OMAR KARLSSON, PHD

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- Demography, Global Health, Data, Writing
- Human development, life expectancy, child health, living standards
- Ten years' research experience
- Econometric, demographic, and geospatial methods
- Construct, process, and analyze large datasets with parallel computing
- Over 30 peer-reviewed articles in medical, epidemiology, and demography journals
- Expert in Stata; experienced in JavaScript (D3), Excel, R, and Python
- Excellent written and verbal communication skills

ACADEMIC APOINTMENTS

Visiting Research Fellow August 2022 – *present*
Duke University Population Research Institute and Duke Global Health Institute, USA

Postdoctoral Fellow January 2020 – *present*
Centre for Economic Demography, Lund University, Sweden

Research Fellow September 2019 – August 2022
Takemi Program in International Health, Harvard TH Chan School of Public Health, USA

EMPLOYMENT AND CONSULTANCIES

External Consultant October 2020 – September 2021
UNICEF, Programme Division, Nutrition Section, USA

Researcher October 2018 – August 2019
Centre for Economic Demography, Lund University, Sweden

EDUCATION

PhD in Economic History September 2014 – September 2018
Lund University, Sweden

- Dissertation title: Growth and Survival: Child Health Disparities and Early Life Adversity in Sub-Saharan Africa
- Supervisors: Martin Dribe (main), Therese Nilsson (assistant)
- Selected coursework: Advanced Econometrics, Multivariate Analysis, Statistical Methods for Econometrics, Advanced Development Economics

MSc in Economic Demography September 2012 – July 2014
Lund University, Sweden

- Selected coursework: Epidemiology and Biostatistics, Econometrics, Applied Microeconometrics, Advanced Time Series Analysis, Population and Living Standards, Topics in Economic Demography – Health and Mortality, Causes of Demographic Change, Consequences of Demographic Change

GRANTS

Jan Wallanders and Tom Hedelius Foundation December 2020
Wallander Scholarship (three-year postdoctoral scholarship)

Swedish Research Council December 2019
International Postdoc (three-year postdoctoral funding)

Jan Wallanders and Tom Hedelius Foundation March 2016
Hedelius Scholarship (one-year visiting student scholarship)

PROJECTS

Lancet Commission on Investing in Health
The third Lancet Commission on Investing in Health provides a roadmap for halving premature mortality by 2050 with focused investment targeting priority health conditions.

- Set up an online interactive dashboard for key metrics allowing commissioners to explore data layers and generate displays as needed
- Managed ad-hoc data needs from commissioners requesting tailored summaries or visualizations to aid in concept development and presentation of results to stakeholders
- Quantified the contribution of specific causes of death to changes in life expectancy over time and disparities across location using life table decompositions
- Analyzed trends and rates of change in various health metrics
- Used multi-level models to study determinants of mortality decline

UNICEF: When it Matters Most
The project demonstrated that the vast majority of child deaths and undernutrition cases occur in children under two years of age.

- Met with the UNICEF team to understand their specific goals and information needs
- Conducted customized analysis to provide insights relevant to the team's objectives
- Translated findings into actionable recommendations to support decision-making
- Made complex data accessible to a non-technical audience
- Conducted a workshop to help the broader UNICEF staff understand the data analysis, interpretation, and application in their health initiatives

Household Technology and Human Development

The project studies whether and when household appliances (eg, refrigerators, washing machines) can improve nutrition, reduce infections, and reduce child labor, thereby improving child health and education in low- and middle-income countries.

- Served as principal investigator
- Conducted comprehensive literature review
- Implemented high-resolution Coarsened Exact Matching on a large sample to enable robust comparisons of outcomes across closely matched groups
- Conducted falsification tests using negative control exposures (ie, placebos) to assess residual confounding

Social class differences in childhood mortality in southern Sweden, 1815–1967

Historical demography research on disparities in age-specific under five mortality rates across father's occupational groups in 19th century Sweden.

- Prepared data from a unique historical economic and demographic database, containing all vital events and occupations within a region in southern Sweden
- Conducted survival analyses using Cox proportional hazard models

Advanced Insights in Anthropometric Health Metrics

This project investigated how child growth and maternal height relate to health and mortality.

- Developed a spatiotemporal indicator of adversity (eg, epidemics, food scarcity) during infancy within 50 km of birthplace
- Used sibling-fixed effects models to assess the impact of adversity on child growth
- Combined Mundlak fixed effects and Gelbach decomposition to quantify the impact of unobserved neighborhood and family factors on the association of maternal height with child growth and age-specific mortality

MENTORSHIP

Assisted in supervising three MSc students in Economic Demography at Lund University, 2016–2018. Advised on the thesis topics, and provided feedback on research design, data analysis, and written drafts.

SEMINARS AND LECTURES

The German Association for Health Economics, dggö-Talk, online — May 2025. *Global Health 2050: The path to halving premature death by mid-century* (with Marko Schäferhoff).

Prince Mahidol Award Conference, Side Meeting, Bangkok, Thailand — January 2025 *Global Health 2050: Leveraging technological advances to halve premature deaths by 2050* (with Angela Chan and Saeda Makimoto).

Guest lecturer in the Gavin Yamey's course, *Global Health Policy: Transforming Evidence into Action*, Duke Global Health Institute, Durham, NC — March 2025. *Global Health 2050: The 3rd Report of the Lancet Commission on Investing in Health (CIH 3.0).*

Duke University Population Research Institute Seminar Series, Durham, NC, USA — December 2024. *Global Health 2050: The path to halving premature death by mid-century.*

International Symposium on Precision Public Health, Korea University, online — May 2023. *Differences in child mortality and morbidity across the first five years in low- and middle-income countries.*

UNICEF Nutrition Master Class, online — November 2021. *To what extent is child mortality and wasting prevalence concentrated before age two? Implications for nutrition and health programs.*

Harvard Center for Population and Development Studies, Friday Luncheon Seminar, Cambridge, MA, USA — February 2020. *Household technology and child health.*

Development Research Day, Lund University, Sweden — October 2017. *Maternal Height and Child Development in sub-Saharan Africa: Mechanisms and Interventions.*

Landmark Meeting, Harvard TH Chan School of Public Health, Boston, USA — August 2017. *Temporal Changes in the Association between Parental Education and Child Health: Evidence from 86 Demographic and Health Surveys from 43 Low- and Middle-Income Countries.*

Landmark Meeting, Harvard TH Chan School of Public Health, Boston, USA — November 2016. *Influence of Disease Environment in Infancy on Child Health and Education in Sub-Saharan Africa.*

Department of Economic History Research Seminar, Lund University, Sweden — March 2016. *Intergenerational Transmission of Capabilities: Mother's and Children in sub-Saharan Africa.*

CONFERENCE PRESENTATIONS

Consortium of Universities for Global Health Annual Conference, Los Angeles, CA, USA — March 2024. *Life expectancy deficits by cause of death: a life table decomposition.*

The Population Association of America Annual Meeting, New Orleans, LA, USA — April 2023. *Anemia severity and school attendance among 251,401 adolescents aged 15–18 years: a nationally representative household fixed-effects study in India.*

European Population Conference, Brussels, Belgium — June 2018. *Influence of Disease Environment in Infancy on Childhood Health and Education in Sub-Saharan Africa.*

The Population Association of America Annual Meeting, Denver, CO, USA — April 2018. *Religion and Child Health in Sub-Saharan Africa: Religious Affiliation and Community-Level Religious Composition.*

The Population Association of America Annual Meeting, Chicago, IL, USA — April 2017. *Influence of Disease Environment in Infancy on Child Growth in sub-Saharan Africa.* **[Poster]**

The Population Association of America 2016 Annual Meeting, Washington, DC, USA. — April 2016. *Influence of Disease Exposure in Infancy on Childhood Health and Education in sub-Saharan Africa.* **[Poster]**

Africa Population Conference, Pretoria, South Africa — November 2015. *Intergenerational transmission of Capabilities: Mothers and Children in sub-Saharan Africa*.

The Population Association of America Annual Meeting, San Diego USA — April 2015. *Intergenerational Transmission of Capabilities: Mother's and Children in sub-Saharan Africa.*

PEER-REVIEWED JOURNAL ARTICLES

Karlsson O, Chang AY, Norheim OF, Mao W, Bolongaita S, Jamison DT (2025). Priority Health Conditions and Global Life Expectancy Disparities. *JAMA Network Open,* 8(5), e2512198.

Chang AY, Bolongaita S, Cao B, Castro M, **Karlsson O**, Mao W, Norheim OF, Ogbuoji O & Jamison DT (forthcoming). Epidemiological and demographic trends and projections in global health 1970-2050: Analysis from the 3rd Lancet Commission on Investing in Health, Global Health 2050. *The Lancet*.

Karlsson O, Pullum TW, Kumar A, Kim R & Subramanian SV (2025). Age Decomposition of Mortality Rates Among Children Younger Than 5 Years in 47 LMICs. *JAMA Pediatrics*, 179(5), pp.540-549.

Narayanan M, **Karlsson O**, Kumar A, Pullum TW, Kim R, & Subramanian SV (2025). Prevalence of severe and moderate anthropometric failure among children in India, 1993–2021. *Maternal & Child Nutrition*, 21, e13751.

Karlsson O, Kumar A, Kim R & Subramanian SV (forthcoming). Trends in low birth weight across 36 states and union territories in India, 1993-2021. *BMJ Global Health*.

Norheim OF, Chang AY, Bolongaita S, Barraza-Lloréns L, Fawole A, Gebremedhin LD, González Pier E, Jha P, Johnson E, **Karlsson O**, Kiros, M, Lewington S, Mao W, Ogbuoji O, Pate M, Sargent J, Tang X, Watkins D, Yamey G, Yip W, Jamison D & Peto R (2024). Halving premature death and improving the quality of life at all ages. *The Lancet, 404 (10470), 2437-2446*.

Jamison DT, Summers LH, Chang AY, **Karlsson O,** Mao W, Norheim OF, Ogbuoji O, Schäferhoff M, Watkins D, Adeyi O, Alleyne G, Alwan A, Anand S, Nigatu Belachew R, Berkley S, Bertozzi S, Bolongaita S, Bundy D, … & Yamey G (2024). Global health 2050: the road to halving premature death by mid-century. *The Lancet*, 404(10462), 1561–1614.

Karlsson O & De Neve JW (2024). Washing machine ownership and girls' school attendance: A cross-sectional analysis of adolescents in 19 middle-income countries. *The Journal of Economic Inequality*, 1–21.

De Neve JW, **Karlsson O,** Rai RK, Kumar S & Vollmer S (2024). Relationship between adolescent anemia and school attendance observed during a nationally representative survey in India. *Communications Medicine*, 4(1), 112.

Karlsson O, Kim R & Subramanian SV (2024). International Trends in Zinc Treatment for Diarrhea. *Pediatrics*, 154 (5): e2024066701.

Karlsson O, Rajpal S, Johri M, Kim R & Subramanian SV (2024). Prevalence and Trends of Not Receiving a Dose of DPT-Containing Vaccine Among Children 12-35 Months: An Analysis of 81 Low- And Middle-Income Countries. *Journal of Epidemiology and Global Health.*

Karlsson O, Benski C Kapoor M, Kim R & Subramanian SV (2024). Association between neonatal mortality and births not weighed among 400 thousand institutional deliveries in 32 low- and middle-income countries. *Journal of Public Health*.

Karlsson O, Kim R & Subramanian SV (2024). Prevalence of Children Aged 6 to 23 Months Who Did Not Consume Animal Milk, Formula, or Solid or Semisolid Food During the Last 24 Hours Across Low-and Middle-Income Countries. *JAMA Network Open*, 7(2), e2355465–e2355465.

Karlsson O & Subramanian SV (2023). Refrigerator ownership and child health and nutrition in low-and middle-income countries. *Global Food Security*, 37, 100698.

Karlsson O, Kim R, Moloney GM, Hasman A & Subramanian SV (2023). Patterns in child stunting by age: A cross-sectional study of 94 low-and middle-income countries. *Maternal & Child Nutrition*, e13537.

Karlsson O & Dribe M (2022). Maternal height and child health and schooling in sub-Saharan Africa: Decomposition and heterogeneity. *Social Science & Medicine*, 315, [115480].

Karlsson O. Scarring and selection effects on children surviving elevated rates of postneonatal mortality in sub-Saharan Africa (2022). *SSM - Population Health*, 19, 101160

Karlsson O, Kim R, Hasman A & Subramanian SV Age Distribution of All-Cause Mortality Among Children Younger Than 5 Years in Low- and Middle-Income Countries (2022). *JAMA Network Open*, 5(5), e2212692-e2212692.

Dribe M & **Karlsson O (**2022). Inequality in early life: Social class differences in childhood mortality in southern Sweden, 1815–1967. *Economic History Review*, 75(2), 475– 502.

Karlsson O, Kim R, Guerrero S, Hasman A & Subramanian SV (2022). Child wasting before and after age two years: A cross-sectional study of 94 countries. *EClinicalMedicine*, 46, 101353.

Karlsson O, Domingue BW, Kim R & Subramanian SV (2022). Estimating heritability of height without zygosity information for twins under five years in low- and middle-income countries: An application of normal finite mixture distribution models. *SSM - Population Health*, 17, 101043.

Karlsson O, Kim R, Hasman A & Subramanian SV (2022). Consumption of Vitamin-A-Rich Foods and Vitamin A Supplementation for Children under Two Years Old in 51 Low-and Middle-Income Countries. *Nutrients*, 14(1), 188.

Karlsson O, Kim R, Bogin B & Subramanian SV (2022). Maternal height-standardized prevalence of stunting in 67 low- and- middle-income countries. *Journal of Epidemiology*, 32(7), 337.

Egbewale BE, **Karlsson O &** Sudfeld CR (2022). Childhood Diarrhea Prevalence and Uptake of Oral Rehydration Solution and Zinc Treatment in Nigeria. *Children*, 9(11).

Karlsson O, Kim R, Sarwal R, James KS & Subramanian SV (2021). Trends in underweight, stunting, and wasting prevalence and inequality among children under three in Indian states, 1993–2016. *Scientific Reports*, 11(1), 1-11.

Karlsson O, Dribe M & Subramanian SV (2021). Changing speed of reduction in under-5 mortality rates over the 20th century. *Journal of Epidemiology and Community Health*, 75(1), 36-39.

Li Z, **Karlsson O,** Kim R & Subramanian SV (2021). Distribution of under-5 deaths in the neonatal, postneonatal, and childhood periods: a multicountry analysis in 64 low-and middle-income countries. *International journal for equity in health*, 20 (1), 1-11.

Thoma B, Sudharsanan N, **Karlsson O,** Joe W, Subramanian SV & De Neve JW (2021). Children's education and parental old-age health: Evidence from a population-based, nationally representative study in India. *Population Studies*, 75(1), 51-66.

Karlsson O, Kim R, Joe W & Subramanian SV (2020). The relationship of household assets and amenities with child health outcomes: An exploratory cross-sectional study in India 2015–2016. *SSM-Population Health*, 10, 100513.

Kitara DL & **Karlsson O (**2020). The effects of economic stress and urbanization on driving behaviours of Boda-boda drivers and accidents in Gulu, Northern Uganda: a qualitative view of drivers. *The Pan African Medical Journal*, 36.

Subramanian SV, **Karlsson O,** Zhang W & Kim R (2020). Geo-mapping of COVID-19 Risk Correlates Across Districts and Parliamentary Constituencies in India. *Harvard Data Science Review*, (Special Issue 1).

Teufel F, Geldsetzer P, Manne-Goehler J, **Karlsson O,** Koncz V, Deckert A, Theilmann M, Marcus ME, Ebert C, Seiglie JA, Agoudavi K, Andall-Brereton G, Gathecha G, Gurung MS, Guwatudde D, Houehanou C, Hwalla N, Kagaruki GB, Karki KB … De Neve JW (2020).

Analysis of Attained Height and Diabetes Among 554,122 Adults Across 25 Low- and Middle-Income Countries. *Diabetes Care*, 43(10), 2403.

De Neve JW, **Karlsson O,** Canavan CR, Chukwu A, Adu-Afarwuah S, Bukenya J, Darling AM, Harling G, Moshabela M, Killewo J … Berhane Y (2020). Are out-of-school adolescents at higher risk of adverse health outcomes? Evidence from 9 diverse settings in sub-Saharan Africa. *Tropical Medicine & International Health*, *25*(1), 70–80.

Karlsson O (2019). Religion and Child Health in West and Central Africa. *Population and Development Review*, *45*(4), 707–738.

Karlsson O, De Neve JW & Subramanian SV (2019). Weakening association of parental education: Analysis of child health outcomes in 43 low- and middle-income countries. *International Journal of Epidemiology*, *48*(1), 83–97.

Karlsson O, Kim R, Joe W & Subramanian SV (2019). Socioeconomic and gender inequalities in neonatal, postneonatal and child mortality in India: A repeated cross-sectional study, 2005–2016. *Journal of Epidemiology and Community Health*, *73*(7), 660–667.

De Neve JW, **Karlsson O,** Coetzee L, Schröder H, Subramanian SV, Bärnighausen T & Vollmer S (2018). Antiretroviral therapy coverage associated with increased co-residence between older and working-age adults in Africa. *Aids*, *32*(14), 2051–2057.

JOURNAL CORRESPONDENCE AND COMMENTS

Subramanian SV, Khailkar A & **Karlsson O** (2023). Should India adopt a country-specific growth reference to measure undernutrition among its children? *The Lancet Regional Health - Southeast Asia*, 9. **[Comment]**

Subramanian SV, **Karlsson O &** Kim R (2022). Using height-adjusted stunting prevalence will fail disadvantaged children worldwide, authors reply. *The Lancet Global Health*, 10(5), e621. **[Correspondence]**

Subramanian SV, **Karlsson O** & Kim R (2022). Revisiting the stunting metric for monitoring and evaluating nutrition policies. *The Lancet Global Health*, 10(2), e179-e180. **[Comment]**

Subramanian SV, Chatterjee P & **Karlsson O** (2020). Lessons from COVID-19 pandemic for the child survival agenda. *Journal of Global Health*, 10(2). **[Comment]**