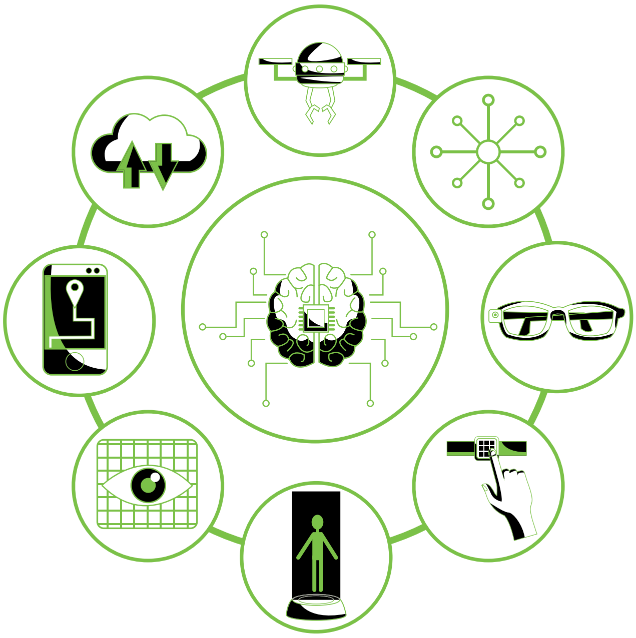
Incorporating gender and intersectionality in Artificial Intelligence (AI) models and algorithms

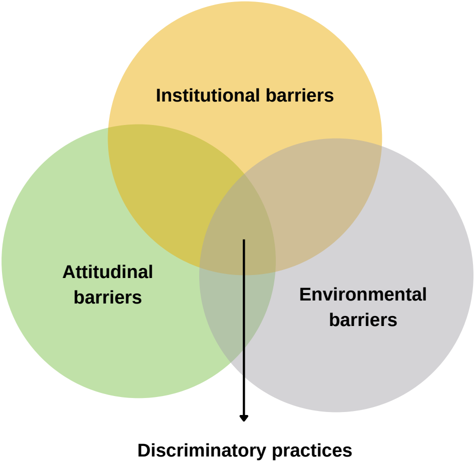
Risks of harm from the multiple and overlapping crises related to COVID-19 vary based upon one's gender, age (children, adolescents and elderly), level of education, occupation, geographical location (urban, rural, informal settlements, urban slums, camps), marital status (married, single, widowed), ethnicity/race, economic status, religion, disability (physical mobility, albinism, hearing. disability).



Depending on these identities, circumstances and characteristics, people experience differing risks of contracting and/or accessing needed information and services related to the prevention, treatment and care of COVID-19.

Some specific gender barriers to accessing information and services include:

- **Attitudinal barriers**: who is included/excluded depending on pre-existing negative/favorable perceptions about their values in the society. There are many perception around disability, older/young people, women/girls which influence the services they can access.
- **Institutional barriers**: which prevent access by women or other groups unless they conform to institutional requirements, or are accompanied by those who have access.
- **Environmental barriers**: Ease/difficulty in accessing information and communication, services and health facilities depending on factors such as location, education, and economic status.
- Discriminatory practices: deriving from the barriers, dictates/inform who does and doesn't have access to resources, including COVID-19 related health services.



Gender barriers: are socially constructed gender-based constraints or biases faced by individuals limiting their access to, control over and benefits from social, economic and political roles, responsibilities, rights, obligations etc.

Intersectionality

Intersectionality is a strategy to ensure transformative change through understanding and highlighting the realities and diversity in the lives of girls, boys, women and men under different social circumstances. An intersectional approach recognizes that boys/girls, women/men are not homogenous rather it tries to understand the difference within and among them due to such social markers as age, race, class, religion, geographical location, sexual orientation and the like. Such social markers overlap and intersect determining individual identities, opportunities, challenges and life experiences.

The Checklist

This Checklist is a guide to ensure stakeholders, including experts, developers and analysts, ethics review board, get adequate information to incorporate gender and intersectionality across the data life cycle, including research design, data collection, processing, analysis, dissemination, and uptake.

The Checklist aims to ensure that data goes beyond counting the numbers to addressing the unintended risks and consequences of communities that are excluded or under-represented (from incomplete data collection). The checklist is co-designed with stakeholders in the policy domain and dedicated to gender and social justice domains, including grassroots organizations. It includes what should be done, who and what might be involved in the co-design and mechanisms for monitoring and mitigation. The Checklist seeks to inform the development of more gender-responsive research, AI models and algorithms, leveraging an intersectional lens. Doing so will help stakeholders address what is missing, inform actions, and guide policy decisions to improve public health responses.

The Checklist is not an exhaustive list of considerations but is meant to be a starting point to ensure gender and intersectionality are embedded in the research process. Additional questions may be asked to ensure various barriers are explored and responded to as needed. The aim is, among others, to capture differing needs and experiences of target groups, avoid assumptions such as the homogeneity of a certain group of people such as women in given circumstances, and avoid doing further harm by benefiting the privileged. The checklist is an attempt to strategically apply a gender and intersectional lens across its research activities to catalyze impact.

How to use the checklist

- ✓ Answer questions in detail as much as possible.
- ✓ Hold yourself accountable for compliance, ethics, fairness, and nondiscrimination.
- ✓ Consider all applicable laws and regulations, especially with regards to privacy.
- ✓ Take measures to avoid incomplete data and erroneous conclusions .
- ✓ Identify error rates for different subgroups.
- ✓ Identify influential variables are in line with your goals and legal compliance.

- Stakeholders refers here to anyone who must make sure gender and intersectionality are accounted for.
- See Monitoring, Evaluation and Learning tool

Questions to consider at the different stages of the research process

1. Framing

- Who are you aiming to serve?
- What is/are the purposes/objectives of the research?
    - Is there an outcome that intends to contribute towards favorable changes in gender barriers/gaps? If so, how have gender equality organizations been engaged in defining these outcomes?
- Who/what is represented in your data, and how?
    - How/in what ways are we planning to consult/engage target communities? How clear are they about different aspects of the project?
    - Do your data sets enable differences in population (such differences between men and women, and those of difference ethnic origins, or with different education or income levels) to be explored and identified? Will the impact of the research be available for the different intersectionalities?
- What is your hypothesis?
    - Does it take into consideration gender and intersectional issues?
    - Was a landscape or situational analysis taken into consideration in forming the hypothesis?
    - What relevant information do we have on gender norms, or patterns around power relations, access to resources and decision making at different levels (household, institutional and personal resource and decision making)?
    - Have regional and cultural differences been considered?
    - Has your hypothesis been tested in relation to gender and intersectionality outcomes?
- Who (which group) will benefit the most from the outcome (be specific)? In what ways?
- Who are we excluding and why?
- What choices are we making and what potential are we trying to maximize by doing so?
    - What assumptions are we making? Are these assumptions helping/blocking discrimination against people in different social groupings or strata? Is it assessing the outcomes in these groups so that they can improve their health outcomes?
- Have you identified potential biases in the data? What is being done to highlight these and to overcome the limitations due to these biases?
- Which local grassroots organizations are we coordinating with?

2. Data: collection and testing

- What is the origin of your data?
- Which data source will help capture the level of diversity we are considering?
    - .What additional data sources/types will help us capture differing experiences of people under different circumstances?
    - What assumptions are we making with regards to the data sources?
- Do these data sources and data collection method/s help us access adequate information on gender and other social determinants of gender? (collect relevant social determinants of health data by male and female (e.g. disaggregated data sex, education, income, age)

“Gender gap is the difference between women and men as reflected in social, political, intellectual, cultural, or economic attainments or attitudes.” (directly taken from https://www.weforum.org/agenda/2017/)

3. AI design, deployment/ implementation

- Is the code and underlying data auditable?
- What do you know about the sources of information, and expected users? Any known limitations?
- What is the accuracy of your model for different sub-populations?
- How well does the data sets cover the populations that will be impacted?
- Is your AI system usable by those with special needs or disabilities? Others at riskof exclusion?
- How safe is your AI system? (From cyber-attacks, hackers, trolls and the introduction of biased data sets)

4. Legal Considerations

- Are applicable laws, policies and regulations on gender and intersectionality, and privacy considered?
- Are there mechanisms developed to avoid potential liabilities (for example on request informed consent)?
- Does the research project have an established, verified, and functioning system for upholding ethical AI governance?

5. Dissemination

- What mechanisms do we have to engage key stakeholders including researchers to collect feedback and test the findings to ensure the data analysis reflect their concerns and experiences, before data dissemination?
- Even where data exists, this does not guarantee that they will be widely used. How have we addressed potential disconnects or technical capacity gaps among our expected data users? For example, have we considered producing “data sheets” 16 and user-friendly visualizations to ensure that the data is accessible for a range of data users?
- What plans have we made to strengthen communication and collaboration between our team (the data producers) and data users? 17 Are there opportunities for iteration? For example, have we considered webinar engagements or administering a user survey on our data portal site to generate feedback on how actionable the data is?

References

- Harvey, Rowan and Safier, Chloe, (2021). Transformative Change for Gender Equality Learning from Feminist Strategies Friedrich Ebert Schtiftung. Kathmandu
- Alex Berryhill and Lorena Fuentes. Designing gender-responsive data projects: Synthesis of key frameworks and guidelines

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https://www.equalai.org/resources/ Equal AI provides a checklist to get started and guidelines, standards and tools to ensure equal representation in the creation of AI.