Addressing racial inequalities in oral health

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Presentation outline

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   - What can be learned and what is absent from the existing literature on the topic?
   - How can we enhance research and policy on racial inequalities in oral health?
3. Policy considerations

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Background

- Race has been at the core of much scholarly work in the area of
  - Humanities and social sciences
  - Also amongst applied health disciplines
    - Medicine, Dentistry, Nursing, Nutrition
- In the field of oral health, race has been discussed as a
  - Resource for clinical decision-making
  - Means of assessing inequalities in a range of different outcomes
    - Periodontal diseases, tooth decay, health care use/access etc.

Cabral et al. 2005; Baker & Gibson, 2014

Background

What is missing in these previous discussions, though, is a broader and consistent understanding of race, and how it could be interpreted in public health studies

We view racial inequalities in oral health as essentially avoidable and unfair (i.e., *health inequities*), as they stem from complex matrices of domination that include economic exploitation, social stigmatization, and political marginalization

Whitehead, 1991

Guiding questions

- Based on a broader and multidimensional concept of race, we ask:
  1. What is the prevailing theoretical framework amongst studies on racial inequalities in oral health?
  2. What can be learned and what is absent from the existing literature on the topic?
  3. How can we enhance research and policy on racial inequalities in oral health?
- Our focus on oral health is backed by previous claims that, while the field has recently incorporated new methodological approaches, robust theoretical formulations have yet to be extensively and rigorously used in explaining oral inequalities

Garcia, 2017; Baker & Gibson, 2014

What is the prevailing theoretical framework amongst studies on racial inequalities in oral health?

- Oral health researchers usually draw from narrow definitions of race
- Studies indexed in ***Web of Science*** suggest that this is the case
  - A search query including the terms **"race"** and "oral health," "public health dentistry," "oral pathology," and "oral health promotion" retrieved **4,391 publications** on September 7 2017

- The bulk of studies come from:
  - US (2,891; 65.8%)
  - England (154; 3.5%)
  - Brazil (134; 3.1%)
  - Canada (101; 2.3%)

What is the prevailing theoretical framework amongst studies on racial inequalities in oral health?

- Search query used in ***Web of Science***
  - TS=(race) AND TS=(oral health OR public health dentistry OR oral epidemiology OR dental public health OR dental health surveys OR oral surgery OR oral pathology OR periodontics OR oral diagnosis OR oral medicine OR oral surgical procedures OR oral health promotion OR dental care OR preventive dentistry OR dental health education)

What is the prevailing theoretical framework amongst studies on racial inequalities in oral health?

When "race" is replaced with…	Number of publications retrieved
"…racial discrimination"	42
"…racism"	33
"…structural racism or systemic racism"	3

Further inspection of these studies reveals only nine oral health investigations originating in:

- Australia (n=3)
- USA (n=3)
- Canada (n=1)
- Brazil (n=1)
- Spain (n=1)

Tooth brushing, toothache, tooth loss, oral health care use/access, and provision of specific dental exams/procedures are among the outcomes included in these publications

Phelan & Link, 2015; Krieger, 2014

What is the prevailing theoretical framework amongst studies on racial inequalities in oral health?

- These results suggest that relevant concepts, such as ***racial discrimination*** and ***structural racism***, have been hardly used in oral health research
- What appears to be the prevailing theoretical framework in the field, then, is a narrow approach to race, for it does not explicitly recognize the broader historical and social processes to which it also refers
  - We provide indications of these wider processes in the slides that follow

What can be learned and what is absent from the existing literature on the topic?

- Knowledge gained from these studies has been useful in bringing to the fore some key features of racial gaps in oral health:

1. With rare exceptions, racial minorities show the greatest burden of oral diseases, as well as restricted access to and use of oral health services
2. Although there is variation, the gaps between dominant and subordinate groups are large
3. Racial health differentials persist over time

Williams, 2012

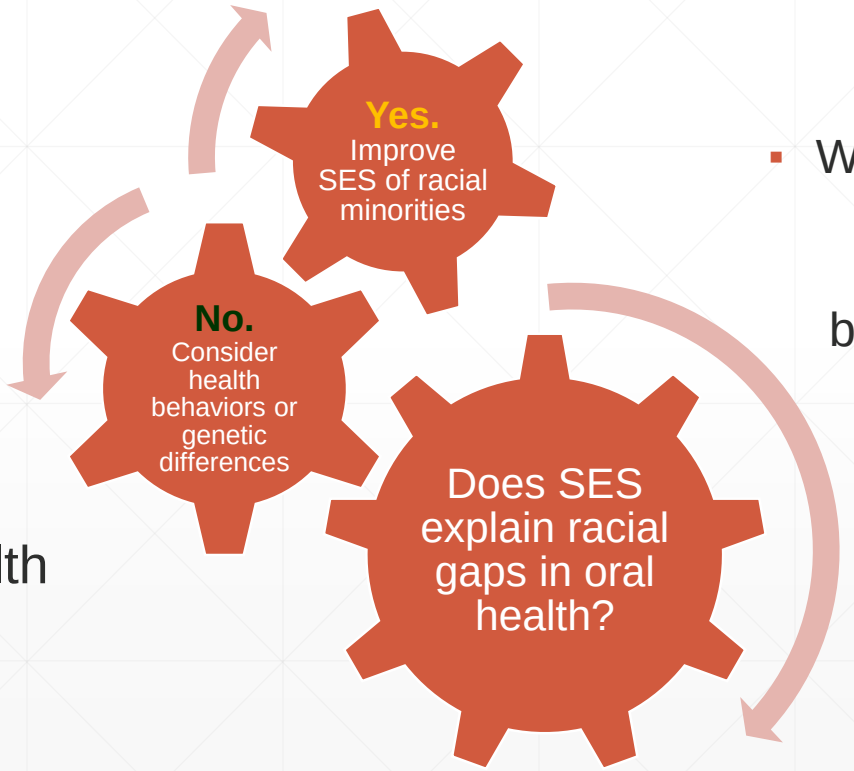
What can be learned and what is absent from the existing literature on the topic?

- When there is need to explain racial inequalities in oral health, narrow conceptualizations of race usually emphasize a short list of individual-level factors
  - Socio-economic status (SES)
  - Health behaviors
  - Genetic makeup
- Broader historical and social processes do not come into question

Krieger, 2014; Kaufman, 1997

What can be learned and what is absent from the existing literature on the topic?

- Researchers usually examine the extent to which individual SES explains the observed racial gaps in oral health



- What would be absent from the existing literature is a broader conception of race and its connection with upstream social determinants of health

Kaufman, 1997

How can we enhance research and policy on racial inequalities in oral health?

- We argue that race is linked to a range of broader factors that precede and shape SES, as well as other individual-level factors
- Enhancing research and policy on racial inequalities in oral health thus has much to do with broadening the scope of race as a concept
- A multidimensional perspective to race should take it as *"a complex 'assortment' of distinguishing histories and specific life situations that bear on access, opportunities, differential treatment, and self-worth, which affects many facets of a person's 'lived experience' as well as societal relationships and policies"*
  - All these factors should be considered in studies on racial inequalities in oral health

Garcia, 2017; Phelan & Link, 2015

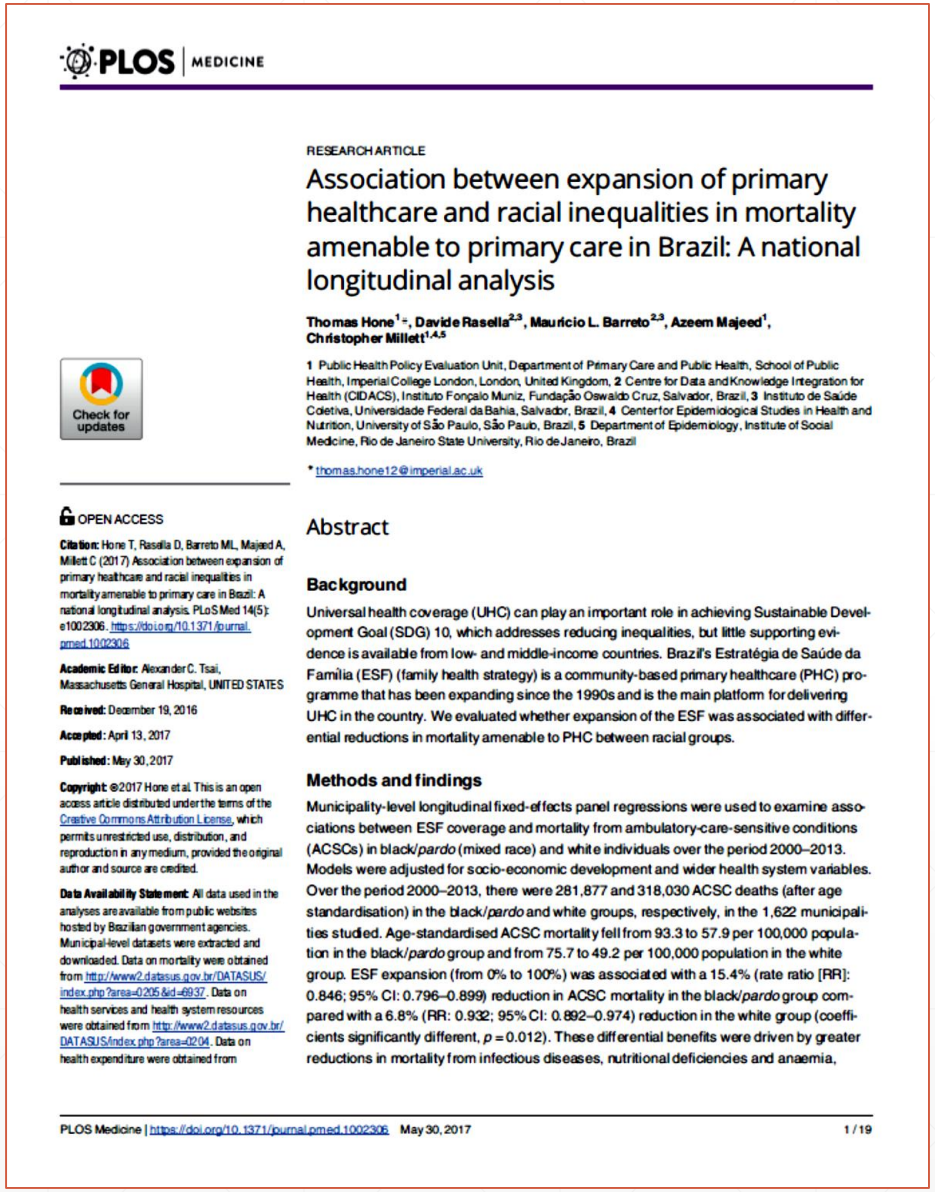
Policy considerations

- Due to their magnitude, persistence over time and unfair character, racial inequalities in oral health should be of primary concern for both policy makers and researchers in the field
- Policy makers, researchers, dental professionals, and health care planners should be wary of the existing narrow conceptions of race, and their implications for initiatives at addressing racial inequalities in oral health
- Although much of racial inequalities in oral health may be attributed to the over-representation of racial minorities in lower socio-economic strata, race also affects health via multiple interconnected non-economic pathways
- Viewing race from a broader multidimensional perspective has the potential to move the focus away from individual-level factors to the impact of wider social and historical processes, such as interpersonal and institutional discrimination, stress, and neighborhood effects

Policy considerations

Primary Health Care (PHC) expansion was associated with reductions in mortality for both racial groups, but black/pardo Brazilians experienced a 2-fold greater reduction in mortality than white Brazilians

The targeted rollout of PHC in Brazil to poorer and smaller municipalities and the greater unmet needs of black/pardo Brazilians at the start of the rollout are likely to explain these findings



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RESEARCH ARTICLE

Association between expansion of primary healthcare and racial inequalities in mortality amenable to primary care in Brazil: A national longitudinal analysis

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Data Availability Statement: All data used in the analyses are available from public websites hosted by Brazilian government agencies. Municipal-level datasets were extracted and downloaded. Data on mortality were obtained from http://www2.datasus.gov.br/DATASUS/index.php?area=0205&id=6937. Data on health services and health system resources were obtained from http://www2.datasus.gov.br/DATASUS/index.php?area=0204. Data on health expenditure were obtained from

Abstract

Background

Universal health coverage (UHC) can play an important role in achieving Sustainable Development Goal (SDG) 10, which addresses reducing inequalities, but little supporting evidence is available from low- and middle-income countries. Brazil's Estratégia de Saúde da Família (ESF) (family health strategy) is a community-based primary healthcare (PHC) programme that has been expanding since the 1990s and is the main platform for delivering UHC in the country. We evaluated whether expansion of the ESF was associated with differential reductions in mortality amenable to PHC between racial groups.

Methods and findings

Municipality-level longitudinal fixed-effects panel regressions were used to examine associations between ESF coverage and mortality from ambulatory-care-sensitive conditions (ACSCs) in black/*pardo* (mixed race) and white individuals over the period 2000–2013. Models were adjusted for socio-economic development and wider health system variables. Over the period 2000–2013, there were 281,877 and 318,030 ACSC deaths (after age standardisation) in the black/*pardo* and white groups, respectively, in the 1,622 municipalities studied. Age-standardised ACSC mortality fell from 93.3 to 57.9 per 100,000 population in the black/*pardo* group and from 75.7 to 49.2 per 100,000 population in the white group. ESF expansion (from 0% to 100%) was associated with a 15.4% (rate ratio [RR]: 0.846; 95% CI: 0.796–0.899) reduction in ACSC mortality in the black/*pardo* group compared with a 6.8% (RR: 0.932; 95% CI: 0.892–0.974) reduction in the white group (coefficients significantly different, $p = 0.012$). These differential benefits were driven by greater reductions in mortality from infectious diseases, nutritional deficiencies and anaemia,

Hone et al., 2017

References

Baker SR, Gibson BG. Social Oral Epidemi(olog)2y Where Next: One Small Step or One Giant Leap? Community Dentistry and Oral Epidemiology. 2014;42(6):481-94.

Cabral ED, Caldas AF, Cabral HAM. Influence of the Patient's Race on the Dentist's Decision to Extract or Retain a Decayed Tooth. Community Dentistry and Oral Epidemiology. 2005;33(6):461-6.

Garcia JA. The Race Project: Researching Race in the Social Sciences Researchers, Measures, and Scope of Studies. The Journal of Race, Ethnicity, and Politics. 2017:1-47.

Hone T, Rasella D, Barreto ML, Majeed A, Millett C. Association between expansion of primary healthcare and racial inequalities in mortality amenable to primary care in Brazil: A national longitudinal analysis. PLoS Med. 2017;14(5):e1002306.

Kaufman JS, Cooper RS, McGee DL. Socioeconomic Status and Health in Blacks and Whites: the Problem of Residual Confounding and the Resiliency of Race. Epidemiology. 1997;8(6):621-8.

Krieger N. Discrimination and Health Inequities. Social Epidemiology. New York: Oxford University Press; 2014. p. 63-125.

Phelan JC, Link BG. Is Racism a Fundamental Cause of Inequalities in Health? Annual Review of Sociology. 2015;41(1):311-30.

Whitehead M. The concepts and principles of equity and health. International Journal of Health Services. 1992;22(3):429-45.

Williams DR. Miles to Go before We Sleep. Journal of Health and Social Behavior. 2012;53(3):279-95.

Thank you!

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