

SPECIAL ARTICLE

Desegregating health statistics and health research in South Africa

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Objective. This article aims: (i) to re-examine the use and usefulness of categorisation based on 'race', ethnicity and 'population group' membership in public health research; and (ii) to assess the consequences of using these categories for describing, analysing and redressing disparities in health within South Africa.

The utility of categorisation based on 'race', ethnicity and 'population group'. Categorising populations and comparing patterns of disease between different groups of people can be a useful technique for identifying potential causes of disease. In this context, ethnicity is a valid social concept that could be used to investigate the consequences of self-ascribed identity on health. Likewise, 'population group', as defined during apartheid in South Africa, represents a valid political concept that could be used for assessing the impact of social discrimination on health. However, both these concepts are often seen, and used, as euphemisms for 'race', even though there are no genetically distinct human subspecies that can be identified and categorised as discrete 'races'. Indeed, 'race' as a biological concept has no validity in human biology. Nevertheless, categories based on 'race', ethnicity and 'population group' continue to be used in health research, and reinforce the perception that differences in disease between different 'racial', ethnic and 'population' groups are the result of heritable biological characteristics. In so doing, they undermine support for health interventions that would otherwise address the social and political origins of 'racial' and ethnic disparities in health.

The utility of 'population group' for redressing the consequences of apartheid. Despite these problems, 'population group' classification provides important information for assessing the impact of apartheid on disparities in health within South Africa. Yet, the abolition of apartheid legislation is likely to result in extensive socio-economic and geographical migration that will weaken the sensitivity and specificity of 'population group' as an indicator for identifying inequalities in health. For this reason, targeting corrective action at specific population groups in order to tackle disparities in health, runs the risk of ignoring alternative social causes of inequalities in health, and ignoring disadvantaged individuals from elsewhere in the population. The continued use of 'population group' classification might also perpetuate the root cause of disparities in health, by maintaining the process used to formalise discrimination.

Conclusion. If the purpose of health research is to monitor inequalities in health and to help target resources aimed at reducing these inequalities, then it should seek, in its language, concepts and methods to undermine the root cause of disadvantage. Health research aimed at monitoring and redressing the consequences of social disadvantage on health should therefore focus on non-biological determinants of social disparities in health. As a general rule, health researchers should avoid using categories based on 'race', ethnicity and 'population group' when collecting and analysing health data; journal editors should not accept articles that use these categories without justification; and health authorities should not collect data routinely segregated by 'race', ethnicity or 'population group'.

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Categorisation plays an important role in scientific research and has been described as a 'laudable zeal for discriminating science'.¹ Although the categories used are often arbitrarily defined,^{2,3} Marmot⁴ has justified the pragmatic approach of many health researchers by pointing out that 'if two groups [of people], however defined, have different rates of disease, productive aetiological investigations may follow'. In practice, however, when different rates of disease remain unexplained, the category used to distinguish between two groups of people tends to assume causal significance.^{2,5}

Thus, when the category used is based on 'race' or ethnicity, differences in rates of disease tend to reinforce the view that fundamental, biological or behavioural differences are responsible for disparities in health between different 'racial' and ethnic groups.^{1,2,5-8} In reality, 'racial' and ethnic differences in disease are more likely to be the consequence of racism and ethnic discrimination.^{9,10} Indeed, South Africa provides the clearest example of how discrimination results in differential exposure to environmental risks and differential access to health care.¹¹ The dilemma facing contemporary health researchers is how to examine the consequences of racism and ethnic discrimination without drawing attention

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to arbitrary differences between groups of people that polarise our view of the world along 'racial' and ethnic lines, and distort our perception of aetiology in a way that supports racist science.^{2,12,13}

This dilemma posed serious problems for researchers during the apartheid era in South Africa, where it was 'impossible to describe the daily reality for millions of South Africans in any other way . . . [than to use] such terms as "black", "white" and "coloured" . . .'.¹⁴ Even now that population group classification and legalised discrimination in South Africa have ended, the legacy of apartheid is likely to maintain inequalities in health for generations to come.¹⁵ It is hardly surprising then, that the Epidemiological Society of Southern Africa,¹⁶ together with prominent researchers¹⁷ and policy-makers,¹⁸ has called for the retention of 'population group' classification to help monitor and rectify disparities in health, even though this breaches the country's constitution which aims to eliminate 'racial' discrimination.

The aim of this article is to re-examine the use and usefulness of categorisation based on 'race', ethnicity and 'population group' membership in public health research, and to assess the consequences of using these categories to describe, analyse and redress disparities in health within South Africa.

The use and usefulness of categorisation based on 'race', ethnicity and 'population group'

'Race'

Species is the only true category in nature, describing as it does a 'population of actually or potentially interbreeding organisms sharing a common gene pool'.¹⁹ All other categories are essentially subjective and arbitrary, no matter how convenient or reasonable they may appear to be.²⁰ In this context, race is a category of convenience,¹ equivalent to subspecies, which refers to a group of individuals who are taxonomically distinct, and who share a stronger degree of genetic similarity to each other than they do to the rest of the species.^{8,20,21}

Phenotypic variation in human beings is self-evident²² and heritable differences in highly visible characteristics, such as skin colour and hair texture, create the impression that there are inherent differences in a large number of genetic traits that would justify dividing human beings into several different 'races'.³ 'Racial' classification based on such criteria appears very attractive to epidemiologists and health researchers because it provides a mechanism for identifying heritable conditions,²³ personality (temperamental),²⁴ and behavioural traits^{7,8} that are linked to 'race', which might be responsible for 'racial' differences in susceptibility to disease. In this way, 'racial' classification would assist clinicians to improve the diagnostic pretest probability of disease.

However, Krieger and Bassett²⁵ have explained how this approach is based on three flawed assumptions, namely that: '(i) race is a valid biological category; (ii) the genes that determine the heritability of race are linked to the genes which affect health; and (iii) the health of any community is mainly the consequence of the genetic constitution of which it is composed'. In fact, the biological concept of race has

been repeatedly discredited as a valid category in human biology.^{8,19,20,26} First of all, the genetic similarities between people from different 'racial' groups are far greater (around ten times greater²⁷) than the minor genetic differences responsible for the phenotypic characteristics traditionally used to demarcate 'racial' boundaries.²⁸ Second, there is an equivalent number of minor genetic differences (such as those that control particular blood types) which disregard conventional taxonomic boundaries and occur in more than one 'racial' group.²⁹

For this reason, there are very few heritable diseases that can be linked to conventional 'racial' groups, and those that are (such as sickle-cell anaemia²⁰) are rare and make a minor contribution to the differences in morbidity and mortality we observe.²⁵ It is therefore completely inappropriate to study differences in disease between different 'racial' groups in the hope of identifying heritable causes of disease,^{20,30} and race in its biological sense has no place in health research. How then do we account for the extensive disparities in health between different 'racial' groups?^{2,10,30} If race is not a valid category in human biology, and heritable diseases are not responsible for most of the 'racial' differences in health we observe, these differences must demonstrate 'beyond question the paramount role of social causes' in the aetiology of disease.¹

Ethnicity

Ethnicity is usually defined as a self-ascribed category by which individuals seek to assert their identity,³ and voluntarily associate themselves with a particular group while differentiating themselves from other groups.³¹ Like 'race', ethnicity is an attractive concept to health researchers who postulate that the varying beliefs, behaviours and lifestyles of different ethnic groups affect their health.³ Thus any differences in health between different ethnic groups might help to identify the social and behavioural origins of disease.²

This approach, however, rests upon the same three assumptions that Krieger and Bassett²⁵ applied to 'race', namely that: (i) ethnicity is a valid social category; (ii) the beliefs, behaviours and lifestyles that describe ethnicity also influence health; and (iii) the health of a community is mainly the consequence of its ethnic composition. Although ethnicity is a valid social category, it is a flexible concept whose definition and meaning can change over comparatively short periods of time.³ For this reason, individuals with seemingly similar characteristics may define their ethnicity differently in different places and at different times.³² Under these circumstances, ethnic boundaries are imprecise, inconsistent and variable,³ and ethnicity is of little use in describing identifiable patterns of enduring belief, behaviour and lifestyle that might be linked to disease. Even when certain groups and certain individuals define their ethnicity using characteristics that are useful predictors of disease (such as the strict diet of Rastafarians³³), other groups and individuals may not, and instead refer to characteristics that are unrelated, or difficult to relate, to health. Where specific characteristics are thought to be relevant in explaining ethnic differences in disease, epidemiologists might more profitably examine the specific characteristic itself (in this example, diet) rather than ethnicity.³⁴

'Population group'

In practice, few health researchers attempt to measure self-ascribed ethnicity. Even when their census techniques ask people to select an ethnic group, to which they 'consider' they belong, all the categories provided are effectively precoded.^{3,35} When used in this context, ethnicity refers to an externally imposed categorisation that is often imprecise,³⁶ and bears little resemblance to self-ascribed ethnic identity.³¹ However, provided the categories used reflect the social and political forces that govern discrimination, they should provide 'data for sound inferences of discriminatory behavior'.^{31,37}

In South Africa, specific 'population group' categories (black, white, Indian and coloured) were established to formalise discrimination and enforce social control during the apartheid era.³⁸ Like other forms of racism and ethnic discrimination, apartheid legislation had a profound effect upon health status and health care utilisation, because it prescribed the 'social role' of each 'population group' and its access to society's resources.³ For this reason, 'population group' and other externally imposed 'racial' and ethnic categories, have been used to identify the potential impact of social and political discrimination on health. Once again, this approach rests on the three assumptions that Krieger and Basset²⁵ applied to 'race', namely that: (i) 'population group' is a valid social and political category; (ii) the social and political forces that led to 'population group' classification are forces that also influence health; and (iii) the health of any community is mainly the consequence of its 'population group' composition.

Like other forms of 'racial' and ethnic categorisation,³⁶ 'population group' classification was an imprecise and wholly subjective process: in terms of the 1950 Population Registration Act, 'population group' classification was based on a variety of factors including appearance, descent, language and behaviour. In reality, the different groups were poorly defined and the Act required 15 amendments between 1956 and 1986 to uphold the classification.³⁸ Nevertheless, West and Boonzaier¹³ have argued that 'however inaccurate, vague and unscientific we can show the legislation to be . . . the fact is that people are classified into "population groups", and that this does have a profound impact on most aspects of their lives, including in a medical sense'. Few researchers would deny the extensive evidence linking social class, poverty and ill-health,³⁹ and because racism and ethnic discrimination influence the 'allocation of social position',³ it is perhaps inevitable that 'population group' classification reflects social inequalities in health.¹¹ Indeed, there is mounting evidence that racism and ethnic discrimination might also have a direct effect on health² because there remain 'racial' differences in mortality,^{40,41} morbidity,⁴² and access to health care,^{10,43,44} even after differences in education, income and health insurance have been accounted for. In fact, since discrimination precedes disadvantage, it can be argued that 'racial' and ethnic disparities in health are not primarily the result of differing levels of poverty, but the direct consequence of racism and ethnic discrimination, which force different levels of poverty upon different 'racial' and ethnic groups.¹

However, this view tends to dismiss the existence of socio-economic stratification within different 'population groups' and the importance of this stratification to health.⁴⁵

Racism and ethnic discrimination are not the only causes of social and socio-economic disadvantage,⁵ and although 'population group' composition often plays a key role in the aetiology of disease it may not always be the most important determinant of a community's health.

The consequences of 'racial' classification in public health research

Although the biological concept of race is an 'intellectual corpse' when applied to human biology,¹ epidemiologists have increasingly used 'racial' categories to examine patterns of disease.^{46,47} The fact that many of the more recent North American studies reviewed by Jones *et al.*⁴⁸ excluded 'non-white' subjects indicates that contemporary health researchers in the USA consider 'race' to be an important determinant of health, and exclude the 'non-white' subjects in order to eliminate the presumed effect of 'race' on their analyses. Minority 'racial' groups and 'racial' differences in health have therefore been under-researched because 'most researchers, conceding that . . . "race" measures some uncertain combination of socio-economic status, culture, and genetic endowment',⁴⁶ treat 'race' as a confounder and exclude subjects from minority groups for logistical reasons. This conclusion suggests that 'most researchers' ignore the strict biological definition of race or overestimate its relevance to epidemiology. However, the study of race does not necessarily mean that all researchers accept the existence of separate human subspecies, and Bogue²² has pointed out that 'just because an idea (like race) is not valid does not mean it cannot have consequences . . . if we wish to study the consequences . . . we must be careful not to forget the idea'.

Nevertheless, to use 'racial' classification in health research simply as a mechanism for identifying the consequences of 'racial' ideology ignores the consequences that such research can have. In South Africa, the use of 'population group' categorisation in public health research could easily be misinterpreted as 'acquiescing with the philosophy of apartheid',¹² and 'tacit acceptance of a discredited system'.¹³ Likewise, by reinforcing the impression that genetic differences between 'racial' groups are important determinants of health,⁵ health researchers who continue to use 'racially based' classification in their research might inadvertently focus attention away from the social origins of disparities in health,^{1,2} and thereby undermine policies aimed at tackling these social causes.²²

Does 'racial' classification reinforce the biological concept of race?

Similar accusations could be levelled at health researchers who use ethnicity and 'population group' classification, because both these categories are easily confused with 'race'.^{7,8} Although the characteristics most commonly used to demarcate ethnic identity are those with inherent social significance, such as language and religion, a variety of arbitrary factors, including differences in phenotype (such as colour), also play an important role in descriptions of

ethnicity.³ Therefore, while individuals and groups might not always agree with externally imposed 'racial' and ethnic descriptions,¹³ they often use these descriptions to define their ethnicity, and to strengthen group identity.³⁷ In this way the concept of 'race' is essentially 'subsumed into the concept of ethnicity',³ and the 'racial' features people use to describe their own identity and classify other groups reflect the impact of 'racial' ideology on their experience of ethnicity. Under these circumstances, phenotypic labels (such as 'black' and 'white'), be they self-ascribed or externally imposed, reinforce the perception that 'race' and ethnicity are closely linked, and that ethnicity is largely hereditary. It is hardly surprising then, that ethnicity and 'population group' are seen and used as euphemisms for 'race', as if the qualitative distinctions between these distinct concepts were merely semantic.³⁷ In South Africa, the Nationalist government exploited the fluidity between these concepts by linking ideas of nation, 'volk' and culture to 'race',⁴⁵ and using the terms 'race', 'ethnicity' and 'population group' interchangeably in apartheid legislation.⁴⁹ For this reason, health research that examines the impact of ethnicity or 'population group' classification on health 'may unwittingly contribute to prevalent ideas of deterministic biologic differences' between different groups.⁴⁶

Does 'racial' classification help to misidentify the causes of disease?

Just as the use of 'race', ethnicity and 'population group' in public health research reinforces the legitimacy of 'race' as a reality in human biology, so the use of these concepts can 'limit . . . theoretical perspectives . . . [and] reinforce thinking in "racial" rather than in social and behavioural terms'.⁵ Thus, even when different groups are defined in terms of ethnicity or 'population group', unexplained differences in disease between these groups are often interpreted as the result of 'racially determined', 'biological characteristics'. The 'very availability of all our mass of "race"-classified data . . . invites a short-circuiting of our thinking so that we are likely to ignore the teachings of our science and work with irrelevant variables'.²² In so doing policy-makers and the general public may be misled into becoming racists, while researchers may be 'misled into unprofitable research and loss of theoretical perspective'.²²

The 'pervasive nature of population (group) classification' in South Africa creates a very real 'danger that these categories are unthinkingly assumed to be relevant in medical matters',¹³ yet evidence of 'racial' differences in health 'may not be so valuable as we so often take for granted. Black, white, or Indian are not categories of wealth . . . [and] illegitimacy scores linked to "race" cannot tell whose children are loved'.¹² Time and again, diseases thought to be heritable and racially linked have been found to be the result of other causes. Examples include kuru, an infectious disease unique to a remote tribe in Papua New Guinea, which was originally thought to be hereditary, as was rheumatic fever among Irish immigrants in the USA.¹ It seems clear that our knowledge of racial differences in these and other diseases has played 'little or no role in advancing the understanding of their epidemiology'.³⁰

Does 'racial' classification undermine public health programmes?

By reinforcing the view that 'racially linked', heritable characteristics are ultimately responsible for 'racial' disparities in health, researchers who use categories based on 'race', ethnicity and 'population group' unwittingly undermine support for public health programmes intended to address the social origins of 'racial' disparities in health. In particular, genetic explanations for 'racial' differences in health 'absolve the State of responsibility for the health profile of . . . (disadvantaged groups) by declaring racial disparities (regrettably) inevitable and normal'.²⁵ In this context, the differences in pathology between different 'racial' groups are ascribed to fundamental differences in biology, for which there could be separate, 'racially specific' norms. One consequence of this approach would be that 'racial' differences in health status might simply disappear. For example, the higher incidence of hypertension and anaemia among 'black' people would cease to exist if we established higher norms of blood pressure and lower norms of haemoglobin concentration for this group.¹ Similarly, by suggesting that certain 'racial' or ethnic groups have more 'motivation to achieve a state of positive health',⁵⁰ some researchers allude to inherent differences in personality or 'behavioural risk factors',⁴¹ that explain the unhealthy lifestyle and environments 'chosen' by disadvantaged groups.²⁵ Either way, 'race', ethnicity and 'population group' become viewed as 'non-modifiable risk factors' for disease whose effects are not susceptible to public health interventions.⁴⁶

In any comparison, individuals from healthier groups are likely to feel less susceptible to disease and less prepared to comply with public health interventions. An appropriate South African example is the attitude of 'black' miners, who thought they were not at risk of HIV infection because they perceived AIDS as a 'white man's disease'.⁵¹ For this reason, describing 'racial' and ethnic differences in disease not only stigmatises 'less healthy' groups as inherently pathological,⁷ but weakens the participation of individuals from other, 'healthier' groups in programmes that seek to address diseases afflicting all 'racial' and ethnic groups.

The consequences of 'population group' classification in corrective action

In view of the detrimental consequences of 'racial' categorisation in health research, some authors have suggested that the use of 'racially' differentiated health statistics is counterproductive and should cease.^{22,30,52} Likewise, because ethnicity and 'population group' are often interpreted as 'racial' categories, it might also be appropriate to avoid using these concepts in health research.⁸ Nevertheless, 'racial' categorisation appears to have at least one tangible benefit: it satisfies 'the need for data which provides baselines for evaluation of change and for monitoring government programs designed to eliminate racial inequalities'.³⁷ For similar reasons the Epidemiological Society of Southern Africa has proposed the retention of

'race-based identification' to ensure that inequalities in health caused by 'population group' classification under apartheid are exposed, and resources are targeted 'effectively and optimally to reduce those discrepancies'.¹⁶ The same motivation is found in the 1994 National Health Plan of the African National Congress which called for the use of health data disaggregated by 'race' (as defined by 'population group') to monitor apartheid-generated disparities in health and differential access to health care.¹⁸ These arguments seem irresistible, yet they raise two fundamental problems: (i) how can we apply 'population group' classification in the collection and analysis of health data without perpetuating the process of apartheid? and (ii) how do we target disadvantaged 'population groups' for corrective action without neglecting disadvantaged individuals in other 'population groups'?

Does 'population group' classification perpetuate institutionalised racism?

There can be no doubt that 'population group' classification under apartheid had a profound effect on the health experience of individuals from different 'population groups',¹⁴ and few people would disagree that redressing the consequences of apartheid is both desirable and urgent.¹⁸ However, if the objective of post-apartheid health policy is to eliminate the effect of institutionalised racism,¹⁸ it needs to address not only the consequences of discrimination, but also the causes thereof.^{5,25} For example, Cooper and David have argued that the Civil Rights Movement produced tangible improvements in the health status of America's minority groups only because it resulted in a 'wholesale assault on the foundations of racism'.¹ In contrast, the social programmes of the 1960s and 1970s, which aimed to eliminate the effect of poverty on ill-health throughout the world, were arguably unsuccessful because they failed to confront the fundamental social and economic mechanisms that create and maintain poverty.¹⁹

In South Africa, racism and ethnic discrimination were formalised by means of 'population group' classification, and the retention of this process might undermine any policies that aim to eradicate the root cause of disparities in health. By relying on 'racially based' health statistics to target and evaluate corrective action, these policies can only address the symptoms of institutionalised racism and not discrimination itself. Indeed, retaining 'population group' classification requires that the same subjective techniques applied under apartheid legislation be used to differentiate between 'black', 'white', 'Indian' and 'coloured' individuals. In so doing, it serves to perpetuate the invalid premise and unscientific principles upon which 'population group' classification was based.^{36,48} The power of definition, particularly when group identity is defined by 'race', can be extremely persuasive and can develop a dynamic of its own.⁵³ The use of 'racial' categorisation to redress the consequences of racism therefore perpetuates a 'racialised' view of the world and reinforces a 'racially structured' view of the South African population.

Does 'population group' classification undermine corrective action?

While the use of 'population group' classification to target

and evaluate corrective action might fail to address the root cause of institutionalised racism, eliminating the process of 'population group' classification cannot, on its own, eliminate the consequences of 'racial' discrimination during apartheid. By prescribing the social class of each 'population group', apartheid created a socio-economic hierarchy of 'population groups' whose material circumstances, like those of social classes elsewhere,³⁹ are likely to remain relatively unchanged, even now that apartheid has been abolished.¹⁵ If we intend to redress the inequalities in health created by apartheid, it will be necessary to address not only the causes of institutionalised racism, but also the socio-economic consequences of apartheid, which might otherwise serve to maintain the 'racial' disparities in health created by apartheid. It remains unclear, however, whether 'population group' classification is the best way to identify and target disadvantaged individuals.

Despite the overwhelming influence of institutionalised racism on socio-economic stratification in South Africa,¹⁸ there has always been socio-economic stratification within different 'population groups'. For this reason, formalised discrimination was not the only cause of poor social conditions that led to ill-health.⁴⁵ With the transfer of power to majority rule, and the abolition of legislation that established the socio-economic hierarchy of 'population groups', we might expect an increase in socio-economic differentiation throughout the entire population. Under these circumstances, 'population group' classification will provide an increasingly imprecise indicator of disadvantage and ill-health. Similarly, since the abolition of influx control regulations (such as the 1950 Group Areas Act), which determined the geographical areas where different 'population groups' were allowed to live, people have been free to move to areas traditionally 'reserved' for other 'population groups'. In this way, socio-economic and geographical migration have blurred the boundaries between 'population groups', making it increasingly difficult to use 'population group' classification to target health interventions aimed at redressing disparities in health. By targeting corrective action at specific 'population groups' we risk ignoring other causes of disparities in health² and ignoring disadvantaged individuals from elsewhere in the population.

Conclusion

If the purpose of health research is to monitor inequalities in health, and to help target resources aimed at tackling these inequalities, then it should seek, in its language, concepts and methods, to undermine the root cause of disadvantage. Using 'population group' classification to monitor ill-health and target corrective action in South Africa might help address some of the consequences of institutionalised racism under apartheid, but would also perpetuate the process of discrimination. Health research should therefore consider the relative merits and disadvantages of categorisation using 'race', ethnicity and 'population group' membership, and should only use these categories when the benefits outweigh any potential harm. We conclude that, under most circumstances, the use of these categories does

more harm than good, and as a general rule we recommend that: (i) authors and researchers avoid using categorisation based on 'race', ethnicity and 'population group' when collecting and analysing health data; (ii) journal editors should not publish articles using these categories unless they are adequately justified; and (iii) health authorities should stop collecting data disaggregated by 'race', ethnicity or 'population group'.

Nevertheless, there may still be circumstances under which the use of these categories might be beneficial. For this reason, these recommendations are not intended to prejudice future research or to restrict projects that seek to investigate conceptually valid determinants of health within clearly defined groups of people, provided the categories used are justified. The onus is therefore on researchers to demonstrate that the categories they use will benefit their research in a way that far outweighs any potential damage created by perpetuating 'racial' stereotypes and 'racial' explanations of disparities in health. We suspect that there will be very few circumstances in which these advantages can be satisfactorily demonstrated.

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