Machine M.D.
Access to AI & Human Rights

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The Promise of AI for Health Care

- Higher quality and overall safer care
- Torrent of innovation that will severely test public health care systems
- Concerns that AI could exacerbate inequalities and the divide between the have and the have-nots
Physical Innovations
3D Printing of Organs & Robotics
Digital Innovations
Internet of Things & Artificial Intelligence
Internet of Things

- **Connective Tech**
  - Tech and devices that make possible relationships between and among people and things

- **Augment Reality**
  - Real-world environment with computer-generated sensory inputs

- **Smart Devices**
  - Such as chips, sensors, communication devices providing feedback
Computer learns to detect skin cancer more accurately than doctors

Artificial intelligence machine found 95% of melanomas in study compared to 86.6% for dermatologists.

▲ An computer that was taught to distinguish malignant moles from benign ones outperformed dermatologists. Photograph: Dan Himbrechts/AAP
The first doctors to feel the effects of automation might not be radiologists at all. It might be trauma surgeons.
Man vs AI vs Man + AI

Deep Blue beating Gary Kasparov

Aida - Swedish AI banker
Canadians' health-care costs have skyrocketed: Study

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Showing the 4th Industrial Revolution

1st: Mechanization, water power, steam power
2nd: Mass production, assembly line, electricity
3rd: Computer and automation
4th: Cyber Physical Systems
“Groups of People Win and Lose When Innovation Changes the Ground Rules”

- 2nd Revolution
  - Has yet to be experienced by 17% of the world

- 3rd Revolution
  - Has not been experienced by more than half of the world population

- 4th Revolution
  - Experienced by limited world population with access
Funding Innovations?

- How do we best adapt personalized medicine, new AI devices, new systems of digital, mechanized and personalized care to public health care systems?
- Can we adopt costly new technologies while maintaining equal access for all?
- What systems of governance should we use to make these decisions?
Universal Access for Drugs & Devices

- Canada does not have universal access to basic medicines such as insulin
- Steps towards universal pharmacare should include coverage for devices
- Entitlement or “rights” to health care should be formulated as a right to a fair process to assess all goods and services and to determine what is a just level of coverage for all citizens
Reform 2

Health Technology Assessment Should Take Account of Legal Issues

- The torrent of innovation starting from the 4th Industrial Revolution will test the capacity of public insurers.

- Health Technology Assessment agencies that provide advice on whether new technologies should be funded should take account of legal issues such as privacy risks and human rights (discrimination issues) that may be inherent in new technologies.
Reform 3

Appropriate Regulation of the Privately-Financed Sector

- With a torrent of AI health innovation coming at us it is very likely that a much greater proportion of innovation will fall to be privately-financed.

- Canada has a weak history of regulating the privately-financed sector and will need to improve its game considerably to protect the quality and safety of care delivered to those buying in the private sector in the future.
Innovations in Technologies Need to be Matched by Innovations in Regulation & Governance
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