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SITUATIONAL ANALYSIS OF NCDs AND COVID-19 IN OLDER PERSONS IN SOUTH AFRICA

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LIST OF ABBREVIATIONS

APC	The Adult Primary Care
ARVs	antiretroviral
CCMDD	Centralised Chronic Medicines Dispensing and Distribution
CDL	Chronic Disease of Lifestyle
CDU	Central Dispensing Units
CHW	community health worker
COVID-19	2019 Novel Coronavirus (SARS-CoV2)
DSD	Department of Social Development
EPI	Expanded Programme on Immunization
FA	functional ability
HCP	healthcare provider
HIV/AIDS	Human Immunodeficiency Virus/Acquired Immune Deficiency Syndrome
HR	human resources
IC	intrinsic capacity
ICCCM	Innovative Care for Chronic Conditions Model
ICDM	Integrated Chronic Disease Management
ICOPE	Integrated Care of Older Persons
ICRM	Ideal Clinic Realisation and Maintenance
ICSM	Integrated Clinical Services Management
JA-CHRODIS	Joint Action on Chronic Diseases and Promoting Healthy Ageing across the Life Cycle
LMICs	Low and middle-income countries
mAgeing	mHealth for Ageing
mHealth	Mobile health
NCDs	Non-communicable diseases
NDoH	National Department of Health
NHI	National Health Insurance
NPO	non-profit organisations
PACK	Practical Approach to Care Kit
PEN	Package of Essential Noncommunicable Disease Interventions
PHC	primary healthcare
SASSA	South African Social Security Agency
TB	Tuberculosis
SAGE	The Global Study on Global Ageing and Adult Health
WBOT	ward-based outreach teams
WHO	World Health Organization

EXECUTIVE SUMMARY

South Africa has been severely impacted by the COVID-19 (2019 Novel Coronavirus, SARS-CoV2) pandemic. It is the worst affected country on the continent and has the fifth highest number of total cases in the world (609,773 cases as of 24 August 2020), with 13,059 COVID-19 deaths recorded so far and over 36,587 excess natural deaths from 6 May to 11 August 2020. As has been the case in other countries, risk of severe illness and mortality among people infected with COVID-19 has mainly been among people with co-morbidities, particularly noncommunicable chronic diseases (NCDs). Older adults are also at significantly greater risk of complications from COVID-19 and case fatality rates increase significantly with age due to reduced immunity and the increased likelihood of pre-existing chronic disease, as well as reliance on other people due to frailty and disability.

The pandemic has had a major effect on the national health system and the delivery of essential services. Although the rate of infection is declining, the pandemic will have ongoing effects on the management of those living with NCDs. Service delivery models for the care and management of NCDs among the older population need to consider increased COVID-19 mortality risk and the need to shield older persons from possible infection, which may negatively impact their physical and mental health and wellbeing. Moreover, there is also a need to provide more integrated, effective, and responsive care at the primary care level, as the health system is not currently well geared to meet the needs of older persons.

The COVID-19 pandemic has forcibly illustrated existing weaknesses within global health systems and has disrupted services for prevention and treatment, increasing the vulnerability of people living with NCDs. While the COVID-19 outbreak is gradually being brought under control in South Africa and lockdown measures are eased, there will be a need to factor in the ongoing risk of COVID-19 on health service delivery for the foreseeable future. The National Department of Health's (NDoH) strategic response will need to be dynamic and service delivery calibrated to respond to upward and downward trends in transmission.

This report aims to focus more broadly on systems of NCD management and how they can be adapted to meet the needs of older people and their vulnerability to COVID-19. It also aims to highlight opportunities for broader reforms to ensure that the health system can offer affordable access to integrated services that are centred on the needs and rights of older people.

Methodology

This rapid review included a combination of policies, models and the peer reviewed literature around NCD management and care of older persons. We used a thematic review of models of care for NCD management in older persons. We reviewed and compared existing models of best practice related to 1) care for older persons and 2) NCD prevention and management globally, to those in South Africa. We evaluated the applicability of these models in the South African context based on empirical evidence of implementation challenges and success in the existing health systems literature.

Limitations of the review

Limited information is available on the state of healthcare delivery in South Africa in the context of the COVID-19 pandemic. Due to time limitations, lengthy permission processes, as well as pressure on the health system brought about by the pandemic, collecting primary data was difficult. As a result, the study was limited to a desktop review of published grey and peer reviewed literature.

Based on our review, and considering the South African context, we have drawn up a summary of the key recommendations which were common to the models that were assessed. These recommendations are listed in the table below.

SUMMARY OF KEY RECOMMENDATIONS

1. Provide integrated care that is responsive to the needs of the older person in the healthcare system.
2. Strengthen the Community Health Worker programme within the Primary Health Care (PHC) Ward Based Outreach Teams (WBOTS) to intensify community and home-based care, NCD screening, health promotion and prevention efforts.
3. Focus on health promotion and NCD prevention within communities and the maintenance of intrinsic capacity (IC) and the functional ability (FA) of older people.
4. Promote self-management for patients and family-shared decision making with the PHC WBOTs.
5. Ensure comprehensive assessments are undertaken and individualised care plans are developed as a basic element of the integrated care models for the older population.
6. Establish a strong case management system with a case manager/ coordinator/ patient care coordinator, particularly for the older persons with multimorbidity to avoid fragmented healthcare and inappropriate polypharmacy such as over-prescribing.
7. Strengthen the referral systems/appointments for a comprehensive assessment for the older person.
8. Provide appropriately trained multidisciplinary teams for older persons to address complex and multi-dimensional health and psychosocial needs; and to provide person-centred, coordinated and integrated care.
9. Use digital health systems to strengthen healthcare integration by facilitating collaboration between healthcare workers teams and patient and the collection and use of health data.
10. Improve Health Care (HC) Infrastructure and access to healthcare to be age-friendly using principals of universal design, particularly for people with disabilities.
11. Use evidence-based guidelines for managing multimorbidity and older persons.
12. Implement a coherent and well-coordinated multi-sectoral response to address the social determinants of health and reduce exposure to NCD risk factors for the older person.

Details on the recommendations are elaborated hereunder and refer to Annexure 1 for a tabulated summary of the recommendations with COVID-19 integration and care for older persons.

Integrated care: Integrated care involves alignment and collaboration within healthcare systems between administrative, clinical and organisational levels (a bottom up approach), so that a patient can receive comprehensive and multi-dimensional care that is responsive to their own needs and not that of the healthcare provider (HCP).

- NCD management needs integration to ensure shared information is available across settings and providers, and across time. Integration also includes coordinating financing across different sectors of the healthcare system.
- Older persons will need additional social support particularly because stress and anxiety (particularly in the context of COVID-19) can interrupt adherence to an NCD health plan.[1–4]
- Essential services should be integrated with COVID-19 services at facility and community levels. For example, involve nurses responsible for NCD care in screening for COVID-19.

Community and homebased care: Community health worker (CHW) outreach is also critical in terms of NCD screening and health promotion and complicated prevention efforts. Current ward-based Outreach Team (WBOT) activities should be extended to accommodate the needs of older persons and have strong links to primary healthcare (PHC) services; must include scheduled follow-ups and support to older persons and their families; and must be restricted to people at a low risk of death.

- CHW and PHC centres need to be able to link older adults to appropriate community services for older adults.
- CHW can also play an important role in providing much needed psychosocial support for older persons, which improve the wellbeing and therefore the health of older persons, particularly in the context of COVID-19.

Emphasis on community prevention/promotion: Community prevention and health promotion activities can assist in the prevention of NCDs and maintenance of intrinsic capacity (IC) and functional ability (FA) as people age. The South African NCD management framework employs a life-course approach, with a strong emphasis on prevention and promotion through legislation to reduce risk factors, promotion of healthy eating, physical activity and vaccination.

- CHW need advanced communication abilities and counselling skills, and the CHW role needs to include counselling older persons on lifestyle management and self-management of conditions for effective behavioural change for NCD prevention.
- CHW also need to be linked to community networks to identify and negotiate community resources for older adults.

Self-management for patients and family-shared decision making with HC team: Patient empowerment, self-efficacy, self-care, and management is critical for healthy ageing. For management and control of chronic diseases, it is critical to have an active patient, informed in their own therapy, and support for self-care has been shown to be a powerful intervention. Programmes that encourage self-management need to be made appropriate and understandable to older persons and the family should be included in these activities.

- Support mechanisms within communities should be developed for self-management, caregiver support, and transportation of older people to clinics and hospitals when needed.
- Some treatments can be shifted from hospital to home, with telemedicine support provided by someone with appropriate expertise.
- If possible, people with chronic NCDs can engage in self-monitoring, such as by taking their blood pressure and monitoring their glucose levels, or be supported by remote monitoring, or a combination of these.
- Support for self-monitoring and self-management needs to consider possible physical, sensory and cognitive impairment, as well as possible discomfort with using telemedicine tools such as smart phones. CHWs need to provide direct support, or train family members to provide this support to older persons.

Comprehensive assessment / individualised care plans: Comprehensive geriatric assessment should be a basic element of all integrated care models in the older population, as this allows a broad evaluation of multiple aspects of the patients physical, cognitive, and emotional well-being. An individualised care plan should be shared with the care team, patients and caregivers and must be centred around the older person's goals.

- Validated instruments in geriatrics are typically time-consuming and require specialised expertise to perform and are typically used in high-income contexts. In an under-resourced health system such as South Africa's, developing an assessment instrument that can be used in the community by non-healthcare workers may be more feasible.
- The Integrated Care of Older Persons (ICOPE) model and associated community screener present one low-cost model. Another approach is the interRAI CheckUp self-report[5] instrument, which assists in identifying declining physical and mental capacities, identifying and addressing geriatric syndromes and establishing care needs. The instrument also facilitates the development of personalised care plans through clinical assessment protocols. This instrument was recently piloted in South Africa and research demonstrated that it can be validly and reliably used in communities to assess the health and wellbeing of older persons.

Case manager/ coordinator/ patient care coordinator: For older persons with multimorbidity, lack of care coordination can lead to fragmented healthcare and inappropriate polypharmacy such as over-prescribing.

- The entry point to older person-centred and integrated care is a strong case management system, in which individual needs are assessed and a comprehensive personalised care plan is developed around the single goal of maintaining FA.

Referral systems/appointments: For comprehensive assessment to have value and for integrated care and multidisciplinary involvement to work and detect changes in complications or changes in functional status, regular and sustained follow-up with patients is necessary. This prevents emergencies and associated costs.

- The key features of an appointment system in PHC that need to be implemented, especially with older populations in the post-COVID-19 context are: 1) shorter waiting times, 2) simple management and referral systems, 3) continuity of PHC providers and 4) appointment times of appropriate length.
- Referral pathways from community to PHC systems need to be strengthened as research has shown that clinic staff did not feel responsible for patients referred from CHWs.

Appropriately trained multidisciplinary teams: Older persons have complex and multi-dimensional health and psychosocial needs, and to provide person-centred, coordinated and integrated care for older people with chronic conditions, multidisciplinary input is essential.

- Healthcare providers, public health personnel and those who support healthcare organisations need new team-care models and evidence-based skills for managing multimorbidity in older persons.
- Given shortages of health professionals, task shifting to CHWs is essential and assessment instruments in geriatrics conducted by health workers can save medical professionals time and ensure that vital indicators of functional decline are not overlooked.
- Training in Geriatrics needs to be strengthened at the tertiary level and through continuous professional development and training initiatives across all health and allied health professions.

Digital health systems: The digitalisation of health systems presents important opportunities to transform healthcare systems and strengthen healthcare integration by facilitating collaboration between different healthcare workers and between healthcare teams and their patients, and the collection and use of health data.

- Digital health also has the potential to help address problems such as distance in rural settings and access to specialist care and, in the context of COVID-19, allow for physical distancing in the delivery of healthcare.
- To cater to the needs of older persons and their particular health journey, a healthy ageing journey needs to be developed based on the principals of ICOPE, in line with the adoption of digital health user journeys such as the child health journey or maternal health journey.

HC Infrastructure and access to healthcare: Healthcare facilities need to be made age-friendly through the principals of universal design, which will also make health facilities more accessible to people with disabilities. The Ideal Clinic Realisation and Maintenance initiative is designed to address facility infrastructural issues and make healthcare more accessible and patient experiences better.

- The Ideal Clinic should include provision for older persons and should be physically accessible (using principals of universal design) and include access to assistive devices to support functional ability.
- Providing remote prescription renewals, mobile pharmacies or medication dispensing units could help serve people with chronic NCDs in the community.

Evidence-based guidelines for managing multimorbidity and older persons: Disease-specific guidelines and care plans do not consider comorbidity. Clinical guidelines for NCDs need to be adapted to take multimorbidity and the health needs of older adults into account.

- A version of the NDoH's Adult Primary Care guidelines focused on older persons needs to be developed based on the clinical guidelines associated with the WHO ICOPE package.[6]

Intersectoral collaboration/health system alignment: A coherent and well-coordinated multi-sectoral response to the challenges of NCDs is recognised in both international and local models as necessary to address social determinants of health and reduce exposure to NCD risk factors. It is essential to mainstream ageing throughout government departments through policy, legislation and appropriate programming. Plans for this are outlined in the South African Plan of Action on Ageing,[7] however, implementation has been weak and there is a lack of programming for older persons or budgetary allocation for older persons outside of old age grant.

- The NDoH and provincial departments of health need to collaborate with community-level leadership, other government departments and other services and commercial partners to develop an appropriate and coordinated response to the COVID-19 pandemic in the older population.
- Human resources from other non-health departments and sectors need to be involved to provide the required leadership and to coordinate with the health department. These could include Department of Finance, Department of Agriculture, Department of Education, NGO and multi-national partner institutions.

1. INTRODUCTION

South Africa has been severely impacted by the COVID-19 pandemic, with the fifth highest number of total cases in the world (609,773 cases as of 24 August 2020) and 13,059 COVID deaths recorded so far and over 36,587 excess natural deaths from 6 May to 11 August[i] reported. As has been the case in other countries, risk of severe illness and mortality among people infected with COVID-19 has mainly been concentrated among people with co-morbidities, particularly non-communicable chronic diseases (NCDs).

Older adults are also at significantly greater risk of complications from COVID-19 and case fatality rates increase significantly with age due to reduced immunity[8] and the increased likelihood of pre-existing chronic disease, as well as reliance on other people due to frailty and disability.[9] Persons over 60 represent a significant proportion of lives lost in the global pandemic.[10] In the resource-constrained South African context, older persons are at enhanced risk of COVID-19 mortality.[11] Apart from the biomedical risk factors, socio-economic and health system factors play an important role in health outcomes for older persons.[12–14] In South Africa, 13.8% of deaths have occurred among persons aged 50+ and 22.7% among those aged 60+. The death rate per 100,000 is 22.7 among those aged 60-69, 31.8 among those aged 70-79 and 51.6 among those aged 80-89.[ii]

The pandemic has had a major effect on the national health system and the delivery of essential services. Although the rate of infection is declining, the pandemic will have ongoing effect on the management of those living with NCDs.

The COVID-19 pandemic is likely to bring about long-lasting changes to healthcare systems internationally and the post-lockdown era presents an opportunity to "build back better" and improve on the existing healthcare systems for older persons living with NCDs. This requires managing epidemiological vulnerability by managing chronic disease more effectively, reducing transmission vulnerability, limiting health system vulnerability, and reducing the impact of control measures such as shielding and self-isolation, which may negatively impact on the health, mental health and wellbeing of older persons.[9] This report aims to provide recommendations for developing a multisectoral plan for the care and management of NCD and COVID-19 in older persons after the lockdown period.

South Africa faces a significant and persistent NCD burden,[15,16] which places growing pressure on a health system also burdened by communicable diseases such as HIV/AIDS and TB, injury and trauma, and maternal and child mortality.[17] As the NDoH *Draft National Strategic Plan for the Prevention and Control of Non-Communicable Diseases 2020-2025* rightly indicates,

> *Without added rigorous and timely action the health and development consequences may well become catastrophic. Immediate and additional, high quality, evidence based and focussed interventions are needed to promote health, prevent disease and provide more effective and equitable care and treatment for people living with NCDs at all levels of the health system.*

i This may include people dying from COVID-19 before reaching a health facility, people dying of COVID-19 who are not reported as such, people dying from non-COVID-19 conditions because health services have been re-oriented to COVID-19.

ii The NDoH has not provided updated COVID-19 statistics on older persons since 1 July 2020.

Challenges in preventing and managing NCDs are likely to be compounded by the health needs of the growing population of older persons, who have their own unique health needs and are more likely to experience NCD morbidity.[18,19]

Population ageing trends in South Africa

The world's population is ageing rapidly, with most population ageing taking place three times faster in lower-middle-income countries (LMICs) than in developed countries.[20,21] It is expected that Africa's population of older adults will more than triple, from 46 million in 2015 to 157 million by 203020. Approximately 5.3 million people, or 9.1% of the South African population, is comprised of people over the age of 60.[22] Increased life expectancy can be partly attributed to the introduction of antiretrovirals (ARVs) in South Africa and the country has a growing population of HIV-positive older people.[23] There is some provincial variation in the proportion of the older population.

Prevalence of NCDs among older persons in South Africa

While people in Africa are living longer, they are not necessarily in better health. There is a link between the high prevalence of chronic disease, disability and ageing, and an association between increase in chronic disease and care burden.[24–26] While there has been compression of morbidity (i.e. the postponement of disability until later in life) in more developed countries, this is not occurring to the same extent in developing countries. [24,27,28] Poor health leads to lower quality of life and levels of well-being and higher levels of disability amongst older people.[29] Further, older people commonly experience multimorbidity, particularly those who are socioeconomically disadvantaged.[30,31]

There is a higher proportion of chronic morbidity and multi-morbidity in the older population, which increases steadily with age. For instance, according to the South Africa Demographic and Health Survey 2016, 84% of both men and women age 65+ have hypertension, compared with 17% of women and 20% of men age 15-24. Thirty per cent of women aged 65 or older and 21% of men of the same age have diabetes, compared to prevalence rates of only 1 and 2% in the 15-24 age range for men and women respectively. Based on private sector data, 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.[19] The global Study on Global Ageing and Adult Health (SAGE) study Wave 1 found that older South Africans display attributes that make them at high risk of NCDs and relative to other countries in the study. South Africa has very low levels of physical activity (59.7%) and very high prevalence of hypertension (78%) and obesity (45.2%).[32] According to 2011 census data, 43.9% of women and 37.8% of men over the age of 60 used chronic medication.[33]

Health system challenges and costs brought about by population ageing/ NCDs

Given the increased risk of chronic and multiple chronic conditions, along with increased disability and frailty, an ageing population is likely to bring about increasing number people who need health and related care, and this is generally associated with rising demands on the healthcare system.[26] This brings about an increase in health costs, with ageing expected to increase expenditure by 7.9% between 2002 and 2022.[19]

Chang et al.[18] found high prevalence of single and combination of cardiometabolic conditions in rural South Africa, even among the poorest households, alongside a high prevalence of HIV. Since people often experience multiple NCDs at the same time (e.g. obesity, diabetes and hypertension), multimorbidity may result in people losing intrinsic capacity and becoming frail at an earlier age than would have been expected previously.[34] Multimorbidity is associated with higher mortality rates, health expenditures and frequency of service utilisation,[30,35,36] higher use of secondary care compared with primary care, hospitalisation rates, as well as lower self-reported health, physical functioning and well-being.[37–39]

In most countries, health systems (particularly PHC) are not well designed for older people, who often have multiple and chronic morbidities and may not present in a typical fashion.[40–42] The WHO Clinical Consortium on Healthy Ageing argue the following:

> *Older people often encounter services that were designed to cure acute diseases or symptoms, that manage health issues in disconnected and fragmented ways and that lack coordination across care providers, settings and time. This situation results in healthcare and other services that not only fail to meet the needs of older people, but that can also have great costs both to them and to the health system.*[34]

Older people present a challenge to primary care providers (who often lack skills in issues of ageing) because they tend to have more complex multi-system problems and need more comprehensive, individualised and multi-disciplinary interventions that take the bio-psychosocial aspects of health into account.[43–45] However, given time and resource constraints, fee structures and the typical nature of doctor-patient interactions, many healthcare providers do not have the time or expertise to provide older people with adequate or person-centred care and struggle to identify frailty and dementia.[46–48] Lack of guidelines and health providers' lack of training in recognising impairment and geriatric syndromes can lead older persons to disengage from services and create adherence problems.[45] While recent research on people's perceptions, use or experience of healthcare services in South Africa is limited, existing studies indicate that health services for people with co-morbidities are fragmented and siloed, and not age friendly (despite policies aimed at prioritising service for older persons).[49–52] High levels of dissatisfaction, low levels of quality of care, and a lack of trust in public healthcare professionals exist in both rural and urban settings.[49–52] Older people struggle with access in rural areas due to transport costs; find it difficult to cope with the overcrowding and long waiting times common at primary healthcare facilities; and may struggle to communicate effectively with healthcare professionals.[49–51,53]

Healthy Ageing

To address the costs and challenges that come with ageing societies, the WHO has identified the optimisation of intrinsic capacity (IC) and functional ability (FA) through early intervention at the community or primary care level as key to healthy ageing, which will reduce healthcare costs and care dependency. The concept of IC was introduced by the WHO in 2015[21] and is defined as "the composite of all the physical and mental capacities that an individual can draw on," while FA consists of the IC of the individual, the environment of the individual and the interactions between them. In general, IC declines from a high and stable state to an impaired status as people age. Towards the end of their lives, most people experience significant losses in IC. It is possible, however, to intervene to increase IC at almost any time point in a person's life. Preventing and managing chronic disease can help people to preserve IC and FA for longer. Adoption of a healthier lifestyle (such as through physical exercise and good nutrition) can positively modify the trajectory of the IC in later life34. The WHO's public health framework for Healthy Ageing focuses on the goal of maintaining IC and FA across the life course and is discussed in Section 4.1.2.

COVID-19 and health system challenges NCDs

The growing burden of NCDs has proven to be a global challenge, with health systems struggling to meet the needs of persons living with NCD, particularly in LMICs.[54] The COVID-19 pandemic has forcibly illustrated existing weaknesses within global health systems and has disrupted services for prevention and treatment, making people living with NCDs, who are already vulnerable to COVID-19, more at risk of becoming severely ill or dying of COVID-19. A rapid review of international systematic reviews, primary studies and South African patient data conducted by Young et al.[55] shows the influence of NCD co-morbidity and age on hospitalisation and mortality of patients with COVID-19.

The WHO conducted a rapid assessment of service delivery for NCDs during the COVID-19 pandemic across 163 countries and found significant disruption in already under-resourced services for the prevention and treatment of NCDs globally, with higher rates of COVID-19 transmission resulting in higher levels of disruption.[56] Rehabilitation services have been most disrupted globally because they are seen as non-essential. For instance, where there was community transmission, 66% of countries disrupted services for hypertension management, 64% of countries disrupted services to treat diabetes and complications, 56% of countries disrupted services to treat cancer and 46% of countries disrupted services to treat cardiovascular emergencies. The main causes were decrease in inpatient volume, closure of population-level screening programmes, public transport lockdowns, clinical staff deployed to COVID-19, closure of outpatient diseases specific clinics and insufficient staff.

During lockdown, essential health service delivery was interrupted in South Africa, particularly in under-resourced settings and there was wide-scale avoidance of health facilities for follow-up, check-ups and prescription refills, as well as supply chain interruptions which affected medicine delivery.[57,58] A large portion of the natural excess deaths is believed by researchers to be the result of interrupted services and re-orientation of health services towards COVID-19.[59]

Chronic disease management relies heavily on linear adherence patterns for adequate therapeutic outcomes.[60] While the COVID-19 outbreak is gradually

being brought under control in South Africa and lockdown measures are eased, there will be a need to factor in the ongoing risk of COVID-19 on health service delivery for the foreseeable future. The NDOH's strategic response will need to be dynamic and service delivery calibrated to respond to upward and downward trends in transmission.

This report and its recommendations intend to build on Young et al.'s[55] recommendations on the management of specific NCDs in the context of the COVID-19 pandemic in South Africa. This report aims to focus more broadly on systems of NCD management and how they can be adopted to meet the needs of older people and their vulnerability to COVID-19. It also aims to highlight opportunities for broader reforms to ensure that the health system can offer affordable access to integrated services that are centred on the needs and rights of older people. This will require fundamental changes in the clinical focus of care for older people, as well as in the way care is organised, funded, and delivered across health and social sectors.[45]

2. RESEARCH QUESTIONS AND PROBLEM STATEMENT

Problem statement

Older persons are highly vulnerable to COVID-19 due to age and increased prevalence of co-morbidities in this group. Service delivery models for the care and management of NCDs among this population need to consider increased COVID-19 mortality risk and the need to shield older persons from possible infection. More generally, there is also a need to provide more integrated, effective, and responsive care to older persons at the primary care level, as the health system is not currently well geared to meet the needs of older persons.

Objectives

- Review current policies and guidelines on NCD management in older persons and their implementation in the South African context.
- Review emerging models of caring for older persons and persons with NCDs in the context of the COVID-19 pandemic.
- Develop recommendations of best practice for the prevention and management of NCDs among the older population in South Africa as COVID-19 lockdown regulations are eased.

Research questions

- What is international best practice in terms of NCD management in older persons?
- What is the current state of NCD management for older persons in South Africa?
- What models of NCD management and shielding of older persons are emerging in other countries in the context of the COVID-19 pandemic?
- How has the COVID-19 pandemic affected delivery of NCD services in South Africa?
- Given the South African context, what can be learned and adapted from international policies and models to develop a multisectoral plan for the care and management of NCD and COVID in older persons after the lockdown period?

3. METHODOLOGY

The rapid review involved a review of the peer-reviewed literature, grey literature and local and international policies and models around NCD management and care of older persons.

3.1 Approach to literature/policy analysis

Search strategy

Focus	Who	What	Where
Non-communicable disease (NCDs) COVID-19 Coronavirus	Older person Older adults Elderly Older people Seniors Elders Senior citizens	Care models Care approaches Primary care Healthy ageing Healthcare services	South Africa Sub-Saharan Africa Global South Worldwide

Document sourcing

- WHO: documentation related to NCD management and healthy ageing.
- NDoH: strategic plans and documentation related to NCD management, health promotion, the ideal clinic model, primary healthcare models and mobile health.
- Department of Social Development (DSD): Policy and strategic documents related to older persons.
- Database search of peer review and grey literature: Medline, CINAHL, SCOPUS, Google scholar.
- Gathering of citations from relevant articles or reports.

List of global policy documents, plans or guidelines

- The Madrid Plan of Action on Ageing
- WHO Global strategy and action plan on ageing and health (2016-2020)
- WHO ICOPE
- WHO mHealth for Ageing
- WHO Innovative Chronic Conditions Model (WHO ICCM)
- WHO Global action plan for the prevention and control of NCDs 2013-2020
- WHO Age-friendly toolkit
- WHO guideline: recommendations on digital interventions for health system strengthening
- Proposal for the WHO Decade of Healthy Ageing 2020-2030
- WHO Package of Essential Noncommunicable Disease Interventions (PEN)
- WHO Draft global strategy on digital health 2020– 2025
- Recommendations from the consensus meeting of the Joint Action on Chronic Diseases and Promoting Healthy Ageing across the Life Cycle (JA-CHRODIS)
- Clinical practice-oriented chAnGE solutions towards Active and healthy aGEing (Project chAnGE)

List of policy documents, plans or guidelines South Africa (NDoH/DSD):

- Integrated Chronic Disease Management (ICDM) Manual
- Integrated Clinical Services (ICSM) Manual doc
- Ideal Clinic Definitions, Components and Checklists
- Ideal Clinic Manual Version 18
- Strategic Plan for the Prevention and control of Non-Communicable Diseases 2013-17
- Strategic Plan for the Prevention and control of Non-Communicable Diseases 2020-2025 (draft)
- Policy Framework and Strategy for Ward Based Primary Healthcare Outreach Teams 2018/19–2023/24
- Practical Approach to Care Kit (PACK) – NDoH Adult Primary Care guidelines – 2019/2020
- The National Health Promotion Policy and Strategy – 2015-19
- National Digital Health Strategy for South Africa 2019 – 2024
- National Development Plan 2030
- DoH Strategic plan 2015/16 to 2019/20
- Older Persons Act of 2006
- South African Policy for Older Persons (2005)

3.2 Limitations

Limited information is available on the state of healthcare delivery in South Africa in the context of the COVID-19 pandemic and time restrictions, combined with bureaucratic processes and the pressure on the health system brought about by the pandemic, made collecting primary data difficult. As a result, the study was limited to a desktop review of published grey and peer-reviewed literature.

4. LITERATURE AND POLICY REVIEW

4.1 Models and Policies on Health and Ageing

4.1.1 The Madrid Plan of Action on Ageing and the Political Declaration adopted at the Second World Assembly on Ageing

In 2002, The *Madrid Plan of Action on Ageing* and the Political Declaration adopted at the Second World Assembly on Ageing in April 2002 put ageing issues on the international agenda.[61] Signatories of the political declaration, such as South Africa, committed to taking action to develop a society that meets the needs of older persons and to take action in three priority areas: advancing health and well-being into old age, older persons and development, and ensuring enabling and supportive environments. This includes incorporating ageing into social and economic strategies, policies and action. The plan takes a life course approach to reducing the cumulative effects of factors that increase the risk of disease, FA and potential dependence in older age. It promotes universal and equal access to healthcare services, including: physical and mental health services, the development and strengthening of PHC systems to meet the needs of older persons, and the provision of coordinated and integrated services that promote continuity of care. The plan also highlights the need for training health professionals and community worker on the needs of older persons.

4.1.2 WHO Ageing Models and Plans

4.1.2.1 WHO Global Strategy and Action Plan on Ageing and Health (2016–2020)[45]

This strategy advances the 2030 Agenda for Sustainable Development and Sustainable Development Goals,[62] which makes it clear that a healthy life and the right to health do not start or end at a specific age. The plan extends the Madrid International Plan of Action on Ageing and the WHO's policy framework on active ageing. It was adopted by the sixty-ninth World Health Assembly in May 2016 and provides a political mandate for the action that is required to ensure that everyone can experience both a long and healthy life. The plan recognises the multidimensional, chronic and complex health needs of older persons and the poor suitability of existing health systems, which are often fragmented and ageist, lacking in geriatric expertise and which create barriers to older persons' engagement with and access to health care.

The strategy consists of five strategic objectives:

1. Committing to action by fostering leadership and commitment and collaboration between government and non-government collaborations.
2. Aligning health systems to the needs of older adults by orienting health systems around IC and FA, developing affordable access to quality older person-centred and integrated clinical care and an appropriately trained workforce.
3. Developing age-friendly environments by fostering older adult's autonomy, enabling engagement and promoting multisectoral action.
4. Strengthening long-term care by establishing and improving a sustainable and equitable long-term-care system.
5. The improvement of measurement, monitoring and research in the field of ageing.

4.1.2.2 WHO Decade of Healthy Ageing 2020-2030

The member states of the WHO adopted the WHO Decade of Healthy Ageing in May 2020.[63] The programme proposal defines Healthy Ageing as developing and maintaining IC and FA that enables well-being in older age, reducing care dependency and associated costs to healthcare systems.

The programme is based on the Global Strategy and Action Plan on Ageing and Health (2016–2030) and reflects the vision of the Sustainable Development Goals of leaving no one behind. The programme takes a multidimensional approach, recognising the contribution of physical, social and economic environments to experiences of ageing. The delivery of person-centred, integrated care and primary health services responsive to older people and the strengthening of PHC are some of the key objectives.

Goals of the Decade include:

- Improvements in the capacity, ability and wellbeing of people aged 50 and above.
- Reductions in the proportion of people over the age of 60 who become care dependent.
- Sustainable and equitable care and support for those over the age of 60 who do become care dependent.

The Decade requires member states to achieve the following objectives:

- Assess readiness of the system for Implementation of the WHO ICOPE programme (see Section 4.1.3.1) and carry out appropriate capacity building efforts to allow for implementation.
- Improved access to medical resources to optimise older people's IC and FA, which includes the application of effective digital technology in integrated care.
- The development of an appropriately trained and well-managed health system, which includes specialists in ageing and competence in the integrated management of chronic or complex health conditions.
- Clinical research on IC and FA in national contexts, disaggregated by age, sex and other intersectional variables.
- Upgrading of PHC facilities to enable age-friendly service delivery
- Offer a comprehensive range of integrated services for older adults, including promotion and preventive, curative, rehabilitative, palliative and end-of-life care, as well as specialised and long-term care.
- Consider the needs and rights of indigenous elders, older adults with disabilities, older refugees and migrants.

4.1.3 WHO Packages of Care for Older Persons

4.1.3.1 Integrated Care of Older Persons (ICOPE)

The Integrated Care of Older Persons (ICOPE) package of tools[6,64] offers an approach that helps key stakeholders in health and social care to understand, design, and implement a person-centred and coordinated model of care for older persons. This is achieved by the provision of evidence-based tools and guidance specific to every level of care. ICOPE thus helps support health systems by maximising older adult's IC and FA.

The key elements of the ICOPE are to help CHWs provide quality of care for older adults by setting up person-centred goals and to conduct screening in a range of IC-related domains. Additionally, health and social care needs are to be assessed as part of developing a personalised care plan. The care plan may include multiple interventions to manage declines in IC, provide social care and support, support self-management and support caregivers. The domains of IC include cognitive decline, limited mobility, malnutrition, visual impairment, hearing loss and depressive symptoms.

Key elements of the ICOPE package:

- **Screening for losses in IC** within communities using a series of simple tests to establish individual IC across five domains: 1) Locomotor capacity; 2) Vitality; 3) Sensory capacity; 4) Cognitive capacity; and 5) Psychological capacity
- **Person-centred assessment and assessment of medical conditions** for those that screen positive for IC loss.
  - Assessments consider IC and FA and their trajectories, specific health or social conditions, behaviours and risks that may influence IC and FA, environmental context and social care needs.
  - Assessments should provide information needed to prioritise and tailor interventions that are aligned to the holistic, individual needs of the person.
  - Assessments should be shared between multidisciplinary providers to inform a personalised care plan that includes a package of services.
- **Personalised care plans,** including multi-component interventions that incorporate:
  - Interventions to improve nutrition and encourage physical exercise.
  - Management of underlying diseases.
  - Self-care and self-management.
  - A plan to meet social care and support needs with the help of a multidisciplinary team, family members, friends and community services.
- Guidelines on evidence-based interventions to manage common declines in capacity in older age. These interventions are focused on:
  - **Improving musculoskeletal function, mobility and vitality** through a combination of exercise and dietary advice, with oral supplemental nutrition for undernourished older adults.
  - **Maintaining sensory capacity** through screening for visual impairment and loss of hearing.
  - **Preventing severe cognitive impairment and promote psychological well-being** through cognitive stimulation and psychological interventions.
  - **Managing age-associated conditions** such as urinary incontinence with prompted visits to the toilet and training of pelvic floor muscles.
  - **Preventing falls** through optimal medication, exercise, hazard control and other tailored interventions following individual assessments.

4.1.3.2 WHO mHealth for Ageing

mHealth for Ageing (mAgeing)[65] is an mHealth (mobile health) programme designed to complement the WHO ICOPE package. mHealth refers to the use of mobile devices, such as mobile phones, patient monitoring devices, personal digital assistants, and other wireless devices to support medicine and public health practice.[66] mAgeing supports evidence-based patient self-management and self-care for people at risk of physical and functional decline and is designed to complement and augment advice given by the healthcare worker. The mAgeing programme is introduced to patients after an individual needs-assessment and the development of a comprehensive care plan. Patients are targeted with messages to their mobile devices that focus on the maintenance of function and independent and healthy living through specific and actionable healthy behaviour change strategies that align with ICOPE Guidelines on community-level interventions. The messages are designed to encourage participation in activities, and to prevent, reduce, or even partly reverse significant losses in capacity.

Additionally, the WHO has developed a user-friendly ICOPE App for mobile devices or tablets with the aim of assisting in the implementation of the ICOPE programme in community care settings by providing an interactive step-by-step approach. The App also generates a printable summary of the resulting assessments, interventions, and care plan.

4.1.3.3 WHO Age-friendly Toolkit

The WHO approach to healthy ageing places significant emphasis on primary care. In order to make PHC facilities accessible and appropriate to the needs of older populations, the WHO has developed the Age-Friendly toolkit[67] to guide PHC clinics in modifying their structure to better fit the needs of their older patients. The toolkit is based on primary research at PHC clinics on factors contributing to effective, age-friendly facilities. Guidelines focus on the three key areas of: 1) information, education, communication and training; 2) healthcare management systems; and 3) the physical environment of the PHC centre.

Topics covered include:

- Effective communication with older persons.
- Age-friendly health promotion.
- Core competencies for geriatric clinical assessment and clinical management.
- Organising services for an age friendly PHC centre.
- Patient care coordinators.
- Age-friendly appointments.
- Referral systems.
- Directories for community-based services for older people.
- Universal design and appropriate signage for more accessibility.

4.1.4 South African Ageing Models and Policy

4.1.4.1 South African Policy for Older Persons

The South African Policy for Older Persons[68] was developed in 2005 after South Africa signed the political declaration adopting the Madrid International Plan of Action on Ageing in 2002. The policy outlines a multisectoral response to the challenges of ageing, which targets six areas of concern: 1) legal frameworks and institutional arrangements in the country regarding older persons; 2) income security and poverty reduction amongst older persons; 3) health and wellbeing of older persons; 4) housing and living environments of older persons; 5) social integration of older persons; and 6) the promotion of the status of older persons.[69]

Key elements of policy:

- Develop, implement and review all national health policies and strategies to ensure they respond to specific needs of older persons.
- Undertake research on older persons' needs to develop appropriate services.
- Offer free health services accessible to older persons.
  - **Access:** PHC services are free to all older and elderly persons and secondary and tertiary healthcare services are also made available to the older and elderly population and are free to all those older people in receipt of a social grant.
- Ensure in-service training on older persons' health needs to increase knowledge of healthcare professionals.
- Train CHWs on ageing issues.
- Inform older people in communities on health services and issues.
- Strengthen integrated geriatric services and training at all levels of the health system through tertiary education.
- Develop and implement a strategy for the provision of safe traditional medicine.
- The policy recommends that older persons' rights to appropriate healthcare are legally constituted and guaranteed and the delivery of health services meets the specific needs of older persons.

However, outside of the provision of free healthcare, social grants and the limited parameters of the Older Persons Act of 2006 discussed below, no further policy or legislation has been developed, and there has been little implementation of programmes targeting older persons across government sectors.[70] Of relevance to this review is the lack of acknowledgement or provision for the needs of older persons in health or mental health-related legislation policy or programming. 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 DoH or DSD will meet the health needs of an ageing population.

4.1.4.2 South African Older Persons Act 13 of 2006

The aim of this Act was the establishment of a framework that aimed at the empowerment and protection of older adults and to enhance the promotion of their status, rights, well-being, safety and security. The legislation also promotes a shift from institutional care to community-based care and regulates the registration and management of residential care facilities and community-based care and support services. This policy was developed by the DSD and does not factor in health-related criteria.[71]

4.2 Models and policies related to NCD Management

4.2.1 WHO models and policies

4.2.1.1 WHO Global Strategy for the Prevention and Control of NCDs and Action Plan

Reducing NCD mortality requires strengthened health systems to deliver services that improve diagnosis, treatment, rehabilitation and palliation, as well as policies that drastically reduce risk factors for NCDs.[54] In order to strengthen NCD services, the WHO has proposed the *Global Action Plan for the Prevention and Control of NCDs (2013-2020).*[72] This plan, endorsed by the South African government, provides an overarching framework for designing and implementing South Africa's own response to NCDs. Among other things, the strategy is based on a life-course approach, which includes a focus on healthy ageing. The strategy places significant weight on the promotion and prevention of NCDs at a community level and the WHO Global Action Plan includes evidence-based high-quality research on the determinants of NCDs. The concept of integrated care is central to the strategy, with the idea being that integrated healthcare systems are more cost-effective and more accessible and comfortable for patients.

To assist member states in achieving the objectives of the plan, the WHO provides detailed technical guidance to support the implementation of essential NCD interventions for PHC in low-resource settings through the WHO Package of Essential Noncommunicable Disease Interventions (PEN)[73] package. This package acts as a framework for strengthening the equity and efficiency of PHC and integrated NCD management in low-resource settings.

4.2.1.2 WHO Innovative Care for Chronic Conditions Model

Another critical foundational model is the the WHO's Innovative Care for Chronic Conditions (ICCC) model, which emphasises the need for an integrated health systems approach to chronic disease.[74] The ICCC emphasises a bottom-up approach to integrated care, with a focus on the improvement of healthcare workers' training and patient responsibility and self-management of their health. This includes the addition of services and support at a community level to manage NCDs.[74] The model has, however, been criticised as failing to significantly incorporate the complexities associated with multiple morbidities.[53,75]

4.2.2 South Africa: models and policies

Models

NCD Strategic Plan – The SA Strategic Plan for the Prevention and Control of NCDs 2013 – 2017

ICDM - Integrated Chronic Disease Management

ICSM - Integrated Clinical Services Management

ICRM - Ideal Clinic Realisation and Maintenance Programme

2) The SA Strategic Plan for the Prevention and Control of NCDs 2020-2025 (DRAFT)

3) The National Health Promotion Policy and Strategy 2015-2019

The ***Strategic Plan for the Prevention and Control of Non-Communicable Diseases 2013-17***[76] outlines the South African government's strategy for addressing noncommunicable diseases among the general population. The plan focuses on addressing 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, as well as school-based interventions and health services (with the intention of promoting and maintaining healthy lifestyles moving into adulthood). 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. The latest draft NCD strategy for 2020 to 2025 promises to take the WHO's life-course approach to prevention, management and control of NCDs, which will focus on age-appropriate interventions.[77] However, at this stage the focus is strongly on prevention at an earlier age and discussion of the needs of older persons is limited to one line in the document: "older persons for example have special management needs related to their mobility that need to be addressed".

As part of its PHC re-engineering and revitalisation efforts, South Africa has adopted the **Integrated Chronic Disease Management (ICDM)** model of care at PHC level for chronic diseases. The ICDM is a model of managed care that provides for integrated prevention, treatment and care of chronic patients in PHC settings.[78] The model takes a patient-centric view that encompasses the full value chain of continuum of care and support. Patients are seen for whatever chronic disease they have, including for multiple conditions, at the same visit. The ultimate goal is to ensure transition of patients to 'assisted' self-management within the community.[78] This approach is based on the WHO ICCC model and leverages the strength and innovations of the HIV programme to support or scale up services for NCDs.[79]

The broader **Integrated Clinical Services Model (ICSM)**[80] has also been introduced as part of the **Ideal Clinic Realisation and Maintenance (ICRM)** programme. The ICSM extends the ICDM model to include acute and minor ailments; maternal, child and women's health; and health promotion and disease prevention efforts.

Together, the ICDM and ICSM are designed to overcome the difficulties that vertical service delivery creates in terms of multiple patient visits (and therefore travel and waiting times and lost economic and social productivity), multiple patient files, polypharmacy, poor quality of care and poor patient outcomes. Using the health system building block framework of the WHO ICCC, the models aim to improve the efficiency and decrease the strain on the healthcare system by ensuring the coordination of care, transitioning to self-management at a community level and developing an individual's sense of responsibility for their own health. According to the NDoH, 97.2% of clinics had reorganised with designated areas for NCD management by 2018.[77]

A further aspect of the re-engineering strategy is the implementation of the Practical Approach to Care Kit (PACK) in all PHC facilities. The Adult Primary Care (APC) clinical tool has been developed for the NDoH from the PACK Adult and is a comprehensive and person-centred approach to the primary care of adults which is being implemented as part of the ICSM model and is complemented by the Health for All health promotion tool[iii] to promote healthy lifestyles and health education.[81] The APC has been developed using approved clinical policies and guidelines issued by the NDoH and is intended for use by all healthcare practitioners working at primary care level in South Africa as a clinical decision-making tool. The APC is designed to reflect the process of conducting a clinical consultation with an adult patient in primary care and is divided into three sections: 1) address patient's general health; 2) symptoms; and 3) primary conditions. The tool encourages health providers to assess older persons' general health at each health visit and act if a change in function is detected. It also considers mental health issues and considers loneliness as a stressor in older persons. However, these guidelines are not sufficient to identify declining physical and mental capacities, identify and address geriatric syndromes, and establish care needs, which are the focus of WHO healthy ageing strategies and ICOPE model.

The **Ideal Clinic Realisation and Maintenance (ICRM)** programme aims to develop and sustain PHC clinics with good infrastructure, adequate staff, adequate medicine and supplies, good administrative processes and adequate bulk supplies that use applicable clinical policies, protocols, guidelines as well as partner and stakeholder support, to ensure the provision of quality healthcare services to the community

Other initiatives taken to improve NCD care include:

- The provision of NCD medication to stable patients through the Centralised Chronic Medicines Dispensing and Distribution (CCMDD) model.
- The full inclusion of NCDS in the PHC Service Package drafted in 2015 and the inclusion of the most common NCDs into the Adult Primary Care package.
- Efforts to improve drug availability at hospital and primary care levels.
- The *National Health Promotion Policy and Strategy 2015-19* aims to improve longevity by promoting lifestyle change, creating supportive environments and developing personal skills for self-management of chronic conditions. This is achieved through community-based programmes and support groups run by health promoters.[82]

Although the ICDM and ICSM and ICRM models make no particular provision for older persons, many of the challenges faced by older persons in accessing appropriate care would be addressed by their effective implementation. However, studies of the healthcare experiences of older persons show they still experienced siloed services.[49–51, 83] However, older persons do benefit from chronic clubs focused on NCD management and the pre-packaging of medication. Werfalli[84] argues that complex multimorbidity remains a key challenge to current South African models of healthcare delivery and more work needs to be done

iii The Health for All', health promotion tool (2015/2016) is designed for use in Primary Health Care facilities by health professionals including (nurses and doctors) during consultation with patients to promote primary and secondary health risk identification and mitigation

to ensure integrated care across disease pathways and across primary and secondary healthcare services.

Research has shown that the ICDM has gone some way in improving service delivery. For instance, it has improved patients' records management through administrative re-organisation and improved clinical outcomes through clinical supportive management and assisted self-management for patients on antiretroviral medication[79, 85, 86] However, various systemic and infrastructural issues continue to impact integrated care and many of the ICDM objectives have not been achieved. Despite relatively high levels of implementation fidelity of the ICDM model,[87] researchers have found various shortcomings in the quality of care delivered. Chang et al.,[18] Ameh et al.,[79] Lebina et al.[87] and Magadzire[88] found that long waiting times, along with staff shortages, drug stock-outs, issues with pre-packaging of drugs, negative and uncompassionate behaviour of staff, rigid or poorly managed appointment systems, poor defaulter tracing and poor integration between vertical HIV programmes and general services, all negatively affected the implementation and effectiveness of ICDM. Additional health systems deficiencies impeding implementation include: inappropriately trained and inequitable distribution of healthcare personnel, inefficient and inequitable resource allocation (financial and equipment), multiple legacy health information systems that do not provide timeous information, a curative-oriented health service; and deficiencies in managerial capacity and health system leadership at all levels.[85,89]

Foremost is the need to mainstream older persons' needs in NCD management models such as the ICDM and shift to a patient-centred and more age-friendly approach to strengthening self-management.

5. THEMATIC REVIEW OF MODELS OF CARE FOR NCD MANAGEMENT IN OLDER PERSONS

We reviewed and compared existing models of best practice related to 1) care for older persons and 2) NCD prevention and management globally, to those in South Africa. We evaluated the applicability of these models in the South African context based on empirical evidence of implementation challenges and success in the existing health systems literature.

Based on our review, we identified 12 different recommendations common to all the models assessed, which are each discussed in detail below.

COMMON THEME/ RECOMMENDATIONS	
1. Integrated care	2. Community and home-based care
3. Community prevention/promotion	4. Self-management for patients and family- shared decision making with PHC WBOT team
5. Comprehensive assessment/ Individualised care plans	6. Case management/ coordinator/ patient care coordinator
7. Referral systems/appointments	8. Appropriately trained multidisciplinary teams
9. Digital health systems	10. HC Infrastructure and access to healthcare
11. Evidence-based guidelines- multimorbidity (clinical guidelines)	12. Intersectoral collaboration – health system alignment

5.1 Integrated care

The importance of integrated care across healthcare systems especially within PHC is now being recognised and is being woven into most global health models, including South African models. The need for coordinated, long-term integrated care for healthy ageing and the management of NCDs and multimorbidity is the strongest cross-cutting theme across all strategic and policy documents and literature reviewed. Integrated care involves alignment and collaboration within healthcare systems between administrative, clinical and organisational levels so that a patient can receive comprehensive and multi-dimensional care that is responsive to their own needs and not that of the healthcare provider.[90] Ageing needs to be mainstreamed in the development and implementation of integrated NCD care models.

5.2 Community and home-based care

South Africa has embraced a community-based care model and CHWs play a critical role in district health teams responsible for PHC. The PHC re-engineering project aims to decentralise healthcare and decrease the pressure on the PHC system by increasing number of ward-based outreach teams (WBOT). CHW outreach is also critical in terms of NCD screening and health promotion and complication prevention efforts. These activities are well supported by international recommendations on both healthy ageing and NCD management. Current WBOT activities should be extended to accommodate the needs of older persons and have strong links to primary healthcare services, must include scheduled follow-ups and support to older persons and their families and must be restricted to people at a low risk of death. CHWs and PHC centres need to

be able to link older adults to appropriate community services for older adults. CHWs can also play an important role in providing much needed psycho-social support for older persons,[5] which improve the wellbeing and, therefore, the health of older persons.

5.3 Community prevention/promotion

All models reviewed place heavy emphasis on community prevention and health promotion activities for the prevention of NCDs and maintenance of IC and FA as people age. The South African NCD management framework employs a life course approach, with a strong emphasis on prevention and promotion through legislation to reduce risk factors, promotion of healthy eating and physical activity and vaccination. To carry out effective behavioural change for NCD prevention, CHW need advanced communication abilities and counselling skills and CHW's role needs to include counselling older persons on lifestyle management and self-management of conditions.[91] CHWs also need to be linked to community networks in order to identify and negotiate community resources for older adults.

5.4 Self-management for patients and family-shared decision making with PHC WBOT team

Patient empowerment, self-efficacy and self-care and management is critical for healthy ageing. For management and control of chronic diseases, it is critical to have an active and informed patient in their own therapy and support for self-care have been shown to be powerful interventions.[85] Programmes that encourage self-management need to be made appropriate and understandable to older persons and family should be included in these activities.

5.5 Comprehensive assessment/Individualised care plans

Patient-centred care, which is one of the grounding principals of South Africa's draft NCD strategy (May 2020 version),[77] requires focusing on individual patient goals and needs rather than disease. In the case of older persons this can be achieved through comprehensive assessment and individualised care planning.

Comprehensive geriatric assessment and care planning is central to the WHO's approach to healthy ageing and associated frameworks. The Joint Action on Chronic Diseases and Promoting Healthy Ageing across the Life Cycle (JA CHRODIS)[92] group also put forward a multimorbidity care model for older people which posits that comprehensive geriatric assessment should be a basic element of all integrated care models in the older population. Comprehensive geriatric assessments (CGA) enables a broad evaluation of multiple aspects of the patient's physical, cognitive, and emotional well-being. It has been shown to be effective in identifying deterioration in IC and FA, making medical diagnoses and identifying psychosocial issues and facilitating access to medical care and social support.

CGA also allows for the development of an individualised care plan to be shared with the care team, patients and caregivers for the provision of harmonised clinical management and appropriate early and multi-disciplinary interventions that have the potential to reverse or slow losses in IC and prevent associated declines in FA, improve health and wellbeing and potentially reduce the individual and societal effects of disability and dependence. Care plans should take stock of the IC of the older person and its trajectory, specific conditions and

behaviours and should consider the older person's preferences and objectives, how they can best be addressed and how progress will be followed up. They should also aim to foster self-management by providing peer support, training, information and advice, both to older people and to their caregivers.[45]

Validated CGA instruments in geriatrics are typically time-consuming and require specialised expertise to perform and are typically used in high-income contexts. In an under-resourced health system such as South Africa's, developing an assessment instrument that can be used in the community by non-healthcare workers may be more feasible. The ICOPE model and associated community screener presents one low-cost model. The interRAI CheckUp Self-Report was recently piloted in South Africa and research demonstrated that it is possible for CHW to carry out screening assessments.[5]

5.6 Case manager/ coordinator/ patient care coordinator

For older persons with multimorbidity, lack of care coordination can lead to fragmented healthcare and inappropriate polypharmacy such as over-prescribing.[90] The entry point to older person-centred and integrated care is a strong case management system, in which individual needs are assessed and a comprehensive personalised care plan is developed around the single goal of maintaining FA. Case managers can ensure the implementation of care planning. In PHC facilities, patient care coordinators (who can be volunteers) can help older persons navigate various services, appointments, providers and lines; can help to coordinate internal and external referrals; and can act as patient advocates.[67]

5.7 Referral systems/appointments

For comprehensive assessment to have value, and for integrated care and multidisciplinary involvement to work, regular and sustained follow-up with patient is necessary – this prevents emergencies and associated costs. The WHO Age Friendly Toolkit and ICOPE model both recommend effective referral and appointment systems to maintain continuity of care. An effective follow-up system should be implemented for all patients who did not attend their session, with all absentees contacted and their reasons for non-attendance noted. Appointment systems must also be flexible to prevent patients from having to leave the ICDM model to receive care if they miss scheduled appointments or need acute care. Referral pathways from community to PHC systems need to be strengthened as research has shown that clinic staff did not feel responsible for patients referred from CHWs.[93]

5.8 Appropriately trained multidisciplinary teams

Older persons have complex and multi-dimensional health and psycho-social needs, and to provide person-centred, coordinated and integrated care for older people with chronic conditions, multidisciplinary input is essential. Healthcare providers, public health personnel and those who support healthcare organizations need new team-care models and evidence-based skills for managing multimorbidity in older persons. In South Africa, WBOTs and district-based specialist teams work together to help detect and manage chronic disease. Currently these teams are not necessarily focused on, or equipped to address, the needs of older persons. These teams need to work closely with CHWs

who identify older persons in need of support via screening initiatives (i.e. the ICOPE model). Given shortages of health professionals, task shifting to CHWs is essential and assessment instruments in geriatrics conducted by health workers can save medical professionals time and ensure that vital indicators of functional decline are not overlooked.[94]

Challenges around multidisciplinary teams also need to be addressed, such as the shortage of nurses[93] and socialisation around professional roles (e.g. physician vs. nurse), which can create barriers to cooperation, poor communication, interpersonal conflicts and barriers to change.[95] There is also a need to include other allied professions in the team such as clinical associates, social workers, health promoters, environmental health officers and clinical psychologists. Clear policies need to be put in place about interdisciplinary team working, clarity about each other's expectations, regular team meetings, open communication and a clear focus on patient care.

Health workers often have negative attitudes towards older people and manageable health issues are often overlooked or attributed to the ageing process, resulting in low levels of functioning, poorer health outcomes and diminished quality of life[53] Existing district-based specialist health teams need be strengthened and equipped to cater to the needs of the older population through training on integrated care provision, multimorbidity, geriatric syndromes, polypharmacy, function and impairment. Evidence-based clinical guidelines such as the ICOPE guidelines need to be available to health teams. Training in Geriatrics needs to be strengthened at the tertiary level and through continuous professional development and training initiatives across all health and allied health professions.[96] Training on communication is also essential – advanced communication abilities, behaviour change techniques, patient education, and counselling skills are necessary in helping patients with chronic problems.

5.9 Digital health systems

The digitalisation of health systems presents important opportunities to transform healthcare systems and strengthen healthcare integration by facilitating collaboration between different healthcare workers and between healthcare teams and their patients, and the collection and use of health data. There is also potential for these technologies to improve clients' access to care and potentially reduce HCWs' workloads.[97,98] The WHO and the Joint Action on Chronic Diseases and Promoting Healthy Ageing across the Life Cycle (JA-CHRODIS) group recommend investing in information systems, electronic health records and communication technologies to deliver integrated care for older people, empower older persons and enable self-management support and enable them to communicate more effectively with their care providers.[92,97] Digital health also has the potential to help address problems such as distance in rural settings and access to specialist care and, in the context of COVID-19, allow for physical distancing in the delivery of healthcare (see Section 6 below).

Digital health still shares many of the underlying challenges faced by health system interventions in general, including poor management, insufficient training, infrastructural limitations, and poor access to equipment and supplies, and lack of computer hardware and connectivity. These considerations need to be addressed in addition to the specific implementation requirements introduced by digital health.[97]

To ensure that digital health interventions are age friendly:

- Older persons may need support from CHWs or health workers in accessing mHealth or other digital health platforms and families may need to be shown how to assist their older family members.
- Uptake of digital health interventions will require free access to the public regardless of location, carrier or network, privacy and security, sustainability. This could be done in partnership with telecommunication providers as part of their corporate social responsibility work or funded by government. For example, Telkom has zero-rated access to official coronavirus information and educational URLs to help the youth access educational resources during lockdown.
- Sensitive health data needs to be protected and classified and a strong legal and regulatory base, and safety and security standards are required to protect privacy, confidentiality, integrity and availability of data.

South Africa has developed a National Digital Health Strategy for South Africa (2019-2024)[99] which integrates mHealth and eHealth to develop digital health foundations necessary for the implementation of the National Health Insurance system and develop digital health applications for planners, managers, administrators, healthcare workers, patients and citizens. The strategy outlines the need of digital health user journeys such as the child health journey or maternal journey. To cater to the needs of older persons and their health journey a healthy ageing journey needs to be developed based on the principals of ICOPE.

5.10 HC Infrastructure and access to healthcare

Healthcare facilities need to be made age-friendly through the principals of universal design, which will also make health facilities more accessible to people with disabilities. The Ideal Clinic Realisation and Maintenance (ICRM) programme (discussed in Section 4.2.2 above) is designed to address facility infrastructural issues and make healthcare more accessible and improve the patient experience. The Ideal Clinic should include provision for older persons and should be physically accessible (using principals of universal design) and include access to assistive devices.

5.11 Evidence-based guidelines for managing multimorbidity and older persons

Disease-specific guidelines and care plans do not take comorbidity into account. Clinical guidelines for NCDs need to be adapted to take multimorbidity and the health needs for older adults into account. A version of the Adult Primary Care (APC) guidelines focused on older persons, or the adoption of the WHO ICOPE guidelines are necessary to assist in identifying declining physical and mental capacities, identify and address geriatric syndromes, and establish care needs.

5.12 Intersectoral collaboration – health system alignment

A coherent and well-coordinated multi-sectoral response to the dual challenges of NCDs is recognised in both international and local models to address social determinants of health and reduce exposure to NCD risk factors through policy and legislation and education and outreach efforts. It is essential to mainstream ageing throughout government departments. Plans for this are outlined in the South African plan on ageing, however implementation has been weak and there is a lack of programming for older persons or budgetary allocation for older persons outside of old age grants.[69]

6. REVIEW OF EXISTING RECOMMENDATIONS AND EMERGING MODELS OF CARE OF PEOPLE WITH NCDS AND OLDER PERSONS IN THE CONTEXT OF COVID-19

6.1 Global context

During the COVID-19 pandemic, it is important to assist vulnerable populations, such as persons with NCDs and older persons, to avoid health facilities while maintaining established treatment regimens, thereby avoiding related exacerbation of chronic illness or loss in IC or FA that may result from treatment failure. It is also vital to support older persons in staying physically active to avoid de-conditioning and loss of fitness and to assist them in maintaining social contact to avoid loneliness and depression.

The COVID-19 pandemic and the need for physical distancing has resulted in widespread adoption of telehealth solutions globally. Previously telemedicine was seen as a novel, but non-essential approach which had little applicability outside of rural areas as there is still strong demand for in-person contact in healthcare.[100–102] The WHO Rapid Review of NCD services during the COVID-19 pandemic showed that triaging and telemedicine were the most used approaches to overcoming health care system disruptions in LMICs. Redirection of patients to alternate care facilities and novel pharmaceutical dispensing programmes have also been widely used.

To guide member states in managing essential health services in the context of COVID-19, the WHO has published two key guidance documents: 1) *Maintaining essential health services: operational guidance for the COVID-19 context*[103] *and 2) Community-based healthcare, including outreach and campaigns, in the context of the COVID-19 pandemic.*[104]

This guidance focuses on developing strategies to help people with chronic NCDs and older persons to avoid healthcare facilities unless they have acute symptoms or other urgent needs. Both documents include guidance on modifying service delivery models during periods of high transmission and restoring programme activities for NCDs as COVID-19 community transmission decreases. The guidelines cover NCD management for cardiovascular diseases, cancer, diabetes, chronic respiratory diseases, chronic kidney disease and oral health conditions and include sections focused on the needs of older persons, including those with underlying chronic conditions.

6.2 South Africa

Locally, Nyasulu and Pandya[105] have proposed a set of solutions to maintain essential health services in South Africa based on the six building blocks of the WHO Health Systems Framework. These recommendations focus on HIV and Expanded Programme on Immunization (EPI) services, but some solutions could also be applied to NCD management and healthcare for older persons (see Figure 1 below).

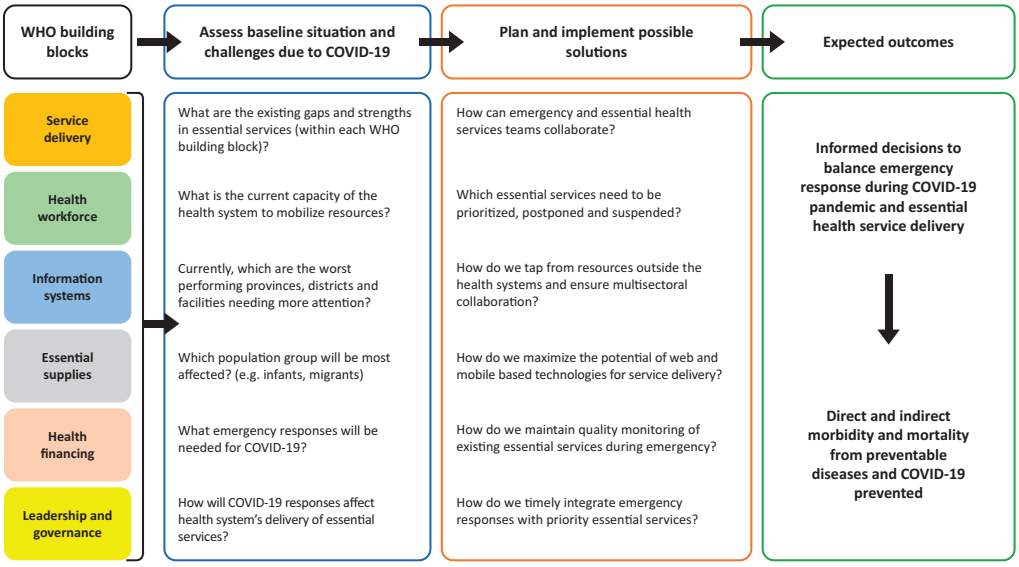

Figure 1 Nyasulu and Pandya's conceptual framework[105]

Based on their review of the literature, Young et al.[55] offer detailed guidance for shielding persons with NCDs in the South African context, all of which are broadly applicable to older persons.

Recommendations from the guidelines cited above are summarised below, along with some examples of international and local innovations that provide examples of useful programmes that may be introduced or rolled-out more widely in the South African context:

Community health workers

- Community-based models of care have distinct capacities for healthcare delivery and social engagement have a critical role to play in the response to COVID-19 and is essential to meeting people's ongoing health needs, especially those of the most vulnerable such as older people.
- The community health workforce and other community actors can contribute to the solutions for NCDs; these include providing continuing care to avoid disease progression and to prevent complications and acute exacerbations.
- CHWs can help people living with NCDs to plan their healthcare.
- CHWs can be engaged to help older persons who depend on the care of others.

Outreach and screening

- Create or update registers of older persons utilising primary health facilities.
- Reach out proactively to older people with underlying conditions or additional risk factors via phone, telehealth connection or home visits and develop mechanisms for regular monitoring and follow up – this includes those with chronic lung disease, cardiovascular disease including hypertension, immunodeficiency including HIV, diabetes, renal disease, liver disease, chronic neurological or neuromuscular disease, malignancy, or undernutrition.

- Follow up if an older person fails to attend scheduled appointments.
- Use media campaigns and CHWs to educate older people on measures to prevent and recognise COVID-19 and when and how to seek care to prevent serious health outcomes.
- Use age-appropriate communication to reach older persons individually or through the media
  - Adapt communication (verbal and written) to older people with impairments so that information is accessible and clearly understood.
  - Provide practical advice in a clear, concise, respectful and calm way, and repeat simple facts as frequently as needed.
  - Be mindful that wearing a mask prevents lip reading and decreases vocal clarity for those with hearing loss.
- Provide support and training to caregivers about COVID-19 prevention and identification, including how to recognise non-specific signs and symptoms of COVID-19 in older people, including fatigue, reduced alertness, reduced mobility, diarrhoea, loss of appetite and delirium with the absence of fever.
- Use non-profits or community-based organisations to screen at-risk older persons for vulnerability to COVID-19, for example by using the InterRAI COVID-19 Vulnerability Screener.[106]
- Ensure that older people who live alone or are institutionalised have access to nutritious food. Consider individual preferences and underlying physical limitations when ensuring this access (such as problems with chewing, swallowing or digestion).

Programmes to promote physical and mental wellbeing

- Social interventions targeting older persons in isolation have been adopted widely internationally, with community members checking in on older neighbours and more formalised programmes such as regular calling.
  - The Long Live the Elderly (LLE) programme in Italy has been particularly effective. LLE is a community-based pro-active monitoring programme based on a practical implementation of social networks, which aims to counteract loneliness and provide access to health and social services, including through telemedicine programming. During lockdown in Italy, people over the age of 80 years were frequently contacted and continuously monitored in addition to the programming of regular monitoring, drug delivery and other health, social and nutritional support. A study of the programme's effectiveness in the context of the pandemic found a 25% reduction in overall mortality in the LLE population over this period compared with age-specific mortality rates of the general population.[107]
- Develop programmes to promote safe physical activity and maintain mental health in the context of social distancing.
- Provide social support for older persons, particularly those in isolation and with impairments (such as visual impairment, hearing loss, cognitive decline or dementia) who may become more anxious, angry and stressed).
- Stress and anxiety can interrupt adherence[1–4] and support programmes should include check-ups on medication use.

- Screen older persons for the negative effects of social isolation (for instance by using the interRAI CheckUp Self-report instrument discussed in Section 5).
- Maximise the use of social grants available during the emergency to promote access to services by vulnerable populations such as older persons.

Telemedicine and other digital solutions

- Shift focus from conducting face-to-face, manual and paper-based routine operations and monitoring to utilising information technology and web-based platforms for maintaining services, for example:
  - Minimise face-to-face contact by offering telephone, virtual consultations whenever possible
  - Contact patients by text message, WhatsApp or email.
  - Existing models such as MomConnect, which aim to support maternal health using cell phone-based technologies integrated into maternal and child health services, could be extended to older persons for health promotion and prevention purposes.
  - Activate dedicated helplines for chronic conditions.
  - Shift some treatments from hospital to home with telemedicine support provided by someone with appropriate expertise.
- Develop guidance for the development and use of digital health solutions for NCD self-care and provision of medical care at home.
- Develop systematic approaches to digital healthcare solutions for NCDs going forward.

New ways of prescribing and dispensing medication

- Provide repeat prescriptions and mechanisms for delivering refills.
- Ensure adequate medication supply (2-3 months' supply based on stock availability).
- Provide remote prescription renewals, mobile pharmacies or medication dispensing units that could help serve people with chronic NCDs in the community.
- Maximise use of the Central Chronic Medicines Dispensing and Distribution (CCMDD) to reduce physical contact with service providers, allowing stable patients to collect their chronic medications at different pick-up points near their homes, i.e. outside the health facility.
- Local initiatives rolled out by the Western Cape, Free State and Gauteng health departments provide examples of how to deliver medications to patients outside of health facilities could be rolled out and maintained after the lockdown period to de-congest PHC facilities and shield vulnerable persons:
  - **Medication delivery**: In the Western Cape, an innovative model for home delivery of medications in Western Cape could enable up to 200 000 parcels per month to be delivered to people's homes via 2500 CHWs. The model leverages existing systems of community-oriented primary care and networks of NPOs and CHWs. During lockdown drivers from non-profit organisations (NPO), Ubers and

courier companies, government motor transport and volunteer drivers delivered pre-packaged medications of stable patients to NPOs for CHWs to collect for door-to-door distributions. This system could be continued for older persons post-lockdown and could also be used to deliver non-pharmaceutical materials and equipment needed by people with NCDs.[108]

- **Electronic dispensing units:** Right ePharmacy Dispensing Unit (PDU)[109] is an ATM-like innovation that uses electronic and robotic technology to dispense medication, decentralising dispensary services and providing chronic patients with fast access to their medication, while allowing them to stay away from public hospitals and clinics and reducing chances of Covid-19 infection. This has been rolled out at several sites in the Free State and Gauteng provinces.[110] In addition, a central dispensing unit has dedicated pharmacists who package and label medication daily and send it out for the various Collect & Go smart lockers. Right ePharmacy has site agents stationed at hospitals and clinics, who support patients and facilitate referrals to the NDoH Central Dispensing Units (CDUs). The CDU also send patients reminders to collect medication and notifies the clinic when the medicine is returned to the CDU. Once patients start using Right ePharmacy's services, they can collect repeat medication at the ATM pharmacy or smart locker. The CDU also packages and dispenses medication for local old age homes, limiting the time the elderly spends in clinics and hospitals.

Self-monitoring and management

- If possible, people with chronic NCDs can engage in self-monitoring, such as by taking their blood pressure and monitoring their glucose levels, or be supported by remote monitoring, or a combination of these.
  - Self-monitoring and management initiatives need to recognise the challenges older people may face in participating in either remote or self-monitoring programmes. These challenges include hearing or visual impairment, decline in IC or FA and a lack of confidence or skills using technology.
- Advise older people to have at home, if possible, at least 2 weeks of critical medicines and supplies.

Restructure PHC service delivery

- Integrate essential services with COVID-19 services at facility and community levels. For example, involve nurses responsible for NCD care in screening for COVID-19 and reporting cases, or enable COVID-19 tracing teams or other CHWs focused on COVID-19 to identify persons at risk who need health or support and make referrals.
  - Educate health professionals and CHWs to recognise non-specific signs and symptoms of COVID-19 in older people, including fatigue, reduced alertness, reduced mobility, diarrhoea, loss of appetite, delirium with the absence of fever.
- Ensure positive health-seeking behaviour and adherence to care by maintaining the population's trust in the capacity of the health system, to safely meet essential needs and to control infection risk in health facilities.

The communities should be sensitised and reassured through media, text messages and platforms like religious and other existing community structures.

- Close collaboration between essential services and COVID-19 teams to identify priorities, restructure essential services to accommodate physical distancing, promote task shifting at primary level, optimise the use of mobile/web-based technologies for service delivery/training/monitoring and involve private sector and non-health departments to increase management capacity.
- Prioritise current worse-performing provinces, districts and facilities, which need more attention and resources for delivery of essential services.
- Rearrange routine visits during periods of high community transmission.
- Encourage patients to avoid health facilities where possible – advise patient on symptoms requiring urgent care.
- If visiting the clinic, minimise time spent in the waiting area and contact with other patients by:
  - Cutting non-essential face-to-face appointments.
  - Careful scheduling of appointments and texting patients when their health provider is ready to see them.
  - Making provision in waiting rooms for physical distancing from other patients and from clinic administrative staff.
  - Avoiding routine blood tests unless results are likely to change management and phone with results instead of arranging return visit.
  - Ensuring measures are in place for staff health and safety.

Care planning

- Adapt care plans for the pandemic context and address the interventions needed to manage underlying conditions, self-management to maintain physical and mental capacities and goals and preferences for future treatment and care, including at end of life (advanced care planning).
- Discuss with the older person and their household an alternative plan to ensure continuity of care in case the main caregiver is unavailable and prepare a readily available care plan for handover.
- Discuss advanced care planning and the possibilities of palliative care, including end-of-life care, to allow informed, inclusive and autonomous decisions, if appropriate.
- Identify possible facilities (such as long-term care facilities, community centres) for short-term admissions.
- Identify options for relieving burdens on caregivers including psychological support and respite care.
- Assess changes in the availability and utilisation of social care services in the community (day care centres, services for home visits etc) and ensure alternative care plan is implemented if needed.

Invest in NCD management both for now and for the future

- Develop guidance for continuity of essential health and community services for NCDs now, but also invest in prevention, early diagnosis, screening and appropriate treatment of NCDs.
- Anticipate and plan for surge in capacity to manage backlog of non-urgent health services suspended during lockdown.
- Ensure adequate resourcing of NCD programmes and strengthening disease surveillance to ensure that relevant policies, best tools, and programmes can be implemented for mitigating the problems caused by COVID-19 along with comorbid conditions.[111]

7. RECOMMENDATIONS FOR SERVICE DELIVERY OF NCDS TO OLDER PERSONS IN THE CONTEXT OF COVID-19

See Annexure 1 for a tabulated summary of recommendations

Making NCD management more age friendly

- Consult with older persons and involve them in service planning to understand their needs and preferences.
- Strengthen approach to multi-morbidity in NCD management.
- Focus on preserving FA and IC rather than the presence of absence of disease.
- Utilise community health workforce and appropriate instruments to screen older persons at risk of IC and FA who may be overlooked by busy health professionals.
  - CHW's role needs to include counselling older persons on lifestyle management and self-management of conditions.
  - CHWs need to be trained to use health and wellness screening instrument such as the WHO ICOPE or interRAI CheckUp
- Appropriate referral pathways from the community to the PHC need to be built or strengthened so that persons at risk of IC or FA can be fully screened and individual care plans can be developed and implemented by a multidisciplinary team of health and allied health professionals, involving CHWs and social workers as the need arises.
- Strengthen and extend integrated health service offerings and multidisciplinary teams.
- Make health facilities more physically accessible and age friendly:
  - Consider practical and infrastructural issues such as challenges of standing in-line, need for adequate toilets, need for adequate signage that takes visual impairment into account, effective communication that takes hearing impairment into account and appointment reminders.
  - Have volunteers/CHWs available in PHC settings as care coordinators to help older persons navigate various services, appointments, providers and lines; help to coordinate internal and external referrals; and act as patient advocates.
- Provide training to all CHWs and health workers on ageing related issues.
  - Training for CHWs should include advanced communication and counselling skills
- Develop PACK guidelines for older persons.
  - These should draw on the WHO ICOPE model and need to include information on how to to identify declining physical and mental capacities, identify and address geriatric syndromes, and establish care needs.
- Collect data on the prevalence of NCDs and comorbidities and the health and social needs of older persons
  - There is a lack of data on older persons in South Africa.

- Data on the types of combinations and their frequencies could inform multimorbidity-related treatment guidelines on how care is designed and delivered.[18]

- Ensure that every primary care consultation with a healthcare provider includes an enquiry into the person's risk for NCDs and management thereof.
- Develop community prevention, health promotion and self-management campaigns that target older persons and consider their needs and interests.
  - Communication efforts need to consider that older people are more likely to have low literacy levels, physical or sensory disabilities that prevent them from accessing information or participating in community life and be less likely to be exposed to mainstream media.

Making NCD services available during lockdown more age-friendly

- Consult with older people, who can provide input on how to reach older people across different contexts, and in line with basic human rights.
- Combine CHW outreach or medication drop-offs with psychosocial support:
  - Generate a list of households where older people live, either from clinic records, pension databases or via community identification. These houses could be targeted by CHWs for screening, information sharing and support.
- Provide introduction and support to mHealth and telehealth interventions – could be achieved via CHW outreach.
- Encourage self-management and monitoring with support of caregivers or mHealth or telehealth interventions
- Restructure PHC to minimise time spent in clinics through telehealth, restructuring clinic infrastructure and systems and innovative dispensing and prescription models
- Develop communication strategies that target older persons and their caregivers
  - Regular communications with the public and at-risk populations is one of the most important steps to help prevent infections, save lives and minimise adverse outcomes from COVID-19.
  - Campaigns that focus on appropriate physical exercise and healthy eating while practicing social distancing.
  - As 70% of older persons receive older person's grants, social grant collection points (SASSA pay points, shopping centres, ATMs) can be sites of outreach for older persons on grant payment days. Where possible, health workers or trained volunteers should be on-site to share information, educational materials, and answer questions related to NCD management and COVID-19.
  - Consider providing information in multiple formats, such as braille, simple audio messages over loudspeakers, and easy-to-read formats that combine text and images, and in local languages and sign language.

Policy and strategic frameworks

- A review of existing policies and strategies to meet the needs of an ageing population is necessary across all sectors
- Budget allocation to older persons outside of old age grants needs to be reviewed across all sectors
- The Older Persons Act needs to be revised to include health services for older persons and clarify the role of the Department of Health and Department of Social Development with regards to the care of older persons, particularly in community settings
- Revisions to the draft National Strategic Plans for NCDs for 2020-2025 needs to lay out age-appropriate interventions for older persons, both in terms of prevention and management of NCDs.

Intersectoral collaboration

- It is essential to mainstream ageing throughout government departments through policy, legislation and appropriate programming.
- The NDoH and provincial DoH need to collaborate with community-level leadership, government health departments and other services and commercial partners to develop an appropriate and coordinated response to COVID-19 in the older population.
    - The DoH needs to work particularly closely with the DSD, which oversees long-term care and community programming for older persons, as well as the administration of social grants via SASSA.
- Multi-sectoral action can only be successful if data problems are addressed. Lack of available evidence-based research needs to be addressed in the context of ageing and NCDs and COVID-19.

ANNEXURE 1

Common Theme – Model and Action	Age-friendly NCD Management →	COVID-19 Integration and Care
1. Provide integrated care	It is essential that a wide array of age-friendly health service providers (NCD, COVID and geriatric-related) must work together in a coordinated manner	Psychosocial support needs to be factored in at all levels of care particularly because stress and anxiety can interrupt adherence of NCD health plans and weaken immunity Integration of all diseases, including COVID-19, is important with both communicable and non-communicable healthcare services operating holistically within SA health systems
2. Promote community prevention/ promotion and home-based care	The following essential NCD-related services need to be implemented: invest in health promotion, prevention, and community involvement; early diagnosis, screening and appropriate treatment of NCDs to be provided; home-based services that include scheduled follow-ups	CHWs play an essential role and need to provide continuing care to avoid disease progression; to help with individual NCD healthcare planning and to alongside this conduct COVID-19 screening for at-risk older persons who may be vulnerable. This will include the provision of Covid-19 and NCD education This needs to be integrated at a facility and community level
3. Ensure self-management for patients and family- shared decision making with HC team	Develop support mechanisms within communities for self-management, caregiver support, and transportation of older people to clinics and hospitals when needed. This must involve CHWs providing older people with the information, skills and tools that they need to manage NCDs	Older adults that have chronic NCDs who are vulnerable to COVID-19 must have their treatments moved from clinics/hospitals to their home via telemedicine services where possible. This must include the whole healthcare team and the family in healthcare plans and educational NCD-COVID-19 training Older people and their caregivers should be encouraged and assisted to develop care plans appropriate to the COVID-19 and develop or adjust advanced care plans as required.
4. Provide a comprehensive assessment/ Individualised care plans	The use of integrated care plans must be developed based on the outcomes of comprehensive assessments and should be a basic element of all integrated care models in the older population, as this allows a broad evaluation of multiple domains. The use and implementation of multidimensional tools such as the interRAI Check-Up-Self-Report or WHO ICOPE may help providers capture more comprehensive health information and facilitate care planning.	Comprehensive geriatric assessments need to incorporate COVID-19 screening assessments such as the interRAI COVID-19 Vulnerability Screener into care planning to take into account patient's chronic conditions/COVID-19 vulnerabilities, as well as risks of anxiety, stress and depression due to isolation.
5. Ensure case management/ coordinator/ patient care coordinator is provided.	For effective health system functioning, effective and appropriate clinical and primary care supervision must be provided by the District Management Teams Care coordinators to be present in PHC facilities to assist older persons navigate the health system and help facilitate internal and external referrals.	Cases of COVID-19 need to be reported and COVID-19 tracing teams enabled to identify persons at risk who are in need of health or support and can make referrals
6. Ensure Referral /appointments systems are in place	The key features of an appointment system in PHC that need to be implemented, especially with older populations in the post-COVID-19 context are 1) shorter waiting times, 2) simple management and referral systems, 3) continuity of PHC providers and 4) appointment times of appropriate length to deal with multi-morbidity Referral pathways from the community to PHC systems need to be strengthened as research has shown that clinic staff did not feel responsible for patients referred from CHWs. Patient care coordinators can assist in following up on referrals.	Non-essential face-to-face appointments need to be avoided among high risk older adults and to rather be replaced with eHealth/telemedicine If it is essential for a patient to come to a clinic, the careful scheduling of appointments need to occur, with older persons having priority for appointments Incorporate a system where patients receive a text when their healthcare provider is ready to see them

ANNEXURE 1

Common Theme – Model and Action	Age-friendly NCD Management →	COVID-19 Integration and Care
7. Provide appropriately trained multidisciplinary teams	The scope of practice for CHWs needs in relation to NCDs needs to include counselling older persons on lifestyle management and the self-management of chronic conditions. CHWs need training on advanced communication skills, counselling skills and issues related to ageing. Clear policies need to be developed in non-hierarchical multidisciplinary teamwork that incorporates regular team meetings and agreement on patient care. Geriatric competences in conjunction with NCD management needs to be developed as part of continuing education of healthcare workers and must be included in medical students' education and training Multidisciplinary teams need to work closely with CHWs who are in positions to identify older persons who may need support via screening initiatives (such as the interRAI CheckUp and the ICOPE model). Given the shortages of health professionals, task shifting to CHWs is recommended which should include the use of geriatric screening assessments such as the interRAI CheckUp and ICOPE, as this can save medical professionals time and can ensure that vital indicators of functional decline are not overlooked	Provide support and training to caregivers about COVID-19 prevention Multidisciplinary healthcare teams need expertise regarding COVID-19 in relation to multimorbidity, polypharmacy and complexity in older patients
8. Use digital health systems and communication	Information and communication technologies need to be introduced that can help to transform health systems to deliver integrated care for older people Introduce digital health solutions for NCD self-care and provision of medical care at home Implementation of the WHO mHealth for Ageing (mAgeing) package	Activate dedicated helplines for chronic conditions and Covid-19 and to incorporate the use of telehealth for at risk patients Introduce medication delivery services and electronic dispensing units to allow stable patients to collect their chronic medications at different pick-up points near them outside the health facility To introduce eHealth campaigns that focus on appropriate physical exercise and healthy eating while practicing social distancing
9. Provide age friendly HC Infrastructure and access to healthcare	Health facilities need to be more physically accessible and age-friendly, with affordable transportation services to healthcare facilities being introduced Consider practical and infrastructural changes in clinics that accommodate impairments and disability	If a patient is visiting the clinic, minimise time spent in the waiting area and contact with other patients by making provision in waiting rooms for physical distancing from other patients and from clinic administrative staff Avoid routine blood tests unless results are likely to change management and to phone with results instead of return visits being arranged Provide remote prescription renewals, mobile pharmacies, medication dispensing units or medication delivery services that could help serve older people with chronic NCDs in the community.

ANNEXURE 1

Common Theme – Model and Action	Age-friendly NCD Management →	COVID-19 Integration and Care
10. Use evidence-based guidelines and policy- multimorbidity (clinical guidelines)	Healthcare providers and organisations need to implement team care models and evidence-based guidelines for managing chronic conditions and integrated care for older people. These need to be sensitive to the needs of multimorbid older patients PACK guidelines for older persons to be developed for use in health facilities. The current draft of the Strategic Plan for the Prevention and control of NCDs 2020-2025 (version May 2020) needs to factor in the importance of the health needs of older persons, which is currently not present in this draft	The two key WHO COVID-19 guidance documents need to be adopted into health organisations and community programmes. These include: 1) Maintaining essential health services: operational guidance for the COVID-19 context and 2) Community-based health care, including outreach and campaigns, in the context of the COVID-19 pandemic
11. Ensure Intersectoral collaboration- health system alignment	Multi-sectoral action needs to be evident and conducted in a holistic manner. The DSD, alongside the NDoH, need to be included in decision-making for care relating to older adults and budget allocation outside of old age grants needs to be reviewed. Multi-sectoral action can only be successful if data problems are addressed. Lack of available evidence-based research needs to be addressed in the context of ageing and NCDs alongside COVID-19. The Older Person's Act 13 of 2006 must be reviewed with the intention of new policy development that factors in health-related criteria and clarifies the DoH and DSD's responsibilities around provision of care and the roles and responsibilities of caregivers in relation to health staff. The National Development Plan 2030 needs to be reviewed and to incorporate how the NDOH and the DSD will meet the health needs of ageing populations	Prioritise current worse-performing provinces, districts and facilities, which need more attention and resources for delivery of essential services. Human resources from other non-health departments need to be involved to provide the required leadership and coordinate with health department. These could include Departments of Finance, Agriculture, Education, NGOs and multi-national partner institutions

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