Understanding Inequalities and Inequities in Health and Wellness among Older Canadians

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Health equity as a barometer for successful aging of a population

• Successful aging: a common policy goal
  - Health: a key component
  - Individual and population levels

• Successful aging of a population
  - Overall level and distribution
  - Inequalities (differences) and inequities (unfair differences)
Current literature and key feature of our work

• Current literature
  - Health inequity: a complex concept with no single definition
  - Disciplinary divide: epidemiology/public health vs. health economics
    - Epidemiology/public health: health and socioeconomic status in aging populations
    - Health economics: equal opportunity for health in general populations

• Key feature of our work
  - Interdisciplinary, transparent, and flexible incorporation of alternative definitions of health inequity in the measurement
Methods

• Data: baseline data of the CLSA Comprehensive

• Health outcomes: overall health (the frailty index and the global health index); specific health (grip strength, cognition, and bone density)

• Health determinants: biological endowment, social background, health behaviour, and social support and care variables

• Health inequity definitions: equal opportunity for health, policy amenability, and social advantage

• Separate analysis for each health outcome and each definition of health inequity
Analysis

Step 1: Measuring health inequality

- Quantifying observed distribution of health across individuals using the Gini coefficient

Step 2: Understanding sources of health inequality

- Using regression analysis to quantify the association between health and its determinants
- Decomposing inequality into “ethically acceptable” and “ethically unacceptable” components

Step 3: Measuring health inequity

- Estimating “unfair” health
- Quantifying the unfair distribution of health across individuals using the Gini coefficient
Analysis example

Grip strength

Equal opportunity for health
Distribution of observed grip strength

All ages (45-86 years)

45-54 years

75-86 years
Distribution of observed grip strength

All ages (45-86 years)

Grip Strength Observed - All Age Groups

Grip Strength Observed - 45-54 years old

Grip Strength Observed - 75-86 years old

45-54 years

75-86 years

35.77 kg
Distribution of observed grip strength

All ages (45-86 years)

45-54 years

75-86 years

39.70 kg
Distribution of observed grip strength

All ages (45-86 years)

45-54 years

Grip Strength Observed - 45-54 years old

75-86 years

Grip Strength Observed - 75-86 years old

All ages (45-86 years)

Grip Strength Observed - All Age Groups
Distribution of observed grip strength

All ages (45-86 years)

45-54 years

75-86 years
Inequality in grip strength by age group

- 45-54 yrs
- 55-64 yrs
- 65-74 yrs
- 75-86 yrs

Gini
Inequality explained by illegitimate, legitimate, and unexplained components

Unexplained (29%)
- Age

Legitimate (7%)
- Biological endowments (sex, height)
- Social background (minority)

Debatable (6%)
- Social background (province, rurality, language at home, education, savings & investment, government pension, other government income)
- Health behaviour (alcohol, physical activity, waist circumference)
- Social support and care (marital status, informal care, assistive device, medication)

Illegitimate (58%)
- Biological endowments (sex, height)
- Social background (minority)
Inequity in grip strength by age group
Inequality and inequity in grip strength by age group

- 45-54 yrs
- 55-64 yrs
- 65-74 yrs
- 75-86 yrs

Gini
Implications

• Supporting equitable policies for successful aging by:
  - extending the examination of health inequalities and inequities in the context of aging populations
  - extending a methodological approach to measuring health inequities comparably across different health outcomes, health equity definitions, and countries
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