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Race is not a biological category: challenging this misconception will help tackle racism in healthcare

Healthcare professionals must reject flawed racial generalisations, writes **Jasmeen Kanwal**

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Institutional racism in healthcare has received increased coverage in recent years, including in *The BMJ*'s special issues in 2020 and 2025.¹ Yet the harmful misconception that race is a biological category rather than a shifting social construct remains entrenched in the public consciousness, including among healthcare staff.²⁻³ Healthcare professionals, as trusted experts, should lead on dismantling this misconception.

This misconception leads to poor medical care and patient harm. For example, the misuse of race in clinical equations can lead to prediction error and missed diagnoses.⁴ Race based treatment recommendations are still made despite studies showing that drug responses do not reliably vary by race.⁵⁻⁷ There are also egregious racial inequities found in pain treatment,⁸⁻⁹ resulting from implicit assumptions about biological differences in pain tolerance in racialised patients.

The consensus within modern genetics, that there is no biological basis for race, is not taught in schools or in the canonical medical curriculum. I only came across it as a postdoctoral researcher in a biology department. I didn't fully grasp its importance until I began lecturing on a new module on scientific racism, covering how evolutionary theory was historically co-opted to support ideas of race and eugenics that justified colonialism.¹⁰

In teaching this topic, I've come across many resources explaining these findings in depth—but there are some key points that everyone working in healthcare should know.^{2-4 10-13}

Firstly, and most importantly: the physical differences associated with race and ethnicity (eg, skin colour, hair texture, eyelid shape) are not representative of overall genetic difference between people.¹⁴⁻¹⁷ Racial or ethnic identity—where ethnicity is often used interchangeably with race—is therefore a poor predictor of a patient's genetic disease susceptibility or drug response.¹⁸

Secondly, genetic variation exists on a gradient. Human genomes do not fall naturally into clusters.¹⁹⁻²⁰ Any way of categorising humans into groups genetically will require arbitrary cut-off points or gene selections.

Thirdly, there is more human genetic variation found within populations than between populations: most genetic variants are present within all human groups.^{15 17 21 22} Classifying a patient according to their continent of birth will therefore tell you little about their individual genetic makeup.

Finally, because of all this, the most plausible biological mechanism by which a person's "race" could make them more or less prone to any health condition is through racism itself.²³ Genetic differences that have been historically linked to race, like sickle cell disease, lactase persistence, or even skin pigmentation, are in fact local adaptations, cutting across traditional racial or continental lines. In most cases these adaptations evolved independently in different populations that share relevant cultural or environmental conditions.²⁴

Social determinants of disease that correlate with socially defined racial categories are, however, very real. Health is well known to be affected by differential rates of healthcare access, toxin exposure, poverty, incarceration, and other socioenvironmental factors linked to structural racism. These inequalities are given relatively little attention and funding.²⁵⁻²⁶ A biological conception of race has given those in power license to dismiss the need for structural change to tackle health inequalities. If this false narrative were to finally be dispelled, the urgency of confronting social problems would be harder to ignore.

Some positive change is already underway. Race free versions of the glomerular filtration rate equation have recently been adopted as standard in both the US and UK.²⁷⁻²⁸ Misleading references to biological race have been removed from at least one prominent medical textbook.²⁹ Evolutionary geneticist Joseph L Graves Jr, author of books on medical racism,^{10 30} has lectured on this topic at over 70 medical departments across the US and some in the UK.

To systematically root out misconceptions about race, our best approach is by using curriculum reform. Medical education needs complete revision to remove its over-reliance on racial and ethnic stereotypes and replace this with personalised, evidenced based approaches to medical testing, diagnosis, and care.⁴

Those of us involved in medical training can influence change on what students and trainees are taught and tested on. Free resources are available to help.³¹⁻³² With the current political climate in the US stymying what progress has been made there, we in the UK must lead on this, particularly as a former colonial power that was instrumental in proliferating racist ideology.

Patient data collection also needs to be reformed. Given that racialisation is a social determinant of health, race and ethnicity data are important for equalities monitoring, but this has not been made sufficiently clear to patients or clinicians.³³ Standardising the language on medical websites,

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leaflets, and forms to clarify that data collection is for monitoring rather than racial profiling or treatment decisions, and better guidance for clinicians about this, would help.

Changes to the medical curriculum and to official guidance from institutions must be implemented, but that can take time. One thing that any healthcare professional can act on today is to consciously reject discredited racial generalisations and approach every patient as an individual.

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