Invitation to Brave Space
by Micky ScottBey Jones

Together we will create *brave space.*
Because there is no such thing as a "safe space" —
We exist in the real world.
We all carry scars and we have all caused wounds.
In this space
We seek to turn down the volume of the outside world,
We amplify voices that fight to be heard elsewhere,
We call each other to more truth and love.
We have the right to start somewhere and continue to grow.
We have the responsibility to examine what we think we know.
We will not be perfect.
This space will not be perfect.
It will not always be what we wish it to be.
But
It will *be our brave space together,*
and
We will work on it side by side.

Exploring algorithmic bias and its impact on health research and clinical practice

Biostatistics, Epidemiology, and Research Design (BERD) and OCTRI Informatics Programs

Introduction:
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March 24th, 2023

TODAY'S WORKSHOP

- 12:00 – 12:15   Introduction [All Together]

- 12:15 – 12:45   Breakout rooms

- 12:45 – 1:00   Share-out & Wrap-up [All Together]

BEFORE WE GET STARTED

- Feel free to change your display name and/or to add your pronouns

- Please take a moment to type your name (and anything else you would like to share about yourself!) in the chat

- We are releasing poll questions now that will be helpful for getting going in discussion groups and appreciate your responses.

What is Algorithmic Bias? And why should we care?
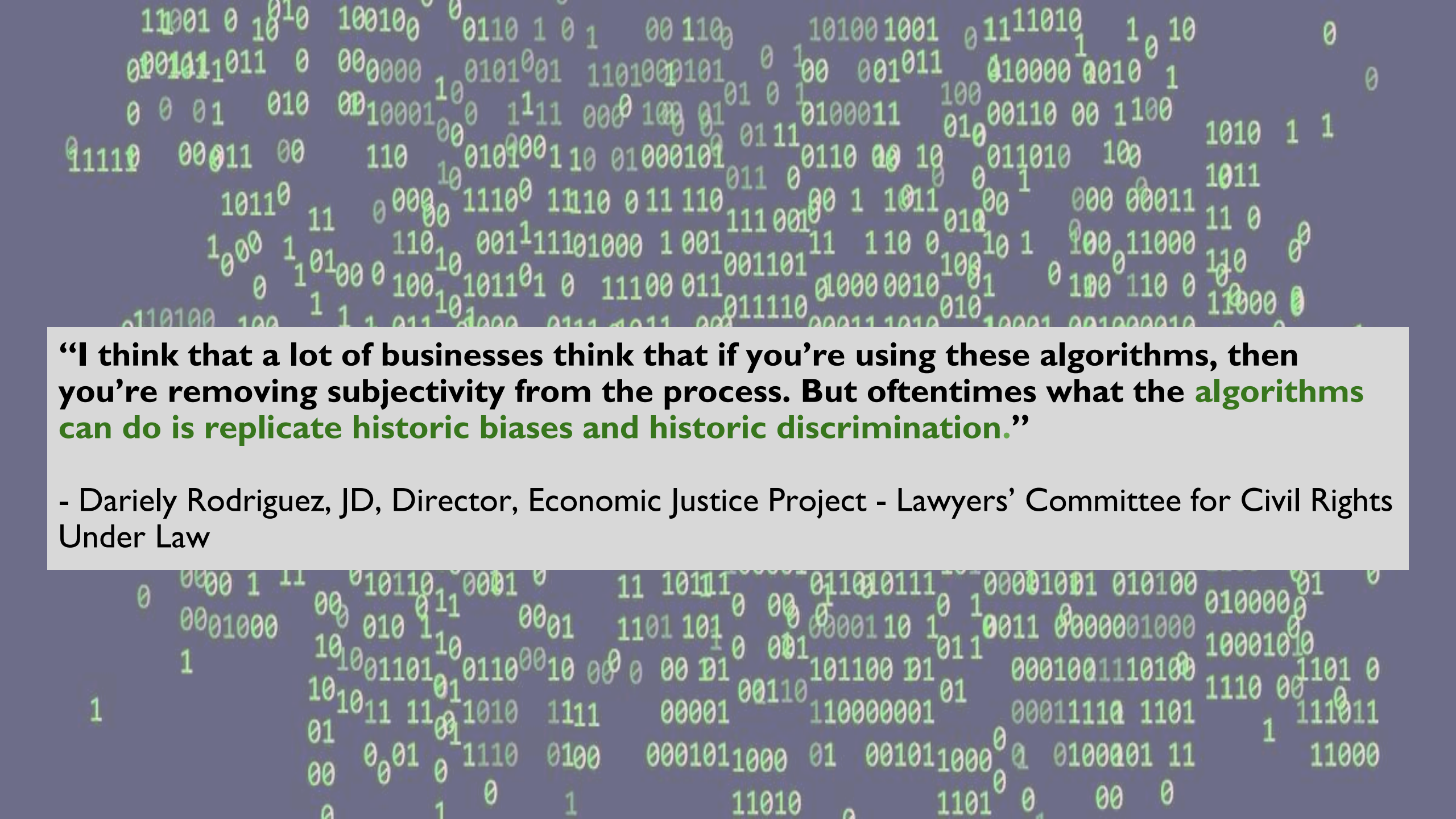
- When an algorithmic decision creates unfair outcomes that unjustifiably & arbitrarily privilege certain groups over others.

- **Algorithms are gatekeepers.** Algorithms are used to decide who gets access to affordable credit, jobs, education, government resources, health care, timely diagnosis, and more.

- Addressing algorithmic bias is **critical to addressing inequities** rooted in things like racism, sexism, classism, ableism, and more.

Image by Stutterhug.

"And so, when I think about the social construction of it, part of the fundamental problem, particularly when I talk to computer scientists, overwhelmingly when I talk to statisticians, is that they really approach algorithms and technology in a color-blind way. They say, oh, okay, if we don't talk about it, if we don't mention it, then we ensure that race is not part of it. Like that couldn't be farther from the truth. In order to fundamentally deal with racism in the algorithms we have, we have to center race in the models that we create."

- Rashawn Ray, PhD, MA, senior fellow at The Brookings Institution

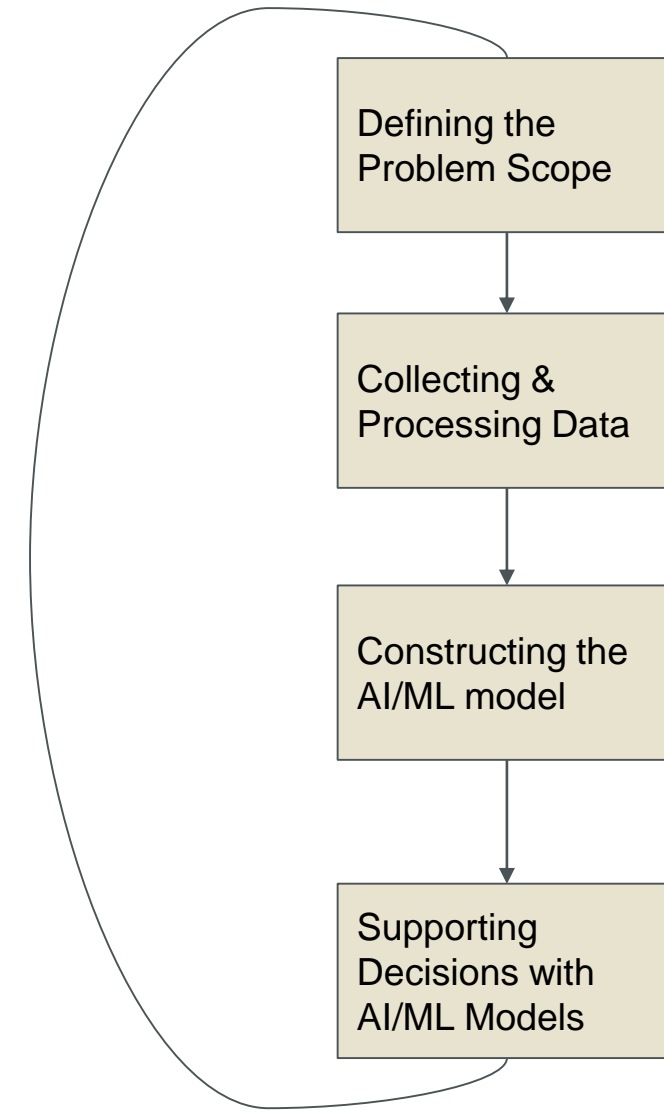"I think that a lot of businesses think that if you're using these algorithms, then you're removing subjectivity from the process. But oftentimes what the algorithms can do is replicate historic biases and historic discrimination."

- Dariely Rodriguez, JD, Director, Economic Justice Project - Lawyers' Committee for Civil Rights Under Law

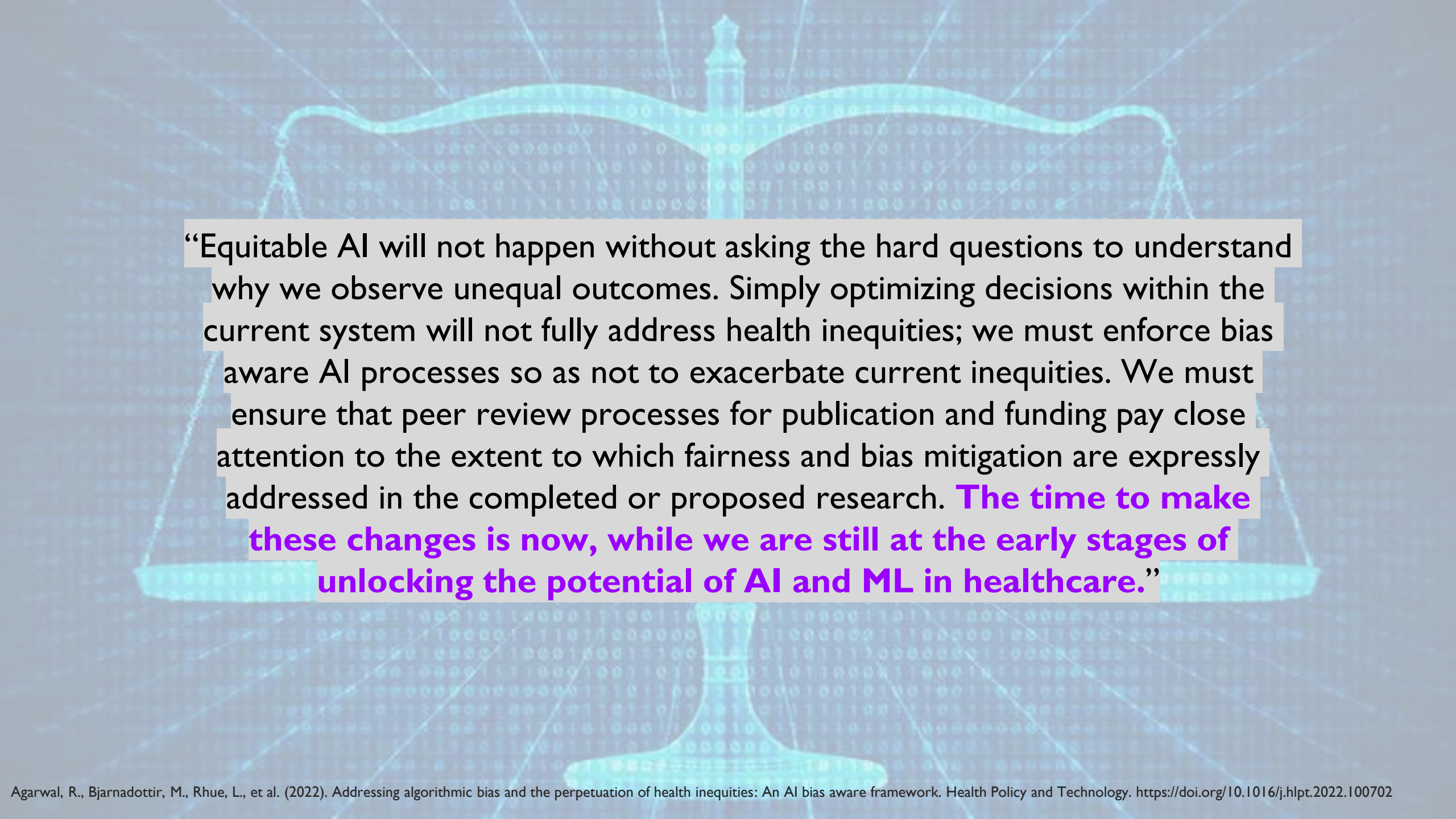# Algorithmic Bias can Be Introduced at Any Stage of the Analytic Process

Agarwal, R., Bjarnadottir, M., Rhue, L., et al. (2022). Addressing algorithmic bias and the perpetuation of health inequities: An AI bias aware framework. Health Policy and Technology. https://doi.org/10.1016/j.hlpt.2022.100702

Defining the Problem Scope

Collecting & Processing Data

Constructing the AI/ML model

Supporting Decisions with AI/ML Models

Example sources of bias at different steps of the process and potential recommendations from Agarwal et al. (2023)

| Source of Bias (Step)	Context	Recommendations
Collecting and processing data	Models could exacerbate disparities in skin cancer diagnoses without sufficient skin color representation.	Representative datasets can improve the accuracy
Decision (with implications for redefining problem scope and model)	Multiple clinical algorithms employ explicit race corrections that affect the diagnostic recommendations for Black patients, leading to disparities in outcomes.	Reconsider the use of race corrections in health care algorithms.

Agarwal, R., Bjarnadottir, M., Rhue, L., et al. (2022). Addressing algorithmic bias and the perpetuation of health inequities: An AI bias aware framework. Health Policy and Technology. https://doi.org/10.1016/j.hlpt.2022.100702

"Equitable AI will not happen without asking the hard questions to understand why we observe unequal outcomes. Simply optimizing decisions within the current system will not fully address health inequities; we must enforce bias aware AI processes so as not to exacerbate current inequities. We must ensure that peer review processes for publication and funding pay close attention to the extent to which fairness and bias mitigation are expressly addressed in the completed or proposed research. **The time to make these changes is now, while we are still at the early stages of unlocking the potential of AI and ML in healthcare.**"

Agarwal, R., Bjarnadottir, M., Rhue, L., et al. (2022). Addressing algorithmic bias and the perpetuation of health inequities: An AI bias aware framework. Health Policy and Technology. https://doi.org/10.1016/j.hlpt.2022.100702

BREAKOUT ROOMS

- Discussion questions and other resources:
https://docs.google.com/document/d/1RoJbcNJi8TmMB3crNWEq0VfZLeO4feKQ/edit?usp=sharing&ouid=113824127125507422516&rtpof=true&sd=true

- Google doc for taking notes in breakout rooms

- Identify 1-2 people in your group to take notes
  - Locate the note taking slide with the breakout room number corresponding to your room number
  - Jot down key themes raised in discussions, big questions your group members raise, and any resources shared by fellow discussants
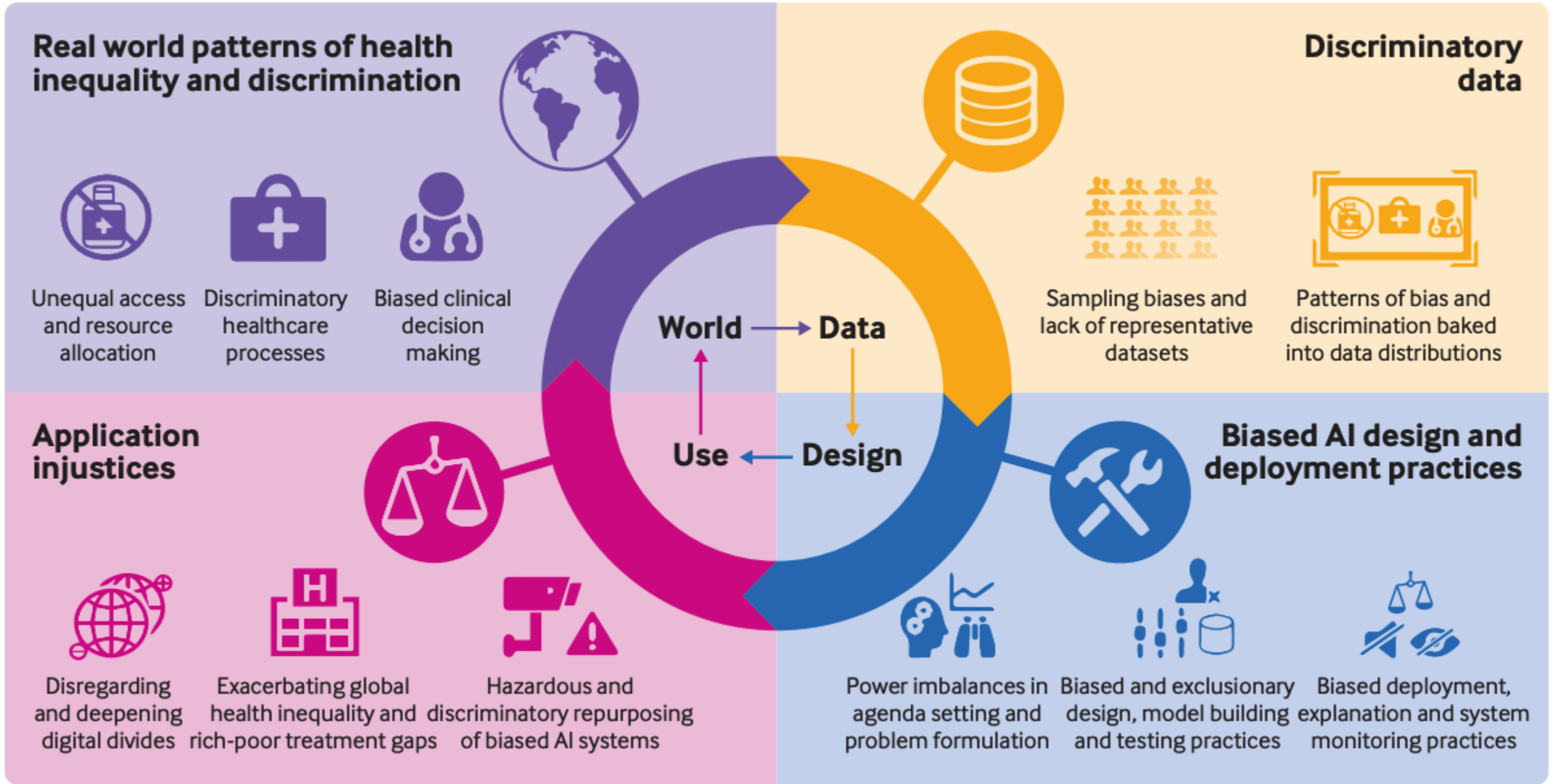
Fig 1 | Cascading effects of health inequality and discrimination manifest in the design and use of artificial intelligence (AI) systems

GROUND RULES

- Listen actively -- respect others when they are talking.

- Speak from your own experience instead of generalizing ("I" instead of "they," "we,'' and "you").

- Participate to the fullest of your ability -- community growth depends on the inclusion of every individual voice.

- The goal is not to agree -- it is to gain a deeper understanding Assume everyone's good intentions but also acknowledge the impact of saying something that hurts someone else, even if it is unintended.

- Expect and accept non-closure and raise new questions in your mind

- Maintain confidentiality. All stories shared in this space stay in this space unless explicit permission is given by the person sharing the story that it can be shared in another setting.

RETURN FROM BREAKOUTS & SWITCH TO LIVE GOOGLE SLIDES

ACKNOWLEDGEMENTS

- Our Facilitators!
- OHSU Antiracism in Data and Analysis planning team
- The OHSU Biostatistics, Epidemiology, Research Design (BERD) Program
- Informatics Program at OCTRI
- Department of Medical Informatics and Clinical Epidemiology

Note: A survey will be emailed to you at the conclusion of today's workshop. We greatly appreciate any feedback you would like to share about your experience!