

Population ageing in South Africa:

trends, impact, and challenges for the health sector

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With more South Africans living past the age of 60, the country faces a growing chronic disease burden. Further research and action are needed for the health system to address the budgetary and social strains of this phenomenon effectively.

Despite the predicted impact of population ageing, namely that it will increase the disease burden related to chronic and multiple chronic conditions, there has been limited research on this issue in South Africa and on the implications for health systems planning and budgeting. Forecasts from Statistics South Africa (Stats SA) suggest that from 2002 to 2022, the population will have increased by 33.8% (1.47% per annum), the relative expected expenditure will have increased by 41.7% (1.76% per annum), and the impact of ageing on expected expenditure over the period will be 7.9% (0.29% per annum).

This chapter reviews key issues, research, and policies related to care of older adults (aged 60 years and over)

in South Africa, and uses Stats SA population forecasts to assess ageing trends. In the absence of suitable public-sector data, private-sector data have been used to model and illustrate the possible impact of the ageing population on morbidity and expected healthcare expenditures and the resulting challenges for health services. Population ageing will increase the disease burden related to chronic and multiple chronic conditions, and consequently increase demands on the healthcare system and health budget. Recommendations include the need for further research to inform the health system's response to the needs of older persons, the promotion of self-management and ageing in community settings, and more education and training in geriatric care and gerontology.

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Introduction

Populations in most low- and middle-income countries (LMICs) are ageing rapidly,¹ and ageing is an established risk factor for the development of multiple chronic diseases. The diagnosis and management of chronic diseases places a significant burden on affected individuals and the healthcare system. Understanding the impact of this phenomenon is important for health systems planning but there has been little research on this issue in South Africa.

This chapter provides an overview of the literature on ageing and health; analyses ageing trends and forecasts for the South African population; maps the impact of ageing on morbidity and expected expenditure; and examines the challenges that this poses for health services.

Background

Increased longevity and decreasing fertility rates have resulted in ageing populations globally.^{2,3} This change in population structure, and its associated economic, social and health-systems implications, are of growing concern to policymakers worldwide.^{4,5} Population ageing is taking place three times faster in LMICs than in developed countries.⁶ This trend is demonstrated in Figure 1, which compares the rapid rate of ageing in China, Brazil and India with the slow

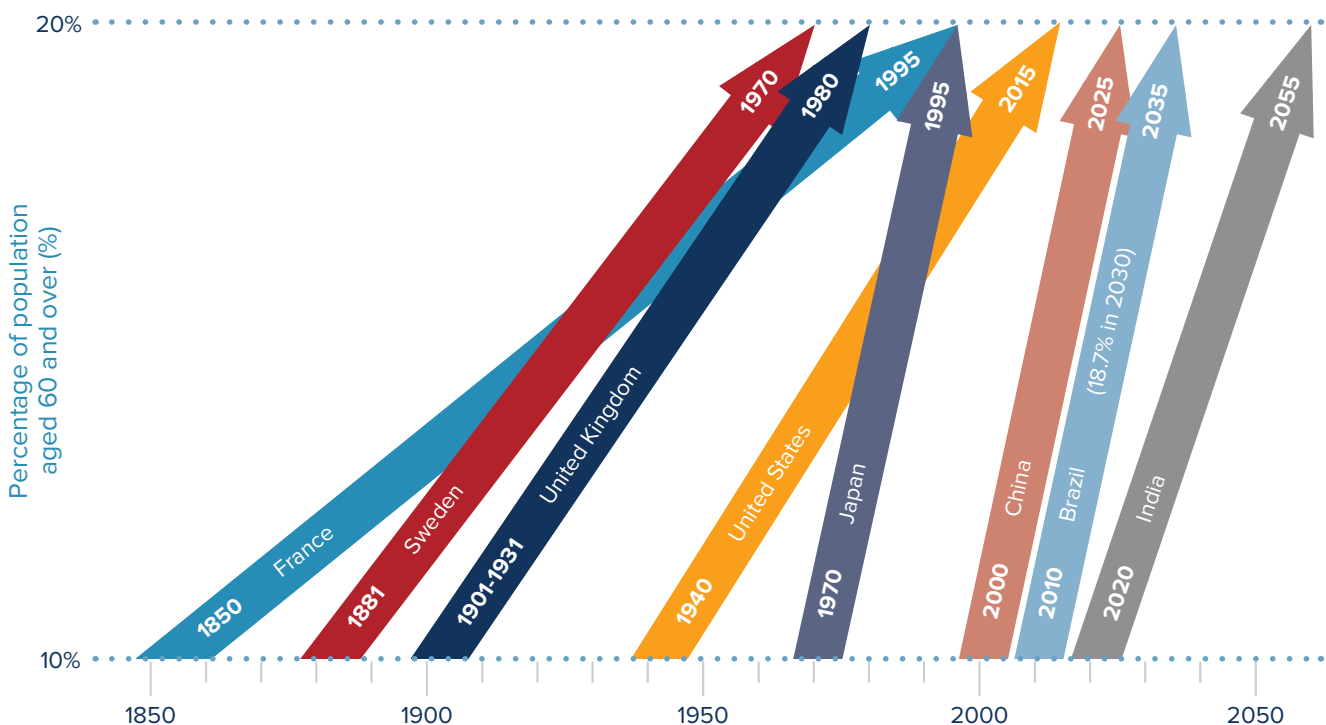
rate in high-income countries. In addition to this slower rate, high-income countries have had a relatively long lead time to plan for the demographic shift.

It is expected that Africa's population of older adults will more than triple, from 46 million in 2015 to 157 million by 2030.⁷ There is a link between a high prevalence of chronic disease, disability and ageing, and an increase in the care burden.⁶ Poor health leads to lower quality of life and levels of well-being and higher levels of disability among older adults, especially among the poor.⁸ Data from the 2011 census indicate that 40% of older adults in South Africa are poor.⁹ High rates of unemployment and the impact of HIV have left older adults with significant care and financial responsibilities as they use their pensions and time to support their children and grandchildren, with a measurable impact on their well-being.¹⁰

In response to the phenomenon of ageing populations, a large body of literature has emerged on the demographic aspects of ageing, and health systems, economic and social implications.¹¹ Research in Europe and North America has shown that older adults have a different set of health needs from the younger population,¹² but much less is known about these needs and existing care gaps in LMICs.¹³

In response to these data gaps, a number of research collaborations have focused on generating longitudinal and cross-country data on ageing in developing countries. These collaborations include the World Health Organization's (WHO) Study on Global AGEing and Health (SAGE),¹⁴

Figure 1: Period required for the 60+ population to increase from 10% to 20% globally, 1850 - 2050



Source: Adapted from WHO, 2015.¹

the INDEPTH Network, and Health and Aging in Africa: Longitudinal Study of an INDEPTH Community in South Africa (HAALSI).^{a,15} We conducted a literature review of studies done on the health, functioning and wellbeing of older persons in South Africa from 2006 and found only 19 studies, 12 of which are INDEPTH WHO-SAGE and HAALSI studies. This indicates that research on the health and health needs of older adults in South Africa remains sparse and that there is a lack of information on disease, disability and health risks in the older adult population.

Ageing trends in South Africa and potential impact on expected expenditures

Projected ageing trends for the South African population

Statistics and forecasts provided by Statistics South Africa (Stats SA) in the Mid-Year 2018 Population Estimates Report were used to assess ageing trends for the South African population. The report estimates South Africa's population at 57.3 million people, 8.3% of whom are aged over 60 years.¹⁶ Table 1 shows the changing age profile of the population from 2002 to 2022 (the limit of Stats SA forecasts).

Over this 20-year period, the number and proportion of older adults in South Africa increased from 3.3 million (7.2% of the population) in 2002 to 4.0 million (7.7%) in 2012, with

a forecast increase to 5.7 million (9.1% of the population) by 2022. Thus the projected increase in the number of older adults over the period is 69.9%, compared with 31% for the under-60 population. The growth rate of the over-60 population is 2.7% per annum, nearly twice the rate for the population under 60 (1.4%). The WHO World Report on Ageing and Health¹ presents an even more serious picture of the impact of ageing in the longer term, projecting that the number of older adults in South Africa will increase to 15.4% of the population by 2050.

Ageing, morbidity and health expenditure

Ageing is an established risk factor for the development of multiple chronic diseases.¹⁷ In the public sector, data on these conditions are not disaggregated by age, making it difficult to assess the impact of ageing on disease profiles, and consequently on health services and expenditure in the public sector. However, these data are collected in the private sector and private-sector data were used in this study to analyse the impact of ageing on the whole population, subject to a number of caveats, which are examined in greater detail later in this chapter.

Data used for the analysis were extracted from the medical claims and member records held in the data warehouse of NMG Consultants and Actuaries, an independent firm providing consulting and actuarial services to 10 private health insurance funds covering about half a million people (~5% of the privately insured population). The data were accessed in terms of and under the conditions set out in the consulting agreement between NMG and their client

Table 1: Stats SA population forecast by age and year, 2002 - 2022

Age band (years)	Year			Movement (2002 - 2022)	
	2002	2012	2022	N	%
0 - 4	4 746 954	5 782 776	5 811 973	1 065 019	22.4%
5 - 14	10 268 042	9 787 134	11 765 151	1 497 108	14.6%
15 - 44	22 193 311	26 258 925	30 036 493	7 843 182	35.3%
45 - 59	5 280 643	6 546 011	8 039 148	2 758 505	52.2%
60+	3 276 760	4 034 879	5 567 771	2 291 011	69.9%
Total	45 765 710	52 409 724	61 220 537	15 454 826	33.8%
Total under 60	42 488 950	48 374 845	55 652 765	13 163 815	31.0%
Total over 60	3 276 760	4 034 879	5 567 771	2 291 011	69.9%
% under 60	92.8%	92.3%	90.9%		
% over 60	7.2%	7.7%	9.1%		

Source: Stats SA, 2018.¹⁶

a HAALSI is a multinational collaborative study being undertaken in Agincourt, South Africa to evaluate the effects of biological, social and economic determinants of chronic disease on the function and health of ageing populations. INDEPTH is a global network of health and demographic surveillance systems in 19 LMICs.

schemes and a confidentiality agreement between NMG and the principal investigator for this study (GS). Only secondary, de-identified data were used for the study and at no point was confidential scheme or member information disclosed. Ethics approval for use of the database to carry out this study was granted by the Ethics Committee of the South African Medical Research Council (project registration number EC001-1/2019).

A check was done to ensure that the sample could be used to represent the whole private insurance group. This was accomplished by comparing the average contributions, healthcare expenditure and age distribution of the study sample with the broader private health insurance membership, using the Council for Medical Schemes (CMS) Annual Report.¹⁸ All claims submitted for healthcare services rendered or items dispensed to members of the 10 health insurance funds in all nine provinces over the period January - December 2015 were collated and analysed to produce the results in this chapter.

Prevalence of chronic conditions was used as an indicator of the level of morbidity. The CMS has regulated that all medical schemes must cover medical costs related to the treatment of 27 Chronic Disease List (CDL) conditions.¹⁹ These conditions include cancer, diabetes, hypertension and mental health conditions, among others. Based on algorithms published by the CMS²⁰ for identifying individuals with CDL conditions, all of the possible CDL conditions of the individuals in the dataset were identified, and each person was then assigned to one of three health categories:

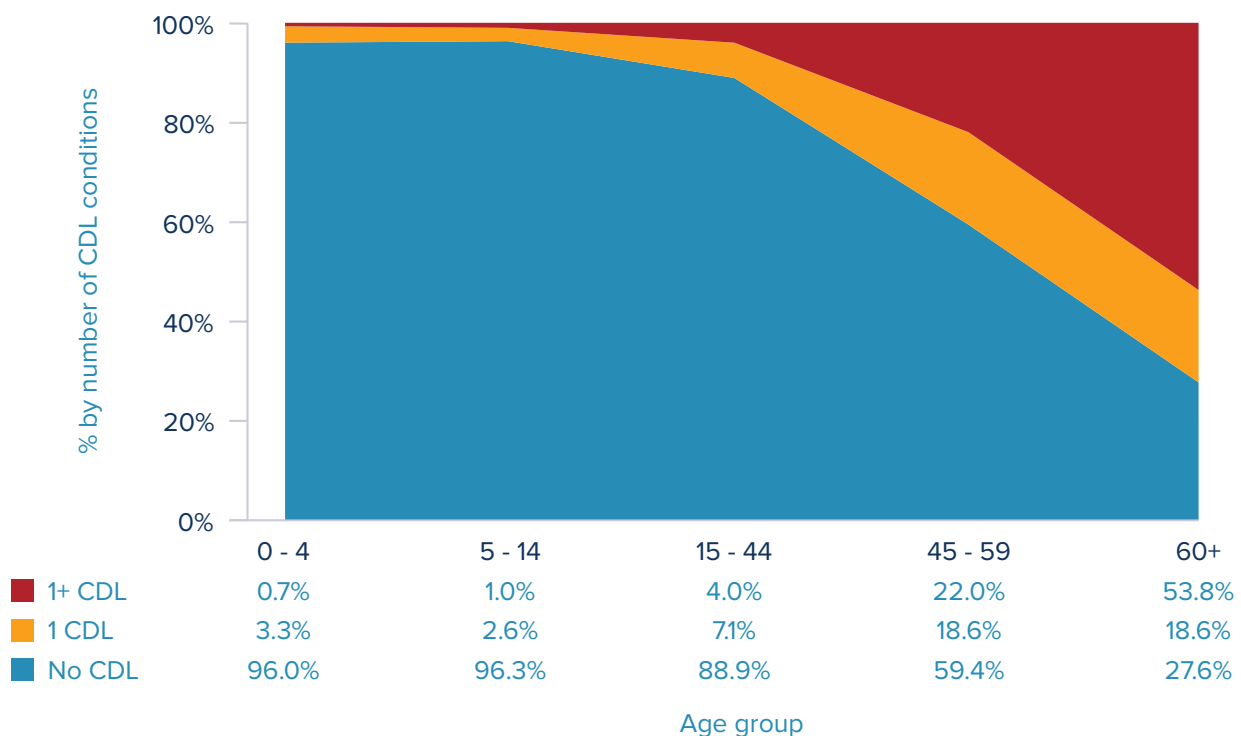
no CDL conditions (no CDL), one CDL condition (1 CDL), and more than one CDL condition (1+ CDL). Figure 2 shows the distribution of the three health categories by age.

Two patterns are clearly evident from the analysis: with increasing age there is an overall increase in the proportion of individuals with chronic conditions and an increasing proportion of individuals with co-morbidities, i.e. more than one chronic condition. Older adults are more than twice as likely as under-60s to develop one chronic condition, 7.6 times more likely to develop multiple chronic conditions, and overall nearly five times more likely to develop a chronic condition (1 CDL or 1+ CDL).

The claims received on behalf of the individuals in the dataset were used to assess expenditure patterns, broken down by age and number of CDL conditions (Table 2).

The results indicate that development of a chronic condition results in a substantial increase in expenditure (on average 3.17 times higher than for those with no chronic conditions) and that development of co-morbidities increases this even further (on average 5.52 times higher than for those without chronic conditions). Although varying in magnitude, this pattern was evident across all age groups. The average expenditure of R16 570 for over-60s with no CDLs is almost double that for under-60s, possibly reflecting the fact that many diseases (e.g. dementias, musculoskeletal disorders and frailty) affecting older adults are not recognised as CDLs.

Figure 2 : Number of CDL conditions by age group in the South African private sector, January - December 2015



The analysis above shows that ageing of the South African population will increase the risk of the development of chronic and multiple chronic conditions and that this is likely to have a significant impact on the demands placed on the healthcare system.

Modelling impact of ageing on expected expenditures for the whole population

As indicated above, in the absence of an age breakdown of public-sector health expenditure, modelling must be

used to estimate the impact of ageing. To illustrate the potential impact of ageing on expected expenditures, the shape of the expenditure breakdown by age in the private-sector sample (which is similar to that reported elsewhere internationally²¹) was applied to the South African population profile as a whole. The underlying assumption in this modelling exercise is that the shape of expenditure for the South African population as a whole is similar to the private-sector shape. Limitations of this assumption are addressed in the next section of the chapter. Using this approach, the

Table 2: Health expenditure patterns by age group and number of CDL conditions in the South African private health sector, January - December 2015

Age band (years)	Expenditure (Rands) ^a			Expenditure ratio (v. no CDL)	
	No CDL	1 CDL	1+ CDL	1 CDL	1+ CDL
0 - 4	11 545	195 616	127 919	16.94	11.08
5 - 14	4 036	16 945	41 442	4.20	10.27
15 - 44	9 337	25 784	53 204	2.76	5.70
45 - 59	11 356	22 930	46 215	2.02	4.07
60+	16 570	29 661	53 426	1.79	3.22
Total	9 377	29 754	51 795	3.17	5.52
Under 60	8 815	29 803	48 832	3.38	5.54
Over 60	16 570	29 661	53 426	1.79	3.22

a Average expenditure (Rands) per individual per year.

Table 3: Impact of population growth and ageing on relative expected expenditure for the South African population, 2002 - 2022

Age (years)	Relative expenditure weighting	2002		2022	
		Lives	Relative expected expenditure ^a	Lives	Relative expected expenditure ^a
0 - 4 ^b	1.00	4 746 954	4 746 954	5 811 973	5 811 973
5 - 14	0.26	10 268 042	2 647 082	11 765 151	3 033 034
15 - 44	0.66	22 193 311	14 739 580	30 036 493	19 948 592
45 - 59	1.15	5 280 643	6 059 378	8 039 148	9 224 680
60+	2.10	3 276 760	6 893 408	5 567 771	11 713 069
Total		45 765 710	35 086 403	61 220 537	49 731 349
Total increase: 2012 - 2022				33.8%	41.7%
Increase per annum				1.47%	1.76%

a Relative expected expenditure: number of lives x relative expenditure weighting.

b Reference group for relative expenditure weighting.

study estimated the 'relative expected expenditure' for the South African population as a whole in 2002 and 2022 and then assessed the impact of ageing on the relative expected expenditure. The forecasts resulting from the modelling exercise are summarised in Table 3.

From 2002 to 2022, the population is expected to increase by 33.8% (1.47% per annum). Over the same period, the relative expected expenditure is expected to increase by 41.7% (1.76% per annum). The impact of ageing on expected expenditure over the period is therefore 7.9% (0.29% per annum).

Challenges and necessary steps

The analysis above shows that the South African population is ageing. This will increase the prevalence of individuals with multiple chronic conditions and is likely to have a significant impact on the demands placed on the healthcare system. The literature review showed that there has been little research and policy development on ageing and older adults in South Africa. There is thus an urgent need for research, policy development and planning to address the challenges posed by an ageing population. In recent years, considerable resources have been put into planning for under-fives, especially in the first 1 000 days of life (morbidity and healthcare expenditure statistics bear out the need for this focus). A similar level of research and planning needs to be applied to the later years of life, with strategies to mitigate the impact of increased demands on healthcare services.

Research areas

To illustrate the impact of ageing on expected expenditures for the population, private-sector expenditure patterns were used to extrapolate for the population as a whole, as public-sector data are not available. Further research should be undertaken on actual by-age costs in the public sector as the latter may have different patterns from the private sector. The difference between the public and private by-age expenditures is likely to reflect two dynamics. The first is the extent of unmet needs in the public sector, for example public policy does not allow for dialysis for over-60s. The second is the skewing towards hospital and specialist care rather than primary care in the private sector.²² Further confounding factors include the increasing number of HIV patients on antiretroviral therapy (ART) surviving into older age in the public sector; and in the private sector, the number of conditions not covered by Prescribed Minimum Benefit (PMB) legislation, which has an impact on the health of older adults. These limitations, as well as our general findings, indicate the need for further research in the following areas:

- public-sector spending patterns by age, condition and level of care;
- research into lessons emerging from public and private sector data that may improve cost efficiencies in both sectors;
- prevalence of conditions, especially key diseases affecting older adults; and
- indicators of functional ability, communication difficulties, and the cognition, mood and health status of older adults.

Policy development and implementation

The South African Policy for Older Persons was developed in 2005²³ after South Africa signed the political declaration adopting the Madrid International Plan of Action on Ageing in 2002.²⁴ However, outside of the limited parameters of the Older Persons Act of 2006,²⁵ no further policy or legislation has been developed to address these gaps, and little of the plan has been implemented. There is also little acknowledgement or provision for the particular needs of older persons in health- or mental health-related legislation or policy. The vision of the National Development Plan 2030 is to increase life expectancy from 61 to 70 years, but no clear strategies have been developed on how the Department of Health or Department of Social Development will meet the health needs of an ageing population.²⁶

The Strategic Plan for the Prevention and Control of Non-Communicable Diseases 2013 - 17²⁷ outlines the South African government's strategy for addressing non-communicable diseases among the general population; focus is placed on key risk factors such as alcohol abuse, use of tobacco, unhealthy diet and physical inactivity through increased education, outreach and early intervention at primary care level. While there is no specific focus on population ageing as a risk factor, or the specific needs of older persons, in theory these plans should lower the risk of chronic disease in the older population. However, implementation of the plan and related policies has been poor.

There is an urgent need to implement the South African Plan of Action on Ageing based on the commitments made in the Madrid Declaration.²⁸ South Africa is also committed to establishing a framework for healthy ageing based on the WHO Global Strategy and Action Plan on Ageing and Health adopted by the 69th World Health Assembly in 2016.²⁹ Simple and low-cost solutions are needed to promote healthy ageing, to provide quality health and social care to the rapidly growing number of older adults in South Africa, and to address the impending health and social welfare burden of ageing in resource-poor settings. Some suggestions for policymakers are provided below.

b Intrinsic capacity is defined by the WHO as "the composite of all the physical and mental capacities that an individual can draw on," while functional ability refers to the intrinsic capacity of the individual, the environment of the individual, and the interactions between them.

Promote self-management and ageing in community settings

The WHO has identified the optimisation of intrinsic capacity⁹ and functional ability through early intervention at community or primary care level as the key to healthy ageing and to reducing healthcare costs and care dependency.¹ Preserving the intrinsic and functional capacity of older people through early intervention and supporting self-management will allow older adults to continue to be healthy and active for longer periods and reduce the need for expensive hospitalisation or frail care.

Higher-income countries are dealing with higher costs of care for older adults by building systems intended to keep them in their communities for as long as possible.^{30,31} International experience has shown that although delivery can be difficult, community-outreach and multi-dimensional assessment at primary care level can add significant value to older adults, facilitate access to medical care and social support, improve health and well-being, and potentially reduce the individual and societal effects of disability and dependence.

In line with international trends, the South African Older Persons Act (2006)²⁵ promotes ageing in place and encourages community and home-based care, rather than residential care for older adults. However, in reality, the non-governmental organisations (NGOs) and private facilities that provide these services are underfunded, and both community-based and residential-based care systems remain weak. The White Paper on Families (2013)³² proposes that family support should reduce the burden of care (including elder care) on society, with the role of the state being to support families to provide that care. However, there is little guidance on how to support caregivers in the current White Paper.³²

To promote ageing in community settings, more detailed policies need to be developed and more resources need to be directed both to the community and at household level to support provision of quality health, social services and care.

Supporting older adults to be active and healthy allows them to be valuable resources in their communities, providing child care support to working parents and potentially providing peer support to other adults. Peer-support programmes have been shown to lead to improved health, function and social outcomes among older adults,^{33,34} and receiving even nominal payment for doing this work in community settings could increase financial wellbeing.

Improve health system response to the needs of older persons

In most countries (including South Africa) health systems (particularly primary health care) are not well designed for older adults, who often have multiple and chronic morbidities and may not present in a typical fashion.³⁵

Health insurance coverage among the older population in South Africa is low, and 80% are reliant on the public health system.³⁶ Although public health care is free to older people in the public health system, they struggle to access quality care because of health-system capacity constraints and age-related barriers to access. These include challenges related to waiting times, health-worker shortages and related time constraints, transport to clinics, lack of medication, age-related rationing of certain interventions, a lack of geriatric training, and a general lack of expertise in the management of multi-morbidity.³⁷

While recent research on people's perception of health and use or experience of healthcare services in South Africa is limited, existing studies indicate high levels of dissatisfaction, low levels of quality of care, and a lack of trust in public healthcare professionals in both rural and urban settings.^{38,39} One particularly revealing South African study demonstrated that HIV-positive older adults receiving ART were in fact in better health because they received more support and closer follow-up than HIV-negative older adults.⁴⁰

To improve the health system's response to older adults, there is a need to provide comprehensive and multi-disciplinary interventions at primary care level that take the bio-psychosocial aspects of health into account and that focus on individual needs rather than individual health conditions.⁴¹

This study supports the WHO's recommendation that focus on physical and mental capacity can help facilitate coordinated health interventions.⁴² At clinical level, integration can happen through comprehensive health and wellness assessments of older adults to understand their intrinsic capacity and functional ability. These assessments can be conducted at primary care level by community health and social workers and the results used to develop multidisciplinary care plans that can be shared with relevant health and allied professionals. Service provision could be coordinated through clinic sessions dedicated to integrated geriatric services, avoiding the need for older adults to attend multiple chronic disease clubs as is currently the case.

Improve healthcare worker training

The growth of geriatric health care and training of health and social professionals in the field of ageing in South Africa has been severely stunted over the past few decades. There is little specialised training in geriatrics available in Africa and limited undergraduate focus on geriatric issues in medical training.⁴³ As a result, health issues affecting older adults, including mental health problems and dementia, are often undiagnosed or overlooked in primary care settings.⁴⁴ Healthcare workers may also have negative attitudes towards older adults, which can affect care.⁴⁵

The International Association of Gerontology and Geriatrics supports the African Union and WHO in recommending that all health and social professionals must be familiar with older adult care, irrespective of their specialty.⁴⁶ Determined efforts are required to initiate change at provincial and national level, and in educational institutions. The following suggestions should be considered:

- Engagement with the National Department of Health and Department of Social Development to recognise and drive initiatives regarding geriatric and gerontology education and training.
- Engagement with heads of departments at training institutions to facilitate discussion on institutional challenges and successes with elder care.
- Initiation of public discussions on geriatric and gerontology curricula in South Africa and the way forward in implementing the curricula.

Promote uptake of the grant-in-aid

One area where South Africa caters well for the needs of older adults is social assistance: almost 3.5 million people over the age of 60 receive means-tested, non-contributory and relatively generous social pensions or older persons grants.⁴⁷ Social grants have been shown to reduce poverty significantly among vulnerable older adults and their households.⁴⁸ The grant-in-aid is an additional amount of R420 per month available to pension recipients with functional limitations who require full-time care. This money can support community-based care by helping to compensate family members for their care work or subsidise the cost of a caregiver.

However, uptake of the grant-in-aid is very low (215 268 recipients in December 2018)⁴⁷ due to poor awareness and bureaucratic obstacles.⁴⁹ An awareness campaign and simplification of bureaucratic processes could go some way towards increasing access to the grant-in-aid.

Conclusion

This chapter has only begun to explore the implications of an ageing population for health and social services. Without proactive planning and intervention to mediate the impact, population ageing will further increase the strain on the healthcare system. In a resource-constrained environment, there will then be three choices: allocate greater resources to health care; allocate a greater portion of healthcare resources to care for older adults; or allow an ever-greater portion of older-adult needs to go unmet.

If we are going to address the challenges posed by the ageing population timeously, especially in a situation of limited resources, we need to act now. We need better data, improved inter-sectoral collaboration, better training of health and social workers, and recognition of older adults in the health policy framework.

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