

Tackling the complexity of gender bias in primary care

Sex and gender bias in health care is complex, and research into how to reduce it is lacking. A recent scoping review on interventions to reduce gender disparities in clinical care¹ found just 22 studies, with only two based in primary care, of which neither were centred around health services that would be classified as primary care in the UK.

In her book, *Invisible Women: Exposing Data Bias in a World Designed for Men*,² Caroline Criado Perez makes the argument that women live in a world built on data from men. In contrast with the arguments of Criado Perez, primary care consultation data used in both clinical care and in research is probably an example where the data do not inherently have a bias against women. In primary care, many of the health impacts of gender bias will be encountered and supported. GPs provide support for domestic violence, sexual exploitation, and other social concerns that disproportionately affect women.³ Primary care is where a significant proportion of contraception, pre-conception, and termination of pregnancy healthcare services are accessed. Women are more likely to be informal caregivers than men; caring roles are associated with poorer health-related quality of life.⁴ GP records identifying carers within their practice populations allowed unpaid carers to be identified in early cohorts for eligibility for COVID-19 vaccination.⁵

BIASES IN PRIMARY CARE DATA

In addition, women also access health care more frequently than men, with the data for each healthcare contact recorded,⁶ and this has a direct impact on data quality for both clinical use and research. Blood pressure, smoking history, and body mass index are frequently recorded at consultations for contraception; women would be expected to be more likely to have accurate and up-to-date records for these cardiovascular risk factors, with an impact for accuracy

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when records are used in clinical decision-making algorithms such as QRisk, or in research where records from women may be less likely to be omitted because of missing data. Similarly, many women will have had HIV screening during pregnancy and have HIV status recorded,⁷ the expected consequences of which would be both potentially better completeness of HIV recording for women than men for research, but also, women may be less likely than men to be living with undiagnosed HIV.

However, this does not remove the bias against women that comes from interpreting and applying data without explicitly considering their bodies.

The implementation (and subsequent guidance for GPs) of the QCovid algorithm is a recent example, with a large number of women with a history of gestational diabetes being told to start shielding.⁸ The reasons for this were multifactorial, the algorithm failing to detect (or consider) its resolution of diabetes after pregnancy, and incomplete follow-up or coding to reflect this.

BIASES FOR THE GENDER DIVERSE POPULATION

There are also complexities in understanding and addressing gender bias for the gender diverse population. Historically, transgender (trans) status has been recorded through diagnostic codes, many of which are outdated or discriminatory. Although primary care records clearly do contain trans patient records, they may or may not have a diagnostic code attached

due to lack of disclosure by patients or recording by clinicians. In the same way that data may be better for cisgender women because of higher utilisation of primary care, lower rates of overall consultation from the barriers to health care experienced by trans populations⁹ are a further reason why data from trans populations may be more limited.

The NHS medical record currently has a single marker to reflect both sex and gender. Trans men and women may change the sex marker on their medical record as part of a social role transition.¹⁰ This results in a new medical record. Trans patients may therefore lose access to automatic invitations for appropriate national screening programmes such as abdominal aortic aneurysm and cervical cancer. Guidelines place the responsibility on GP practices to call trans patients for these screenings,¹¹ requiring a manual search of records to ensure that the correct patients are invited.¹² The record also requires a binary response, leading to the invisibility of non-binary identity in routine data.

Variations in sex characteristics (VSC), also referred to as differences in sex development (DSD), include a wide group of conditions. People living with VSC may or may not choose to identify as intersex, and the majority of people with VSC identify as male or female. However, they too may be adversely affected by bias in healthcare data and its application to bodies. There is some evidence that clinical coding in secondary care with regard to VSC varies between hospitals, resulting in limitations in the data available for epidemiological research, which is of particular importance with regard to surgical interventions;¹³ to our knowledge the quality of this data in primary care has not yet been evaluated.

There is increasing awareness of the need to disaggregate sex and gender in medical data.¹⁴ Sex and Gender Equity in

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Research guidelines¹⁵ now exist to promote the reporting of sex and gender in research publications, and suggest that study authors include the gender diverse population in their research where possible, or try to extrapolate their findings accordingly.

RISK-SCORING ALGORITHMS

Criado Perez cited examples where clinical algorithms work less well in women compared with men;² however, clinical decision-making algorithms implemented in primary care records frequently do incorporate risk scores estimated differently for the two groups. For example, the CHA₂DS₂-VASc for atrial fibrillation stroke risk includes a point for being female, meaning that anticoagulation thresholds based on the score will typically be at lower ages in women compared with men, reflecting true differences in stroke risk.

However, the implementation of risk scores that have different scoring approaches for men and women is frequently unclear for trans patients, as it is unclear whether to input the patient’s gender or sex. Often this is simply because trans monitoring is poor, and data are not available to facilitate the research to answer these questions. However, the resulting uncertainty around treatment decisions can potentially lead to unintended harm either by over- or underprescribing. Currently, the QCovid score includes sex, but guidance highlights that it cannot give an accurate result for people who are intersex or trans.¹⁶

In the case of the gender diverse population, gender identity and trans status monitoring in healthcare data for research and clinical care would be instrumental in both identifying and reducing inequalities in primary care. Approved questions for such monitoring are in development by NHS England, and the Pride in Practice programme has been supporting GP practices with its implementation on patient record systems and in registration forms.

CONCLUSION

Most gender disparities in primary care

come not from biased care provided by GPs or poorer data quality; they form a more complex picture where health and societal pressures (for example, violence against women or caring responsibilities) intersect. Identifying and overcoming these disparities will therefore require greater understanding of the impact of gendered behaviour, its impact on clinical care, and the resultant biases in the collection and interpretation of healthcare data.

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