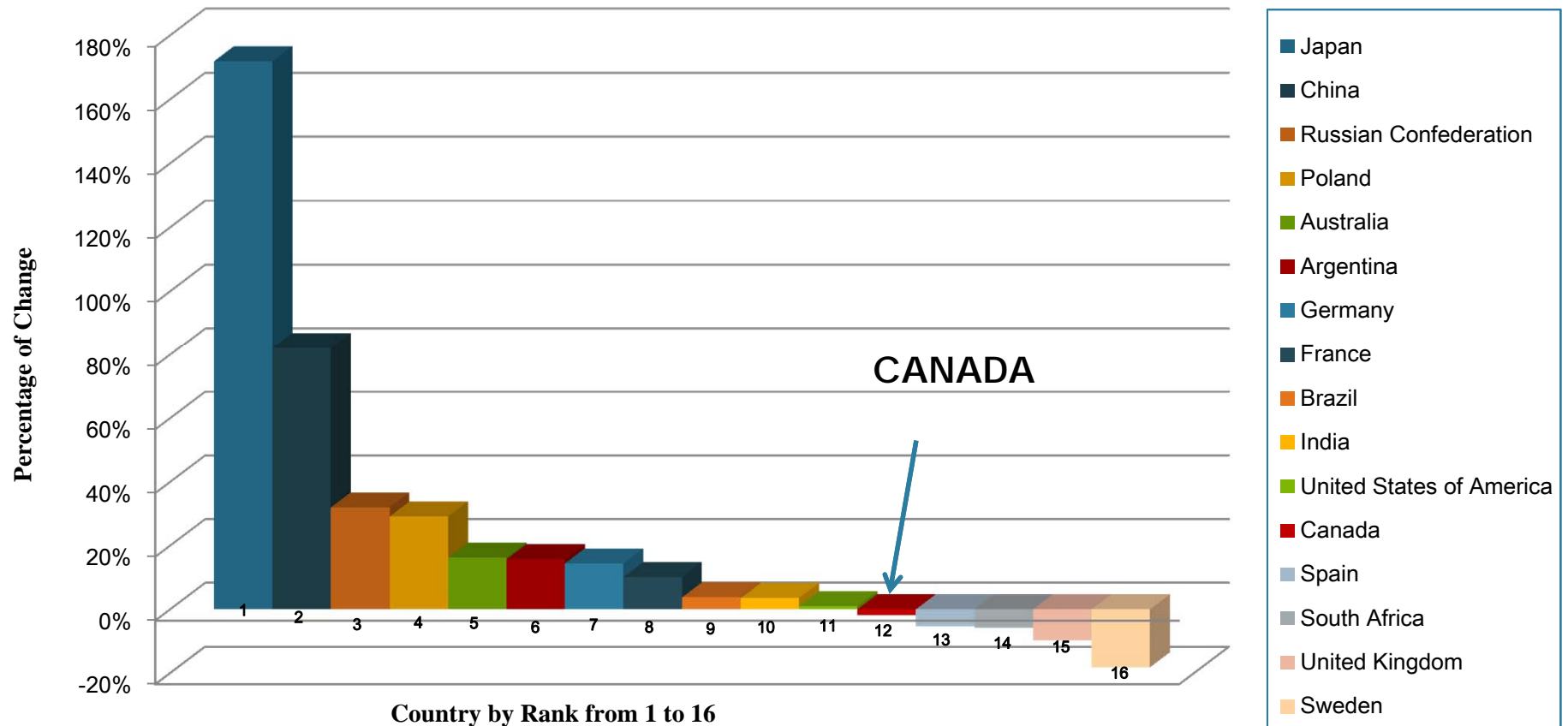
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# Percentage of Trials by Country





# Trials by Country: Change from 2005 to 2010

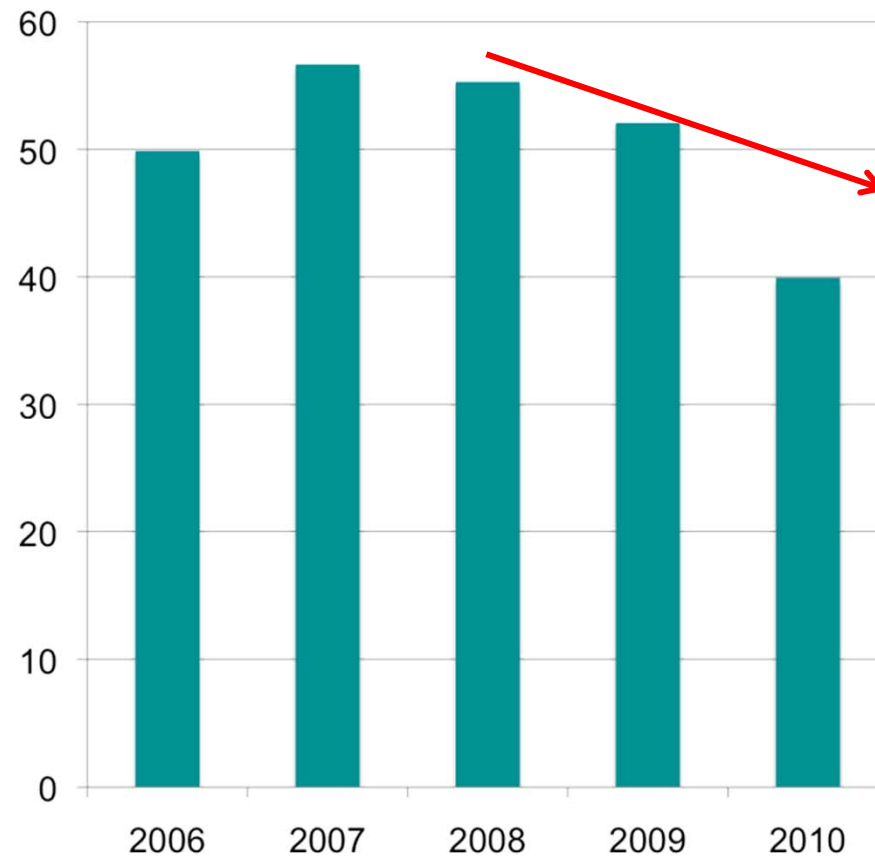


# Evolution of Average Number of Sites per Trial in Phase III Trials

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MIT-NBER-ViS Analysis of  
clinicaltrials.gov data (Sep 2005 –  
Sep 2010)

**Number of sites  
per trial decreased**



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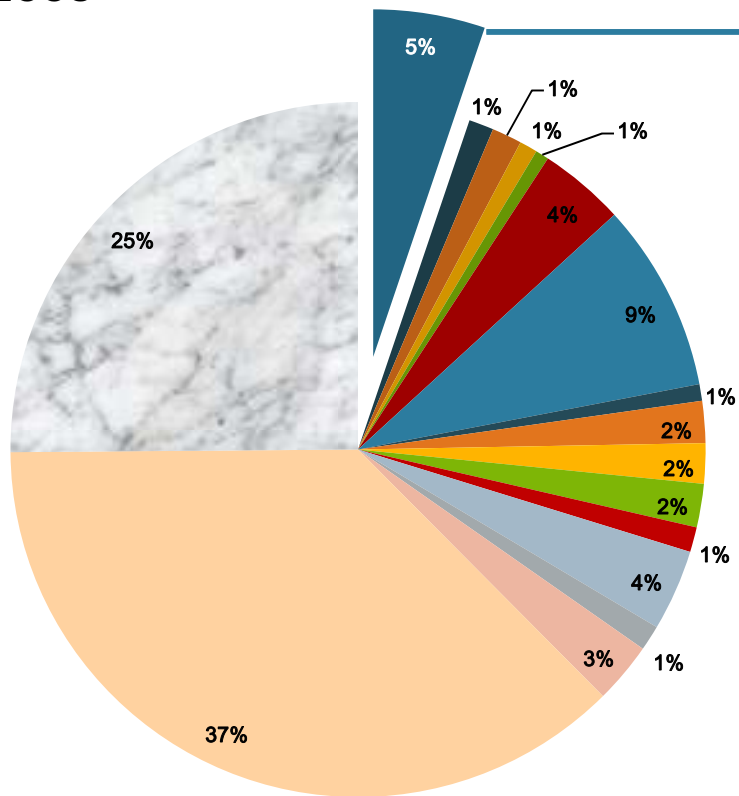
  
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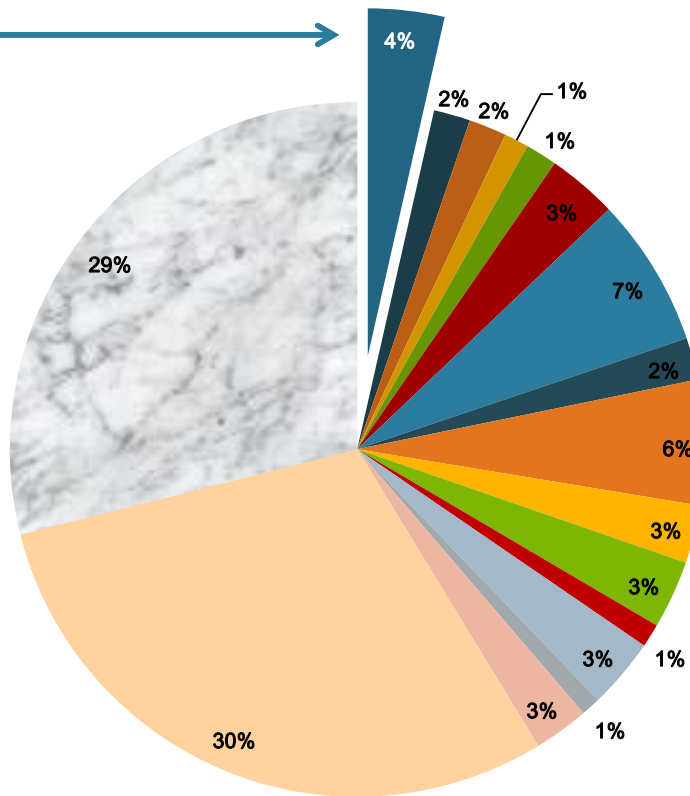
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# Percentage of Sites by Country

2005



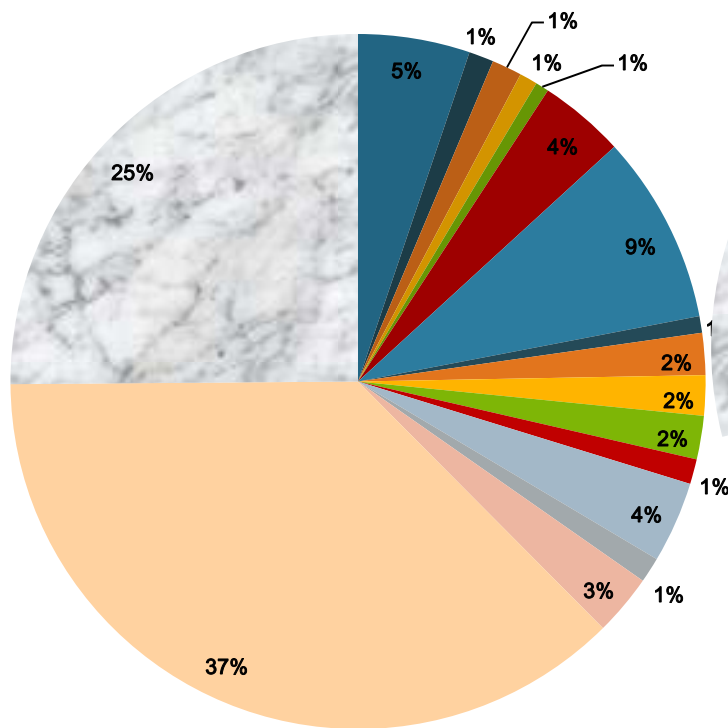
2010



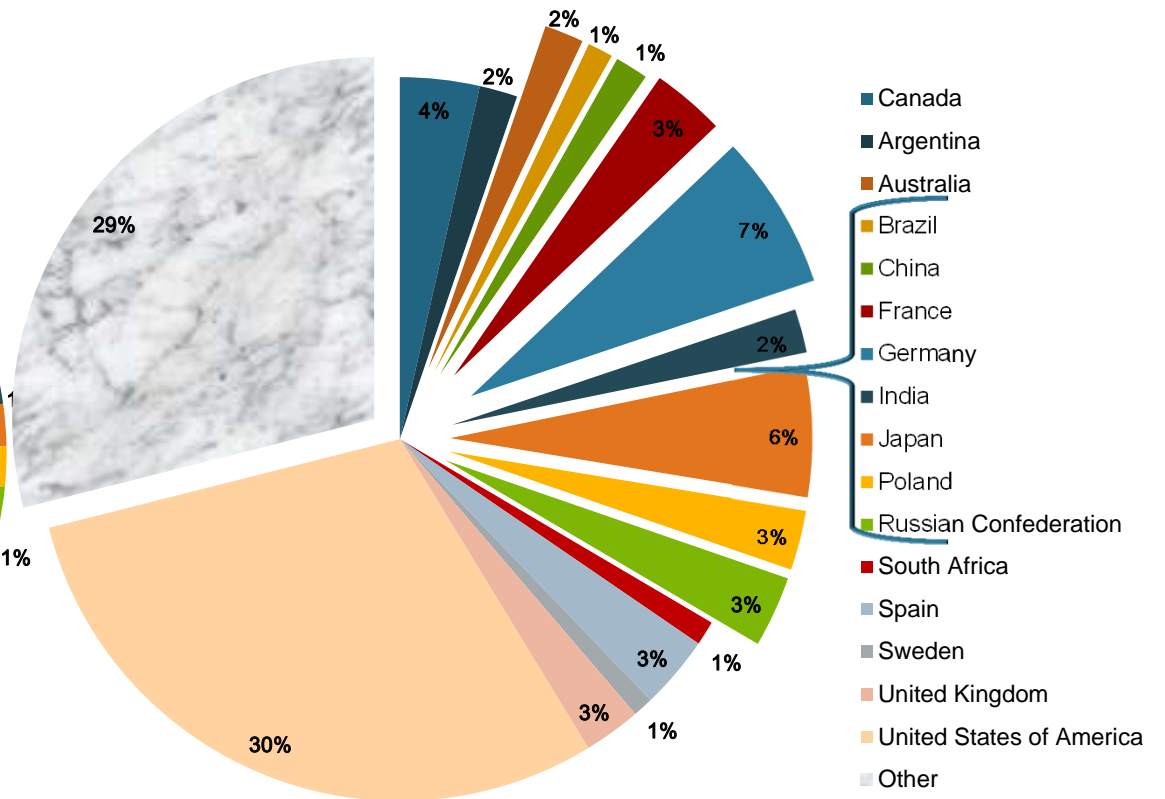
- Canada
- Argentina
- Australia
- Brazil
- China
- France
- Germany
- India
- Japan
- Poland
- Russian Confederation
- South Africa
- Spain
- Sweden
- United Kingdom
- United States of America
- Other

# Percentage of Sites by Country

2005

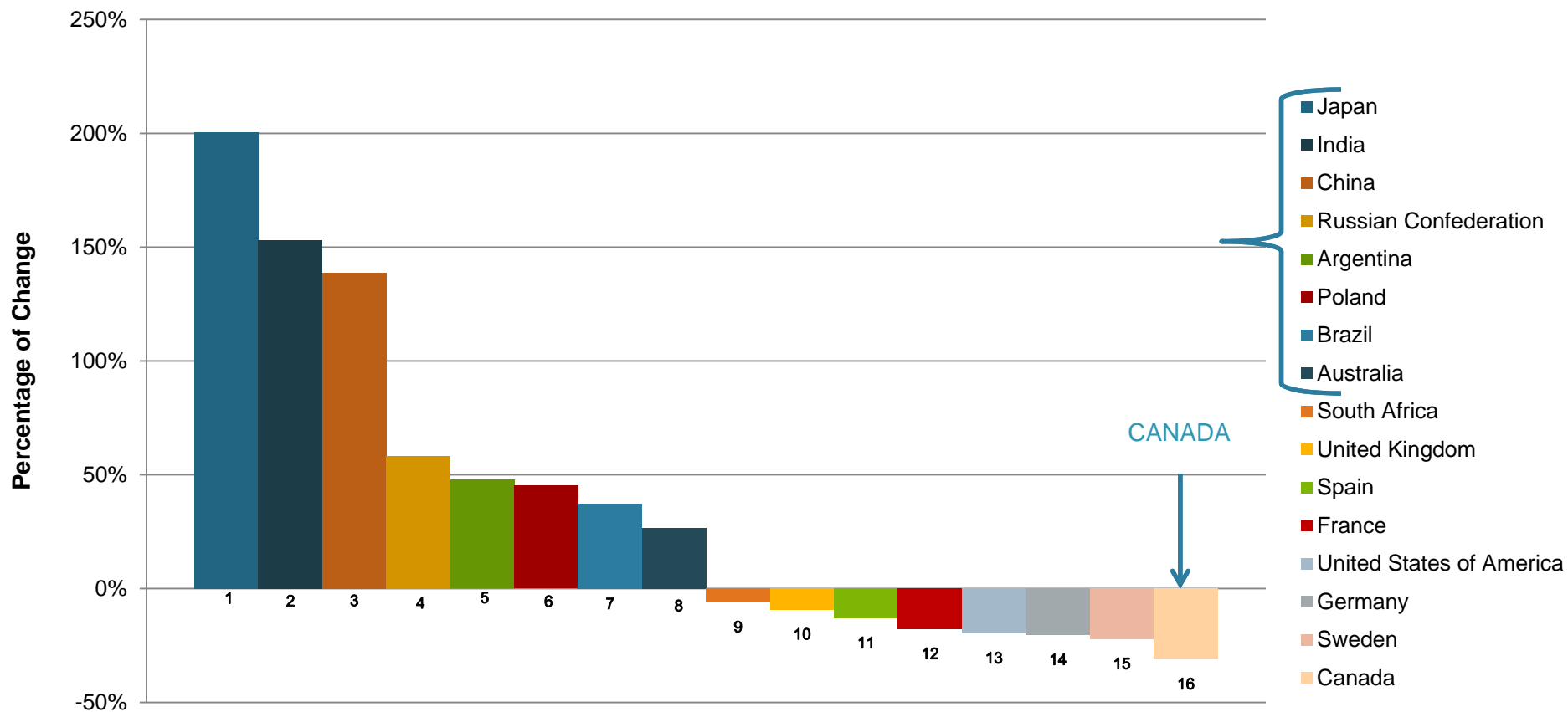


2010



- Canada
- Argentina
- Australia
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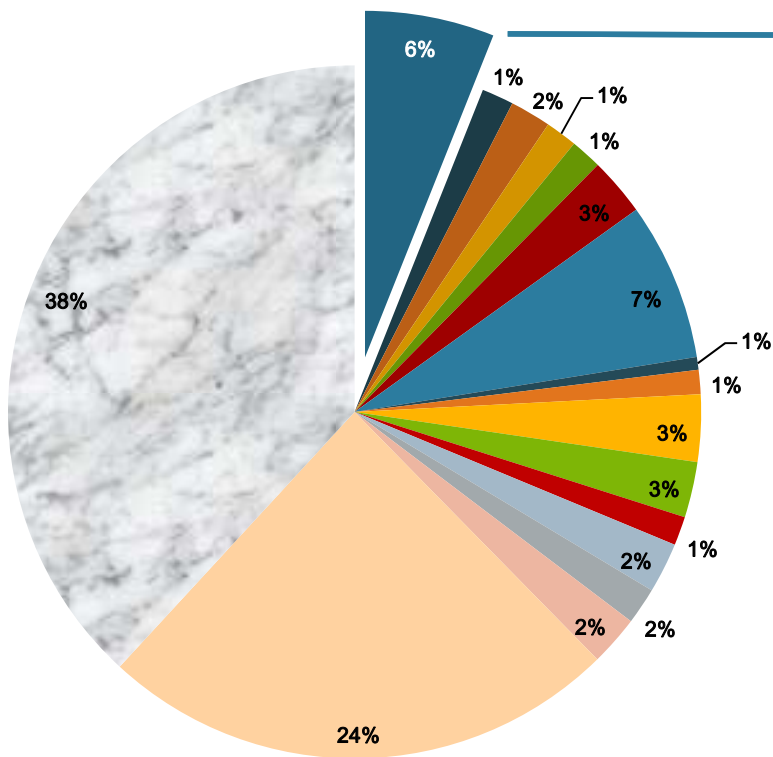
# Sites by Country: Change from 2005 to 2010



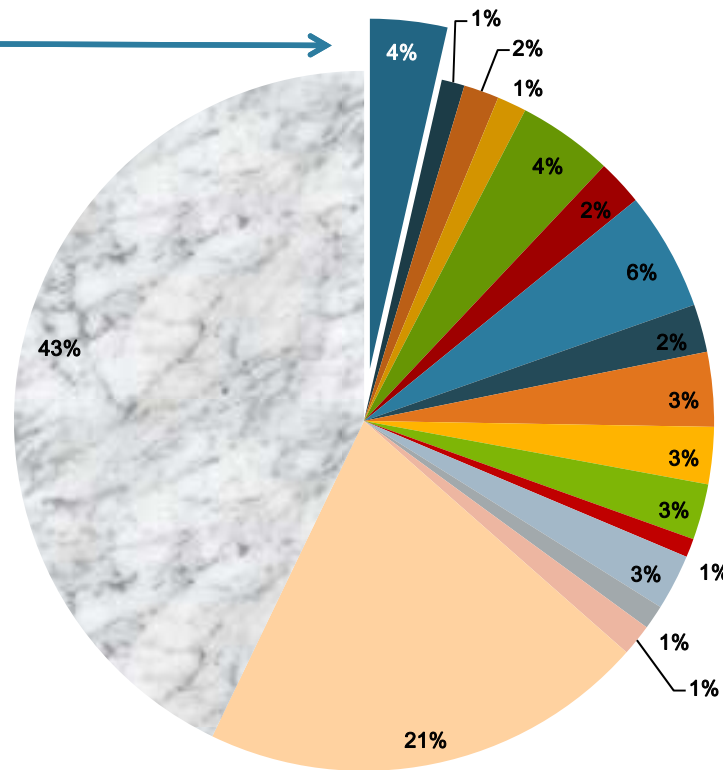
Country by Rank 1 to 16

# Percentage of Subjects by Country

2005



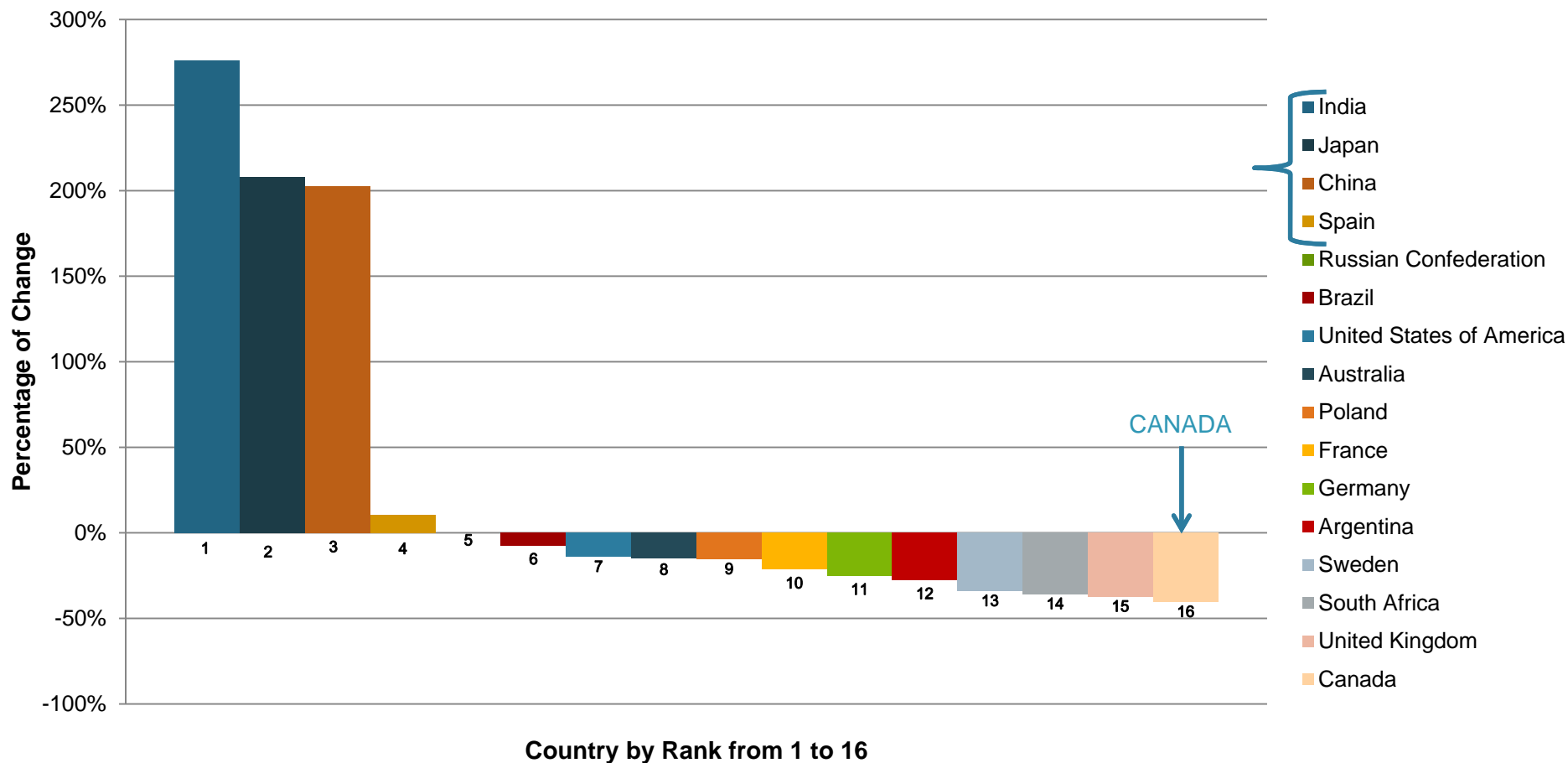
2010



- Canada
- Argentina
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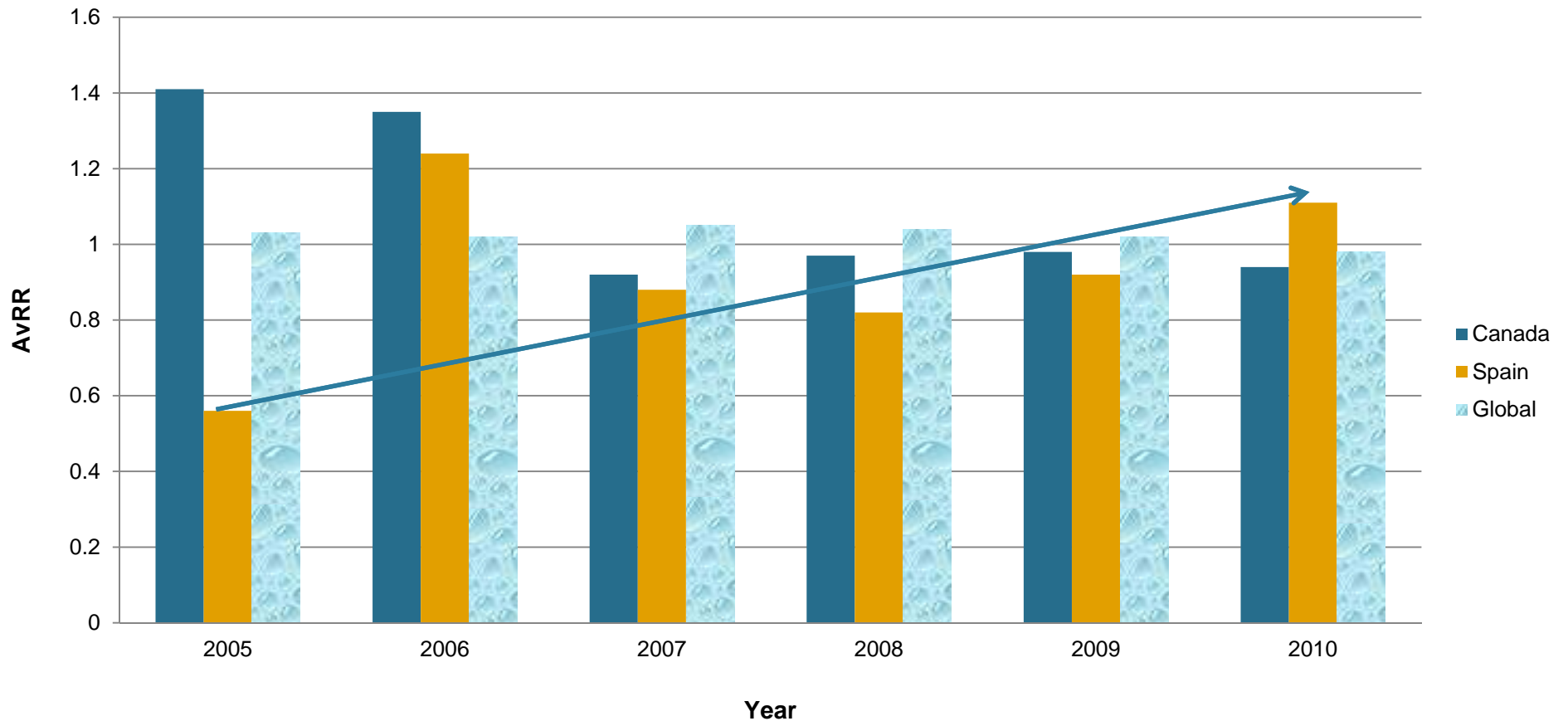
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# Subjects by Country: Change from 2005 to 2010





# Average Recruitment Reliability (AvRR): From 2005 to 2010



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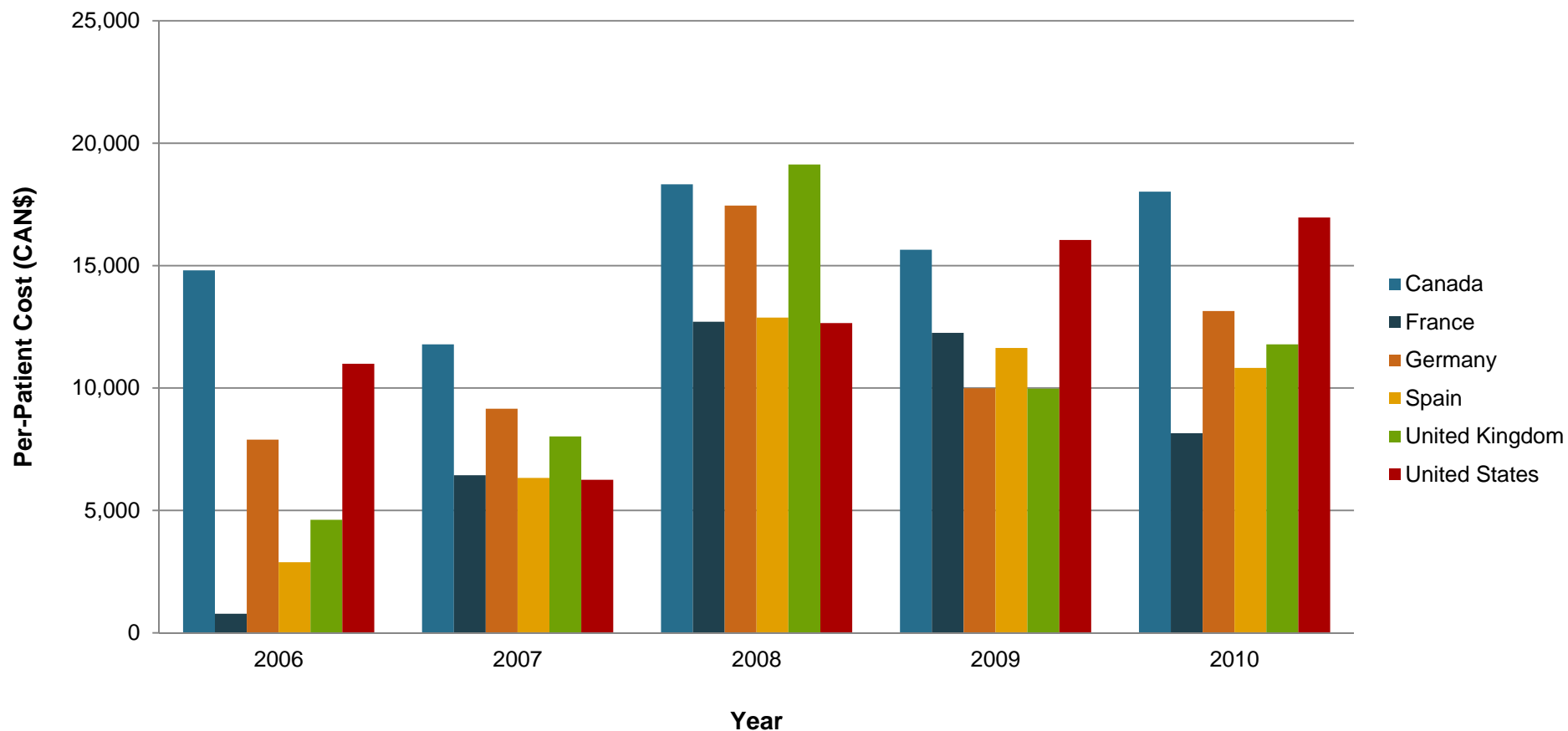
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# Per-Patient Cost by Country: For 2006 to 2010



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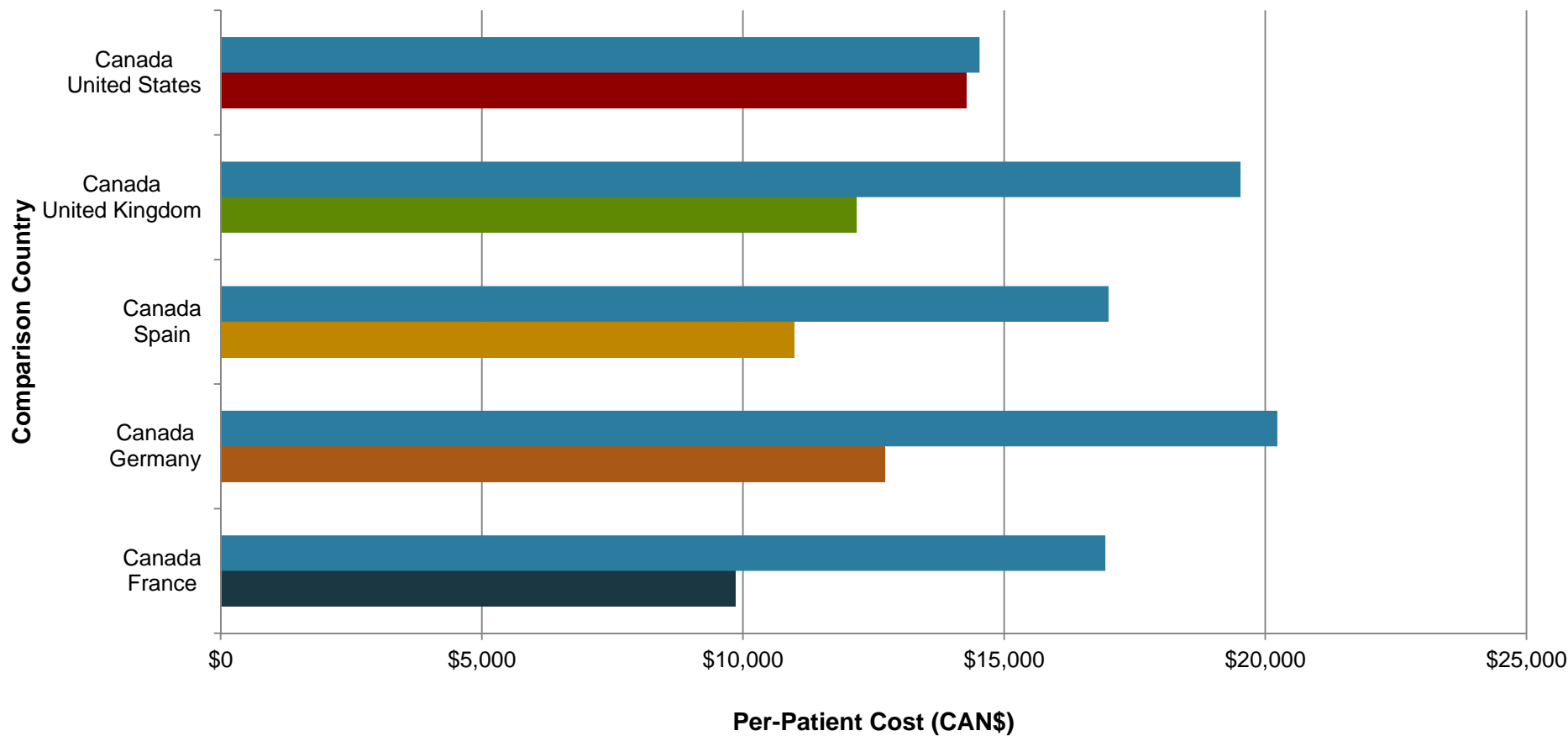


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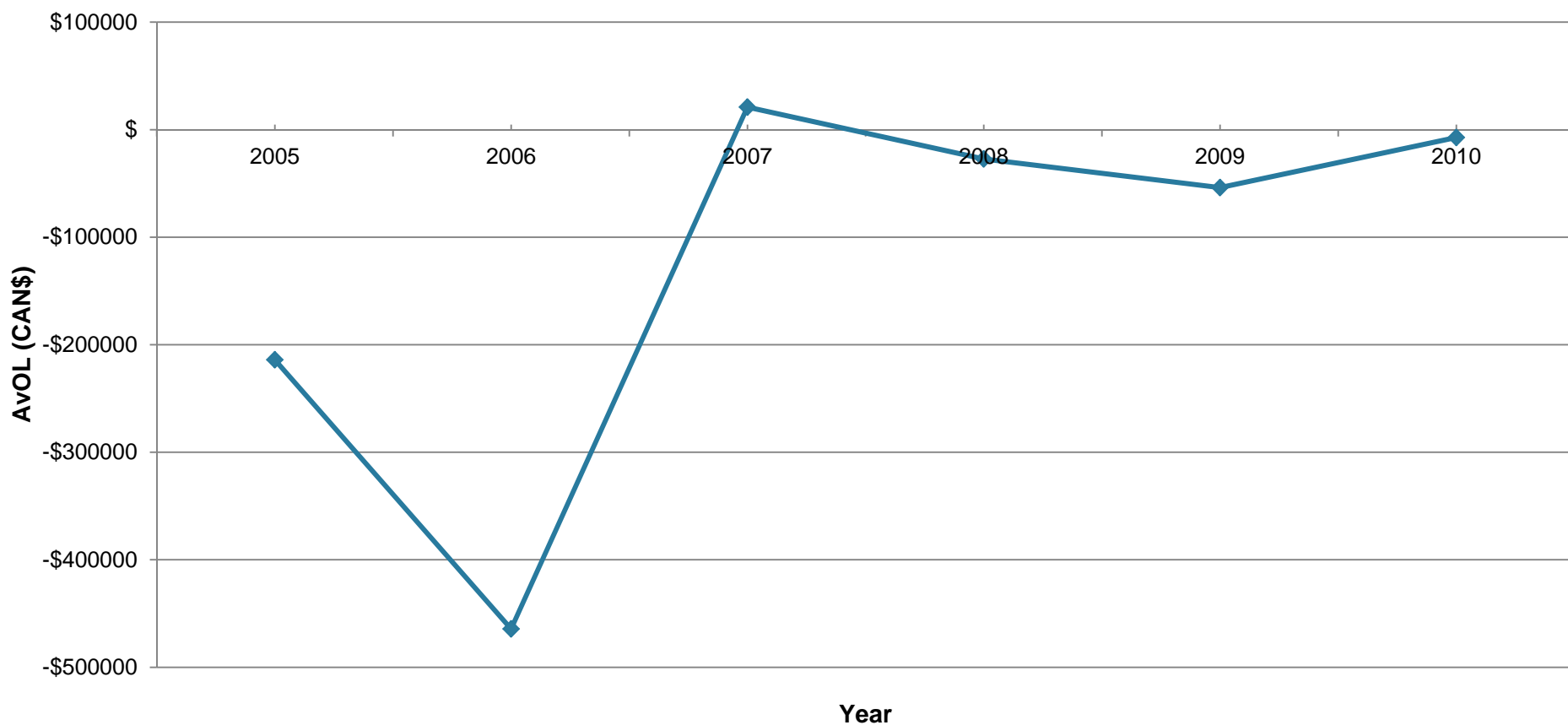


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# Per-Patient Cost Comparing Same Trials



# Opportunity Loss by Year



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# WHAT TO MAKE OF ALL THIS DATA: Where does Canada stand?

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# Where does Canada stand ?

- **We are still in the race**
  - Patient availability (quality of our research)
- **We have lost our edge**
  - Cost/Performance (value for money)
  - Operational environment (public/private partnerships)
  - Recruitment Reliability (lost opportunity)

# Where does Canada stand ?

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- **Emerging markets not our competitors**
  - Spain, UK, Australia, Argentina and US (competitive edge)
  - Policy framework (clinical research and regulatory)
  - Market attractiveness (business environment)
  - Availability of comparator drug (standard of care)



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# How can Canada prepare to host global pharmaceutical clinical trials?

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# Compete Globally

- Understand the global clinical research landscape
- Understand our patient population (strategic choices)
- Create research infrastructure for trials of the future
  - Fast, efficient and reliable (get results)
- Create a favorable business environment (IP-Access-Price)
- Collaborate with your industry!!!



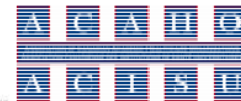
# Thank you

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