Guiding Question

Artificial Intelligence (AI) has made its way into the Canadian medical field under the guise of advancements in technology. What are some of the current implications for AI within the medical system and what are some of the potential future outcomes for marginalized or outcast groups specialized care within Canadian society?

Selected Course Learning Outcome

5. Analyze debate around control over the collection of big data and its role in social justice projects.

Shownotes

Details about the Authors Cited

Kate Crawford is an internationally leading scholar of artificial intelligence and its impacts. She is a Research Professor at USC Annenberg in Los Angeles, a Senior Principal Researcher at MSR in New York, and was the inaugural Visiting Chair of AI and Justice at the École Normale Supérieure in Paris

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Alice Militaru is a JD Candidate at NYU Law. She's particularly interested in the intersection of privacy law and public interest. Before pursuing her JD, Alice earned her B.S. from Rutgers University where she contributed to research on privacy and political science.

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References

Crawford, K. (2021). *The Atlas of AI*. https://doi.org/10.2307/j.ctv1ghv45t

Da Silva, M., Flood, C. M., Goldenberg, A., & Singh, D. (2022). Regulating the Safety of Health

Related Artificial Intelligence. *Healthcare Policy*, *17*(4), 63–77.

https://doi-org.ezproxy.tru.ca/10.12927/hcpol.2022.26824

Krumbholz, K., Militaru, A., & Morgan, K. J. (2024). Tracking the Trackers: "Menstruapp"

Privacy Policies Following the Dobbs Decision. *Journal of Women, Politics & Policy*,

45(1), 167–189. https://doi-org.ezproxy.tru.ca/10.1080/1554477X.2024.2300103

NBCUniversal News Group. (2024, April 8). *A timeline of Trump's many, many positions on*

abortion. NBCNews.com.

https://www.nbcnews.com/politics/donald-trump/trumps-many-abortion-positions-timelin

e-rcna146601

Newton, C. (2024, March 15). *Dobbs v. Jackson Women's Health Organization (2022)*. Legal

Information Institute.

https://www.law.cornell.edu/wex/dobbs_v._jackson_women%27s_health_organization_

%282022%29

Scripting

Hi everyone my name is Katlynn Fischer and I'm happy to welcome you to a podcast I am naming "Artificial Intelligence in The Medical Field" a Canadian lens on issues of women's medical health and justice. Today's topic on the risks of using menstruation apps, who they are hurting, and what the future implications for them will be strikes me as very timely with the current elections in the United States and the President Elect Donald Trump's rampant ideas about the patriarchal control over women's health which we will be diving into shortly. Today I am going to be talking about the security of your personal data, as well as how AI has been built within the medical systems. While also answering how this really affects you and in what ways we can protect ourselves. Many women use different health applications to track their menstrual cycle. We gotta know when we are going to flow. But this is not just convenient for us, it is also convenient for large data collectors that use our data in many different ways including for use in generative AI or Artificial Intelligence.

And this leads us right into our first question of the day which is What is AI and how is it generated?

When doing a quick google search to ask this very simple question you get a huge result and a confusing one at that. Kate Crawford's book Atlas of AI written in 2021 gives us a wealth of information on the impacts of AI from a marxist perspective on earth, labour, data, the state, and power.
Despite the book being close to four years old now Kate does an amazing job showcasing the important elements that are key factors in a rapidly changing and advancing technology.
 Kate Crawford is an international leading scholar of artificial intelligence and its impacts. She is a Research Professor at USC Annenberg in Los Angeles, a Senior Principal Researcher at MSR

in New York, and was the inaugural Visiting Chair of AI and Justice at the École Normale Supérieure in Paris. Kate has revolutionized the way in which we think of AI technologies. AI is functional only within large data sets and then it is programmed or "trained" to take whatever information is deemed relevant for the server to answer the question at hand. So that means that it is searching and processing huge files all at once in order to generate a response. You may be asking yourself where do these large data sets exist and how can they obtain all of this information? Kate gets into how the data is stored physically and the environmental impacts of storing these large data sets so that throughout her book we can begin to understand how the western healthcare systems are entrenched in the ideas of "advancement" and "modernization." As data collection sets began to emerge consent began to be negated on all fronts. Living in the public and using smart technology gave licence for our data to be extracted without our knowledge or consent. As Kate writes within her book "those responsible for assembling data sets presumed that the contents of the internet were theirs for the taking, beyond the need for agreements, signed releases, and ethics reviews." Personal information was captured and placed into data sets for use unknown to the participants and even though completely anonymized. There have been many instances of data becoming unravelled and leaked causing harm to those that have their very personal information unwillingly publicised. Thus taking the "person," the human being with human rights, out of the equation completely and setting us all up for exploitation. By clicking "agree" on most applications we are agreeing to their data privacy policy. But I can guess that most of you do not read the fine print. I can guess that because I certainly do not read them. It also becomes a significant barrier because some applications are needed in our everyday life and the entrenchment with technology holds us in a very precarious balance.

For the medical field however, this way of "forward" movement by means of new technology and advancements in AI has created a lot of treatments that have been able to cure difficult conditions, ease pain and suffering, and help mitigate bad outcomes. The use of AI has been a technology that has been blanketed over the medical field as only good. Often all negative effects are not reported or are swept under the rug per say. This causes doctors to trust the AI systems more than their own education or experience and is when things begin to become problematic for patients.

So then we run into the question: what are they exploiting us and why does it matter to women? This is a very important idea to address within our current political climate due to the very intense and negative ramifications that can be had from the use of some of these AI programs and the storage of our personalized data. One study by Katie Krumbholz, Alice Militaru &Kyle Morgan entitled Tracking the Trackers: 'Menstruapp' Privacy Policies Following the *Dobbs* Decision that came out in 2024 after the overturning of Roe vs Wade in the United States discusses the risks of using health tracking applications. I will add each of Katie, Alice, and Kyle's distinctions to the show notes as this piece is a very important collaboration among talented academics. According to the Legal Information Institute out of Cornell University "*Dobbs v. Jackson Women's Health Organization* is the 2022 Supreme Court case that reversed *Roe v. Wade* the decision that originally asserted the fundamental right to an abortion prior to the viability of the fetus. *Dobbs v. Jackson* states that the Constitution does not confer a right to abortion; and, the authority to regulate abortion is "returned to the people and their elected representatives." This means that any state can choose to implement an abortion ban if a reigning democratic government decides this should be the case. This created a mass influx of women tracking their menstrual cycles to avoid unexpected or unwanted pregnancy without realizing

that all of their data is not private. As found in the research done by Katie, Alice, and Kyle the nature of all smart phone applications with their tracking and data entry features created further risks for women in states that the anti-abortion laws were taking effect. "Data collected by menstruapps can show pauses in a normal cycle which can be indicative of a pregnancy and a return of a cycle, potentially signaling the end of that pregnancy. Even more concerning, the location tracking these applications are capable of can show that users were present at an abortion clinic" this is particularly scary for those using these data collection methods in states where Roe v. Wade has been overturned as abortions are illegal and can be prosecuted. Throughout their research Katie, Alice, & Kyle find that there are a lot of empty promises as to how data is protected and even when we think we are making a good choice about how we are storing our data we may not be being told the truth. These companies are each a business that aims to make a profit protecting the rights of women at the cost of business may not be worth it. The darkest part in this is that women are seeking out these apps for information and education about their health; information that is especially important as states seek to tighten access to reproductive healthcare. Katie, Alice, and Kyle conclude their research with the understanding that those who are producing profit for the period tracker applications, are not receiving any real protection as the misleadingly labeled privacy policies generally seek to protect the company rather than the user and are not transparent for the user to be able to decipher.

With the 2024 federal elections in the United States having concluded and president elect Donald Trump about to take office once again it leaves Americans wondering if there will be a national abortion ban. Donald Trump has wavered in his opinions on the legality of abortions since 1999 all the way from "pro-choice" to insinuating he will be implementing a national abortion ban. According to a NBC news article compiling all of Donald Trump's statements on

abortion he has yet to make a determination on what his office will do but with so much tension swaying we should begin to be prepared for a womens health crisis as it is already emerging. What does this mean for Canadains?

Oftentimes when our nation to the south begins facing something impactful for human rights it deeply affects Canadians as we are so close and often model ourselves after the United States. One thing that Canadians pride themselves on that the United States has not yet been able to implement is our universal healthcare. Does this mean because we have this blanket of universal health care that we are all protected against discrimination and therefore we do not have to worry about our data security? Do we trust in our systems of governance enough to determine that if we utilize AI systems to track our personal data we will not be prosecuted for that data if a law changes? We can turn our attention to a 2022 Canadian study entitled Regulating the Safety of Health-Related Artificial Intelligence by four incredibly talented researchers from law, healthcare, computer science, and beyond Michel Da Silva, Colleen Flood, Anna Goldenberg, Devin Singh I will add each of their individual distinctions into the show notes as they are all so talented and this is such important and timely research. Some of the concerns brought forth by this research is that most federal and provincial privacy laws have requirements that Canadians must give consent to the disclosure and sharing of their personal health information. Access to this data is more difficult than in a health tracking application due to the fact that it is owned by the Canadian Government. "Canada's supreme human rights law, the constitutional Canadian Charter of Rights and Freedoms only applies to governmental action so its protections cannot directly apply to developers or healthcare professionals." Current guidance from Health Canada largely excludes AI software from licensing requirements making it impossible for rigorous testing of the softwares validity before it is being used. Compare this to the pharmaceutical

industry and imagine that doctors relied on medications for treatments but did not know the safety procedures used to test and prove the medications as the best treatment. This lack of licensing could have physicians avoid AI technology due to the fact that it could be faulty and they would not know until it was too late.

Data "de-identification," in which identifying information is stripped away, reduces privacy risks but is not always possible. There is a risk too, with large data sets involved in most health-related AI projects, of "re-identification" and misuse by less Regulating the Safety of Health-Related Artificial Intelligence. Current Canadian privacy laws also do not generally require consent for the use of de-identified data, but triangulation of data and AI could be used to re-identify persons. Recent amendments to Ontario's Personal Health Information Protection Act prohibit re-identification of health information and penalize rule-breakers But these kinds of protections are not uniform across Canada" One of the largest concerns when looking at the use of AI and these large data sets is inclusivity in that members of Indigenous, Black and other Canadian communities that have been marginalized and abused by the current systems and thus may oppose sharing data because of historical and present-day discrimination. Therefore there is a risk of error in diagnosis and treatment if data sets are not included from such populations again. Leaving behind our most vulnerable and those who already need representation within the medical scopes in the name of advancement.

How can we keep our data safe?

Some applications for women's health suggest tracking your menstrual cycle and any of your other health data by hand on paper. Despite this being an "old school" method and slightly less convenient it is the only method we can use where our data will for sure not be sold and coded into a larger data set for use in AI even if it is not used by means of any crime. But what we

should be looking for is applications that are not interested in the lure of money from large corporations to buy our data. This may just be the ticket because most applications are looking for a "buyout" or to strategically sell to gain profit margins at the risk of their consumers and their data. To have flexible privacy settings for all that are customizable and that consumers can change at any time is important. However there is not much you can do with your health data once it has already been sold to a large data bank.

AI promises a safer future for Canadian patients, overall, but to realize that future, legal governance of health-related AI must support safe innovations and weed out poor products and unethical innovators. This puts a lot of ethical and legal pressure onto Health Canada as the regulator of AI and the controller of our data as they must have the primary goal as protection of patient safety and with it a fundamental commitment to transparency. Particularly as it experiments with different kinds of regulatory approaches and standards of evidence for AI products that evolve over time.

There will always be bumps in the road as we experience advancements in technology we just always have to ask ourselves how are we keeping ourselves safe and what more can we do? On the cusp of a womens health crisis and the perpetuation of racialized stereotypes in medicine we should be looking to solve problems but it appears within our current political landscape we are instead inflicting deeper cuts and AI may not be the bandaid everyone is hoping for.

That is all I have for you today, thank you for listening and I will see you next time on Artificial Intelligence in The Medical Field.