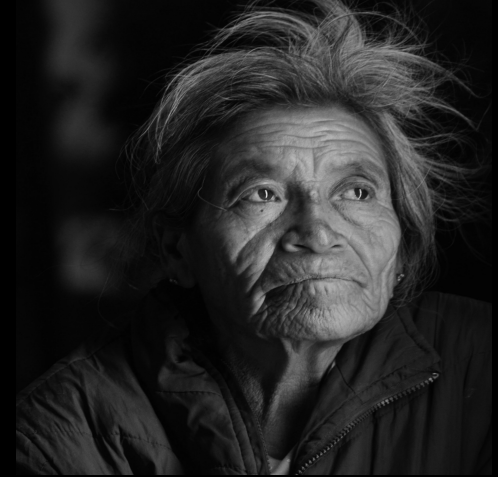


An agenda for Population Aging and Social Research in Low and Middle-Income countries:

Successful Aging Societies and Successful Aging



**National Academy of Sciences, Engineering
and Medicine Workshop**

Sept 7, 2023

Lisa Berkman, Ph.D.,

Cabot Professor of Public Policy, Epidemiology and Global
and Population Health

Director, Harvard Center for Population and Development Studies

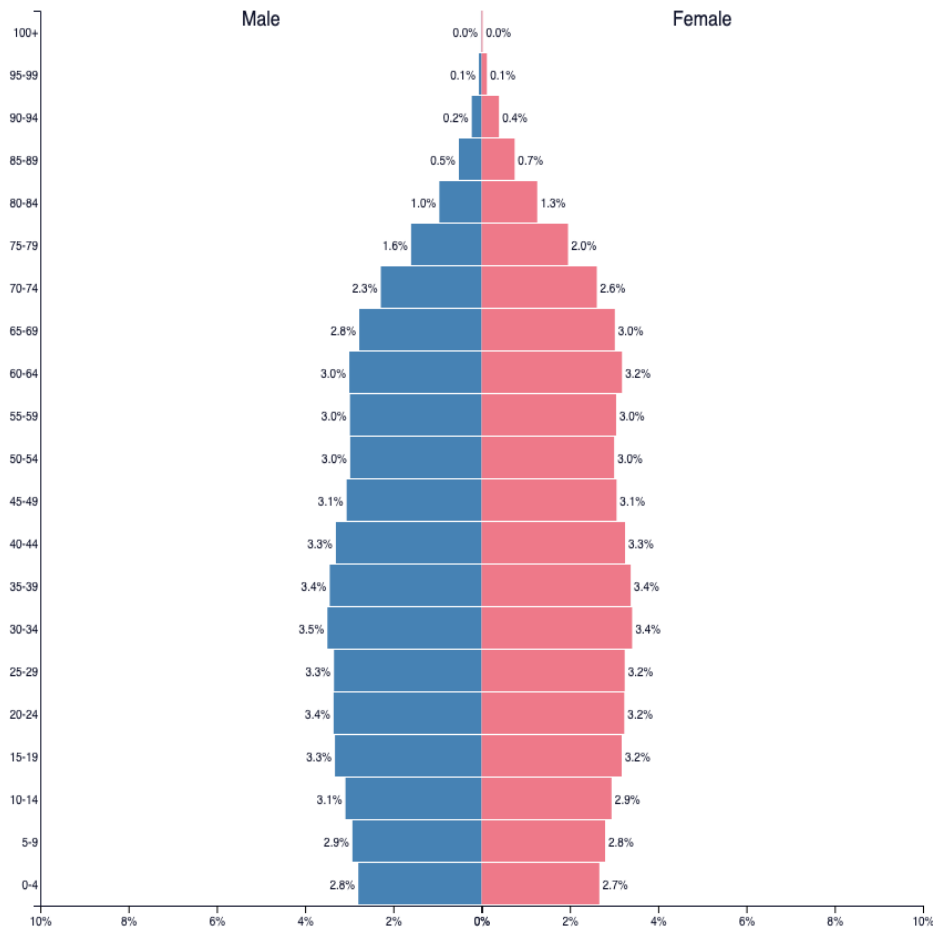
Successful Aging of Society

1. Functions effectively at societal level
2. Address issues of transition to cohesive, productive, secure, equitable aging society
3. Requires adaptation of core societal institutions
4. Identifies and builds on positive contributions of an aging society
5. Life course perspective as well as intergenerational- across age.

POPULATION PYRAMID: United States 2025 and 2050

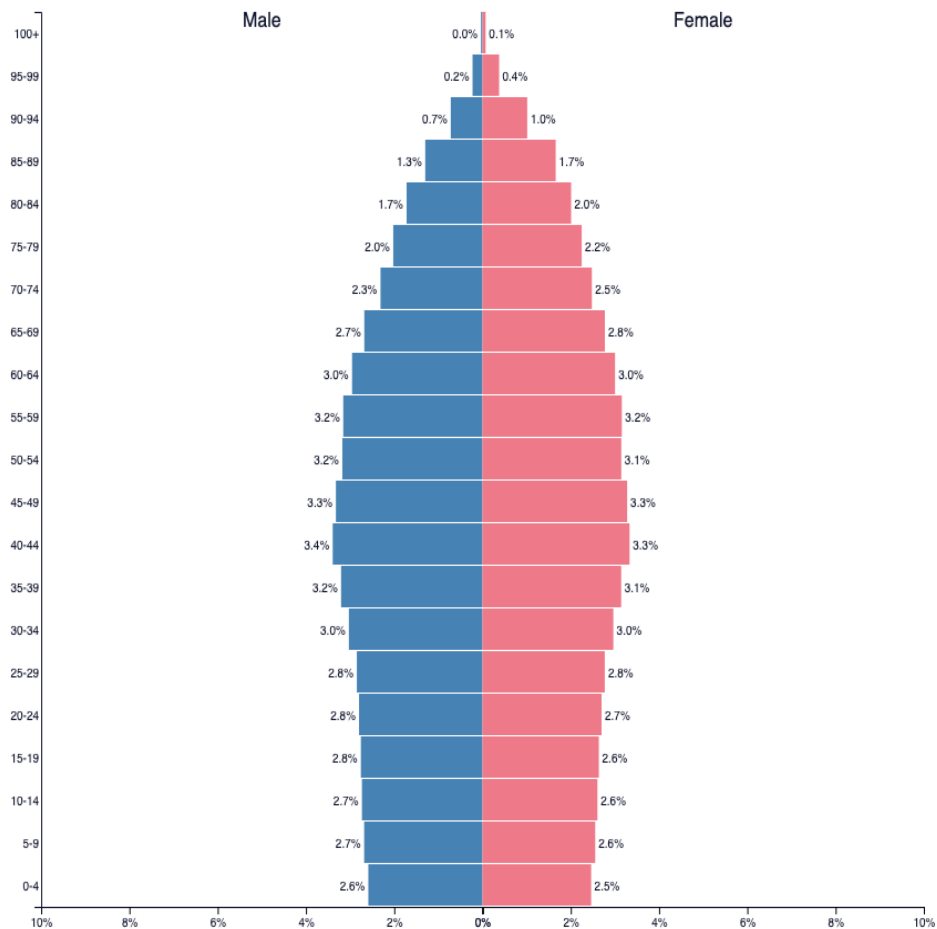
United States of America ▼
2025

Population: 343,603,403



United States of America ▼
2050

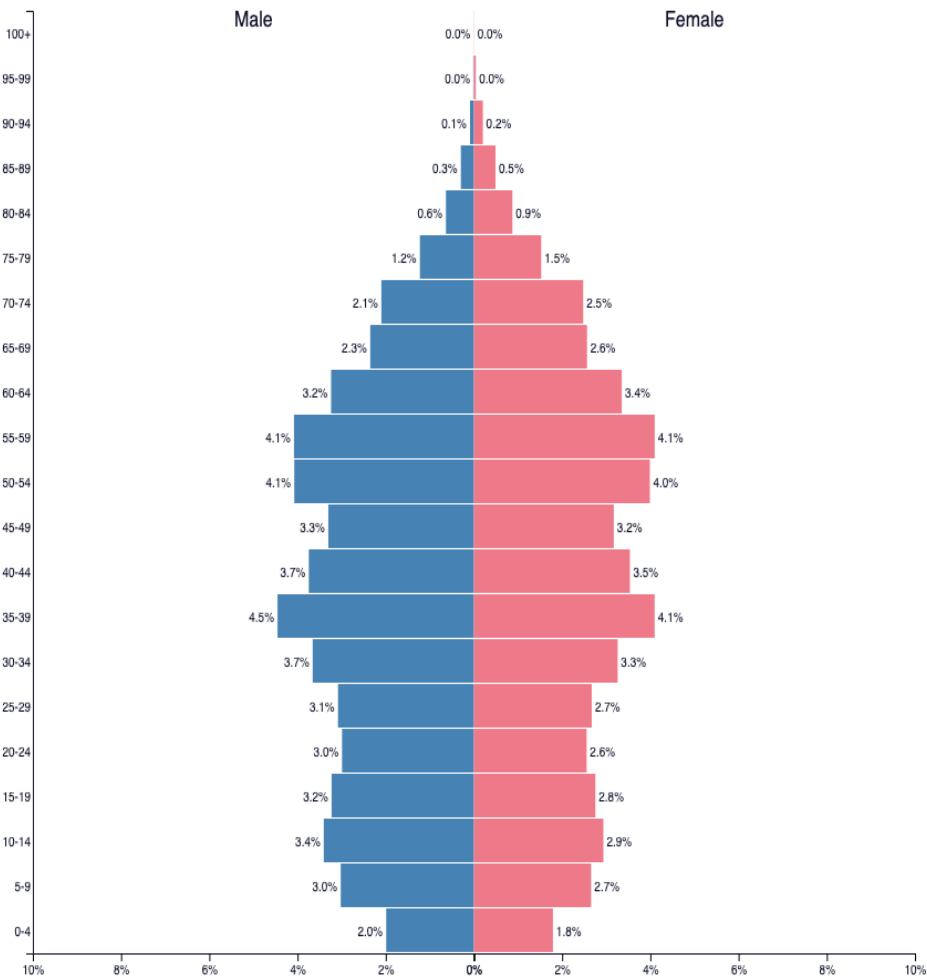
Population: 375,391,962



POPULATION PYRAMID: China

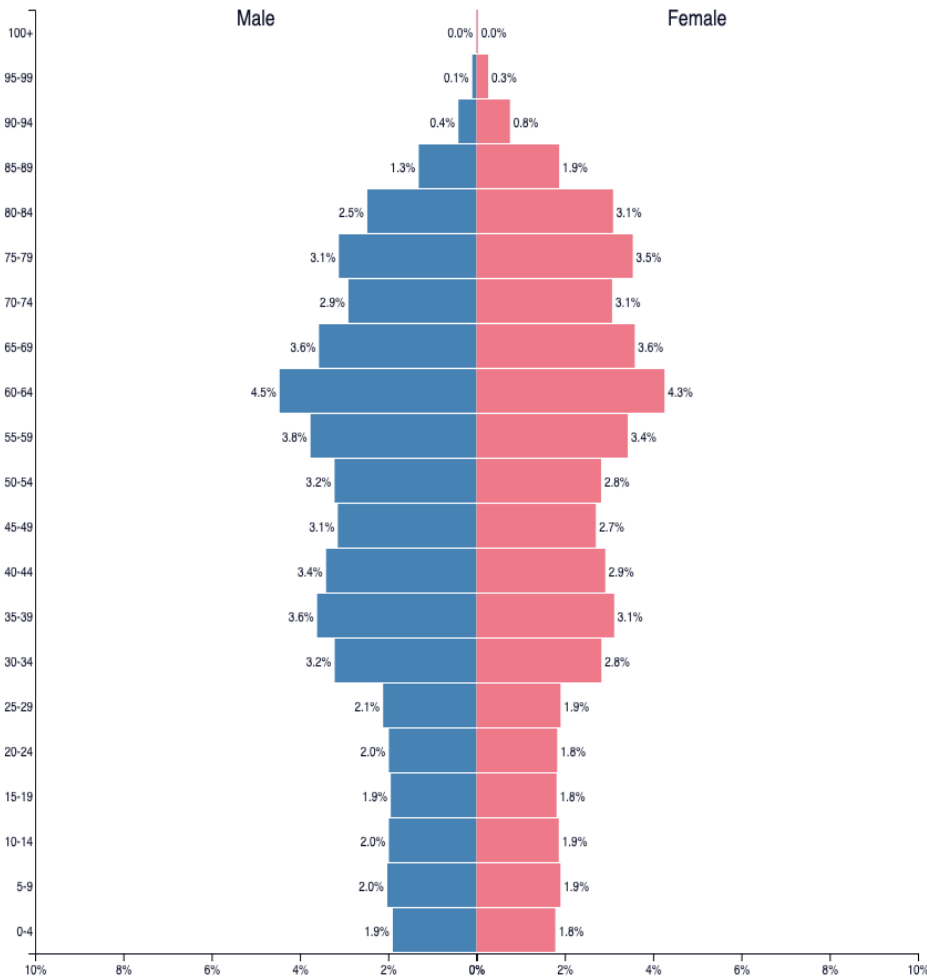
China ▼
2025

Population: 1,424,381,923

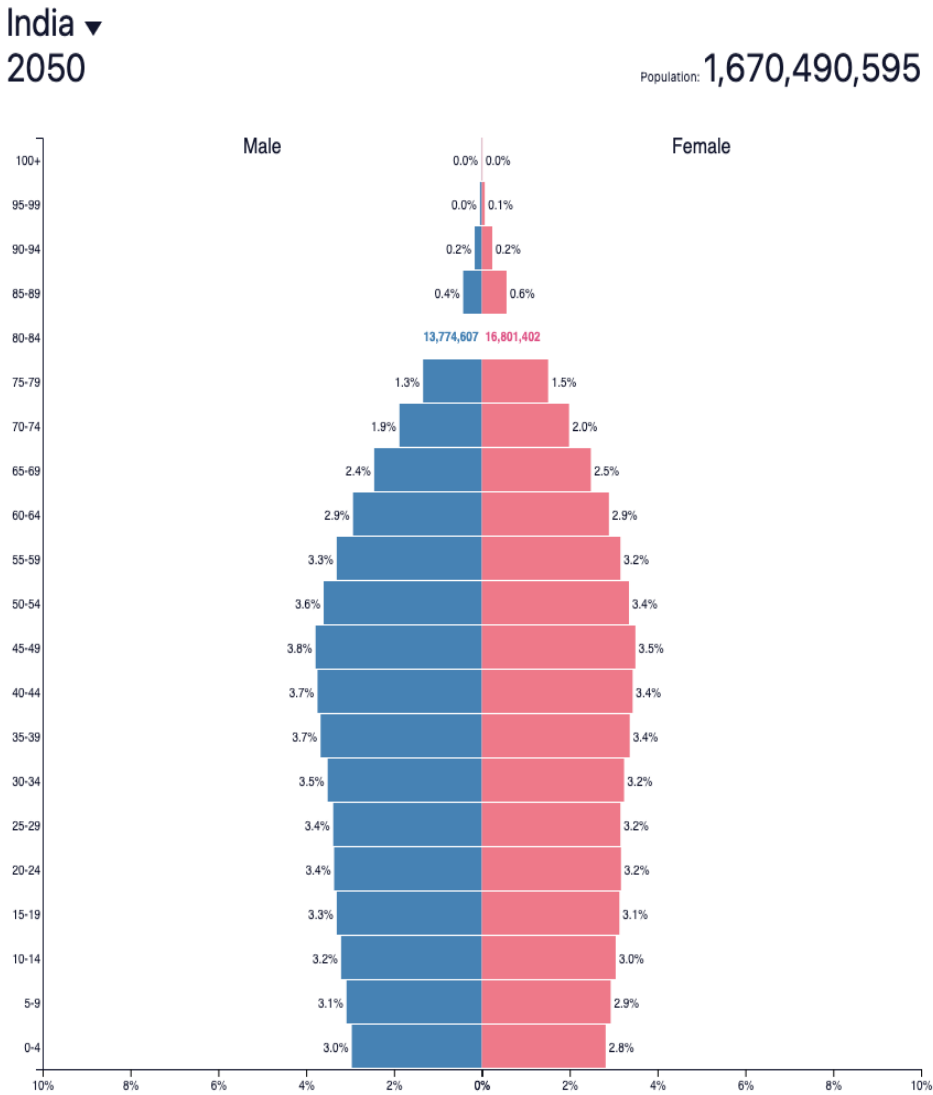
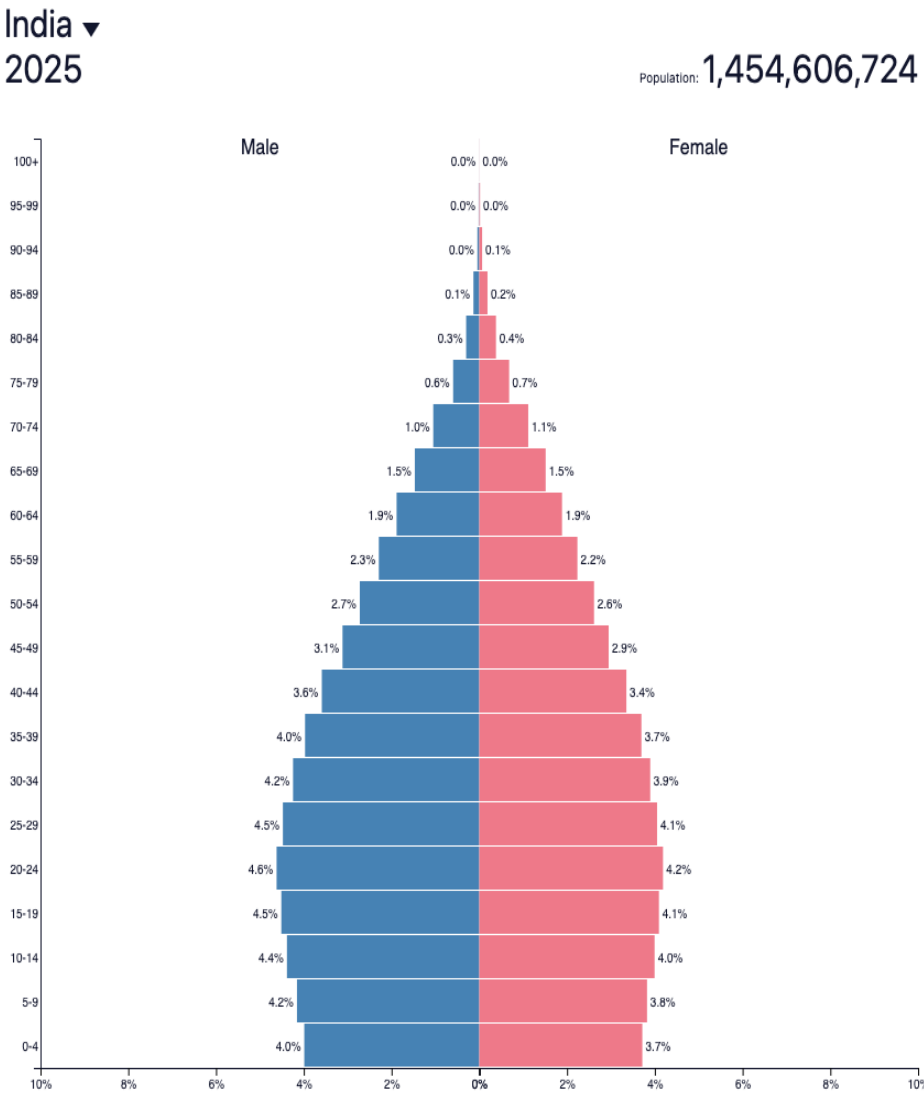


China ▼
2050

Population: 1,312,636,324



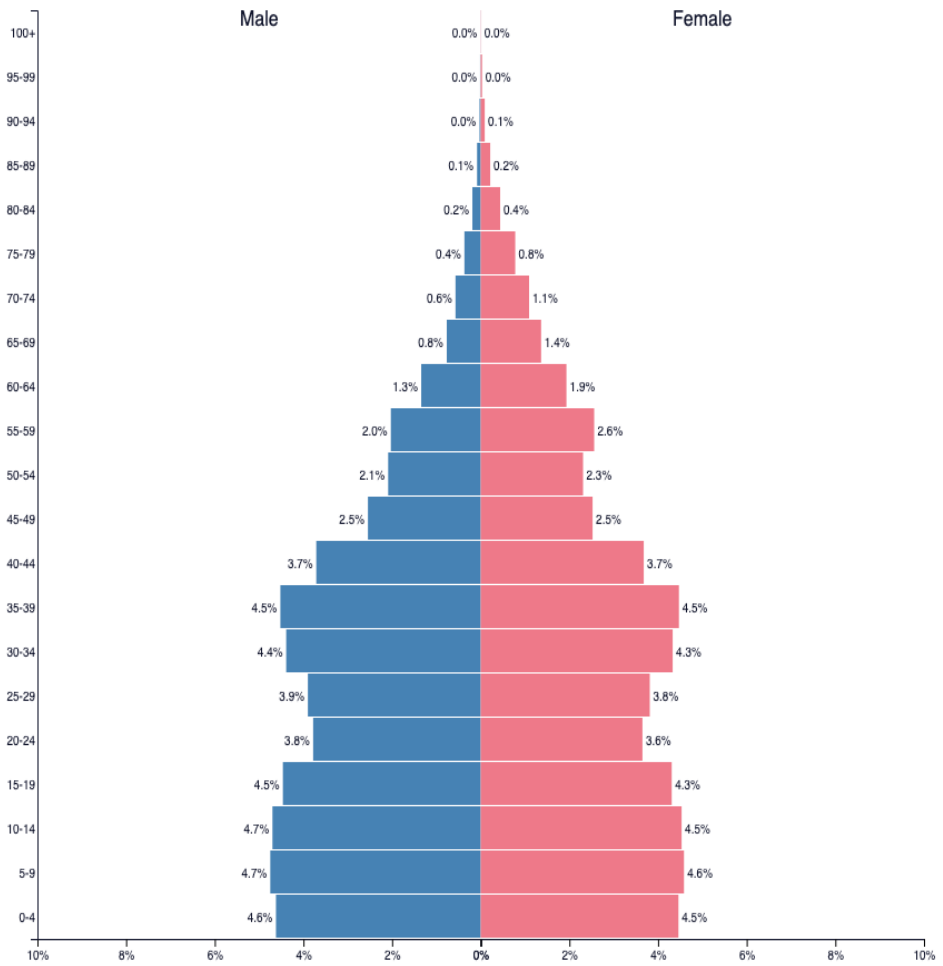
POPULATION PYRAMID: India



POPULATION PYRAMID: South Africa

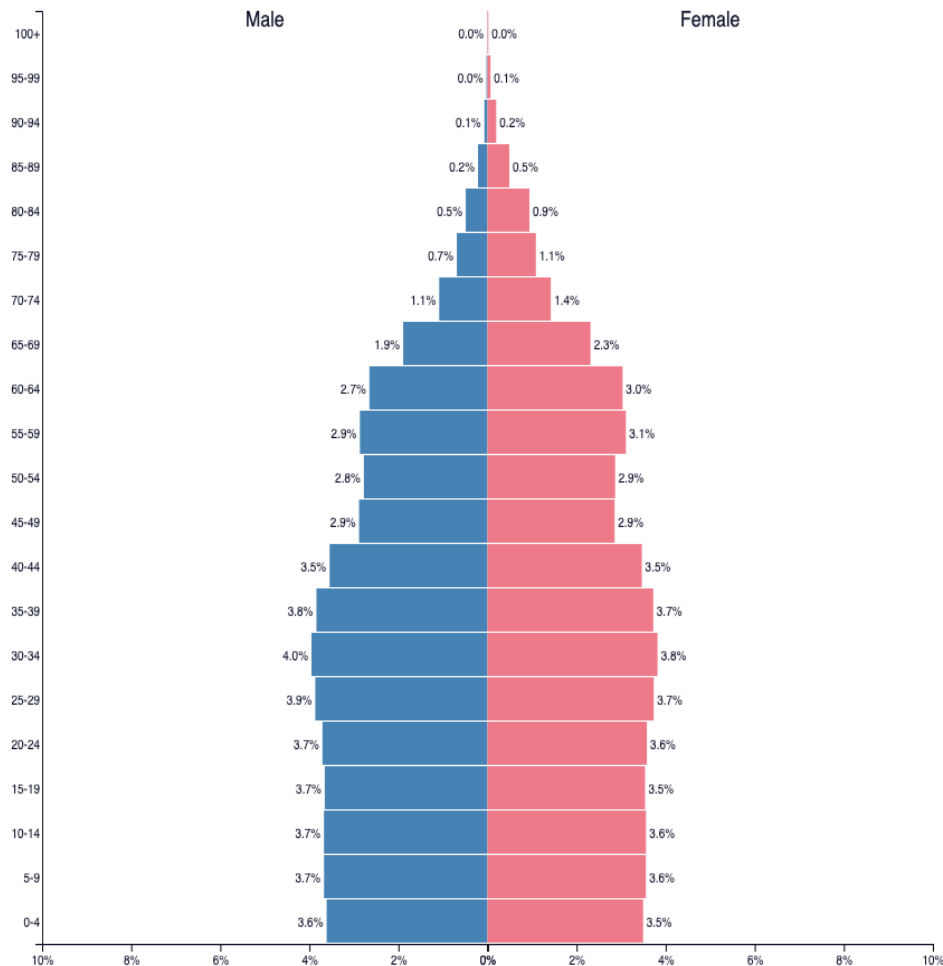
South Africa ▼
2025

Population: 61,673,081



South Africa ▼
2050

Population: 73,529,752



POPULATION PYRAMID: Brazil

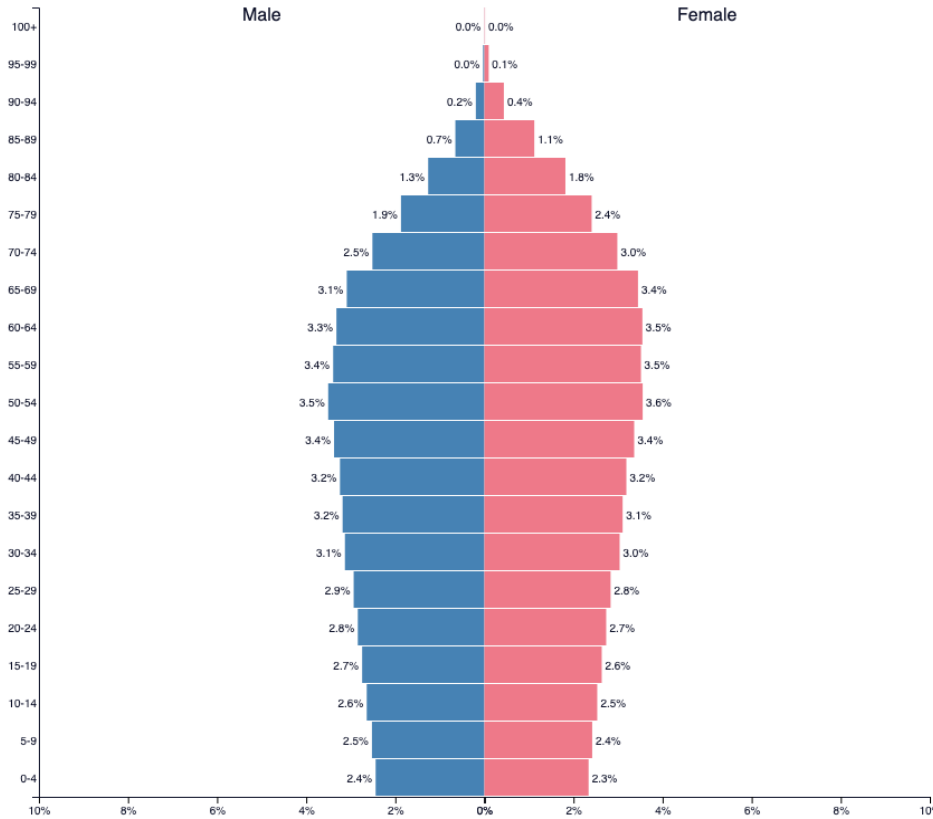
Brazil ▼
2025

Population: 218,803,058

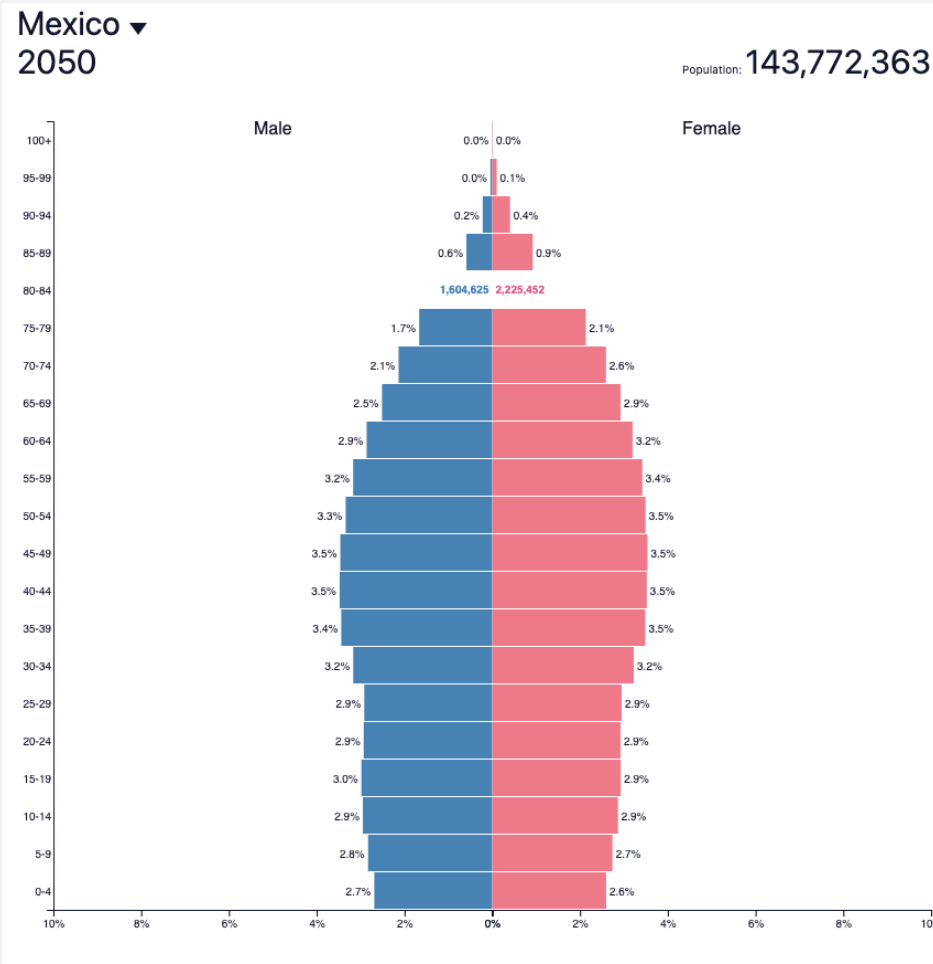
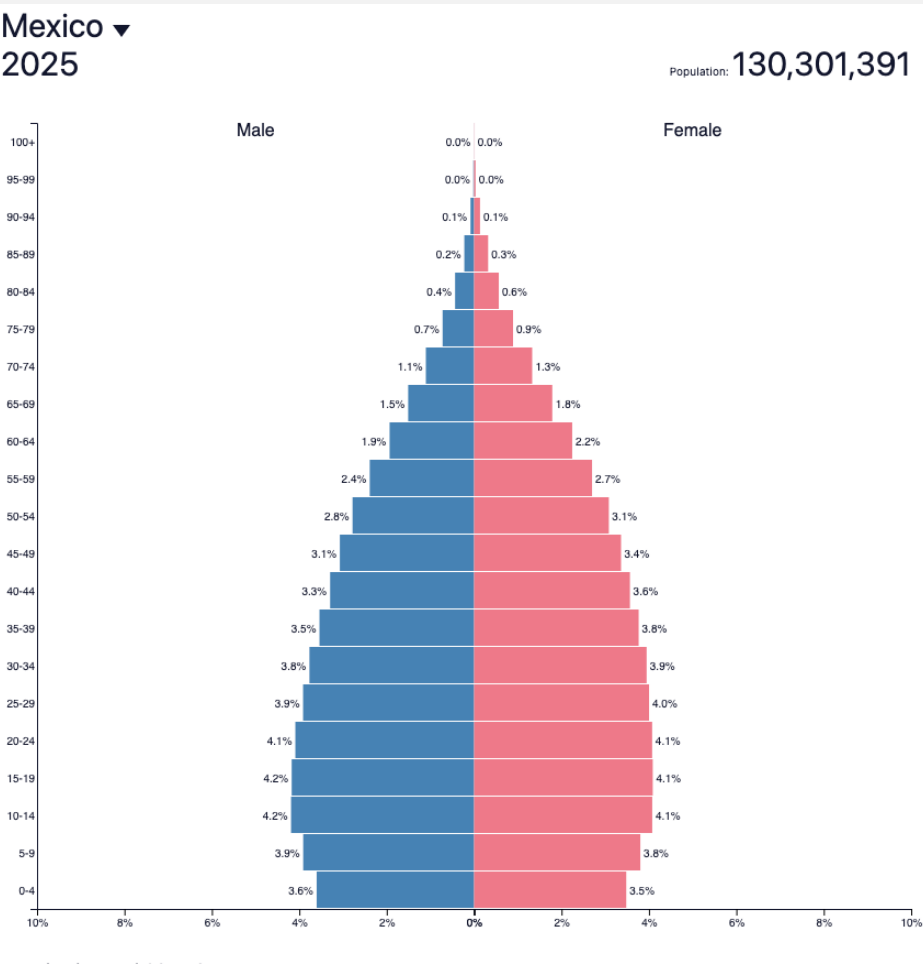


Brazil ▼
2050

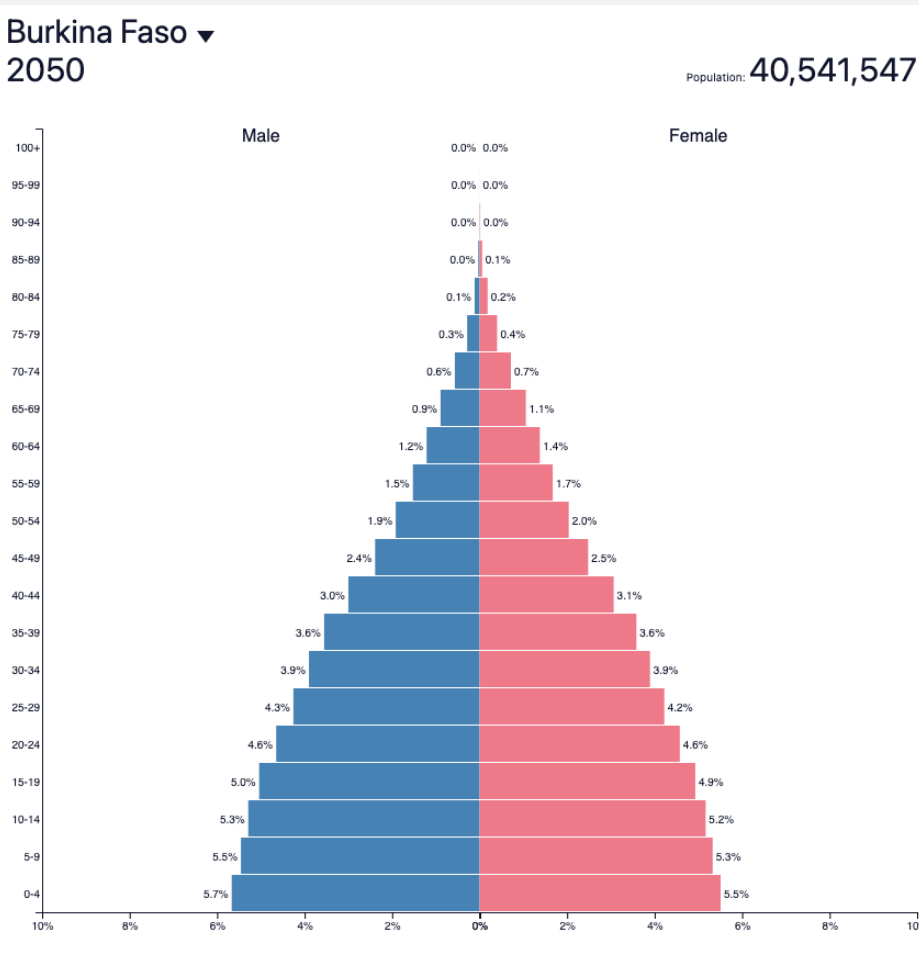
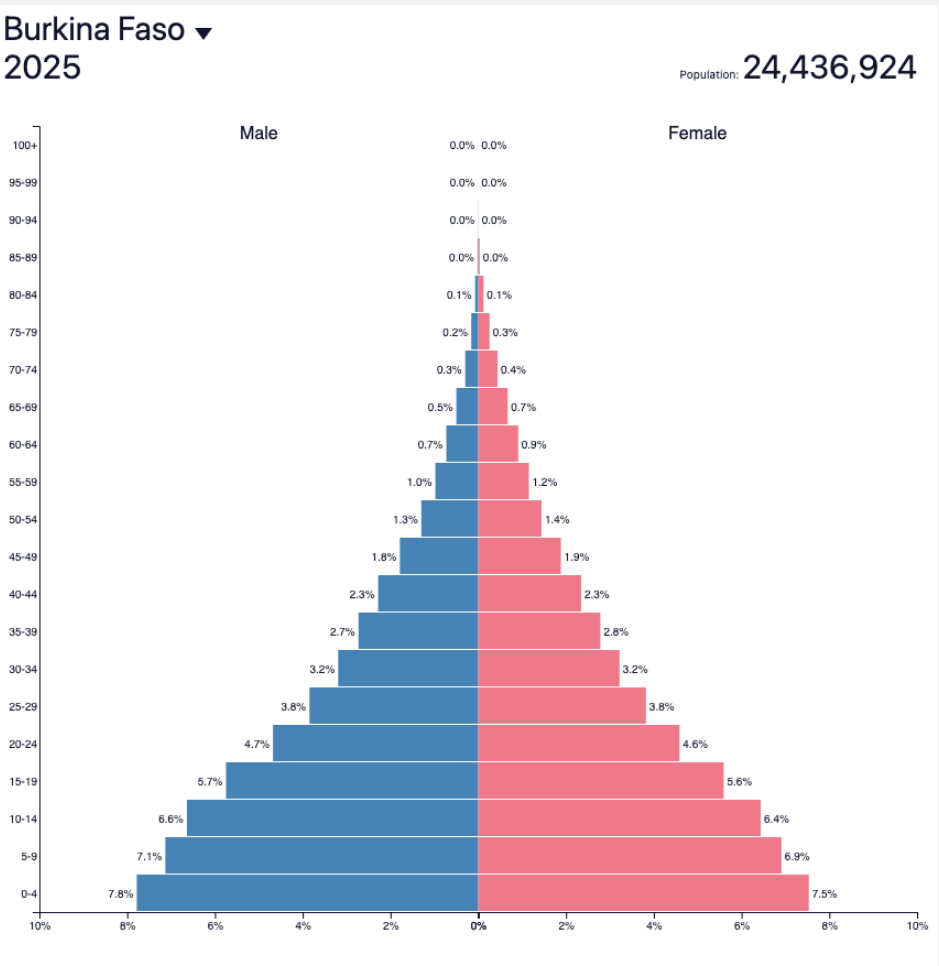
Population: 230,885,724



POPULATION PYRAMID: Mexico

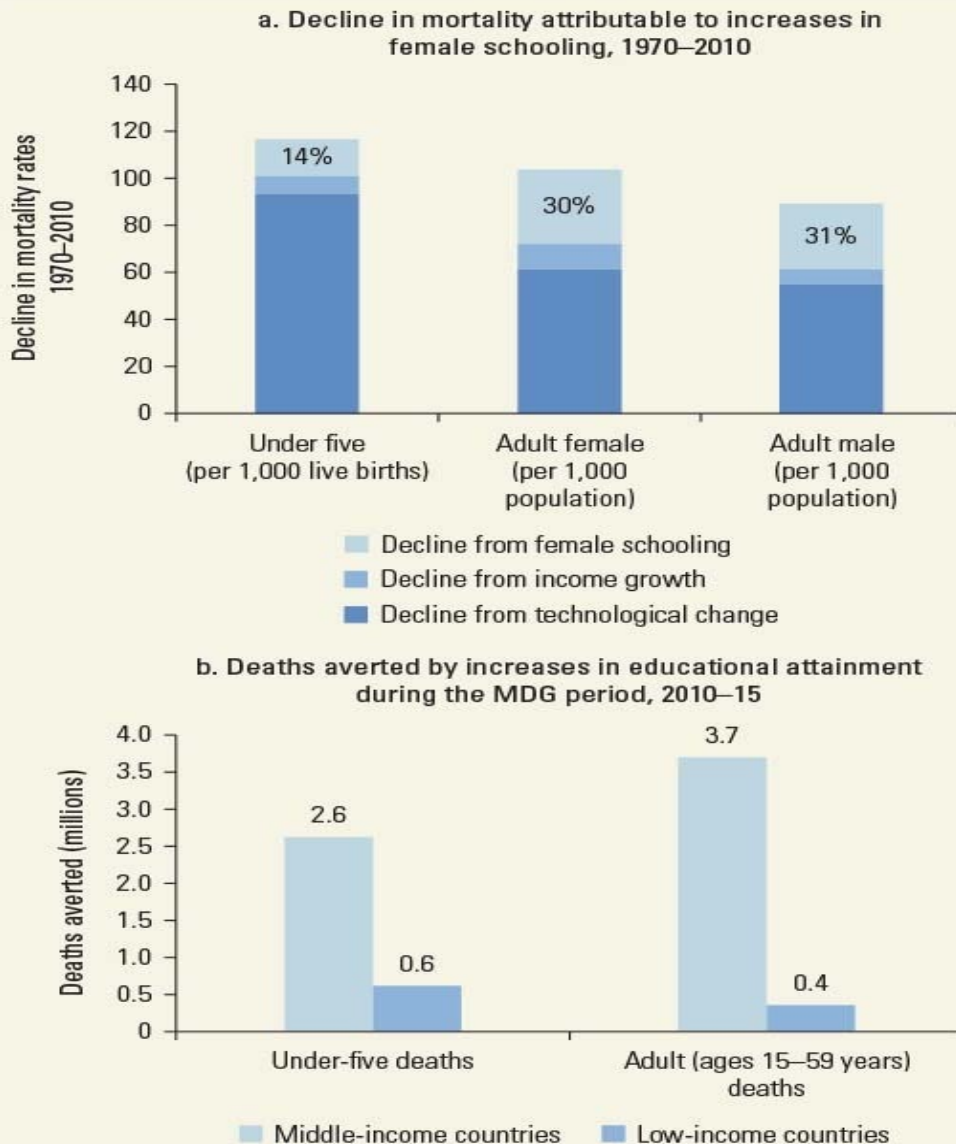


POPULATION PYRAMID: Burkina Faso



Effects of Education Quantity on Child Health and adult mortality:

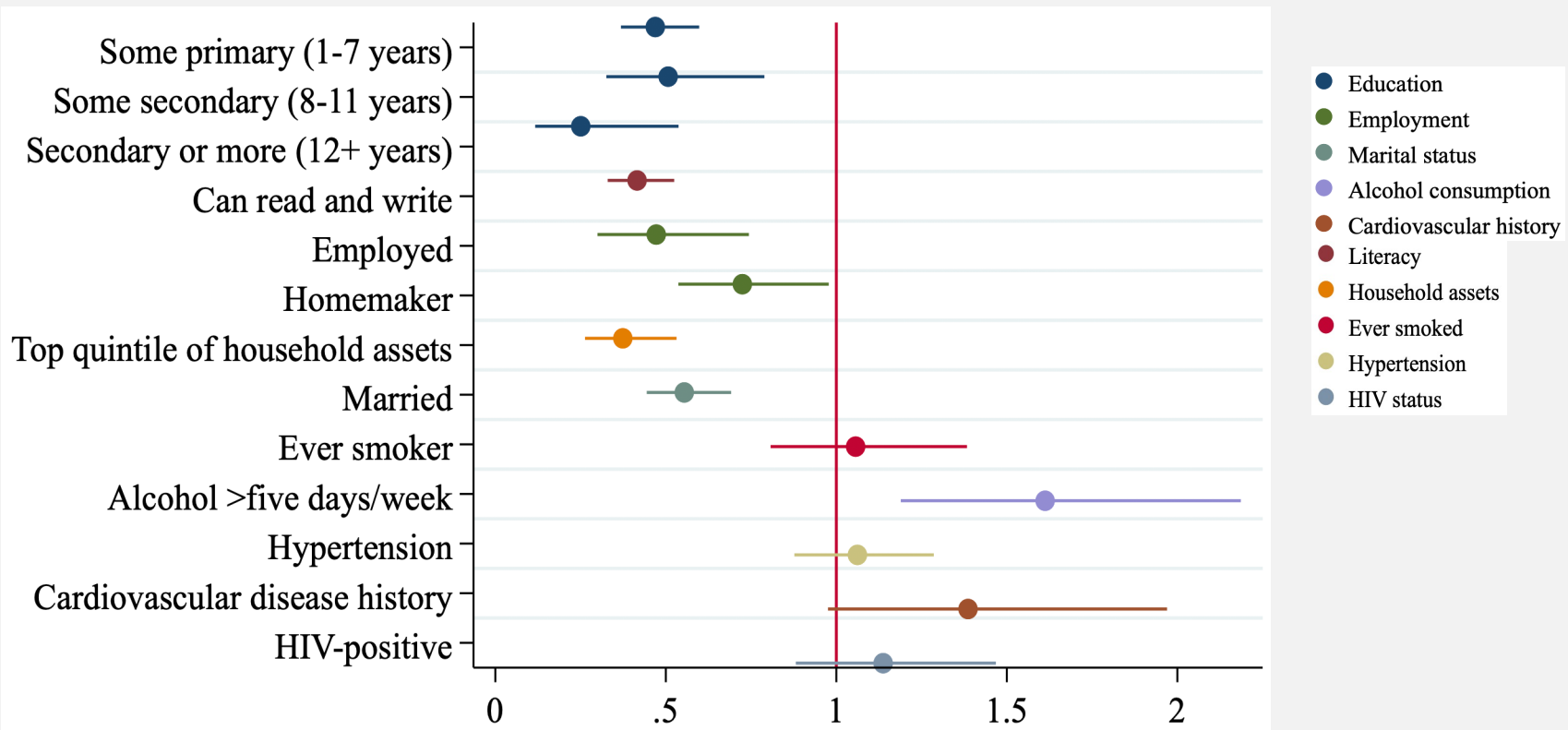
Effects of Education Quantity



Education's Contribution to Mortality Decline.

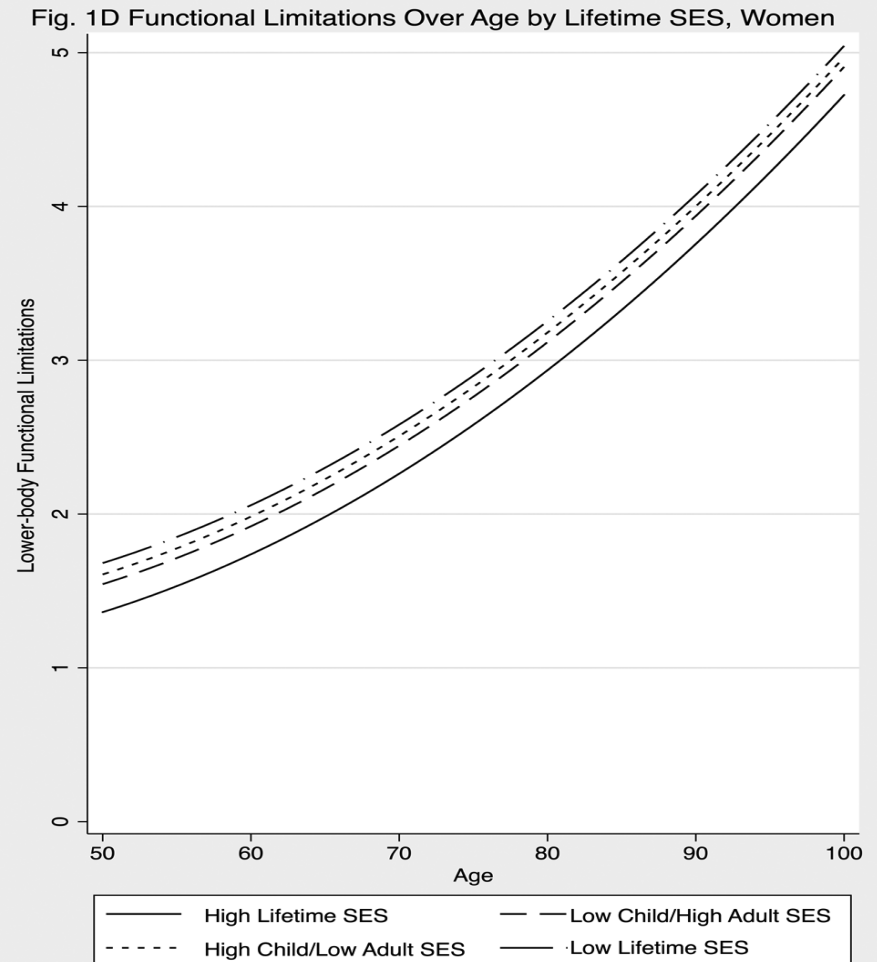
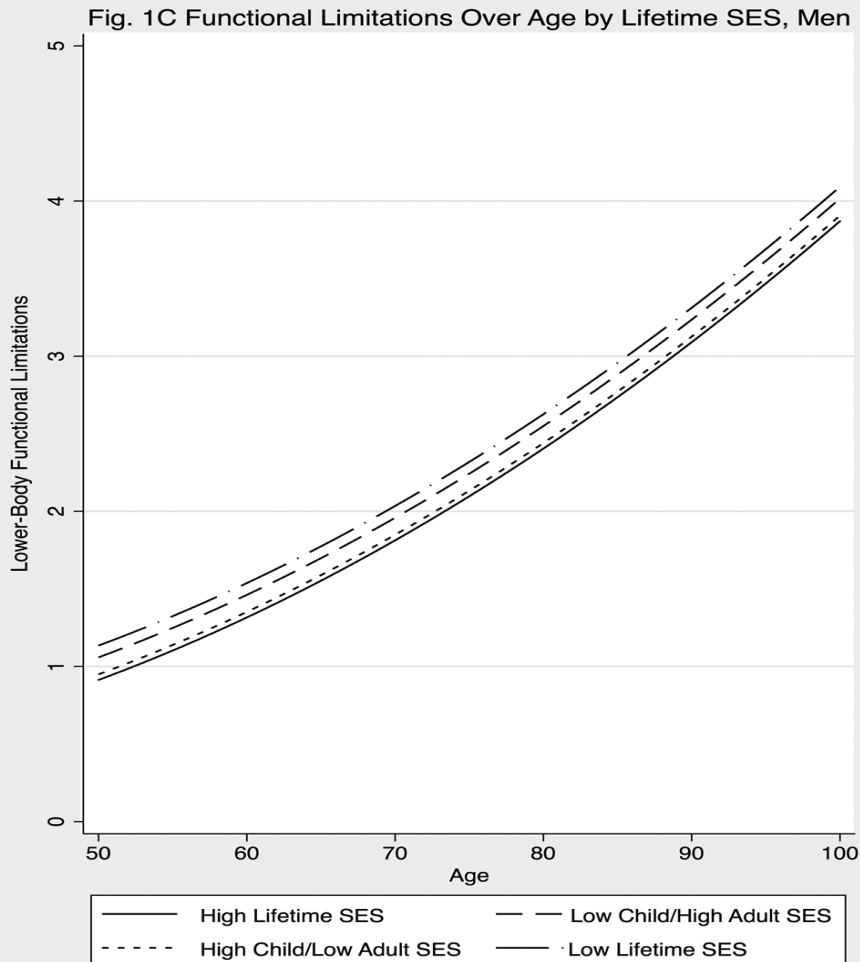
Reference: Pradhan E, Suzuki EM, Martínez S, Schäferhoff M, Jamison DT. The Effects of Education Quantity and Quality on Child and Adult Mortality: Their Magnitude and Their Value. In: Bundy DAP, Silva ND, Horton S, Jamison DT, Patton GC, editors. Child and Adolescent Health and Development. 3rd ed. Washington (DC): The International Bank for Reconstruction and Development / The World Bank; 2017 Nov 20. Chapter 30. PMID: 30212146.

HAALSI: Relative CI incidence by social, economic, and health-related factors



Weighted incidence rate ratios (IRRs) and 95% confidence intervals, adjusted for age, sex, and country of birth

MHAS: Lifetime SES trajectories in functional limitation and self reported health for men and women



Reference: Torres JM, Rizzo S, Wong R. Lifetime Socioeconomic Status and Late-life Health Trajectories: Longitudinal Results From the Mexican Health and Aging Study. *J Gerontol B Psychol Sci Soc Sci*. 2018 Jan 11;73(2):349-360. doi: 10.1093/geronb/gbw048. PMID: 27140821; PMCID: PMC5927147.

MHAS: Lifetime SES trajectories in Depressive symptoms and self reported health

Fig. 1A Depressive Symptoms Over Age by Lifetime SES, Men

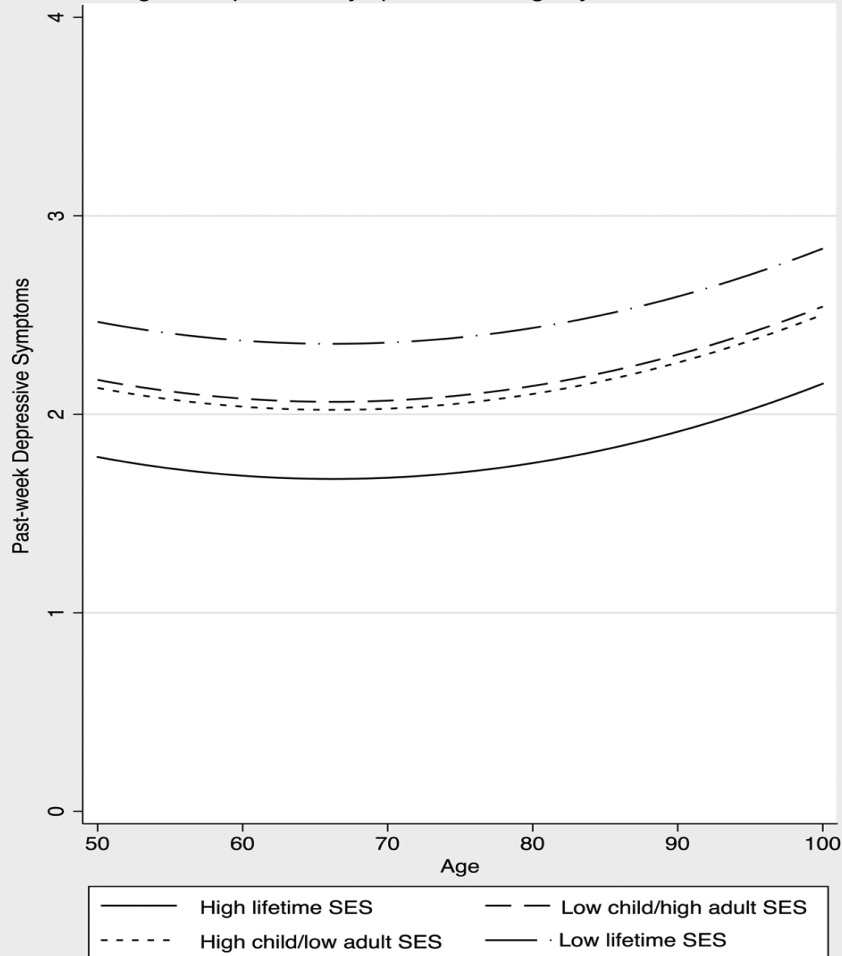
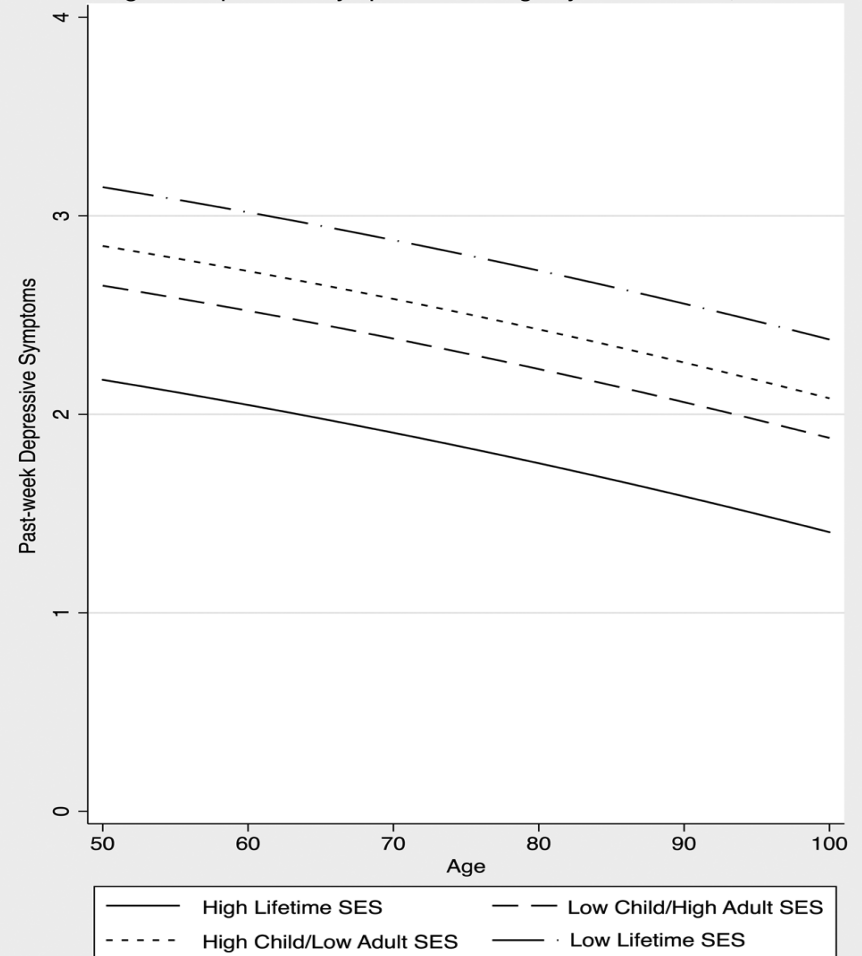


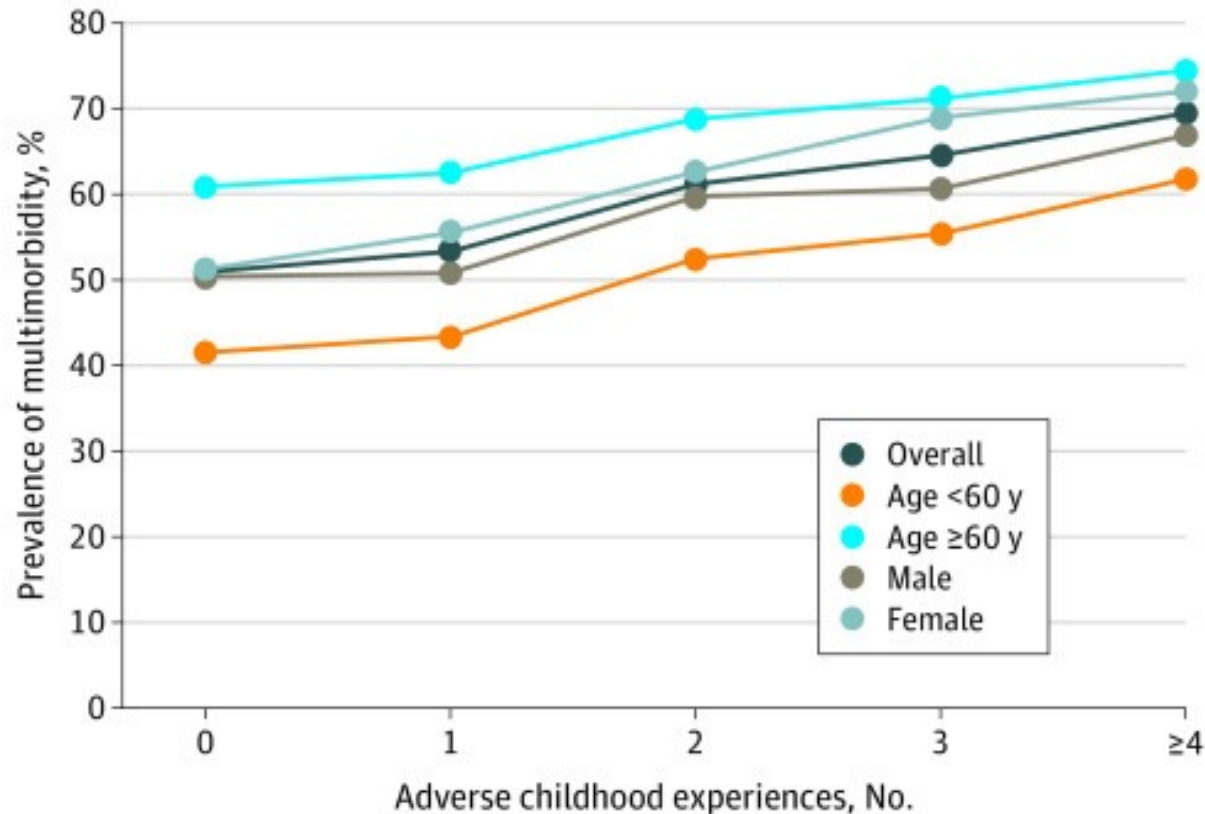
Fig. 1B Depressive Symptoms Over Age by Lifetime SES, Women



Reference: Torres JM, Rizzo S, Wong R. Lifetime Socioeconomic Status and Late-life Health Trajectories: Longitudinal Results From the Mexican Health and Aging Study. *J Gerontol B Psychol Sci Soc Sci*. 2018 Jan 11;73(2):349-360. doi: 10.1093/geronb/gbw048. PMID: 27140821; PMCID: PMC5927147.

CHINA: Adverse Childhood Experiences & Subsequent Chronic Diseases

Prevalence of Multimorbidity by Number of Adverse Childhood Experiences in the Overall Study Population Stratified by Age and Sex

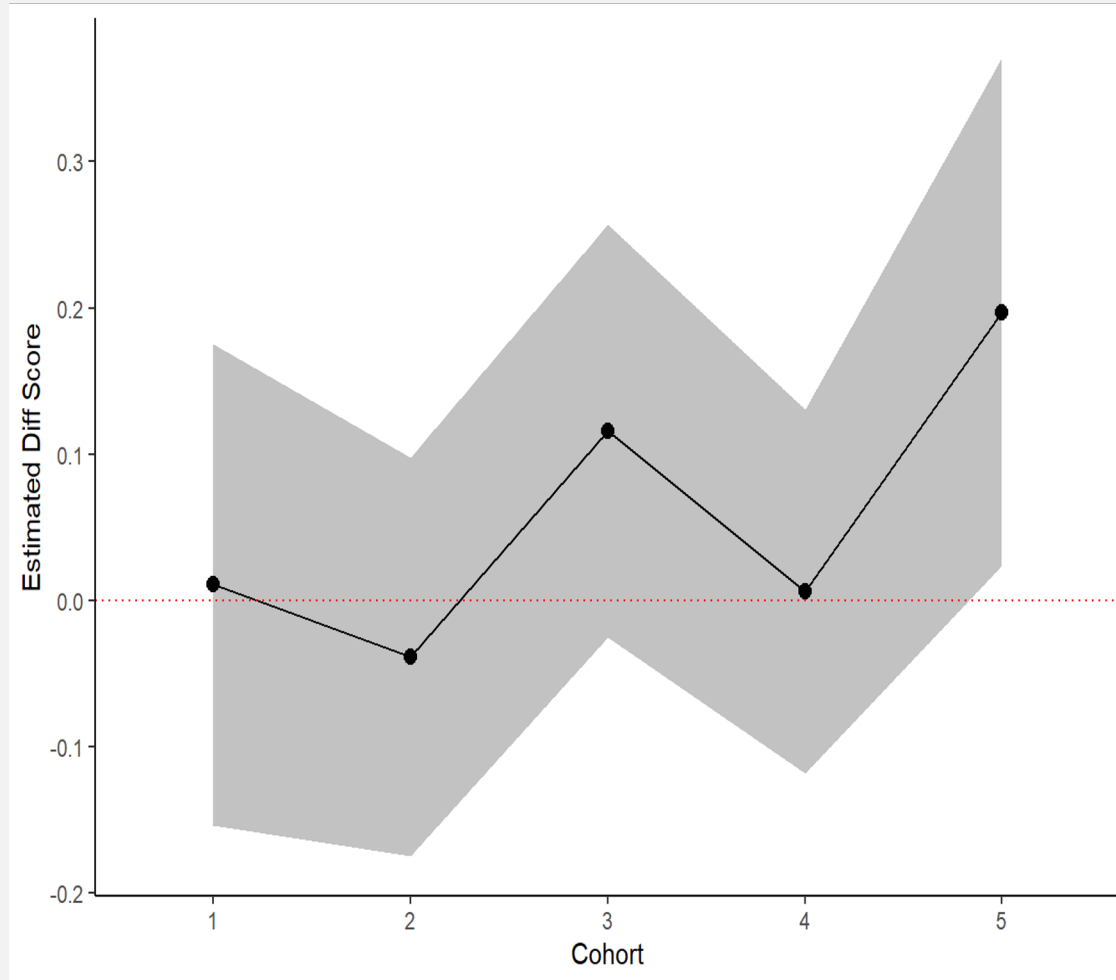


Reference: Lin L, Wang HH, Lu C, Chen W, Guo VY. Adverse Childhood Experiences and Subsequent Chronic Diseases Among Middle-aged or Older Adults in China and Associations With Demographic and Socioeconomic Characteristics. JAMA Netw Open. 2021 Oct 1;4(10):e2130143. doi: 10.1001/jamanetworkopen.2021.30143. Erratum in: JAMA Netw Open. 2022 Jun 1;5(6):e2220614. PMID: 34694390; PMCID: PMC8546496.

Pension eligibility expansion in South Africa; HAALSI

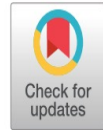
Pension 'transition cohorts' of men newly eligible under age expansion had higher than expected cognitive function

Generally increasing with additional years of OAP coverage



The role of the physical environment: CHARLS data on Cognitive Function

Association between cognitive function and ambient particulate matters in middle-aged and elderly Chinese adults: Evidence from the China Health and Retirement Longitudinal Study (CHARLS)



Yifan Yao, Kai Wang, Hao Xiang*

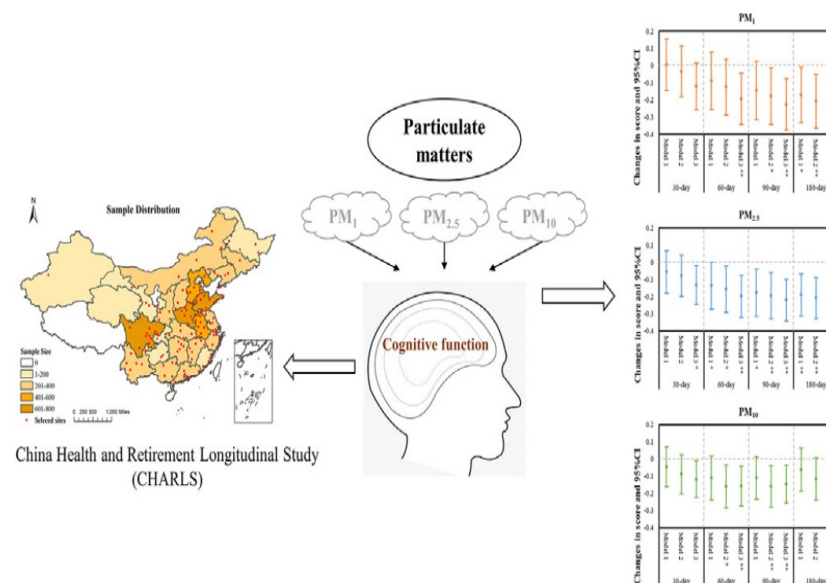
Department of Global Health, School of Public Health, Wuhan University, 115# Donghu Road, Wuhan 430071, China

Global Health Institute, School of Public Health, Wuhan University, 115# Donghu Road, Wuhan 430071, China

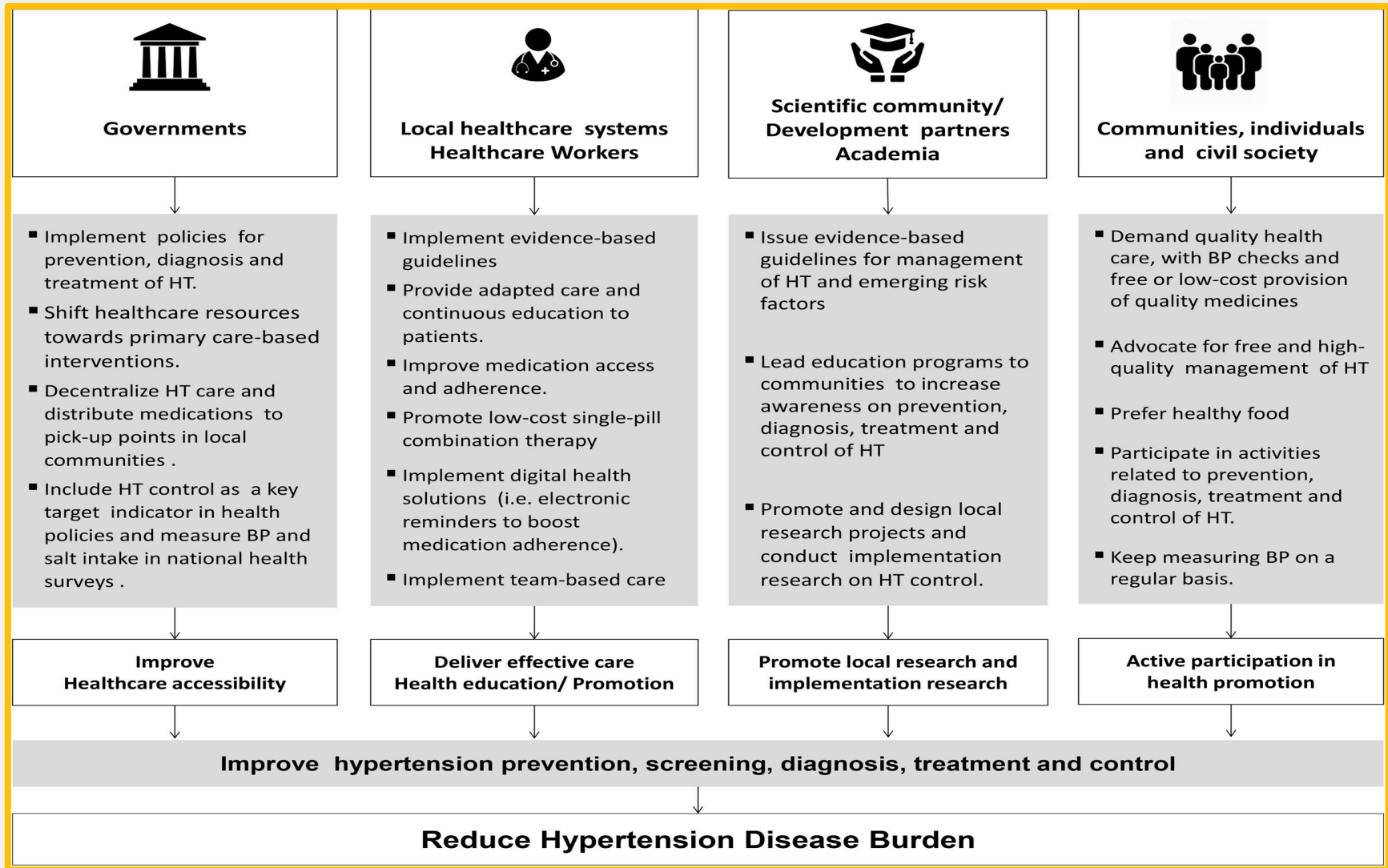
HIGHLIGHTS

- Exposure to ambient particulate matters (PM) would decrease cognitive function.
- Living in midland of China may be more prone to cognitive decline after PM exposure.
- Females were more susceptible to the adverse effects of PM on cognitive decline.

GRAPHICAL ABSTRACT



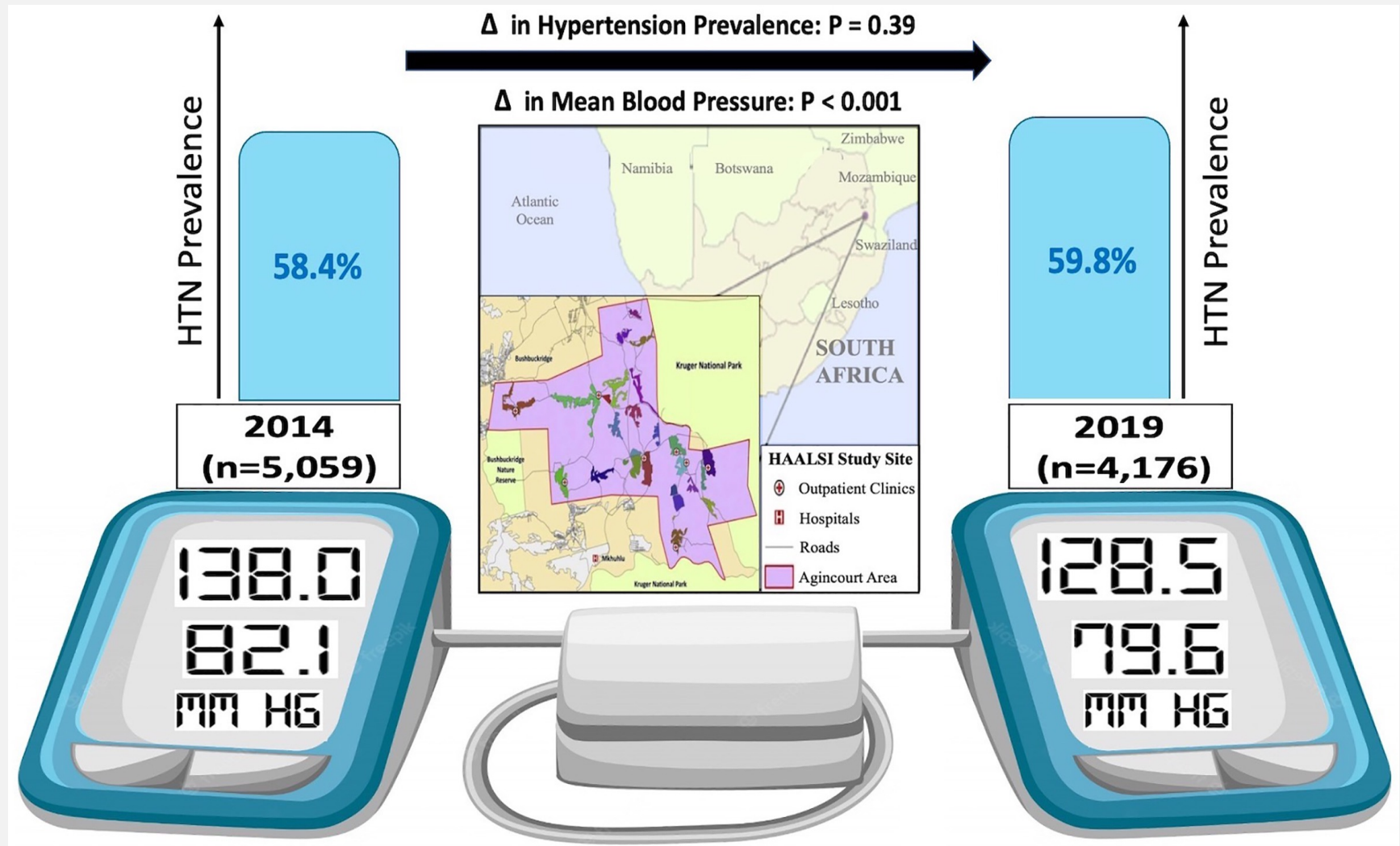
Health systems in for an aging SUB-SAHARAN AFRICA: Improving Blood Pressure Control



Reference: Gianfranco Parati. Hypertension. Easier Access to Antihypertensive Treatment: The Key for Improving Blood Pressure Control in Sub-Saharan Africa?, Volume: 80, Issue: 8, Pages: 1624-1627, DOI: (10.1161/HYPERTENSIONAHA.123.20872)

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HAALSI Improvements in hypertension control over time



Reference: Enrico G. Ferro. Hypertension. Significant Improvement in Blood Pressure Levels Among Older Adults With Hypertension in Rural South Africa, Volume: 80, Issue: 8, Pages: 1614-1623, DOI: (10.1161/HYPERTENSIONAHA.122.20401)

The stage for studying aging in LMIC

An aging societies perspective is essential
Identifying the demographic and health transition
Focus on major institutions that push change:
educational, economic, political, environmental,
health systems

Attention to population (mean changes) and
heterogeneity (distributional differences)