

Module 3: Lecture 3a.

Health Inequalities: What They Are and Why They Matter

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Overview: Lecture 3a

Objective: Understand what health inequalities are and why they matter

Sections:

- Univariate Health Inequality
- Bivariate Health Inequality
- Which Health Inequalities Matter?

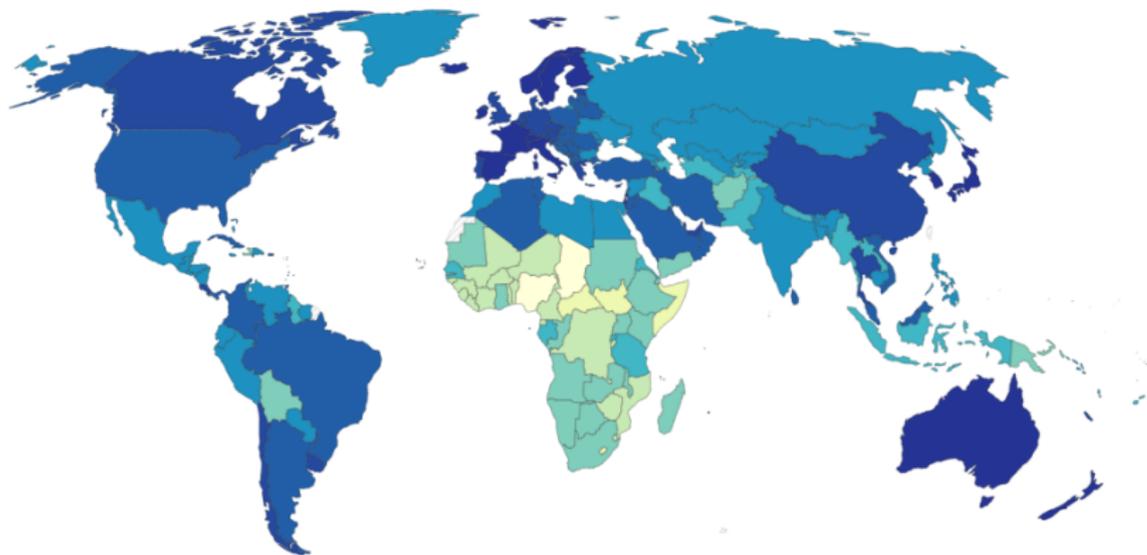
Life Expectancy Across the World

Life expectancy, 2020

The average number of years a newborn would live if age-specific mortality rates in the current year were to stay the same throughout its life.

Our World
in Data

World



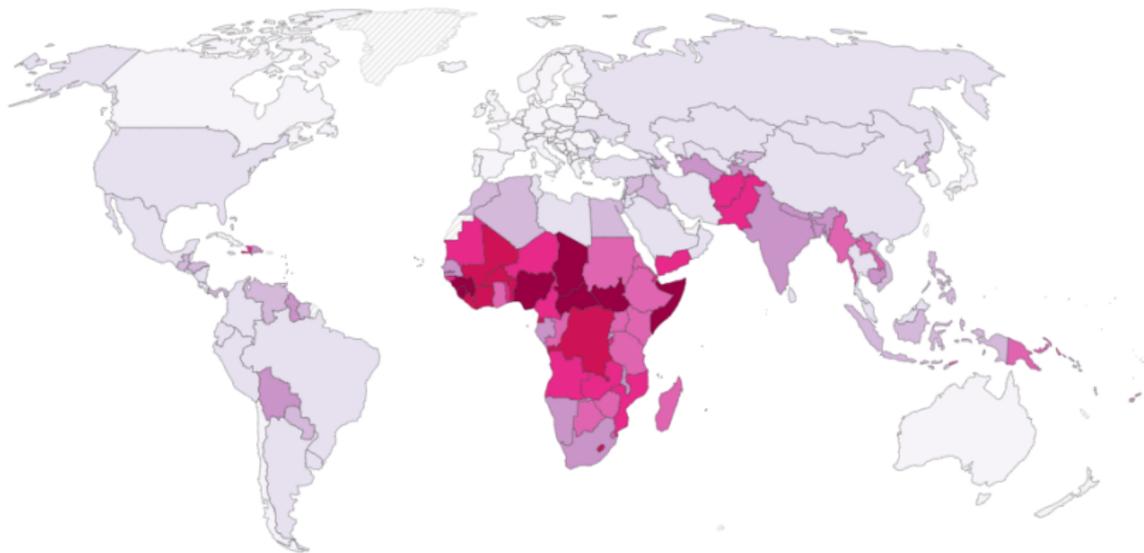
Inequalities in Life Expectancy

Inequality in life expectancy, 2021

The [Atkinson index](#) measures inequality on a scale from 0 to 1. Higher values indicate higher inequality. Inequality is measured here in terms of the number of years a newborn would live if age-specific mortality rates in the current year were to stay the same throughout its life.

Our World
in Data

World



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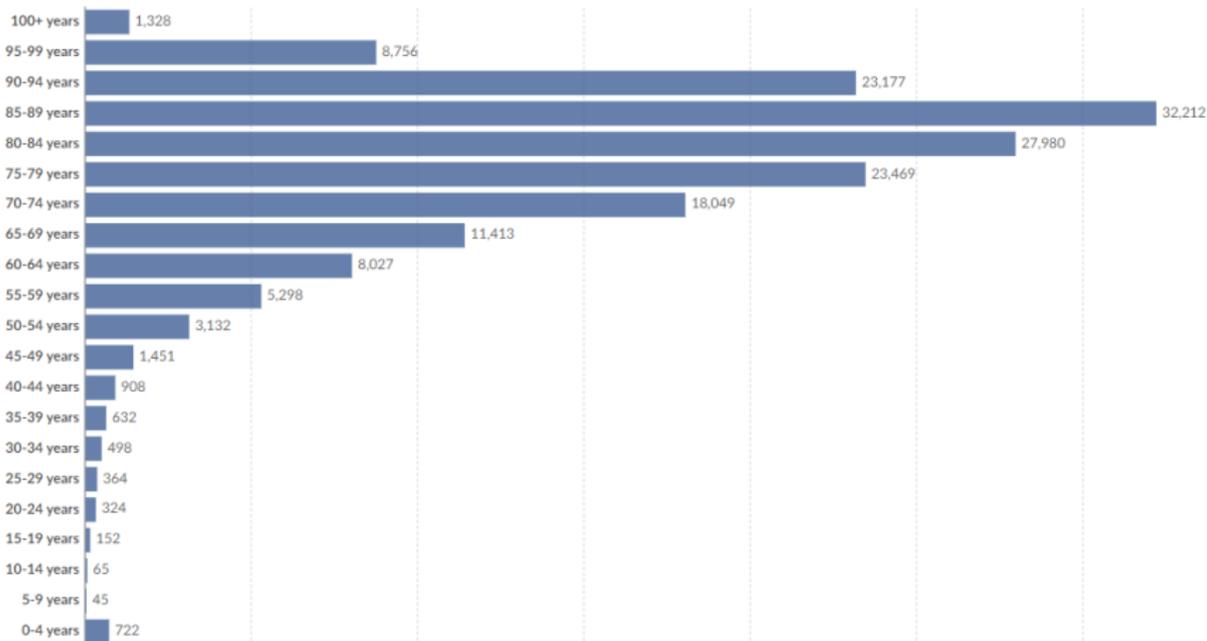
Univariate Health Inequality

Unconditional distribution of health

- e.g. Distribution of “Age at Death”.

Inequalities in Age at Death: The Netherlands 2021

Deaths by age, Netherlands, 2021

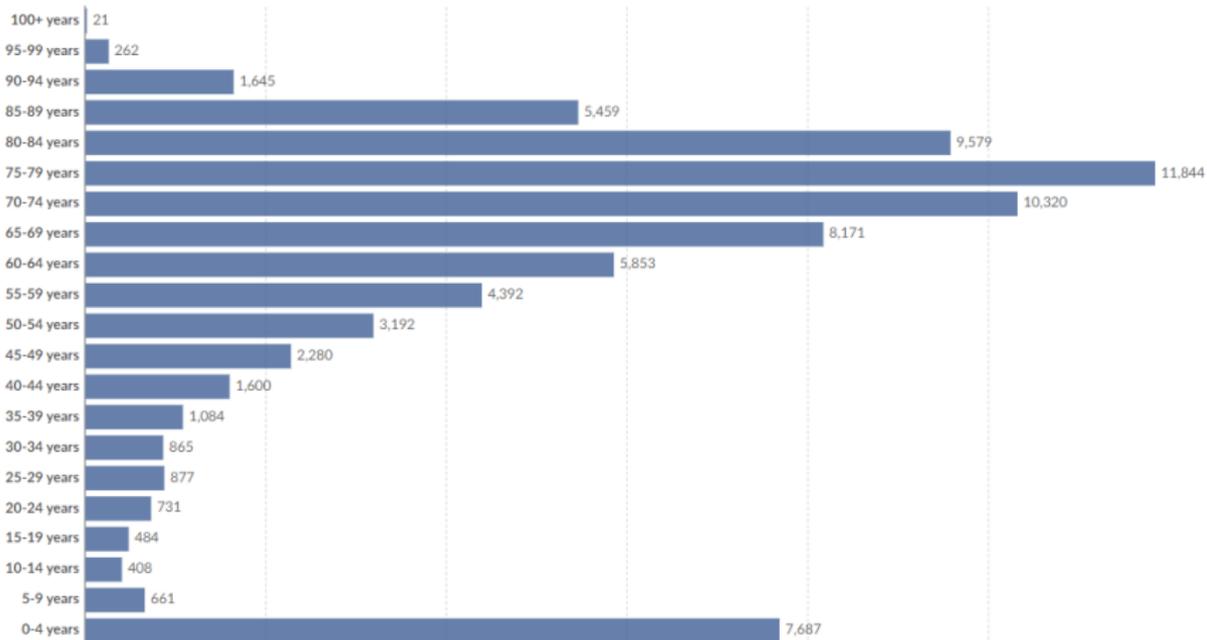
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Source: United Nations, World Population Prospects (2022)

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Inequalities in Age at Death: The Netherlands 1951

Deaths by age, Netherlands, 1951

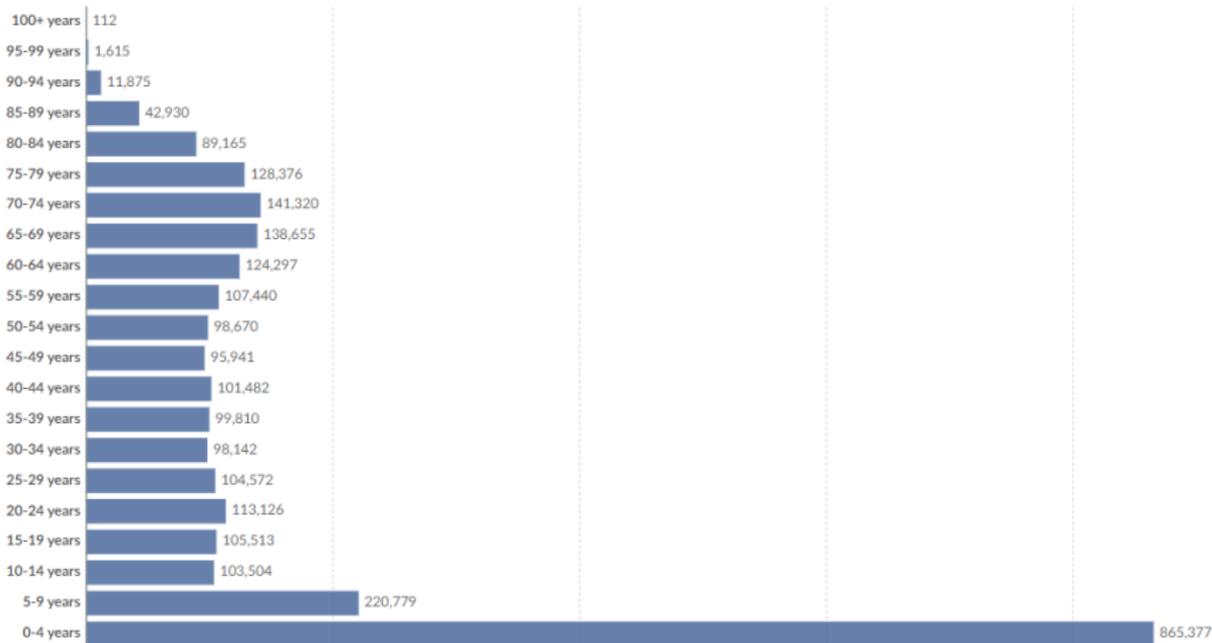
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Source: United Nations, World Population Prospects (2022)

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Inequalities in Age at Death: Nigeria 2021

Deaths by age, Nigeria, 2021

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Source: United Nations, World Population Prospects (2022)

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Fair Innings and Capabilities

Fair Innings

- “While it is always a misfortune to die when one wants to go on living, it is not a tragedy to die in old age; but it is on the other hand both a tragedy and a misfortune to be cut off prematurely.” Harris (1985)
- “Everyone is entitled to some ‘normal’ span of health.” Williams (1997)

Capabilities Approach (Sen, 2002; Nussbaum, 1999)

- *Functionings*: we have intrinsic reasons to value being healthy.
- *Freedom*: instrumental in enabling the achievement of other functionings (e.g. to work, to play, to form relationships).

Egalitarianism and Prioritarianism

Egalitarianism

- “The Principle of Equality: It is in itself bad if some people are worse off than others.” Parfit (1997)
- “Equality is intrinsically valuable.” Temkin (2001)
 - Levelling-Down Objection

Prioritarianism

- “The Priority View: Benefiting people matters more the worse off these people are.” Parfit (1997).
- We should give “extra weight to the well-being of the worse off.” Adler and Norheim (2022)

Univariate Inequality

Distribution of health outcomes across the population

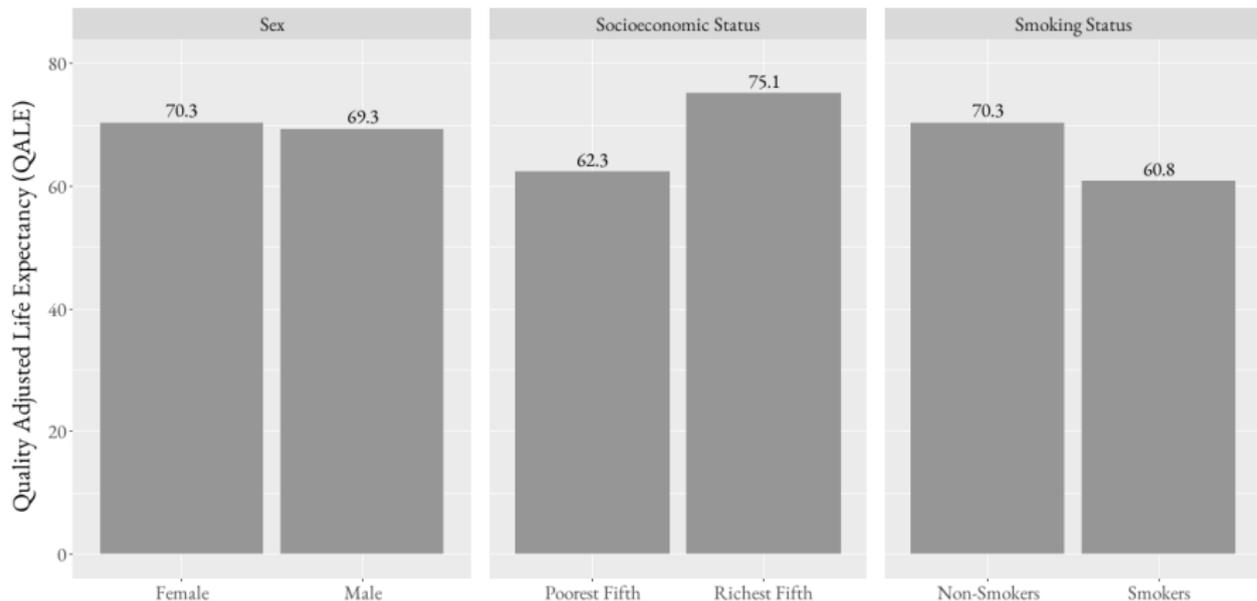
- Focus on the distribution of the outcome
- We do not observe the reasons for this inequality...
- Does this matter?
 - No. What matters is prioritising the health of the worst-off.
 - Yes. Need to distinguish between fair and unfair health inequalities.

Bivariate Inequality

Distribution of health, conditional on one other characteristic e.g:

- Sex, Age, Ethnicity
- Socioeconomic Status, Education, Parental Income
- Health Behaviours, Smoking Status

Quality Adjusted Life Expectancy by Sex, Socioeconomic Status and Smoking Status



QALEs by sex and socioeconomic status are based on English data (Love-Koh et al., 2015),
QALEs by smoking status are based on US data (Xu et al. 2021).

Equity in Health

Whitehead (1992)

- “Differences in health that are not only unnecessary and avoidable, but in addition, are considered unfair and unjust” Whitehead (1992)
- “the aim of policy for equity and health is not to eliminate all health differences so that everyone has the same level and quality of health, but rather to reduce or eliminate those which result from factors that are considered to be both avoidable and unfair.”
- “Equity is therefore concerned with creating equal opportunities for health”

Sources of Health Inequality

- ① *Natural, biological variation*
- ② *Health-damaging behavior if freely chosen*
- ③ Health-damaging behavior where choice is severely restricted
- ④ Exposure to unhealthy, stressful living and working conditions
- ⑤ Inadequate access to essential health and other public services

Luck Egalitarianism and Equality of Opportunity

Luck Egalitarianism

- Inequalities are unjust if they arise from brute luck (circumstances beyond one's control) rather than option luck (voluntary choices). Dworkin (2000).

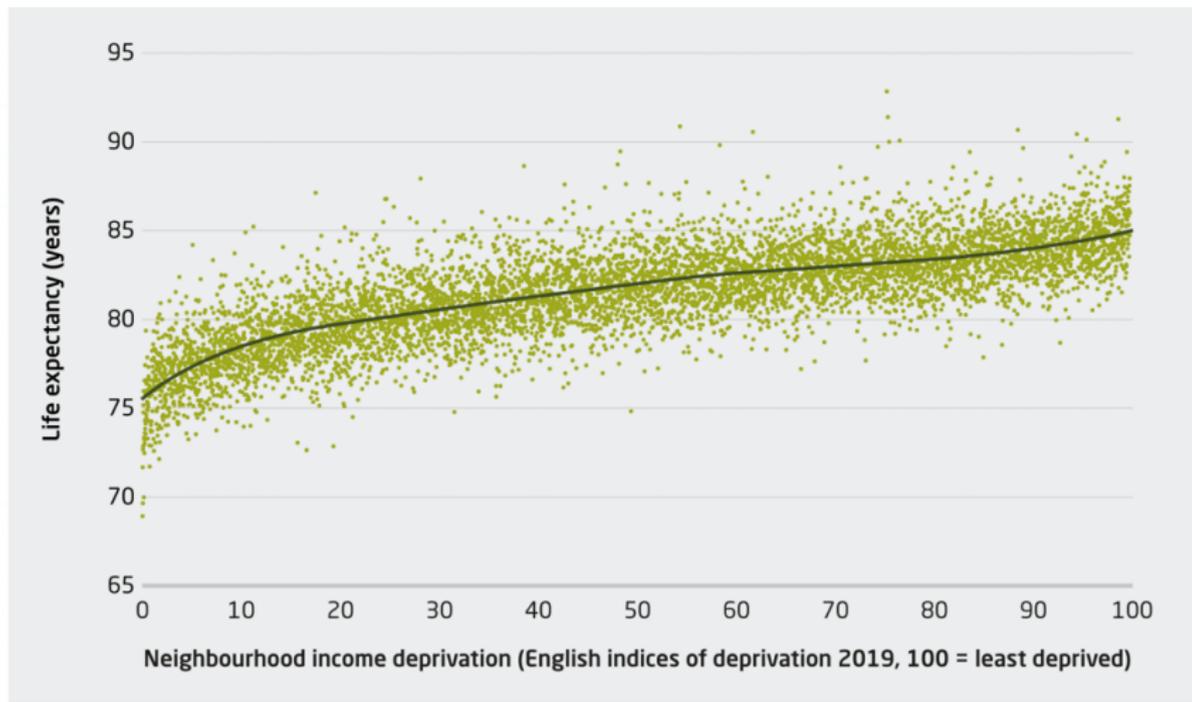
Equality of Opportunity

- Justice requires that individuals' outcomes depend only on their effort, not on circumstances.
- Provides a formal, operational framework to measure unfair health inequality by decomposing outcomes into effort vs. circumstance components. Roemer (2002).

Limitations with the bivariate approach

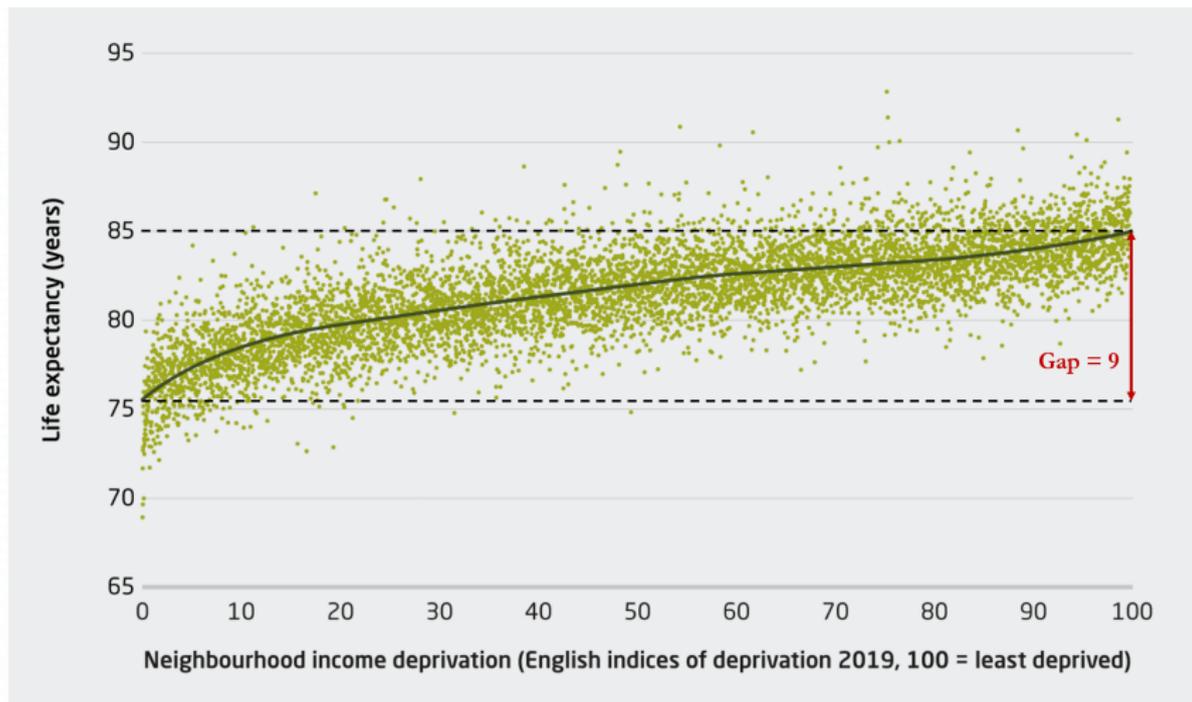
- Yes, we have more information on whom the inequalities are between
- However, a bivariate approach focuses on one dimension (e.g. sex or socioeconomic status or smoking status), this:
 - a) Leaves some health inequality unexplained
 - b) Ignores multidimensional/intersectional inequality
 - c) Often does not identify the cause of the inequality

Life Expectancy by Neighbourhood Deprivation in England

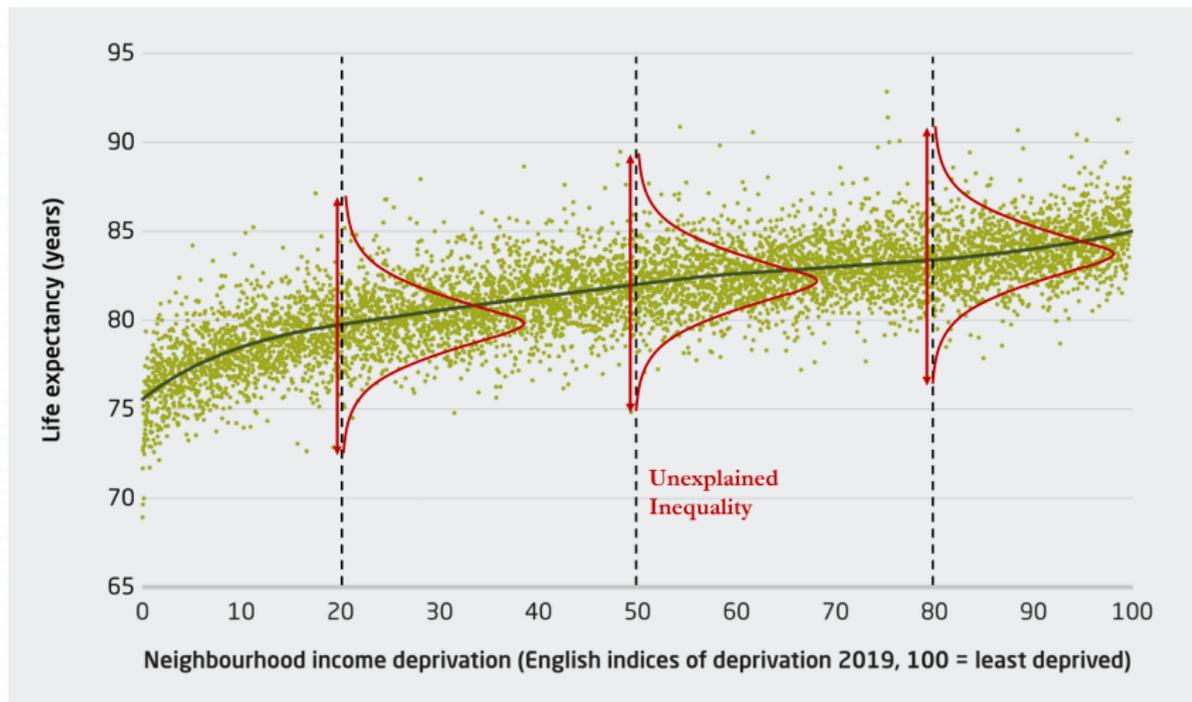


Source: The King's Fund, (2022), What are health inequalities?.

Life Expectancy by Neighbourhood Deprivation in England



Life Expectancy by Neighbourhood Deprivation in England



Multivariate Health Inequalities

Table: Predicted Median Age-at-Death (When Parents Smoked)

	High SES		Low SES	
	Male	Female	Male	Female
Current smokers	69.7	72.8	67.6	70.7
Never smokers	81.6	84.7	79.5	82.6

Balia & Jones (2011)

Which Inequalities Matter?

Two Camps

- Univariate Inequalities
 - What matters is improving the health of the worst-off, irrespective of who they are
- Bivariate Inequalities
 - What matters is reducing unfair health inequalities between groups identified by equity-relevant characteristics

Which Inequalities Matter?

Two Camps

- Univariate Inequalities
 - What matters is improving the health of the worst-off, irrespective of who they are
 - *Problems: We cannot identify who the worst-off are for targeting. The reasons for the inequality may matter*
- Bivariate Inequalities
 - What matters is reducing unfair health inequalities between groups identified by equity-relevant characteristics
 - *Problems: Simple, one dimensional measures are often used, meaning we miss multivariate inequalities and causal relationships.*

Summary

- *Univariate* health inequality relates to the unconditional distribution of health outcomes across the population
- *Bivariate* health inequalities relate to the distribution of health conditional on equity-relevant characteristics (e.g. sex, ethnicity, socioeconomic status or health behaviours)
- There are different views on which inequalities matter most. But both approaches have limitations. Think about which health inequalities you find most unfair, and why.

References and Extended Reading

- The King's Fund, (2022), What are health inequalities?.
<https://www.kingsfund.org.uk/publications/what-are-health-inequalities>
- Marmot, M. et al., (2020), Health equity in England: The Marmot Review 10 years on, *Institute of Health Equity*.
- Our World In Data: <https://ourworldindata.org/life-expectancy>
- World Health Organisation Equity Assessment Toolkit:
<https://whoequity.shinyapps.io/heat/>

Additional References: Univariate

- Adler, M. D., & Norheim, O. F. (Eds.). (2022). *Prioritarianism in practice*. Cambridge University Press.
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Additional References: Bivariate

- Dworkin, R. (2000). *Sovereign Virtue*, Cambridge.
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