Racial-ethnic disparities in case fatality ratio revealed after age standardization:
A call for race-ethnicity specific age distributions in state Covid-19 data

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Background
Racial inequities in Covid-19 Outcomes

Clear racial inequities in Covid-19 incidence and mortality

A need to understand where and how these inequities are operating to aid higher risk populations

UP FRONT

Race gaps in COVID-19 deaths are even bigger than they appear

Tiffany Ford, Sarah Reber, and Richard V. Reeves - Tuesday, June 16, 2020
Case Fatality Ratio (CFR)

The CFR is the number of deaths per 100 confirmed cases of Covid-19 among a specific population

\[ CFR = \frac{Deaths}{Confirmed\ Cases} \times 100 \]

Differences in CFR between different racial groups indicates:

- Differential access to care or quality of care
- Differential pre-existing conditions and comorbidities
- Differences in exposure and ability to take preventative measures (over all and by age groups)
Differences in the mortality rate and CFR by race

**Mortality rate (Deaths per 100,000) by race**
- Black: 88.4
- AI & AN: 73.2
- NH & PI: 63.9
- Hispanic: 54.4
- White: 40.4
- Asian: 36.4

**CFR (Deaths per 100 cases) by race**
- Asian: 7.27
- White: 6.48
- Black: 5.83
- AI & AN: 3.20
- Hispanic: 2.79
- NH & PI: 2.33
The need for age distribution in Covid-19 cases across racial groups

Age distribution of Covid-19 cases vary across racial groups and reflect differences in:

• Underlying population age distributions (White populations are oldest)
• Incidence rate among specific age groups
  • Eg. White and Asian working age populations more likely to have positions that allow work from home, Black and Latino populations more likely to be essential workers
The need for age distribution in Covid-19 cases across racial groups
Methods
Landscape Analysis: Covid-19 Data Availability by State

A landscape analysis of Covid-19 data availability by state, tracking what demographic information is being made available and in what formats

Objective: Finding states with age distributions of both cases and deaths stratified by race

• Tracking publicly listed data through State Health Department websites
• Cross Referencing against the Covid Tracking Project’s Racial Database and key word searches
• Creating a scoring system to track quality of data reporting across states
Scoring System for Data Availability

**Cases** by Age and Race (5 points for Age and Race separately- total score of 10)

**Death** by Age and Race (5 points for Age and Race separately- total score of 10)

Scored on basis of:

1. Availability of Data: by age or race/ethnicity (1 point)
2. Resolution/Unit of Disaggregation (3 points)
3. Information on missing (unknown) data (1 point)
Cases
Maryland
Deaths
Maryland
Direct Standardization: Age Adjusting the CFR

**Age and Race** data required for this standardization was only available in **three** states:
1. California
2. Illinois
3. Ohio

**Direct standardization:** constructed CFR with standardized age distribution across races

1. Apply age-race specific CFR’s to a constructed standard population (total cases among NH Asian, NH Black, Hispanic and NH White within age group)
2. Sum these numbers across age groups within a race to calculate a cumulative, standardized CFR
Results
Age Adjusted CFR by Race (CA, IL, OH)
Web App

California

![Bar chart showing CFR for different races in California with crude and adjusted comparisons.](image-url)
Discussion
Critical need for harmonized higher resolution data

All states should report data in a comparable manner

• Downloadable/Machine accessible data
• Consistent race-ethnicity categorizations
• Consistent age groups with high resolution above 50 years and a minimum open age bracket of 80+
• Demographic information on cases, death and testing
• Intersectional data: age, comorbidities by race
Focus on High Risk Populations

• **Centering** high risk populations:
  • Elderly
  • BIPOC
  • pre-existing conditions
• Covid-19 resources in multiple languages including Spanish
• Testing facility expansion for low-income areas
• Medicare/Medicaid expansions for people without insurance
• Improved preventative care for essential workers
Addressing systemic racial inequities as a public health issue

Lessons learned here must be applied in broad contexts to address racism and systemic inequities