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DATA-DRIVEN PRIORITIES FOR ECONOMIC RESEARCH AND POLICY

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ABSTRACT

The over-60 population in Sub-Saharan Africa is expected to grow rapidly in the coming decades, tripling between 2020 and 2050. Despite this explosive projected growth, few countries in the region have implemented policies designed to support older populations. Further, little research in economics has specifically examined aging in Sub-Saharan Africa, though many opportunities exist for economists to generate research evidence to inform the design of effective policies in this area. This paper combines insights from a cross-disciplinary review with original data analysis to characterize the challenges and opportunities facing older Sub-Saharan Africans in domains such as health and financial security. Informed by these findings, the paper identifies directions for future economic research and discusses how research evidence can inform the design of health care systems, pensions, and other public support programs to prepare for an aging Africa.

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A data appendix is available at <http://www.nber.org/data-appendix/w31750>

1 Introduction

The over-60 population¹ in Sub-Saharan Africa is projected to increase rapidly in the coming decades, tripling from 50 million in 2020 to 150 million by 2050, then quadrupling again to over 600 million by 2100 (Figure 1).² This represents the highest expected growth across all world regions; notably, growth in the older population across Sub-Saharan African countries is expected to outpace that in many populous, aging Low and Middle Income Countries (LMICs) such as India or China. Although less than 5% of the Sub-Saharan African population is currently above age 60, this is expected to grow to nearly 20% by the year 2100.³ Despite these projections, health care and public support systems are currently unprepared to meet the demands associated with rapid growth in the older population, and the need for research to inform policy innovation in anticipation of such growth is vital.

Further, the process of demographic aging in Sub-Saharan Africa may proceed differently than in other contexts, necessitating an Africa-specific economic research agenda and policy response. Poverty, the persistence of infectious disease, conflict-related instability, high youth unemployment, and vulnerability to the effects of climate change may all present challenges to effective policymaking going forward. On the other hand, Sub-Saharan Africa may be uniquely poised to take advantage of continued economic growth and the demographic dividend associated with an expanding working-age population. Additionally, substantial heterogeneity exists across countries in the region, which presents both greater opportunity to learn from policy experimentation, but also precludes the likelihood that one-size-fits-most policy solutions will be effective.

Policymakers across the globe are increasingly calling for additional research on issues related to aging (NIA, 2020; NIA et al., 2019). Much of the policy discourse and research evidence generated so far centers on High Income Country (HIC) contexts, with a small but growing body of literature exploring topics related to aging in Low and Middle Income Country (LMIC) contexts. However, very little research in economics to date has focused on aging in Sub-Saharan Africa. Further, policymaking in the region has traditionally focused

¹This article focuses primarily on individuals over age 60 rather than age 65. Age 60 represents the typical retirement age in many LMICs, including many of the Sub-Saharan African countries included in this article, as well as others such as India and China. As much as possible, statistics provided and patterns discussed throughout refer to those over age 60, using alternate age groups (over-65, over-75, etc.) where data availability or reporting require.

²For comparison, the over-60 population in Sub-Saharan Africa approximately doubled in the thirty year period from 1990 to 2020, increasing from around 25 million to 50 million. See Figure 1 and Appendix Table A1.

³Similarly, the over-60 population globally (excluding Sub-Saharan African countries) is expected to grow from 15% to 35% between 2020 and 2100. Calculations based on the World Population Prospects 2022.

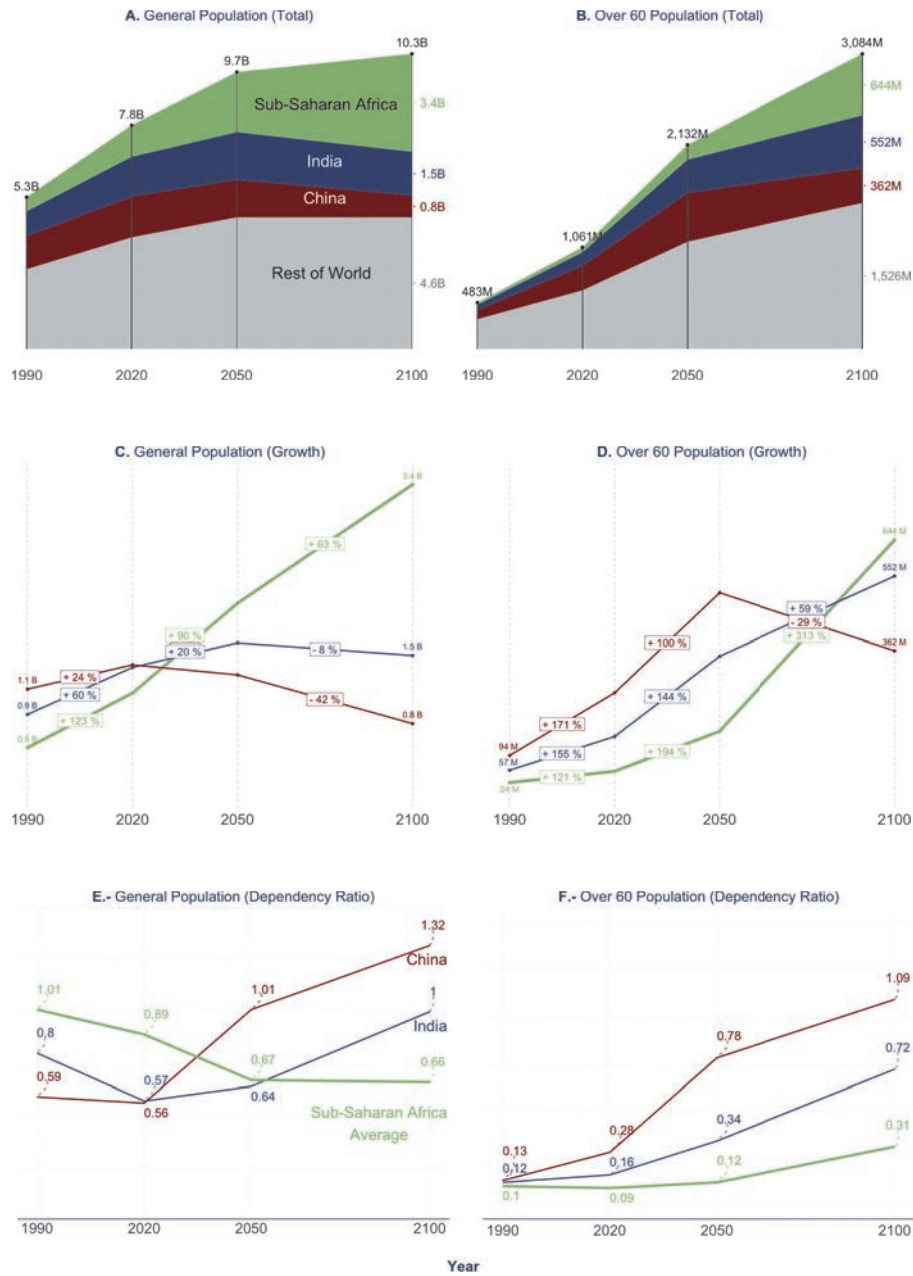


Figure 1: Projected Population Growth and Dependency Ratios

Notes: Data are from the World Population Prospects 2022, Medium Fertility Variant. Population figures are rounded to the nearest thousand. Panels E and F depict dependency ratios using the old-age cutoff of 60 (Panel E depicts the ratio of the population aged 0-14 or 60+ to the population aged 15-59; Panel F depicts the ratio of the population aged 60+ to the population aged 15-59). Versions of Panels E and F using an old-age cutoff of 65 are presented in the Online Appendix.

more on meeting the needs of children, youth, and young women (Aboderin, 2012b; Alli and Maharaj, 2013; Menken and Cohen, 2006; McIntyre, 2005), and less on meeting the needs of older individuals. Clear opportunity exists for economists to make high-impact contributions in this area by conducting rigorous research to inform the design of policies and programs that will enable Sub-Saharan African countries to prepare for this demographic shift. The main goal of this article is to lay out key facts – both from existing research and original data analysis – to inform a prospective research agenda on the set of important but poorly understood issues related to aging in Sub-Saharan Africa.

Current policy environment

In anticipation of this demographic shift, Sub-Saharan African countries may seek to develop and implement health care and public support programs targeted at meeting the needs of an expanding older population. Figure 2 takes stock of the existing policy environment, presenting key metrics characterizing current health care and public support systems in Sub-Saharan Africa (vertical green lines) in comparison to other low and middle income countries (dotted black lines) and high income countries (solid black lines), and highlighting select countries which are particularly well-suited for the analysis, as described below (horizontal bars). As this figure makes clear, Sub-Saharan Africa currently lags behind on many of these metrics, with substantial heterogeneity across countries in the region. Large-scale national programs such as old-age pensions or health insurance programs can be both challenging to introduce and difficult to change or reconfigure later on. While great potential exists for Sub-Saharan African countries to draw on lessons from other contexts, research as part of a Sub-Saharan Africa-specific agenda will be critical to inform the design of effective programs and policies from the start.

Despite some progress in recent decades, health care systems remain substantially less robust (WHO, 2022)⁴ and individuals suffer worse health outcomes⁵ in Sub-Saharan Africa compared to other LMICs and to HICs (Figure 2, Panels A and B). Deficiencies in health care infrastructure may disproportionately impact older individuals, who tend to be concentrated in rural areas (where hospitals and clinics may be more remote, less well-equipped, and

⁴Measuring progress towards Sustainable Development Goal 3 (“Ensure healthy lives and promote well-being for all at all ages”) using the Service Coverage Index (SCI), 13% of Sub-Saharan African countries were designated as having high service coverage, 26% as having low service coverage, with the remaining 63% somewhere in between as of 2019 (WHO, 2022).

⁵Overall or at-birth life expectancy continues to lag behind that in other regions, and old-age life expectancy in SSA is also lower than in other world regions. As of 2019, 60 year olds in SSA could expect to live 18 more years on average, compared to 20 years in other LMICs and 24 years in HICs (Figure 2, Panel B).

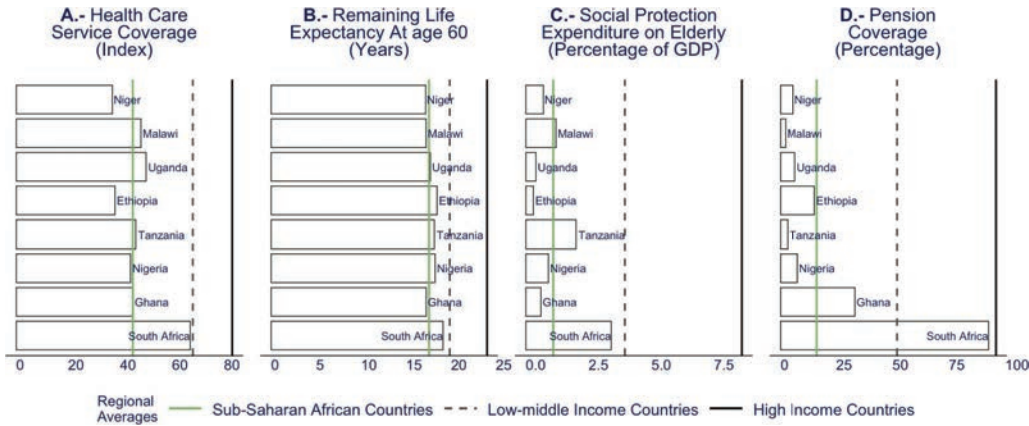


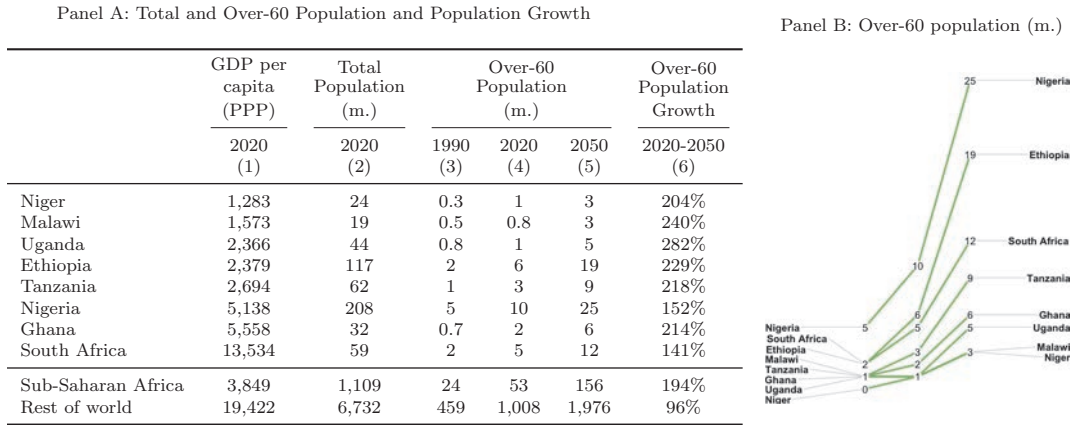
Figure 2: Key Metrics across Selected Sub-Saharan African Countries

Notes: (1) Vertical lines show average outcomes among high income (blue), low and middle income (red) and Sub-Saharan African countries (yellow), weighted by country population. Low & middle income country (population-weighted) averages exclude Sub-Saharan African countries. (2) Income groups are defined as per the World Bank, and regional classifications as per the United Nations Development Program. (3) Countries are listed in ascending order according to GDP per capita (PPP). (4) Panel A: Universal health care service coverage index measures access to essential health care services (Sustainable Development Goal 3.8.1). Ranging from 0 to 100, the index combines measures of health care access in four healthcare areas: (i) reproductive, maternal, and newborn child health, (b) infectious diseases, (c) non-communicable diseases, and (d) service capacity and access. Data are from the World Health Organization. (5) Panel B: Remaining life expectancy at age 60 data are from the World Health Organization. (6) Panel C: Social protection expenditure on older persons excluding health care expenditure (as % of GDP) data are from the International Labor Organization World Social Protection Data Dashboard. (7) Panel D: Pension coverage data are from the International Labor Organization World Social Protection Data Dashboard. These data are available for 68% of HICs, 86% of LMICs, and 91% of countries in SSA. Regional and income-group averages based on author calculations differ somewhat from published findings (for example, [He et al. \(2020\)](#) and [ILO \(2018\)](#) state that old-age pension coverage averages 22.7% in SSA, while author calculations estimate this figure to be 16.4%), likely due to some combination of different population weighting, regional classifications, and coverage of data.

understaffed) and who already face financial and non-financial barriers to accessing health care. These include stigma for those with dementia associated with beliefs about witchcraft, a pervasive social phenomenon throughout Sub-Saharan Africa ([Gershman, 2022](#); [Le Rossignol et al., 2022](#)). As a result, many older individuals live for extended periods of time with undetected and untreated health conditions; women in particular tend to suffer worse health outcomes than men in old age. Further, health care systems may be unprepared for the region’s anticipated “double-burden” of disease, where non-communicable diseases become more prevalent as the population ages and urbanizes, even as communicable diseases — including widespread infectious tropical diseases — remain common ([Agyepong et al., 2017](#); [Ng et al., 2010](#); [BeLue et al., 2009](#)). Though many health care systems in the region have ample experience treating infectious diseases, they may be less well-equipped to detect and treat the non-communicable diseases which disproportionately impact older individuals, and so will represent a greater share of the burden of disease going forward ([Alli and Maharaj, 2013](#); [de Graft Aikins et al., 2010](#)).

Similarly, public support programs may be insufficient to meet older individuals’ financial and non-financial needs ([ILO, 2021](#)). Public expenditure on social protection for older persons in Sub-Saharan Africa averages around one percent of GDP, a small fraction of that

Figure 3: Demographic Patterns in Selected Sub-Saharan African Countries



Notes: GDP per capita (adjusting for purchasing power parity (PPP) and measured in international current international dollars) data are from the World Bank. Population data and growth calculations are based on the World Population Prospects, 2022, Medium Fertility Variant. Numbers in figure on the right represent the over-60 population (in millions). Online Appendix Table A1 presents the information in Panel A, including figures from 1990 and projections extending to 2100.

in other LMICs (four percent) and in HICs (eight percent) (Figure 2, Panel C). Additionally, less than a quarter of the population in Sub-Saharan Africa is covered by an old-age pension, compared to approximately half in other LMICs and near universal coverage in HICs (Panel D). In the absence of public social protection programs, family-based care systems have traditionally been responsible for providing financial and non-financial support for older individuals (Aboderin, 2012a; Alli and Maharaj, 2013). However, these family-based care systems could come under increasing strain due to widespread rural-urban migration, declining fertility, higher levels of female labor force participation, and (in some cases) a “missing” generation (Aboderin, 2012b; Alli and Maharaj, 2013; Schatz and Seeley, 2015) caused by factors such as migration or disease. Women in particular are substantially more likely to be unmarried and to live alone in old age, potentially putting them at greater risk for adverse health outcomes, financial insecurity, social isolation, and depression.

Looking ahead

Although health care systems and public support programs are currently unprepared to meet the needs of a rapidly growing older population, great opportunity exists for the design and implementation of effective policies and programs towards that end. As in other countries, old-age dependency ratios in Sub-Saharan Africa are expected to increase substantially by the end of the century, though they will remain relatively low for the foreseeable future (Figure 1, Panel F). Further, substantial growth in the working-age population will lead to *declining* overall dependency ratios contrary to what large, populous LMICs such as

India and China can expect (Figure 1, Panel E).⁶ As a result, while the experience of aging in countries such as India and China could otherwise serve as useful points of comparison, lessons from these countries may not readily apply. Instead, countries in Sub-Saharan Africa could benefit from a demographic dividend which – together with the potential for continued economic growth – may generate and free up additional resources to enable innovative policymaking for aging populations. Further, while India and China are perhaps further along in the process of demographic aging, public support programs such as old-age pensions and health insurance in these contexts may be inadequate and provide relatively low coverage (ILO, 2023b; WHO, 2023), so that old-age policies from these contexts may not serve as useful models. Similarly, insights from the large literature on the economics of aging in rich countries may not be relevant in the Sub-Saharan African context due to differences in income levels, institutional capacity, and health care infrastructure.

Taken together, aging in Sub-Saharan Africa may represent an especially dynamic area for economics research. Demographic aging in Sub-Saharan Africa may unfold quite differently than in HICs or other LMICs, and lessons from other countries may not be readily portable to this context. Instead, economists and other scholars will need to pursue an Africa-specific research agenda to generate context-relevant insights. We hope to advance the creation of this forward-looking research agenda in this article.

A key priority will be the development of data collection efforts to generate high-quality, longitudinal datasets that researchers can use to investigate aging-related topics in Sub-Saharan Africa. Similar to the Longitudinal Aging Study in India (LASI), the China Health and Retirement Longitudinal Study (CHARLS), or the Mexican Health and Aging Study (MHAS), data collection initiatives that are harmonized with the Health and Retirement Survey (HRS) will be especially valuable. While high-quality data focused on older populations in the region does exist and has contributed substantially to research on these topics (for example, The WHO Study on Global AGEing and Adult Health (SAGE),⁷ the SAGE-INDEPTH collaboration,⁸ and the Health and Aging in Africa: A Longitudinal Study of an

⁶The region’s average overall dependency ratio (for these purposes, the ratio of the population below age 15 or above age 60 to those 15-59) is projected to decline from 0.89 in 2020 to 0.67 in 2050 to 0.66 in 2100. In contrast, the average old-age dependency ratio (ratio of the population above age 60 to those 15-59) will increase from 0.09 (2020) to 0.12 (2050) to 0.31 (2100). (Note that using the more conventional age-group cutoff of 65, overall dependency ratios will decline from 0.83 (2020) to 0.60 (2050) to 0.53 (2100) and old-age dependency ratios will increase from 0.06 (2020) to 0.08 (2050) to 0.21 (2100)). See Online Appendix Figure A1.

⁷SAGE includes data from Ghana and South Africa, among many other non-Sub-Saharan African countries.

⁸SAGE-INDEPTH (International Network for the continuous Demographic Evaluation of Populations and Their Health in developing countries) includes data from Ghana, Kenya, Tanzania, and South Africa, among many other non-Sub-Saharan Africa countries.

INDEPTH Community in South Africa, or HAALSI), at the time of writing no Sub-Saharan Africa countries are currently represented in the set of International Family of Studies harmonized with the HRS.

Developing an agenda for economic research and policy

This paper combines lessons from a review of the existing evidence across disciplines together with insights from descriptive data analysis to develop an agenda for economic research to inform policy related to aging in Sub-Saharan Africa. In the evidence review, we consider research from Sub-Saharan African countries (drawing on insights from other countries and regions where useful) published in economics, demography, sociology, gerontology, public health, or related fields. We used the landscape of existing evidence to identify two broad domains: a) health and health care and b) financial and non-financial support – covering six priority areas of interest: i) disease, disability, and mortality; ii) health care systems and access; iii) Alzheimer’s disease and related dementias (AD/ADRD); iv) psychological health and well-being; v) employment, pensions, and financial security; and vi) living arrangements and caregiving.

Descriptive data analysis characterizing older individuals’ circumstances complements and builds on this review of the evidence. The analysis draws on data from 38 waves of household surveys across eight Sub-Saharan African countries, namely, Ghana, Nigeria, Niger, Ethiopia, Uganda, Tanzania, Malawi, and South Africa. These countries were chosen because they represent some of Sub-Saharan Africa’s most populous nations and largest economies, in combination provide diversity in terms of regional coverage and levels of development (see Figure 3A, columns (1) and (2)), and importantly each have available nationally-representative datasets that include comparable measures of outcomes of interest. The analysis illustrates trends over the life course and into old age for core life outcomes and highlights meaningful differences in these trends across genders and countries.

Economics research is increasingly exploring topics related to aging in LMICs, much of which has relevance for Sub-Saharan African countries. In recent work, for example, [Banerjee et al. \(2023a\)](#) document a largely under-researched “epidemic of poor mental health” among the elderly across LMICs, with a particular focus on India. Other work explores the impact of old-age policies in LMICs, including several from the Sub-Saharan African context. Evidence from old-age pension programs in Mexico, Peru, Paraguay, China, and India shows that such programs can lead to a range of positive impacts including increases

in consumption, improved subjective well-being, lower rates of depression, and in some contexts, improvements in health-seeking behaviors, self-reported health, and longevity (Galiani et al., 2016; Bando et al., 2020, 2022; Huang and Zhang, 2021; Kaushal, 2014).⁹ While some research explores the impact of pension programs in the Sub-Saharan African context on program recipients and non-recipients (for example, Alzua et al. (2019), Jock et al. (2023), Duflo (2003), Rossi and Godard (2022), and Jensen (2004), as discussed more below), much more research is needed. Further, the current paper complements existing work by exploring a broader range of relevant topics and issues together rather than focusing on one issue in greater depth. To the best of our knowledge, the current paper represents among the first comprehensive attempts to identify directions for economics research related to aging in Sub-Saharan Africa.

This paper proceeds as follows. Section 2 describes the data and methods for the descriptive data analysis. Section 3 discusses findings from literature and data analysis within the health and health care domain, and Section 4 within in the domain of financial and non-financial support. Section 5 synthesizes key findings to identify an agenda for research to inform policy, and the final section concludes.

2 Data

This paper derives insights from analysis using data from Ghana, Nigeria, Niger, Ethiopia, Uganda, Tanzania, Malawi, and South Africa. The goals of this descriptive analysis are three-fold: first, to examine trends in employment, health, living arrangements, and psychological well-being over the life course; second, to characterize the situation of older individuals in the region, highlighting any differences in these trends by gender or across countries; and third, to apply insights from this analysis to create an agenda for economic research to inform directions for policy. Throughout this process, we also take stock of existing datasets and outline priorities for future data collection.

To facilitate this analysis, we considered datasets derived from household surveys covering nationally-representative samples of individuals across all ages and that also include comparable measures of key outcomes of interest. These features allow for aggregation across countries and for comparison between countries. Within the datasets that meet these crite-

⁹Bando et al. (2022) find evidence of improvements in self-reported health among pension recipients in Paraguay and Huang and Zhang (2021) find improvements in health status and reductions in mortality, while Bando et al. (2020) find no impact on health care utilization or physical health outcomes among recipients in Peru. Kaushal (2014) finds increases in medical spending and education, but does not directly measure health or mental health outcomes.

ria, priority was given to those from countries which in combination represent a substantial portion of Sub-Saharan Africa’s older population, and that provide broad coverage across Sub-Saharan Africa’s diverse subregions and levels of economic development.

To that end, we compiled 38 waves of household surveys collected across the eight countries listed above. While this does not represent an exhaustive list of countries with nationally-representative household survey data containing potentially-relevant information at the individual level, this set of eight countries provides several advantages. Together, these eight countries provide broad geographic coverage across Sub-Saharan Africa’s subregions, and also include the region’s two most populous countries (Nigeria and Ethiopia) and largest economies (Nigeria and South Africa). Further these countries account for nearly 55% of the region’s total over-60 population, and are expected to account for substantial growth in the over-60 population in the coming decades (Figure 3).¹⁰ Datasets include the World Bank’s Living Standards Measurement Survey (LSMS) from Nigeria, Ethiopia, Uganda, and Tanzania, the Ghana Socioeconomic Panel Survey (GSPS) from Ghana, the Harmonized Survey on Households Living Standards (EHCVM)¹¹ (along with related precursors) from Niger, and the National Income Dynamics Survey (NIDS) from South Africa. Aggregating across survey waves provides a sample of over a million observations. Around 500,000 of these observations correspond to individuals who are at least age 20 and so are included in the analysis, with nearly 75,000 of these observations corresponding to those who are at least age 60. More details on each of these datasets can be found in the online appendix.

These datasets feature comparable health, employment, living arrangements, functional limitations, and psychological well-being measures for household members across age groups. In original analysis, this allows us to characterize trends in these outcomes over the life course and to explore how these trends differ by gender and across countries for the first time. To speak to the health and health care domain, measures include incidence of recent injury or illness, whether normal activities were impacted by recent injury or illness, prevalence of suffering from one of several functional limitations, and psychological well-being. Urban status, employment status and hours of employment, marital status, and living alone provide measures related to the financial and non-financial support domain. In some cases, relevant measures are available in a specific survey or wave but were collected in such a way as to not be comparable with other contexts; we note these cases and exclude the non-comparable

¹⁰While these datasets represent a diverse set of countries spanning Western, Eastern, and Southern Africa, there is a notable absence of countries from Central Africa.

¹¹In the original French, the *Enquête Harmonisée sur les Conditions de Vie des Ménages*.

measures.¹² In other instances, the relevant measures were not collected, leaving gaps in the analysis. For example, measures of depression and psychological distress are only available from Ghana and South Africa, despite this being an important component of overall well-being, and one where older individuals may be especially vulnerable (Banerjee et al., 2023a).¹³

For each of these measures, we present trends in these outcomes over the life course, using averages within 5-year age groups for those above age 20, and aggregating either across countries and genders, or within country, separately for males and females.¹⁴ The main results are presented in Figure 4 (aggregating across countries) and Figure 5 (at the country level). Figures 6 (aggregate) and Figure 7 (country level) depict trends over the life course in different dimensions of functional limitations which together comprise an overall measure. The country-level figures also disaggregate patterns by gender, helping to identify important differences. The data reflect some of the foundational patterns frequently discussed in the literature and throughout this article, for example, that older individuals tend to be concentrated in rural areas, and that the population of those over-60 tends to be disproportionately female.¹⁵ Other patterns and findings depicted in these figures are discussed throughout Sections 3 and 4.

¹²For example, measures of employment are available in the GSPS but exclude farm and agricultural employment; these sources of employment are included in the other datasets and represent an important source of employment for those over 60. Measures of illness and injury are available in South Africa, but these measures are collected in such a way as to not be comparable.

¹³Depression is collected in the fourth wave of the Nigerian LSMS, but only for the household head, a non-representative sample of the population. Though several surveys also collect self-reported life satisfaction, we do not include these in the analysis, instead focusing on measures of depression and psychological distress collected using standard scales.

¹⁴The analysis uses country- and wave-specific survey weights (which maintain representativeness at the national level in a particular year), further adjusted to account for year-specific country-level population within each 5-year age group. More details on the construction and distribution of these weights are available in the online appendix.

¹⁵In the eight-country sample, 35% of those between age 20 and 60 live in urban areas, while just over 30% of those over age 60 live in urban areas. Patterns related to gender vary more across countries; while the gender composition is relatively balanced in countries such as Ethiopia, Nigeria, and Niger, nearly 60% of those over 60 are female in Ghana and South Africa.

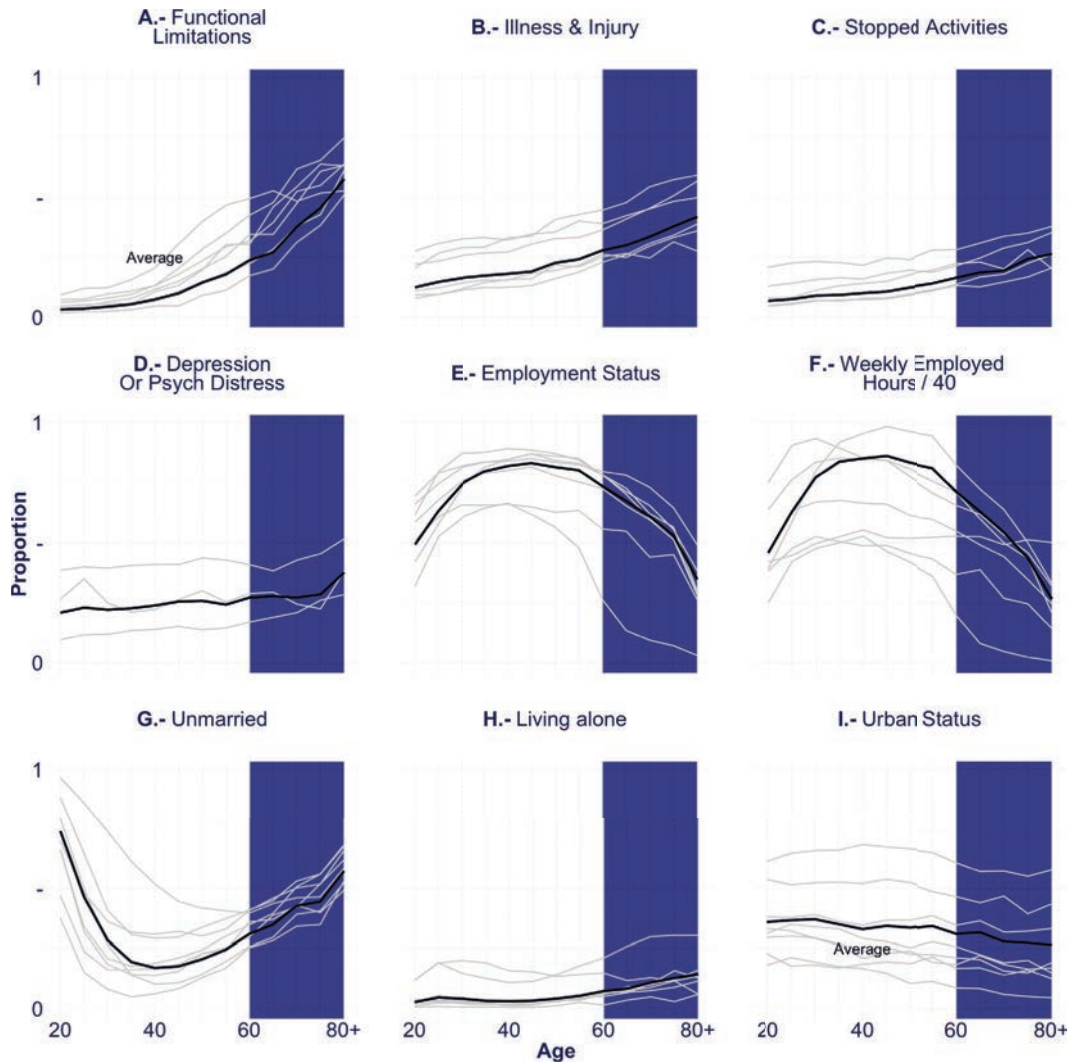


Figure 4: Employment, Health, & Living Arrangements over the Life Course: Aggregate

Notes: (1) Panels depict average values within 5-year age bins, pooling across countries and multiple waves of data. Averages are computed using country- and wave-specific survey weights, further adjusted for country- and year-specific population within each 5-year age group. (2) Panel A: Functional limitations includes whether the individual reports difficulty with any one of (A) seeing, (B) hearing, (C) remembering, (D) walking or climbing, (E) with self care, or with (F) communicating. (3) Panels B and C: Recall period for any illness and injury is 4 weeks for LSMS Nigeria, LSMS Ethiopia (waves 3 and 4), LSMS Uganda, and EHCVM Niger; 2 weeks for LSMS Malawi; 2 months for LSMS Ethiopia (wave 2). Only collected in certain waves in Nigeria LSMS. (4) Panel D: GSPS (Ghana) uses the Kessler Psychological Distress Scale (K10) to measure psychological distress (including symptoms of depression and anxiety). NIDS uses the Center for Epidemiologic Studies Depression Scale (CESD-10) scale to measure depression. (5) Panels E and F: Employment includes salaried/wage work, agriculture, casual labor, and self-employment. Recall period for work activities and hours worked is over last 7 days. As exceptions: NIDS South Africa asks whether currently employed (but then also collects hours worked over the past 7 days), the first wave of the precursor to EHCVM in Niger asks about employment over the last 30 days, and all waves of the EHCVM in Niger ask about work hours in a typical year. Employment hours are presented as share of a “full-time week”, constructed by dividing reported hours by 40. (6) See the online appendix for more details on which outcomes are available for each country and wave.

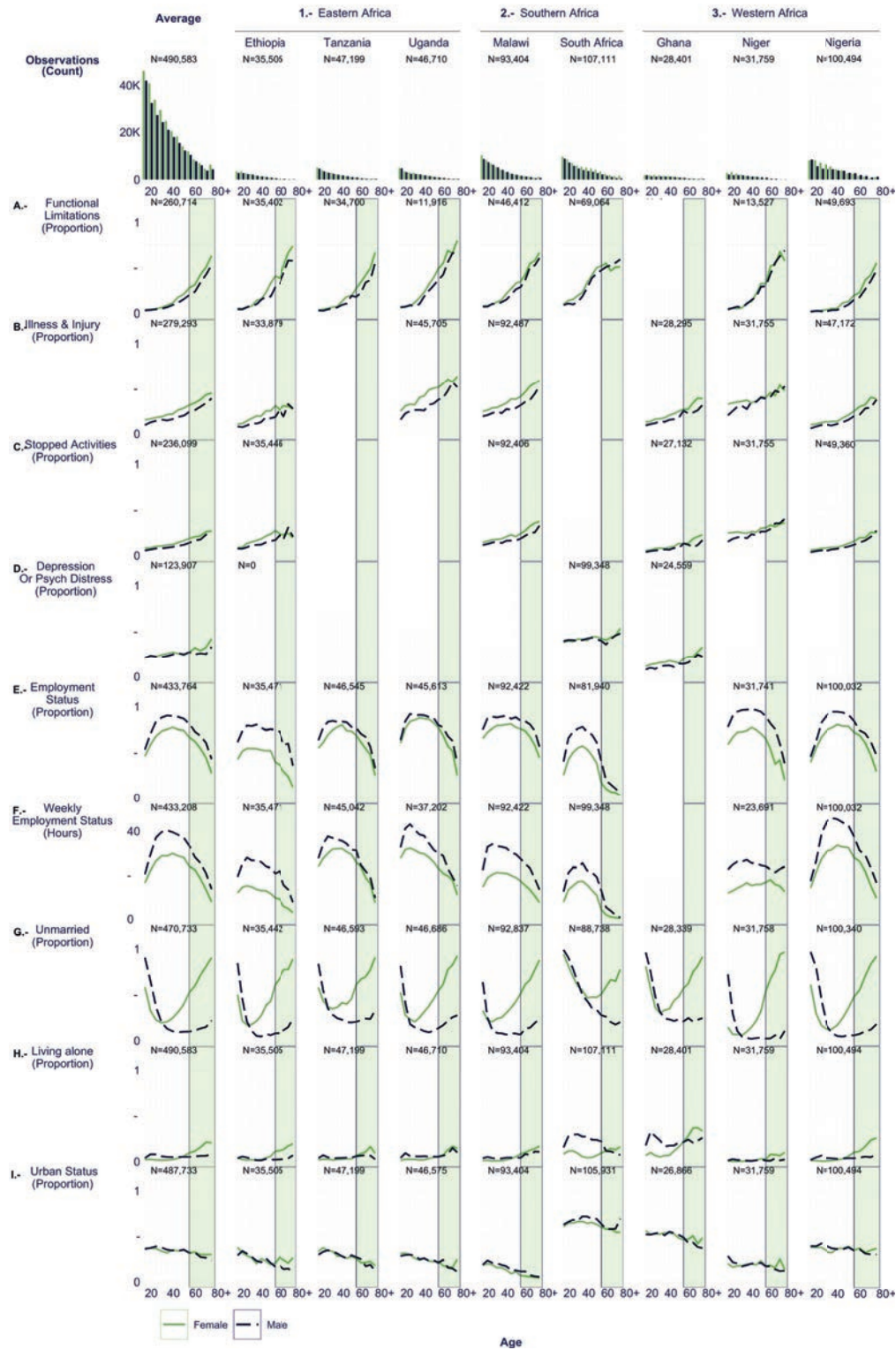


Figure 5: Employment, Health, & Living Arrangements over the Life Course: Country Level

Notes: (1) Panels depict average values within 5-year age bins, separately for males and females, and pooling across multiple waves of data. Averages are computed using country- and wave-specific survey weights, further adjusted for year-specific population within each 5-year age group. Number of non-missing observations listed at the top of each panel. Missing panels in countries where comparable data is not available. (2) Panel A: Functional limitations includes whether the individual reports difficulty with any one of (A) seeing, (B) hearing, (D) remembering, (E) walking or climbing, (F) with self care, or with (G) communicating. (3) Panels B and C: Recall period for any illness and injury is 4 weeks for LSMS Nigeria, LSMS Ethiopia (waves 3 and 4), LSMS Uganda, and EHCVM Niger; 2 weeks for LSMS Malawi; 2 months for LSMS Ethiopia (wave 2). Only collected in certain waves in Nigeria LSMS. (4) Panel D: GSPS (Ghana) uses the Kessler Psychological Distress Scale (K10) to measure psychological distress (including symptoms of depression and anxiety). NIDS uses the Center for Epidemiologic Studies Depression Scale (CESD-10) scale to measure depression. (4) Panels E and F: Employment includes salaried/wage work, agriculture, casual labor, and self-employment. Recall period for work activities and hours worked is over last 7 days. As exceptions: NIDS South Africa asks whether currently employed (but then also collects hours worked over the past 7 days), the first wave of the precursor to EHCVM in Niger asks about employment over the last 30 days, and all waves of the EHCVM in Niger ask about work hours in a typical year. (6) See the online appendix for more details on which outcomes are available for each country and wave.

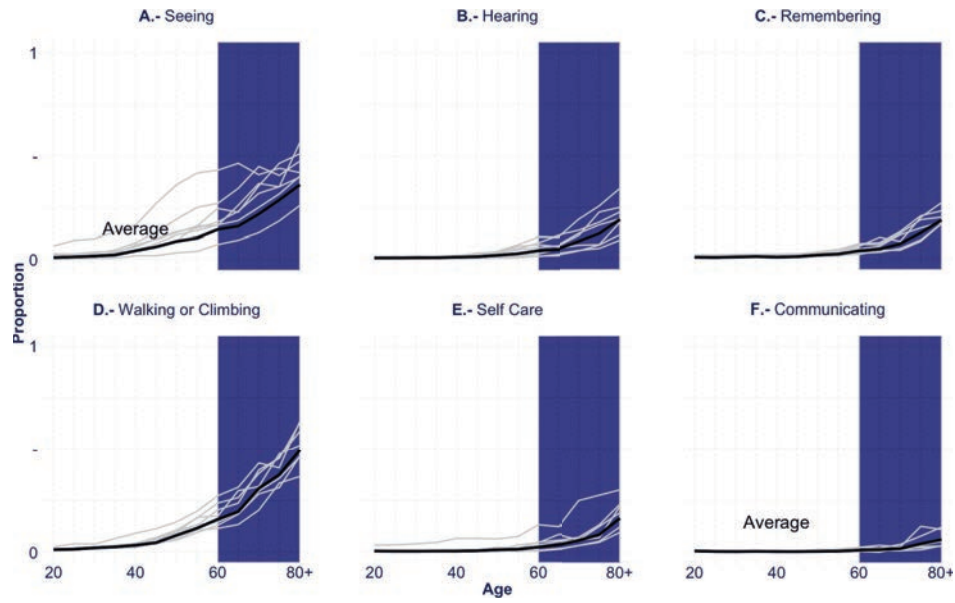


Figure 6: Functional Limitations over the Life Course

Notes: Panels depict average values within 5-year age bins, pooling across countries and multiple waves of data. Averages are computed using country- and wave-specific survey weights, further adjusted for country- and year-specific population within each 5-year age group. Panels display whether individuals report difficulty with (A) seeing, (B) hearing, (C) remembering, (D) walking or climbing, (E) self care, or (F) communicating. Relevant data are available for select waves of the LSMS (Nigeria, Tanzania, Uganda, Malawi, Ethiopia), the EHCVM (Niger), and the NIDS (South Africa). See the online appendix for more details on which outcomes are available for each country and wave.

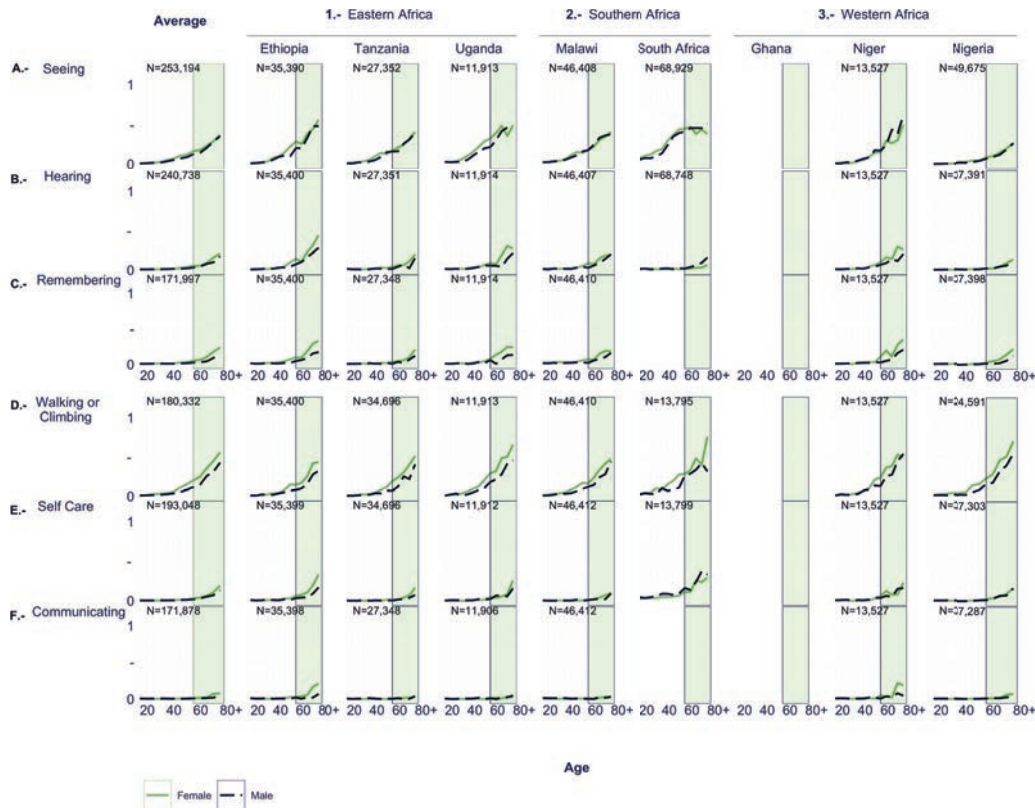


Figure 7: Functional Limitations over the Life Course: Country-Level

Notes: Panels depict average values within 5-year age bins, separately for males and females, and pooling across multiple waves of data. Averages are computed using country- and wave-specific survey weights, further adjusted for year-specific population within each 5-year age group. Number of non-missing observations listed at the top of each panel. Panels display whether individuals report difficulty with (A) seeing, (B) hearing, (C) remembering, (D) walking or climbing, (E) self care, or (F) communicating. See the online appendix for more details.

3 Health and health care

Priority area I: Disease, disability, and mortality

Sub-Saharan Africa has seen steady progress in recent decades in terms of health gains and extended life spans. Between 2000 and 2019, overall life expectancy increased by 12 years, and healthy life expectancy increased by 10 years across the region.¹⁶ Some of these gains are the result of massive expansion of treatment for HIV/AIDS in the early 2000's, which has partially contained that pandemic (Agyepong et al., 2017; Piot et al., 2015). Nevertheless, life expectancy remains consistently lower, and age-specific mortality from chronic diseases remains consistently higher than in other regions (He et al., 2020; Owolabi et al., 2015; de Graft Aikins et al., 2010; Cappuccio and Miller, 2016; Moran et al., 2013; Yuyun et al., 2020).

¹⁶Data from the World Health Organization Global Health Observatory Indicators.

Also unlike other regions, older Sub-Saharan Africans continue to face relatively high rates of disability and mortality from communicable diseases. While deaths due to cardiovascular diseases dominate in high-income countries, respiratory infections, tuberculosis, enteric infections, and other infectious diseases account for over half of deaths between ages 70-90 (BMJ, 2022). In terms of disability, 25% of disability-adjusted life years (DALYs) among the over-60 population in Sub-Saharan Africa can be attributed to communicable, nutritional, and birth-related diseases, a figure that is just 8% in other regions (He et al., 2020).

Nevertheless, patterns are shifting over time towards a greater burden of non-communicable diseases such as hypertension, diabetes, and cancer (Yuyun et al., 2020; He et al., 2020; Casim and Aboderin, 2017; Owolabi et al., 2015). Between 1990 and 2019, the proportion of deaths between 70-90 in SSA due to enteric infections, respiratory infections, tuberculosis, nutritional deficiencies, and chronic respiratory diseases declined while deaths due to neoplasms, cardiovascular disease, neurological disorders, or diabetes and kidney disease increased (BMJ, 2022). Diabetes represents the third leading cause of years lived with disability (YLDs) among those above 70 in SSA (BMJ, 2022), and the number of adults living with diabetes is expected to nearly double between 2010 and 2030 (Mbanya et al., 2010). Similarly, new cases of cancer are expected to triple by 2050, with older individuals accounting for a substantial share of these new cases (Pilleron et al., 2019). The shift towards an increasing burden of non-communicable diseases is expected to continue as the continent urbanizes, lifestyles and diets change, and individuals are exposed to new environmental stressors (BeLue et al., 2009).

Many older Sub-Saharan Africans suffer from multiple chronic conditions that impact quality of life and physical functioning (Aboderin, 2010; Payne et al., 2017), and that may predispose them to cardiovascular disease or Alzheimer’s disease and related dementias (AD/ADRD). For example, blindness and vision loss, hearing loss, and lower back pain represent the most common causes of disability among older Sub-Saharan Africans. Combined, these sensory and musculoskeletal conditions account for 27% of years lived with disability (YLDs) among those over 70 (BMJ, 2022).¹⁷

Analysis using household data from the eight-country sample as presented in Figure 6 (aggregating across countries, weighting by year-specific country population in 5-year age groups) and Figure 7 (at the country level) distills these patterns. Across these eight coun-

¹⁷Specifically, blindness and vision loss: 9.8%, hearing loss: 9.5%, and lower back pain: 7.7%.

tries, roughly 22% of individuals over age 60 report suffering from difficulty seeing or hearing (Panels A and B). Nearly a quarter report experiencing difficulty walking or climbing up stairs (Panel D). Overall, between a quarter (Nigeria) and over half (Uganda) of those above age 60 report living with one of six possible functional limitations.¹⁸ Further, Figures 6 and 7 (unsurprisingly) make clear that each of these functional limitations becomes more likely as individuals age.

Acute conditions also adversely impact normal functioning and activities among older individuals. The data in Figure 4 (aggregate) and Figure 5 (at the country level) indicate that the fraction of older individuals reporting a recent¹⁹ illness or injury increases steadily for those over 60. 31% of those above age 60 report experiencing an illness or injury in the recent past, conditions which require stopping work or other usual activities in over half of such cases (Panels B and C).

Considerable variation exists in the incidence of disabilities across females and males, and in gender-based differences across countries. In Kenya, the age at which 25% of females are expected to report living with at least one severe activity limitation is age 67, while for males, this occurs at age 79. In Ethiopia, the corresponding ages are 72 (for females) and 80 (for males), and in Ghana, 76 (for females) and 73 (for males) (Weber and Scherbov, 2020). Differential mortality at younger ages, as well as reporting differences, could explain some of these gaps. Women and lower-income individuals tend to report suffering worse health outcomes in old age (Aboderin, 2010; Biritwum et al., 2013; Fonta et al., 2017; Gureje et al., 2006, 2011; He et al., 2020; Ojagbemi et al., 2017), patterns which policymakers may wish to consider in their design of old-age policies and programs.

Priority area II: Health care systems and access

Despite recent progress in health care service coverage (WHO, 2022), health care systems in many Sub-Saharan African countries appear unprepared to meet the needs of a rapidly growing older population living with non-communicable and chronic diseases. Several key indicators presented in Figure 8 characterize health care spending and infrastructure in Sub-Saharan African countries in comparison with other LMICs and HICs. Government expenditure on health (as a share of GDP) remains lower across Sub-Saharan African coun-

¹⁸These include reported difficulty hearing, seeing, remembering, walking or climbing, with self-care, or communicating.

¹⁹In Nigeria, Uganda, and Ethiopia, the recall period includes the last 4 weeks/30 days. (As an exception, the recall period includes the last 2 months for the first of three waves in Ethiopia.) In Malawi, the recall period includes the last 2 weeks.

tries compared to other LMICs (with middle-income South Africa a notable exception), and far lower than that in high income countries (Panel A). Consequently, out of pocket expenditures are higher in SSA and other LMICs compared to HICs (Panel B).²⁰ The Lancet Commission on the future of health in Sub-Saharan Africa points to reducing out of pocket expenditure as a key regional priority (Agyepong et al., 2017), and while universal health care is gaining increased attention, additional research is required to inform what might be the most effective models for implementing these programs.

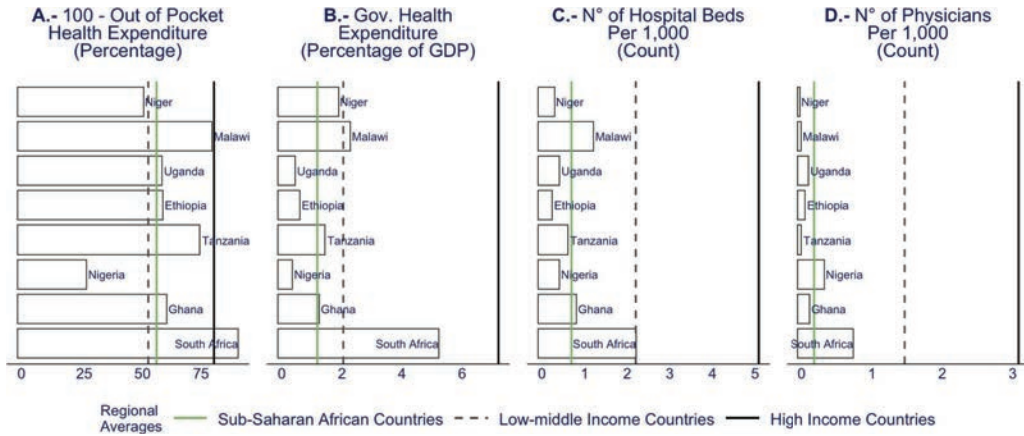


Figure 8: Health Care Systems and Access

Notes: (1) Vertical lines show average outcomes among high income (blue), low and middle income (red) and Sub-Saharan African countries (yellow), weighted by country population. Low & middle income country (population-weighted) averages exclude Sub-Saharan African countries. (2) Income groups are defined as per the World Bank, and regional classifications as per the United Nations Development Program. (3) Countries are ordered in ascending order considering their GDP per capita (USD). (4) Panel A: Out of pocket health expenditures represents the share of total health care expenditures that households pay directly out of pocket. The figure presents 100 - Out of pocket expenditure, such that higher values signal that households finance a lower share of their total health care expenditures out of pocket. Data are from the World Bank Health Organization Global Health Expenditure database. (5) Panel B: Government health expenditure is as a percent of GDP. Data are from the World Bank Health Organization Global Health Expenditure database. (6) Panel C: Number of hospital beds data are from the World Health Organization, supplemented by country data. (7) Panel D: Number of physicians data are from the World Health Organization's Global Health Workforce Statistics, the Organization for Economic Cooperation and Development, supplemented by country data.

Further, existing health care infrastructure remains weaker, and trained medical personnel less abundant in SSA compared to other LMICs and HICs (Panels C and D of Figure 8), with severe disparities in quality common across urban and rural areas (Scheil-Adlung, 2015). Health care facilities may be less well-equipped and health care staff may lack the training necessary to treat the non-communicable diseases which will be increasingly relevant for an aging population. Indeed, around 80% of regional health budgets are dedicated to treating infectious diseases, rather than the non-communicable conditions that disproportionately impact older individuals (Alli and Maharaj, 2013; de Graft Aikins et al., 2010). Similarly, appropriate medications are much less available for non-communicable, chronic conditions

²⁰For example, households in Nigeria finance as much as 70% of their health care expenses out of pocket. WHO (2022) highlights Nigeria as one of only a handful of countries in the region that attains relatively low health care coverage and financial risk protection metrics compared to other middle income countries.

than for infectious diseases and acute conditions throughout the region (Agyepong et al., 2017), and many of the conditions that impact older individuals (such as hypertension) in Sub-Saharan Africa frequently go undetected and untreated (Addo et al., 2007; Cappuccio and Miller, 2016; de Graft Aikins et al., 2010; Joubert and Bradshaw, 2006; Owolabi et al., 2015).

Physical and financial barriers to health care access may especially impact older individuals (Aboderin, 2010, 2012a). These older individuals may have a harder time traveling to health care centers, and these health care centers may be more remote or of lower quality in rural areas (Scheil-Adlung, 2015) where older individuals tend to be over-represented (Alli and Maharaj, 2013). Indeed, evidence from Nigeria, Kenya, and Uganda indicates that older individuals are more likely to report that they lack access to health care facilities, are less likely to seek health care than other age groups, and are more likely to delay seeking health care due to household resource constraints (Gureje et al., 2006; Wairiuko et al., 2017; Xu et al., 2006; Waweru et al., 2003). In addition to these barriers to healthcare, social norms and stigma (for example, beliefs attributing certain conditions to witchcraft) could discourage older individuals from seeking conventional treatment, and to instead rely on traditional treatment approaches and herbal remedies which remain widely used in Sub-Saharan Africa (Alli and Maharaj, 2013; WHO, 2019).

Health insurance coverage in Sub-Saharan Africa generally remains low, including for older individuals. In their analysis of Demographic and Health Surveys across 36 countries, Barasa et al. (2021) find that on average only 8% of the region's population benefits from health insurance coverage, with at least 20% of the population covered in only four countries. Ghana and Senegal represent notable exceptions (Parmar et al., 2014). Given the introduction of Ghana's National Health Insurance Scheme in 2003 (with premiums waived for those over age 70), health insurance coverage in Ghana has risen substantially in recent decades. Within the GSPS sample, those over 60 who report ever having access to health insurance rose from 64% to 86% between 2009-10 and 2017-2018. Similarly, 48% of older individuals in Senegal are enrolled in Senegal's Plan Sesame, a social health protection program designed to extend free health care to older individuals (Parmar et al., 2014). These two country cases could potentially serve as valuable learning test beds and policy models for other countries in the region, and it will be important to conduct detailed empirical research on their implementation and impacts.

Further, enrollment and usage of health insurance and social health protection programs

correlates with socioeconomic advantage, suggesting that policymakers may want to take steps to extend coverage to those less economically advantaged individuals who may also be more in need (Parmar et al., 2014; Ibitoye et al., 2014). Indeed, evidence from Ghana shows that enrollment in Ghana’s National Health Insurance Scheme (among non-older individuals for whom premiums apply) is highly price sensitive, with evidence that those from more socioeconomically disadvantaged groups respond more to an offer for subsidized premiums (Asuming, 2013). As discussed in Banerjee et al. (2023b), credit constraints, risk, lack of information, and lack of trust represent potential barriers to health insurance enrollment and usage among the general population, factors which may similarly impact health insurance enrollment and usage among older individuals. Additional research is needed to inform policy related to improving health care systems themselves, and to address the financial and non-financial barriers that prevent older individuals from seeking and receiving adequate health care.

Priority area III: Alzheimer’s disease and related dementias

The prevalence of Alzheimer’s disease and related dementias (AD/ADRD) is expected to increase substantially in Sub-Saharan Africa in the coming decades as the population ages. Alzheimer’s Disease International estimates the prevalence of AD/ADRD in SSA among those over 60 at 6.4%, and projects that the number of individuals living with AD/ADRD will increase from 2.1 to 7.6 million between 2015 and 2050 (Guerchet et al., 2017). However, data estimating the prevalence of AD/ADRD in Sub-Saharan Africa remains quite sparse, with wide variation in country-level prevalence estimates.²¹ Additional high-quality individual-level data are needed to contribute to and refine prevalence estimates as a critical starting point for research exploring risk factors and protective factors, and for developing effective policy measures accordingly.

The influential Lancet Commission on dementia prevention, intervention, and care identified twelve distinct potentially-modifiable risk factors associated with AD/ADRD based on research from other contexts (Livingston et al., 2020). A group of studies explores some of these protective and/or risk factors in the Sub-Saharan African context, but this set of studies is limited and much more research is needed to complete our understanding of AD/ADRD in the region. As in other contexts, these studies find that social isolation, lack of social networks, and lack of social engagement each correlate with (i.e., represent “risk

²¹For instance, in reviews, Akinyemi et al. (2022) and Olayinka et al. (2014) cite studies estimating prevalence ranging from less than 2 or 3% to as high as 20 or 22% of the older population.

factors” for) AD/ADRD (Gureje et al., 2011; Ojagbemi et al., 2017; Toure et al., 2012), while occupational complexity and pre-dementia cognition are inversely related to the risk of developing AD/ADRD (Ojagbemi et al., 2016). A limited set of studies explores the link between certain modifiable lifestyle factors including diet, physical activity, and consumption of alcohol and tobacco with AD/ADRD (Akinyemi et al., 2022), with far more research also needed in this area.

Existing studies highlight that AD/ADRD places a substantial burden on caregivers. Caregivers of older individuals with impaired memory report a greater burden associated with such care, and reduce their work hours more to provide care compared to caregivers of older individuals with other health conditions (Uwakwe et al., 2009). Caregivers and persons living with AD/ADRD often face social stigma (Akinyemi et al., 2022; Guerchet et al., 2017), which can lead to further isolation or even exclusion from health care and other forms of support (Jacobs et al., 2022). While this is well-documented in other contexts (Werner, 2014), AD/ADRD stigma may be exacerbated in certain Sub-Saharan African contexts due to lack of awareness about the disease or to misinterpreting symptoms of the disease as evidence of witchcraft or demonic possession (Adebisi and Salawu, 2023; Spittel et al., 2021; Mushi et al., 2014). In addition to isolation or exclusion from health care and other services, witchcraft and related beliefs could put older individuals at a greater risk of becoming victims of abuse or violence (Miguel, 2005; Aboderin and Epping-Jordan, 2017).

While this small body of work makes valuable progress, much more research is needed to better understand risk and protective factors associated with AD/ADRD in the Sub-Saharan African context. For example, we lack data characterizing exposure to many of these risk factors over the life course, and so lack an understanding of which risk factors may be most meaningful or relevant in the Sub-Saharan African context. Further, much of the evidence comes from one country (Nigeria), so research from other countries on this diverse continent will be especially valuable (Olayinka et al., 2014; Lekoubou et al., 2014).

Further, very little research from the region speaks to policy solutions that might effectively support those living with AD/ADRD and their caregivers. Few specialists are equipped to diagnose and provide care tend for those living with AD/ADRD, many of whom tend to be concentrated in urban areas (Guerchet et al., 2017). The current burden of care rests primarily on family caregivers, while an integrated approach to care shared among (non-specialist) primary care physicians, community health workers, and family members may prove to be more effective and more sustainable (Guerchet et al., 2017). Finally, as

with the other health conditions discussed above, dementia tends to be higher among rural residents, women, and the poor (Gureje et al., 2011) (although the exact reasons why are debated), so again, policymakers may want to design and implement these policies to address these vulnerable populations’ specific needs.

Priority area IV: Psychological well-being

Psychological well-being and depression among older populations represent a core priority area for research and policy. Banerjee et al. (2023a) document higher rates of depression among older individuals in low and middle income countries compared to wealthier countries like the USA, and shows that the prevalence of depression increases notably as older individuals age. This is especially true in Sub-Saharan Africa, where older individuals report lower levels of life satisfaction than other world regions (He et al., 2020), perhaps due to experiencing the world’s lowest living standards, and where depression is the third leading cause of years lived with disability among those over 70 (BMJ, 2022).²² Findings from our data analysis illustrate these patterns. In Ghana, while only 13% of those between 20 and 60 exhibit symptoms that would classify them as experiencing moderate or severe psychological distress, 20% of those above age 60, and 28% of those above age 80 exhibit symptoms indicative of moderate or severe psychological distress. In South Africa, 40% of those between 20 and 60, 42% of those above 60, and well over half of those above 80 appear depressed (Figure 4, Panel D).²³

Mental health represents one area of overall health care provision that is particularly under-resourced in this region. Government expenditure per capita on mental health in Africa is an order of magnitude lower, and the presence of mental health workers is dramatically sparser compared to other world regions (aside from South East Asia) (WHO, 2021).²⁴ Innovative solutions such as task-shifting (from medical professionals to community members, caregiver training, etc.) could help bolster capacity to detect, treat, and manage mental health issues, though steps may need to be taken to combat misperceptions and stigma around mental health disorders and treatments (Kakuma et al., 2011; Galvin and Byansi, 2020).

²²Depressive disorders account for 5.8% of years lived with disability (YLDs) among those over 70 in the region (BMJ, 2022).

²³In the GSPS (Ghana), psychological distress (including symptoms of depression and anxiety) is measured using the 10-item Kessler Psychological Distress Scale, while in the NIDS (South Africa), depression is measured using the 10-item Center for Epidemiological Studies Depression (CESD).

²⁴Government expenditure per capita on mental health in Africa (including North Africa) was less than \$0.50 in 2020, compared to over \$50 in high income countries. African countries average 1.6 mental health workers per 100,000 population, compared to a global average of 13 and HIC average of 62 (WHO, 2021).

Available evidence helps to shed light on correlates of depression and other adverse mental health outcomes in the region. In Nigeria, depression is higher among women, urban residents, and those widowed, separated, or divorced (Gureje et al., 2007). Similarly, females, rural residents, those of lower socioeconomic status, the less educated, and the unemployed report lower life satisfaction (Biritwum et al., 2013; Debpuur et al., 2010; Xavier Gómez-Olivé et al., 2010). A lifetime of unskilled employment correlates with depression among older men, while infrequent family contact correlates with depression among older women (Ojagbemi et al., 2018). Remaining married, maintaining contact with family members, and receiving financial support are all associated with higher well-being (Aviisah et al., 2022; Kyobutungi et al., 2010; Mwanyangala et al., 2010), although further research is needed to establish the leading causal pathways given obvious forms of endogeneity for all of these documented correlations. Finally, chronic non-communicable diseases correlate strongly with depression and self-reported quality of life, pointing towards the detrimental impact of co-morbidities, and suggesting that policymakers may wish to prioritize mental health along with physical health (Wang et al., 2019).

Research from the region also highlights the important role of social support on health and well-being among older individuals. Social capital, support networks, and living in multi-generational households are all associated with improved health and well-being in later life, and those with more frequent contact with family members exhibit lower rates of depression and greater life satisfaction (Aviisah et al., 2022). For older women, living with children (not just grandchildren for whom they may provide care) is associated with better mental and physical health (Kendall and Anglewicz, 2018). Social networks tend to decline with age everywhere, and women (who are far more likely to outlive their spouses but not remarry) may be especially vulnerable to the detrimental impacts of social isolation in old age (Harling et al., 2020).

These findings suggest that policymakers may wish to prioritize policies designed to facilitate connection and social support into old age, which is likely to be a challenge given rapid economic and social change in many African societies which may threaten sources of social connection such as traditional family-based care systems.

4 Financial and non-financial support

Priority area V: Employment, pensions, and financial security

An especially critical area for economics research to inform policy relates to employment, pensions, and financial security. Nearly 90% of employment in Sub-Saharan Africa is in the informal sector (United Nations, 2022), a sector which provides individuals with few formal opportunities to save for retirement, and which may place individuals at greater risk for health conditions in old age. Furthermore, and in contrast to other regions, many older individuals in Sub-Saharan Africa remain employed (70% of those aged 60-64 and nearly 50% of those aged 65+), primarily in agriculture (He et al., 2020; Samuels et al., 2018). For some, continued employment into old age could indicate good health and longevity. For others, it could be necessary to work into old age for financial reasons, regardless of and potentially to the detriment of health, nutrition, and related outcomes.

Confirming this pattern, across the main eight-country sample, while employment peaks in middle age and declines in old age, a non-trivial fraction of those above 60 report working in some way (in wage or salaried employment, in their own or a household business, or in agricultural activities), and report working a non-trivial amount (Figure 4, Panels E and F). 64% of those above age 60 report working at all, and on average, work 24 hours per week. Similarly, a perhaps surprisingly high 45% of those above age 75 continue working, averaging 14.5 hours per week, rates that are far higher than those found in wealthy countries (ILO, 2023a). Employment patterns differ somewhat across countries in the sample, as highlighted in Figure 5 (Panels E and F). Again, South Africa is a notable exception, where employment and hours of employment decline sharply as individuals become eligible for old-age pensions, in a way that more closely resembles high income countries.

Particularly for those employed in the informal sector, a lifetime of exposure to risky working conditions, pollution, or harsh outdoor weather conditions may result in greater risk of adverse health conditions that individuals carry into old age. Further, a lifetime of working in informal employment (where wages are generally low, employment contracts rare, and few opportunities for old-age saving exist) leaves many individuals without savings and financially insecure in old age. Indeed, despite high rates of continued employment, older individuals tend to be particularly vulnerable to poverty and deprivation (Sabates-Wheeler et al., 2020; Kakwani and Subbarao, 2007) and over-represented in less-affluent rural areas

(Maharaj, 2012). The problem of elderly poverty was precisely what large-scale social pension systems were designed to solve in rich countries, including the U.S. (Engelhardt and Gruber, 2006; Meyer and Wu, 2018): before the expansion of Social Security, for instance, the elderly had the highest poverty rate of any age group, mirroring the current reality in much of Sub-Saharan Africa.

Even as many older individuals lack the financial resources to sustain themselves, few African countries offer adequate pensions and public support programs to fill the gaps. Less than a quarter of all older individuals in Sub-Saharan Africa receive some form of pension (He et al., 2020), and even when they do receive something, many of them prove to be inadequate (Darmstadt et al., 2005). As discussed earlier, governments dedicate very little to social protection expenditure on the elderly, allocating just over one percent of GDP on average, compared to four percent in non-Sub-Saharan African LMICs (Figure 2, Panel D).

Existing economics research suggests that old-age pensions provide both financial and non-financial benefits to recipients and non-recipients alike. Alzua et al. (2019) find improvements in mental health and food security among old-age pension recipients in Nigeria. Recipients of South Africa’s old age pension are more likely to seek health care (Lloyd-Sherlock and Agrawal, 2014), while men eligible for additional years of old age pension (due to exogenous changes in age-eligibility criteria) exhibit improved cognitive functioning (Jock et al., 2023). Also in South Africa, (female) children in households with a pension recipient exhibit improvements in anthropometric outcomes (Duflo, 2003), and children work fewer hours and school attendance improves in anticipation of a household member becoming eligible for old-age pensions (Edmonds, 2006). Further, evidence from Namibia suggests that the introduction of old-age pensions impacts fertility trends at a societal level (Rossi and Godard, 2022). These findings suggest that the benefits of pensions may extend beyond basic financial security for older individuals, and so may be a potentially effective anti-poverty tool for supporting aging individuals and their families, providing a further rationale for expanding such programs.

Designing effective old-age pension programs, programs targeted at encouraging retirement savings, and related social support programs represents a core priority area for policy innovation. In our view, further research to inform the design of such policies will be critical. This is particularly true in contexts where lack of access to technology or low literacy could pose challenges to effective implementation, where determining and enforcing eligibility is in itself difficult (Guven and Leite, 2016), or where such programs could to some extent simply

crowd out private transfers, lessening the intended impacts of the program (Jensen, 2004). Further, lack of trust in institutions could impact willingness to save for retirement, and those employed in the informal sector may have limited access to formal savings technologies.

Priority area VI: Living arrangements and caregiving

In the absence of robust public support systems, many older individuals in Sub-Saharan Africa rely on family and other informal sources for financial and non-financial support (Aboderin and Epping-Jordan, 2017; Menken and Cohen, 2006). While family-based caregiving is essential in the absence of other alternatives, caregiving responsibilities may place an unsustainable financial and non-financial burden on some families (Aboderin, 2017; Aboderin and Epping-Jordan, 2017), and these arrangements may not always provide adequate care (Aboderin and Epping-Jordan, 2017; Aboderin, 2019). For example, over two thirds of elderly in Nigeria receive care from children or children-in-law (disproportionately females), and nearly 40% of such caregivers report reducing their work hours to provide care (Uwakwe et al., 2009).

In addition to receiving support from others, older individuals often represent a valuable source of financial and non-financial support for younger family members. Many older individuals both provide and receive financial support from family, or care for young children and so enable younger adults to work and earn more (Aboderin, 2004; Sabates-Wheeler et al., 2020).²⁵ While often mutually beneficial or even necessary arrangements (for example, due to the impacts of HIV/AIDS on the young adult generation), caring for grandchildren may in turn represent a substantial financial and physical burden for older individuals (Aboderin, 2012a; Muga and Onyango-Ouma, 2009; Nyambedha et al., 2003; Zimmer, 2009), particularly for women and for those living in rural areas or highly impoverished urban settlements (Samuels et al., 2018; HelpAge International, 2003).

At the same time, growing rural-urban migration, industrialization, and shifting social norms (Aboderin, 2012a; Apt, 2000; Maharaj, 2012) as well as general material hardship, financial stress, and the burden associated with caregiving (Menken and Cohen, 2006; Nortey et al., 2017) are all increasingly threatening these traditional family-based care systems. The explosive projected rise in the sheer numbers of elderly in Sub-Saharan Africa will place further pressure on existing arrangements. This may be especially true as fertility

²⁵Multi-generation and skipped-generation households are common: 60% of those above 60 live in multigenerational households, and anywhere from 2.4% (in South Africa) to between 10% (Kenya, Uganda) and 12% (Ghana) live in households with at least one child and no working-age adults (Aboderin and Hoffman, 2015; He et al., 2020).

rates decline (so that the number of children who would naturally serve in caregiving roles falls) and as younger generations migrate to urban areas. Much more research is needed to understand how these rapid economic, demographic, and social changes will positively or negatively impact the availability and quality of care for an expanding aging population, and so inform the design of public policies and programs.

Finally, the likelihood of living alone and becoming or remaining unmarried increases sharply with age, a pattern that is especially pronounced among women in the eight-country sample. While only 12% of men above 60 are unmarried, 64% of women aged above 60 are unmarried, a figure that rises to over 90% for women above age 80 (Figure 4, Panel G). This striking disparity likely emerges due to the fact that women are more likely to outlive their spouses (particularly in contexts where polygamy is common), but less likely to remarry. Consequently, women are more than twice as likely to live alone compared to the corresponding figure for men: 13% of women above 60 (20% of those above 80), but only 6% of men above 60 (8% of those above 80) live alone (Panel H). These findings point to meaningful disparities in the experience of aging across genders for researchers and policymakers to consider, and may be important contributors to differential prevalence of depression and negative consequences associated with social isolation.

5 Synthesizing findings to identify priorities for research and policy

Insights from the existing literature and from the original analyses presented here point to several directions for research and priorities for policy. In practice, the priority areas discussed above and summarized here necessarily interact and relate closely, and considering these interrelated dimensions of aging jointly will be important for insightful research and effective policy design.

Somewhat unique to Sub-Saharan Africa is that rates of infectious disease are expected to remain high, even as the non-communicable disease burden is expected to increase with a rapidly growing older population. For example, a sharp increase in the prevalence of Alzheimer’s disease and related dementias is projected for the coming decades. However, estimates of prevalence across countries remain sparse, and we lack insight into protective and risk factors at the individual and environmental levels. Further, factors such as lack of awareness, stigma, or the challenges associated with caregiving may all complicate manage-

ment of Alzheimer’s disease and related dementias. In light of these anticipated changes, policymakers make wish to update health care systems by adapting new screening measures and treatment protocols, retooling facilities and supply chains, and training medical professionals to diagnose, manage, and treat the non-communicable diseases and other health conditions which will become increasingly relevant as the older population grows.

Further, formal social support programs designed to support older individuals remain uncommon across the region, leaving older individuals to rely on family-based care systems for financial and non-financial support. These family-based care systems may be inadequate (for example, family members may not have the requisite training and expertise to effectively manage older family members’ health conditions) and may place unsustainable demands on family members (for example, family members may have to curtail employment). Further, urbanization, migration, falling fertility, and shifting social norms may all threaten and further strain these traditional family-based care systems. On the other hand, the social connections sustained via informal caregiving may help to combat isolation, depression, and loneliness, and so familial and community support may be essential for maintaining psychological well-being in old age. Given this, governments may seek to develop and expand public support systems such as pensions, health insurance programs, and long-term care solutions that do not rely solely on direct family caregiving, but still facilitate or incorporate familial and community involvement.

Cutting across the priority areas discussed above are socioeconomic and gender-based inequalities, which play an important role in shaping circumstances among older individuals in Sub-Saharan Africa. Older individuals in the region tend to be disproportionately exposed to poverty and deprivation (He et al., 2020; Kakwani and Subbarao, 2007), and lower-income or lower-education older individuals exhibit higher all-cause mortality (Ojagbemi et al., 2017), greater incidence of disability (He et al., 2018), lower self-reported health (Fonta et al., 2017), and lower quality of life (He et al., 2018; Debpuur et al., 2010; Xavier Gómez-Olivé et al., 2010; Biritwum et al., 2013). Older women and unmarried individuals experience greater incidence of disability and functional limitations, report lower self-reported health and quality of life, and are more likely to suffer from depression (Aboderin, 2010; He et al., 2018; Biritwum et al., 2013; Kyobutungi et al., 2010; Mwanyangala et al., 2010; Gureje et al., 2007; Alli and Maharaj, 2013). As with other relationships noted above, the nature of the causal links underlying these correlations remains unclear. Nevertheless, policy-makers may want to design implement aging-related policies with a mind towards addressing the needs

of the most vulnerable among the older population.

Research collaborations have recently started to turn their attention to the challenges and opportunities facing older individuals in Sub-Saharan Africa, and we anticipate these collaborations will grow and become even more valuable in the coming decades. The most effective research collaborations will likely draw on scholarly input across fields (i.e., in economics, demography, sociology, gerontology, public health, and others) and in partnerships across researchers affiliated with African and non-African institutions.

An essential priority for the research community will be to expand data collection efforts and improve measurement of outcomes relevant for aging populations. The research community should pursue harmonization with other international aging-focused data collection efforts such as the HRS International Family of Studies to facilitate global comparisons, while at the same time developing context-appropriate measures to characterize health care access, health outcomes, and financial security in old age. This includes adapting screening tools, survey modules, and other instruments to be contextually and culturally appropriate, and to accommodate low-literacy contexts which are common in Sub-Saharan Africa.²⁶ Since mobility, independence, and functional abilities may look different in the Sub-Saharan African context compared to high-income country contexts, researchers may need to develop context-specific measures of Instrumental Activities of Daily Living, Activities of Daily Living (IADL, ADLs) and similar measures. Economists in particular can contribute to developing measures of financial security that take into account context-relevant methods of saving and diversifying risk in old age. Finally, researchers should aim to expand geographic coverage across this massive region to capture its notable cultural, economic, and social diversity.

Especially important will be the development of longitudinal studies to explore how factors such as employment, migration, or environmental exposures throughout the life course influence outcomes in old age. More generally, a key priority will be research exploring how increases in education, human capital, and overall living standards in the region – for example through expanded access to education ([Wantchekon et al., 2015](#); [Lucas and Mbiti, 2012](#); [Keats, 2018](#)), health interventions such as childhood deworming ([Miguel and Kremer, 2004](#)), or other interventions that boost living standards, such as cash transfers ([Bastagli et al., 2019](#)) – will impact outcomes in old age.

Research that tests and evaluates the efficacy of existing policies and programs for older individuals, other household members, and the broader community will be essential to inform

²⁶For example, [Olayinka et al. \(2014\)](#) highlight the need for culturally-appropriate tools to screen for dementia in low-literacy areas.

a context-relevant policy agenda for an aging Africa. Economists and other scholars can take advantage of the various policies implemented across individual countries to assess impact in one context and develop insights that policymakers can apply elsewhere in the region. For example, substantial opportunity exists to explore the impact of successful policies extending financial support to older individuals (for example, South Africa’s old age pension program) or improving access to health care (for example, Ghana’s National Health Insurance Scheme or Senegal’s Plan Sesame) then to apply those lessons to inform policymaking in other contexts. This process – developing and building out an Africa-specific research and policy agenda – will require close dialogue and collaboration between researchers and policymakers.

6 Conclusion

Rapid growth in the older population in Sub-Saharan Africa poses unique challenges and opportunities for the region. Fertility decline and shifting social structures associated with urbanization and development may threaten informal care systems on which older individuals predominantly rely at present. Hardships driven by climate change, population displacement, youth unemployment, political instability, and even armed conflict may further complicate conditions for older individuals in Sub-Saharan Africa in ways yet unforeseen.

On the other hand, continued positive economic growth and substantial growth in the working-age population will reduce the dependency ratio for most African countries. These population dynamics may provide distinct advantages, by increasing the resources available to households, providing additional funding for public programs, or otherwise alleviating some of the challenges facing older populations. In contrast to other regions with contracting working-age populations – such as will be the experience in Europe and East Asia, for example – the coming decades could be one where Sub-Saharan Africa reaps the benefits of a demographic dividend.

All these factors will present new directions for aging-focused research in Sub-Saharan Africa in the coming decades. Insights from research involving rigorous and innovative data collection strategies, country-level and longitudinal studies, and partnerships between policymakers, non-governmental organizations, and researchers will be essential to help better understand the needs of a rapidly aging population and to inform the design of effective policies and programs accordingly. At present, the evidence base is lacking and expanding it is a major scholarly and public policy priority in our view, especially given Sub-Saharan

Africa's increasingly important role in the world's population and the global economy.

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