Canadian Data at a Crossroads





War in the Middle East War in Ukraine United States The world economy

Briefing | The Swiss Army knife of jabs

GLP-1s like Ozempic are among the most important drug breakthroughs ever

Their far-reaching potential could transform how chronic diseases are managed



What do the gods of generative AI have in store for 2025?

OpenAI and Google have unveiled their next generation of products





MRNA technology could once again be a game-changer in medicine









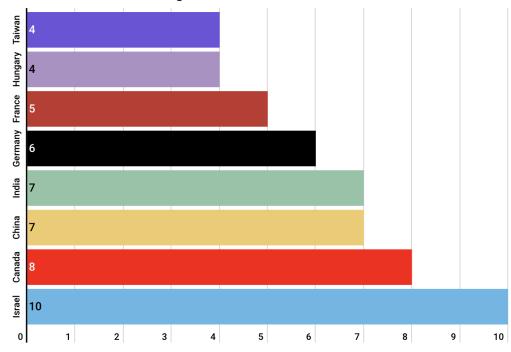






HOMELANDS

Where Most Billionaire Immigrants Were Born



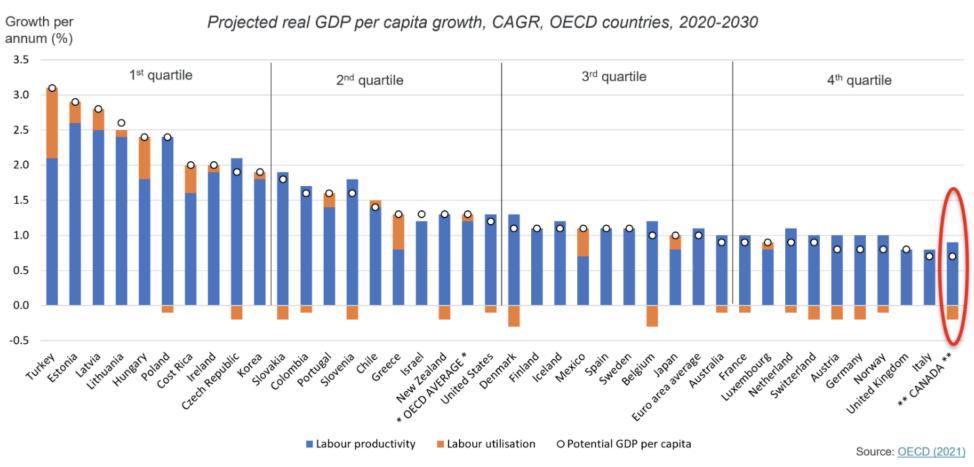
Source: Forbes reporting Forbes

The Top 10 Most-Educated Countries

Country	Tertiary Total 2022 V
Canada	63%
Japan	56%
Ireland	54%
South Korea	53%
United Kingdom	51%
Australia	51%
Israel	51%
Luxembourg	51%
United States	50%
Sweden	49%

Figure 1a

OECD PREDICTS CANADA WILL BE THE WORST PERFORMING ADVANCED ECONOMY OVER 2020-2030







Level the playing field for Canadian health-care companies. It will improve care and be good for innovation, the economy and the health system.



by Kumanan Wilson, Dante Morra February 7, 2025

Health Data Opportunity?



OPINION

Without integrating our health data, Canada risks being left behind

FAHAD RAZAK AND AMOL VERMA

CONTRIBUTED TO THE GLOBE AND MAIL PUBLISHED MARCH 24, 2025 UPDATED MARCH 25, 2025

FOR SUBSCRIBERS

- The market opportunities are massive.
- Over the next 10 years, global spending on clinical trials will exceed US\$150billion, and the global health care IT market is projected to be worth US\$1.4trillion by 2034.
- Today, one in four U.S. venture-capital dollars invested in health care technology is going to health AI, according to the Silicon Valley Bank.

- The vast quantities of data that are produced in health care every day are a nearly untapped resource for innovation and economic growth.
- Canada can build one of the most valuable health databases in the world.
- With 40 million people, unified Canadian health data would be one of the best resources for R&D globally.
- Canada already has the world-leading talent to use these data

Beware, Donald Trump might go after Canadians' health data next

MICHAEL GEIST AND KUMANAN WILSON

SPECIAL TO THE GLOBE AND MAIL

PUBLISHED FEBRUARY 28, 2025

FOR SUBSCRIBERS





IN Sours Europe on US Cloud Giants

ting to look for ways to ditch Amazon, Google, and Microsoft cloud services amid fears of rising security risks from the US. But

Apple takes legal action in UK privacy row

4 March 2025

Zoe Kleinman Technology editor

TECH & SCIENCE

Microsoft says U.S. law takes preceden over Canadian data sovereignty

By Alexander Rudolph Published August 16, 2025





can't do anything about it

Trump is back — and with him, the risk that the U.S. could unplug Europe from the digital world.

What is Data Sovereignty

- Ensuring that the data are subject to Canadian laws and legal systems
- Hospital data management is dominated by 3 US providers: Epic, Cerner, and MEDITECH.
- Data are encrypted and either held on site or stored on cloud servers (largely Microsoft Azure, Amazon Web Services, or Google Cloud).
- The primary federal law governing how companies handle personal data is the *Personal Information Protection and Electronic Documents Act* (PIPEDA), although individual provinces may have similar laws that govern how health care custodians and private companies manage health data.
- Companies must adhere to both federal and provincial laws when they apply.

Risks to our data

- Held by US companies
- Subject to US legislation (CLOUD Act)
- US seeks data for both surveillance and economic reasons

US Legislation

- Clarifying Lawful Overseas Use of Data (CLOUD) Act in the US allows US law enforcement to access data held by US companies on foreign soil.
- A conflict with the privacy laws of the host nation would require negotiations with the other country.
- The introduction of federal Bill C-2 in Canada, which includes new lawful access rules, might also lead to increased data sharing with US authorities for security purposes.

- In sworn <u>testimony</u> before a French Senate inquiry into the role of public procurement in promoting digital sovereignty, Anton Carniaux, Microsoft France's director of public and legal affairs, was asked whether he could guarantee that French citizen data would never be transmitted to U.S. authorities without explicit French authorization. And, he replied, "No, I cannot guarantee it."
- He said that the company resisted requests from the US authorities "when they are not well-founded", but that under the U.S. Cloud Act, U.S. companies can be forced to hand over data, regardless of where it is stored.

a Ensuring the sovereignty and security of Canadian health data

Michael Geist, Mari Teitelbaum and Kumanan Wilson

CMAJ July 28, 2025 197 (26) E763-E764; DOI: https://doi.org/10.1503/cmaj.250488

Encryption by design

• If the encrypted data is to be processed in the cloud by an application, the data would need to be decrypted before processing. An unencrypted snapshot of the data would be stored temporarily in the cloud before being overwritten.

Data localization

 Data residency does not mitigate against the application of foreign laws

Blocking statue

Creation of a conflict of laws

- Sovereign Canadian cloud servers
 - Not available at this time that can match the scale and efficiency of the US Cloud giants
- ? Air-gapped solutions

Indigenous Data Sovereignty

 Indigenous data sovereignty reflects the principle that data collected about First Nations, Inuit, and Métis peoples are owned and controlled by those communities and must be governed according to their own laws, traditions, and priorities.

OCAP® principles

- **Ownership** This principle states that a community or group owns information collectively in the same way that an individual owns his or her personal information.
- **Control** affirms that First Nations, their communities, and representative bodies are within their rights to seek control over all aspects of research and information management processes that impact them.
- **Access** refers to the fact that First Nations must have access to information and data about themselves and their communities regardless of where it is held. The principle of access also refers to the right of First Nations' communities and organizations to manage and make decisions regarding access to their collective information.
- **Possession** Possession is the mechanism by which ownership can be asserted and protected.

Data Availability and the Health Data Economy:

- While limiting foreign access to health data, Canada should simultaneously develop mechanisms that enable health data to be used safely, securely, and in a privacy-compliant manner by Canadian private entities, in order to support the growth of domestic health AI.
- Persistent barriers to accessing these data have limited Canada's ability to fully realize this potential.

- For data to be made available for economic use, it must be shared under conditions that ensure both privacy and security.
 - trusted research environments or secure data enclaves, where approved users can analyze data without the ability to extract or re-identify individuals.
 - advanced privacy-preserving technologies such as differential privacy, federated learning, or homomorphic encryption, which make it possible to analyze data without exposing raw individual level information.
 - **Synthetic data**—artificially generated datasets that retain the statistical properties of real data but do not contain identifiable information—also offers a promising way to expand data availability.

Which road to take?

Best case:

 Canadian data is used by Canadian controlled private corporations to improve health care, grow our economy and enhance our sovereignty

Worst case:

- No one uses our data.
- While not ideal, it would still be preferrable for US companies to use our data to design solutions that are most appropriate for our populations
- Ideally this will be done with our knowledge and appropriate compensation,

Questions?