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An exploratory study of context and factors shaping policies for integrated management of multimorbidity in Malawi

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Abstract

Background Malawi faces a high burden of chronic diseases. There is an increasing prevalence of multimorbidity, where individuals experience the coexistence of two or more chronic communicable and noncommunicable diseases. International organizations such as the WHO call for policy reforms that embrace integrated disease management. Our study explored the policy environment and decisions directly relevant to the delivery of integrated multimorbidity care in Malawi.

Methods This was a cross-sectional qualitative study. We used a single case-study methodology combining two sources of data: a document review of policies published between 2000 and 2023 ($N=11$) and key informant interviews with policymakers ($N=13$). We used the policy triangle framework to examine the context in which the policies aimed at improving management of multimorbidity were formulated, the actors involved, the policy process and the contents of the policies. Additionally, we identified barriers to the implementation of these policies.

Results Malawi advocates for integrated health promotion, screening, treatment and management of chronic conditions across key policies, with a bias towards noncommunicable disease (NCD) + NCD and NCD + human immunodeficiency virus (HIV) integration. Integrated disease management was seen as a tool to accelerate achieving global and local goals such as the Sustainable Development Goals and universal health coverage. However, the formulation and implementation of these policies have been challenged by several factors including unclear burden of multimorbidity, donor-driven priorities through vertical disease funding and inadequate number and training of healthcare workers to manage multimorbidity.

Conclusions We suggest that the timely provision of resources, creation of guidelines for multimorbidity management, building clinicians' capacity and harmonization of donor–government goals should accompany policy rollout for integrated multimorbidity management.

Keywords Health policy, Integration, LMIC, Multimorbidity, Policy implementation

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Introduction

The increasing incidence of chronic diseases in sub-Saharan Africa (sSA), poses a serious public health challenge [1]. There is an overlap in causative factors of these chronic conditions. This means that they rarely occur in isolation, which leads to an increasing prevalence of multiple long-term (chronic) conditions known as multimorbidity [2]. Several studies have shown increased prevalence of multimorbidity of chronic diseases that can be passed on to other individuals (communicable) and gradual onset of those that cannot be passed on to other individuals (noncommunicable diseases, also known as NCDs) [3]. Although multimorbidity includes chronic communicable and NCDs, most studies from sSA report the multimorbidity of NCDs (such as hypertension, diabetes, cancer, chronic respiratory diseases, arthritis, sickle cell and epilepsy), except for the human immunodeficiency virus (HIV) and tuberculosis (TB) as communicable conditions [4–6]. In Malawi, some studies report multimorbidity in 16.1% of adults aged 19–39 years presenting to NCD clinics and 63.5% of adults presenting to hospitals with HIV [3, 7]. Among patients with cancer with multimorbidity, HIV (43%), depression (9%) and hypertension (8%) multimorbidity were prevalent in Malawi [8]. Multimorbidity is associated with increased mortality, reduced quality of life and greater use of healthcare services [3, 9].

The convergence of diseases around multimorbidity calls for multidisciplinary and multisectoral action. In contrast, most healthcare systems are currently single-disease oriented which leads to incoherent and ineffective multimorbidity management. In the past, vertical programmes have proven successful for conditions such as HIV and tuberculosis [10], but now, integrated care is seen as a possible solution to the growing demand for quality and efficient services for people living with multimorbidity [11, 12]. The WHO advocates for the integrated management of multimorbidity, believed to improve access to care, lower the duration and frequency of hospital admissions and improve treatment adherence [13].

Policies and guidelines for integrated service delivery for multimorbidity are available in some high-income countries [14]. In sSA, vertical disease programmes have set successful foundation for integration, with most integrated services and treatment guidelines for NCDs being built around existing successful HIV services [15]. These include NCD screening, prevention and control incorporated into HIV services, such as that in Uganda and South Africa [16, 17]; HIV prevention and control added to primary healthcare already providing NCD services, and simultaneous introduction of integrated HIV and NCD services such as introducing cervical cancer and HIV screening in Zambia, Tanzania and Nigeria [17].

Successful implementation of integrated management of multimorbidity requires supportive policies [18]. Policy formulation is generally a complex process, often influenced by global and domestic actions [19]. The extent to which policies, and later action plans, are formed and implemented is moulded by political, socio-economic and infrastructural factors [20]. For example, low- and middle-income countries (LMIC) often face financial constraints that limit the scope of health programmes they can offer [21]. Despite this, a well-managed and resourced policy process should result in good guidance to facilitate service delivery. In the case of Malawi, little is known about how multimorbidity policies have been made and implemented and how this affects disease management. We explore how and why current health policies addressing multimorbidity in adults were developed, disseminated and updated in Malawi. We examined integrated multimorbidity care in current health policies in Malawi and report on policymakers' perceptions of the policy processes and roll-out in Malawi.

This study is nested in a larger Multilink research consortium. Multilink aims to design and test a system that identifies multimorbidity among patients seeking emergency care in hospitals in Malawi and Tanzania and links them to appropriate care. Further details on the specific aims and methods have been described elsewhere [22, 23].

Methods

Study design

This was a cross-sectional qualitative study using an interpretivist paradigm. We used a single case study design to facilitate the exploration of the policy environment for integrated multimorbidity care within the Malawian context, assuming that authoritative knowledge would aid in answering our study questions [24, 25]. The case was the health policy response to multimorbidity. The case study method was appropriate because it allows an in-depth understanding of how policies are designed and implemented in their context [26]. The case study approach has been used to explore the contents and factors that shape health policy in other low-income countries [27, 28].

Conceptual framework

We adopted the Walt and Gilson policy triangle framework to explore multimorbidity policy in Malawi. The framework has been used widely to explore health policies in many low-income countries [29]. The framework focuses on four interrelated components: (1) context in

which policies were formulated (situational, structural, cultural or exogenous factors); (2) policy content which frames the objectives, actions, targets and implementation plans; (3) policy actors (stakeholders) and their influence on policymaking and (4) policy processes followed to formulate and implement the policies [30]. Guided by the framework, we conducted policy document review and key informant interviews (KIIs) with a purposively selected sample of policymakers, to understand their perspective policies across the components of the framework.

Study site and participants

This study was conducted in Malawi, a low-income country (LIC) where 55% of the health budget is funded by donors across 166 financing sources [31]. Malawi runs under a decentralized government system guided by the Local Government Act, with the health service delivery power being with the local government (districts). The central government's role is to enhance performance through formulating, updating, coordinating and implementing policies and strategies by supporting districts through collaboration, training, dissemination and supervision [32]. The general district funding allocation is also done at the central level. We selected the Chiradzulu district and Blantyre City to represent the local government and the Ministry of Health to represent the central level, and we included representatives from funders. We selected Blantyre and Chiradzulu as these are the districts where phase 1 of the Multilink study was being implemented. Our key informants included individuals with experience in formulating chronic disease-related policies and strategies who had held their policymaker position for more than 3 months. We excluded policymakers who were not involved in policies for chronic conditions. This group included policymakers at the local (Blantyre and Chiradzulu) and national levels.

The first two participants were purposively identified through the NCD Technical Working Group (TWG), and snowball sampling was used to identify the remaining participants. We aimed to conduct interviews until we reached data saturation, which is possible between 9 and 17 interviews [33].

Data collection

Document review

Between July 2023 and January 2024, we conducted a comprehensive search for documents of interest via open Google, PubMed, government sites and the UN and WHO databases (Fig. 1). The key terms used in our search included multimorbidity, comorbidity, chronic disease, chronic conditions, HIV, non-communicable diseases, NCD, national, policy, program[me]s, health plans, strategy, guidelines and Malawi. The Curative and Medical Rehabilitation Directorate (Additional file 1) of the Ministry of Health confirmed these documents and provided soft copies of documents not found online.

The lead author (PhD candidate) and second author (MSc holder), trained in qualitative research methods, screened the document title and conditions of interest. We considered policy documents (policies, strategies, guidelines and action plans) published between 2000 and 2023 that focused on chronic conditions, excluding print media, acts and laws. We focused on documents published from the year 2000 because this is when Malawi outlined key strategic options for improving the health status of Malawians [34]. If documents had been updated, we considered the most recent update. We extracted data into Microsoft Excel sheet, including document name, date of use/issue, conditions covered in the policy, policy implementation plans and key actors involved.

Qualitative interviews

The lead author (G.T.B.) piloted the semi-structured interview guide before data collection. G.T.B. conducted the interviews in English, at a mutually convenient time and place, either in person or via Microsoft Teams. Interviews lasted between 60 and 90 min but were sometimes shortened to accommodate the participants' busy schedules. The interviews also sought perspectives on policy rollout and dissemination, including the gaps they encountered or anticipated concerning policy implementation.

Data management

We audio recorded all interviews with consent using the Garmy digital voice recorder and transcribed them verbatim in English. Participants were assigned a unique identification to anonymise their identity. All documents with identifiers, such as consent forms, were securely stored in a locked drawer at the Malawi Liverpool Wellcome Programme (MLW) facilities. We stored electronic transcript copies on a password-protected computer and a Microsoft SharePoint drive accessible only to the Multilink study investigators.

Data analysis

The transcripts were coded in NVivo (version 12) [35]. We used a thematic approach for analysis following Braun and Clarke's recommendation [36]. Authors G.T.B. and M.T. read and reread three initial transcripts in Microsoft Word, marking emerging issues to draft the first codebook, which authors F.L. and R.M. reviewed. Authors G.T.B., F.L. and R.M. held biweekly meetings to discuss emerging issues and reach a consensus. G.T.B. collated the codes into themes and subthemes.

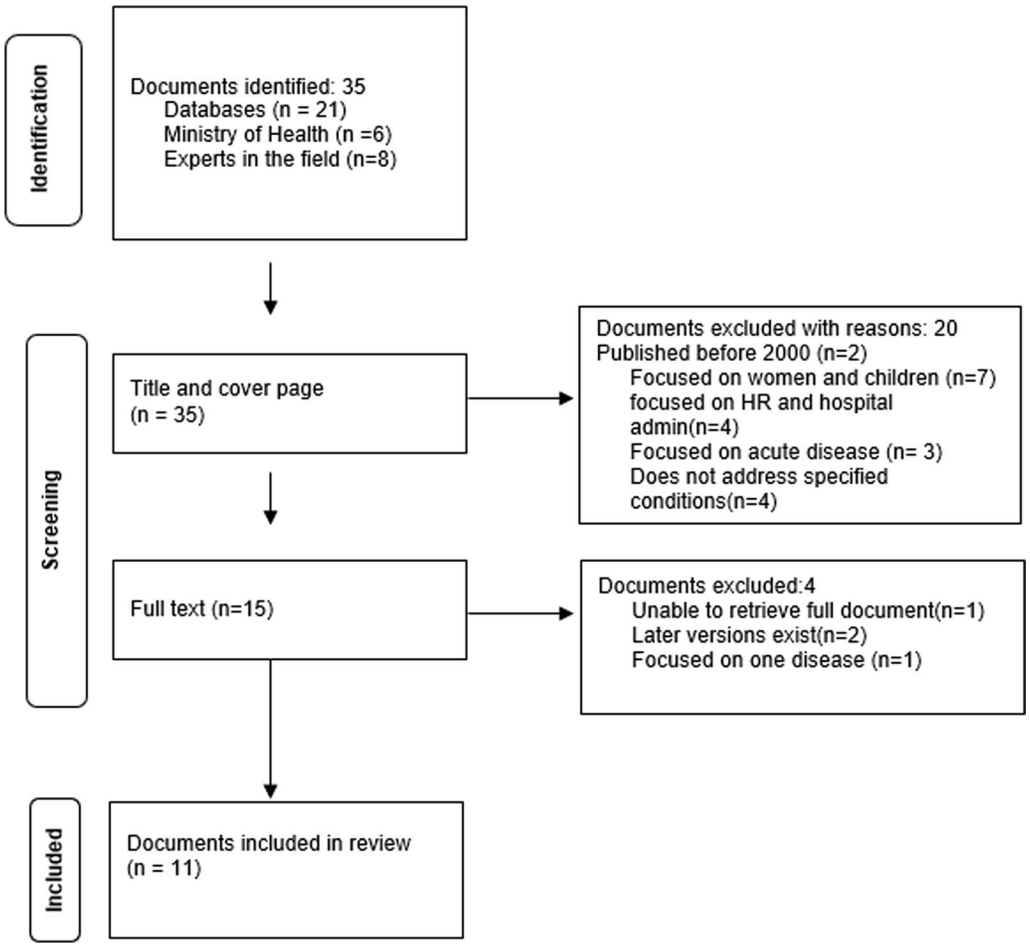

Fig. 1 Flow diagram of document selection

Reflexivity and trustworthiness

The lead author presented the scope of the study at a TWG, where some of the participants were members. This may have led the initial recruits to respond to questions as if the lead author was already familiar with the policies. The initial meeting and interaction with several of the participants may have limited the type of questions the lead author asked. Authors E.R.M.P. and R.M. worked within a policy unit that worked closely with the Ministry of Health and possessed in-depth knowledge of the policy structures and policy content that contributed to the analysis of this paper. Several checkpoints with the research team ensured that we did not miss any context as reported by the participants.

Trustworthiness in qualitative research ensures that the data are credible, transferable, dependable and confirmable [37]. To maintain this, two authors independently performed policy identification, screening and data extraction from policy documents. Author G.T.B. and M.T. compared codes across three transcripts for validation. The research team held discussions during biweekly meetings to reach a consensus. Once validated, codes were applied to all transcripts by the lead author, and themes were developed. The themes were then discussed and approved by the research team. Additionally, participants were contacted by phone, and the context in which their quotes were used was read back to them, ensuring an accurate reflection of their perspectives.

Results

We reviewed 11 chronic disease-related policy documents published between 2013 and 2023 (Fig. 1). However, only four policies were still in their period of use at the time of our study (Table 1). We approached 13 policymakers who all consented to be interviewed. Most of our participants were from the Ministry of Health and had prior clinical experience (Table 2). None of our participants dropped out of the study.

We present data following the components of the policy triangle framework. Upon further analysis, we

Table 1 Table summarizing the included policy documents

Document title	Years	Conditions covered	Intended purpose	Comment
Health Promotion Policy	2013	HIV, hypertension, diabetes, mental health	To reduce preventable deaths and disability through effective health promotion interventions	The policy includes NCDs such as diabetes, hypertension and mental health with an emphasis on service provision within the primary health sector policy, mentions the need for health promotion to prevent morbidity and mortality and acknowledges NCDs often share common risk factors; it siloes the conditions without making mention of the occurrence of multimorbidity - It also called to strengthen health systems and ensure "well-functioning information systems." However, the policy does not indicate what a well-functioning information system looks like or how this will be evaluated
National HIV Prevention Strategy	2015–2020	HIV, NCD (NCDs mentioned briefly)	Reduce new HIV infections by 70% by 2020/ reduce stigma and discrimination	They identified various implementing partners from both the public and private sector who will work together to reduce new HIV infections by 70% and reduce stigma by 2020 The policy also aimed to guide the formulation of an integrated NCD and HIV guidelines, but they did not specify when they would want these guidelines to be ready by or how they will be evaluated
National Alcohol Policy	2017	HIV, cancer, diabetes, heart disease, liver cirrhosis	To promote health sector response to harmful alcohol use; to reduce diseases, injury and disability attributable to alcohol	They applied several of the WHO recommendations to ensure alcoholic beverages include health- and social-behaviour warning labels By 2019, the policy aimed to integrate counselling for heavy drinkers within the WHO package of essential NCDs without laying out a comprehensive strategy to achieve this
National Action Plan for the Prevention and Management of Noncommunicable Diseases in Malawi	2017–2022	Cardiovascular diseases, diabetes, cancer, chronic kidney diseases, chronic lung diseases, chronic neurological diseases (e.g., epilepsy, mental illnesses)	Improved level of sustained, accessible, comprehensive and integrated chronic NCD services that incorporate prevention, early detection and screening, diagnosis, referral and treatment to improve the quality of life for Malawians	Although the strategy does not outline multimorbidity, it calls for integrated chronic NCD services that incorporate prevention, early detection and screening, diagnosis, referral and treatment, with the hope of improving the quality of life
National Health Policy	2018	HIV/AIDS, cardiovascular diseases/NCDs	Reduce premature mortality from NCDs by one third through prevention and treatment by 2030; combat HIV epidemic/reduce mortality by cardiovascular diseases to 3% in 2030, from 12% in 2015	The policy gives general direction for achieving UHC for Malawians with a mention of those living with HIV and NCDs
Malawi National Multisector Nutrition Policy	2018–2022	HIV, diabetes, obesity	To reduce the prevalence of overweight and nutrition-related NCDs among the general populations and to control malnutrition among PLWHIV at the community and facility level	The policy was to have supporting documents such as the prevention and treatment of nutrition-related NCDs guidelines/strategy which we were unable to access

Table 1 (continued)

Document title	Years	Conditions covered	Intended purpose	Comment
Malawi National Cancer Control Strategy	2019–2029	Cancers, HIV	Reduce the incidence, morbidity and mortality and improve the quality of life for people living with cancer	The strategy fails to quantify the targets, though it acknowledges the limited data collected on the prevalence and burden of cancers in Malawi -The strategy does not make mention of other NCDs or integration with other chronic conditions outside of HIV/AIDS
National Strategic Plan for HIV/AIDS	2020–2025	HIV, NCD	To increase coverage and provision of high-quality integrated HIV and other related diseases (NCD, viral hepatitis and cancer services); screen and effectively treat NCDs in people living with HIV (PLWHIV), especially hypertension, diabetes and dyslipidemia; to strengthen and integrate the health system to deliver integrated comprehensive HIV services with sexual and reproductive health services (SRHS), NCD and nutrition across the continuum of care at all levels of the health sector	This document acknowledges the importance of integrating services as a means to manage coinfections or comorbidities It plans on promoting integrated health services delivery: more specifically, integrating HIV with TB, SRHR, NCDs, viral hepatitis, mental health and nutrition Effective integration requires coordination, which the document fails to expand on, as it leaves the National AIDS Commission in charge of its operations
Malawi Mental Health Policy	2020	NCDs, HIV, "chronic conditions", epilepsy, mood affective disorders	Reduce the burden of mental health problems and improve access to integrated quality mental health	The policy mentions the association between mental ill-health and HIV/AIDS. However, it does not mention integrating mental health and other NCDs or the shared risk factors and association with other NCDs
Malawi PEN-PLUS Operation Plan	2021	Hypertension, diabetes, chronic kidney disease		This is the only document that mentions chronic kidney disease care It outlines care for each health level and lays out referral systems
Health Sector Strategic Plan 3	2023–2030	HIV/AIDS; hypertension (CVD) diabetes, chronic respiratory disease, cancer, neurological and mental health disorders, injuries and emergencies	To increase equitable access to, and improve quality of, healthcare services; to improve overall health, environmental health and prevent disease through addressing social determinants of health and burden of disease; to improve the availability, accessibility and quality of health infrastructure and medical equipment at all levels of healthcare; to improve the availability of competent and motivated human resources for health for quality health service delivery that is effective, efficient and equitable	The motto is "one plan, one budget, one report" which means integrating all services including budgets so as to remove siloed funding for specific diseases The strategic plan fails to elaborate how funding will be allocated and managed with this mission

Table 2 Participant demographics

Category		Ministry of Health	Ministry of local government	Funders
Gender	Male	4	2	3
	Female	2	2	0
Highest level of education	Diploma	0	1	0
	Bachelor	2	2	0
	Master	2	1	2
	PhD	2	0	1
Years of experience	0–4	0	1	0
	5–9	3	0	1
	10–14	3	3	0
	15–19	0	0	1
	20+	0	0	1
Clinical exposure	Yes	5	4	2
	No	1	0	1

identified subthemes which have been presented under the components of the framework. Table 3 in Additional file 2 shows our comprehensive findings from the policy analysis, which have been narratively summarized below.

The context in which policies were formulated

Results from the document review and key informant interviews revealed several factors that led to policy formulation including government structures, international recommendations, emerging evidence and donor interests. The policies also acknowledged the impact of population growth, increasing life expectancy and the high burden of disease.

Adopting international recommendations

The government of Malawi is a signatory to several global and regional commitments. Most policies indicated the need to respond to global goals such as the 2015 Sustainable Development Goal (SDG) 3 which calls for "good health and well-being." The policies also indicated a commitment to accelerate achieving universal health coverage (UHC) and strategies by the WHO and African Union (AU), which were slow. For example, the WHO Package of Essential NCDs Plus (PEN-PLUS) action plan was developed in response to the WHO Africa region's suggestions to include decentralized and integrated outpatient services for complex NCDs (including chronic hepatitis) to achieve UHC.

> *"We've been developing policies and strategies to align ourselves to global strategies because we can't do things in isolation. So, as we develop them to suit our environment, we also make sure that they are aligning to those developed within African region and learning what they're doing" (Pm_mw06, female, Ministry of Health).*

Participants reported policies leaning towards integration from the community level were formulated to accommodate the fact that most of the Malawian population resides in rural communities. Several felt integrated screening within the communities would cut the opportunity cost of travelling to clinics and accelerate achieving UHC.

> *"If people in rural areas come to the clinic to get screened, and they give up a day working on their farm and find that there's no medication or working BP machine, they're just not going to come back the next time. So, we had to take the services there" (Pm_mw11, male, Funder).*

Responding to emerging evidence

Participants reported that the growing evidence of the coexistence of HIV and NCDs led to a shift in focus from just HIV, TB and other communicable diseases to NCDs.

> *"We were focusing on helping someone with HIV, but in the end lost that same person to diabetes or hypertension" (Pm_mw04, female, Ministry of Health).*

Previously, cancers and other common NCDs were seen as so-called diseases of the rich in Malawi. NCDs were also underdiagnosed and underreported with limited locally generated data and weak structures at the ministry level to collect population-wide data on disease prevalence. Policymakers gave an example of the WHO-funded 2009–2010 STEPwise survey, which revealed a significant burden of hypertension, diabetes and asthma. The emerging evidence led to the establishment of the NCD unit, which brought an overwhelming desire to produce the first NCD-specific strategy (Additional file 2). This also created a window of opportunity to develop a policy document that established the NCD unit and marked the prioritization of NCDs and advocacy at the policy level, which also acknowledged multimorbidity with HIV.

> *"Now, to the increase in those prevalence rates, the ministry established the unit in 2011 after the STEPS survey because initially, the NCD unit wasn't there" (Pm_mw07, male, Ministry of Health).*

Adapting to local and political structures

All policies reviewed had a subsection highlighting linkages with existing policies, legislation and strategies which include Vision 2020, Health Sector Strategic Plans (HSSP) and Malawi 2063, which recognize the need for

Table 3 Overview of the contents

Document title	Intended purpose	What the policy says about integrated care delivery	Budget provided
Health Promotion Policy	To reduce preventable deaths and disability through effective health promotion interventions	The policy includes NCDs such as diabetes, hypertension and mental health with an emphasis on service provision within the primary health sector Policy mentions the need for health promotion to prevent morbidity and mortality and acknowledges NCDs often share common risk factors but does not mention integration	The strategic plan plans to "clearly define cost estimates and potential funding gaps" but does not provide any costs to the implementation
National HIV Prevention Strategy	Reduce new HIV infections by 70% by 2020/ reduce stigma and discrimination	The policy aimed to guide the formulation of an integrated NCD and HIV guidelines; however, they did not specify when they would want these guidelines to be ready by or how they will be evaluated	Provides a budget for HIV specific activities
National Alcohol Policy	To promote health sectors response to harmful alcohol use; to reduce diseases, injury and disability attributable to alcohol	The policy aimed to integrate counselling for heavy drinkers within the WHO package of essential NCDs without laying out a comprehensive strategy to achieve this	Does not provide a budget
National Action Plan for the Prevention and Management of Noncommunicable Diseases in Malawi	Improved level of sustained, accessible, comprehensive and integrated chronic NCD services that incorporate prevention, early detection and screening, diagnosis, referral and treatment to improve the quality of life for Malawians	Calls for integrated chronic NCD services that incorporate prevention, early detection and screening, diagnosis, referral and treatment	Does not provide a budget but calls for alcohol and tobacco taxes to go to the health sector
National Health Policy	Reduce premature mortality from NCDs by one third through prevention and treatment by 2030/combat HIV epidemic/reduce mortality by cardiovascular diseases to 3% in 2030, from 12% in 2015	The policy gives general direction for achieving universal health coverage for Malawians without mentioning integration Calls for strengthening the prevention and management of HIV and NCDs as separate disease groups	Does not provide a budget
Malawi National Multisector Nutrition Policy	Reduce the prevalence of overweight and nutrition-related NCDs among the general population and to control malnutrition among PLWHIV at the community and facility level	The policy was to have supporting documents such as the prevention and treatment of nutrition-related NCDs guidelines/strategy which we were unable to access	Does not provide a budget
Malawi National Cancer Control Strategy	Reduce the incidence, morbidity and mortality and improve the quality of life for people living with cancer	Calls for integrated cervical cancer screening within ART clinics	Provides a budget for trainings and infrastructure but did not detail the cost for integrating HIV services
National Strategic Plan for HIV/AIDS	To increase coverage and provision of high-quality integrated HIV and other related diseases (NCD, viral hepatitis and cancer services); screen and effectively treat NCDs in PLHIV, especially hypertension, diabetes and dyslipidemia; to strengthen and integrate the health system in order to deliver integrated comprehensive HIV services with SRHS, NCD and nutrition across the continuum of care at all levels of the health sector	It plans on promoting integrated health services delivery: more specifically integrating HIV with TB, SRHR, NCDs, viral hepatitis, mental health and nutrition	Provides a budget for HIV-specific services

Table 3 (continued)

Document title	Intended purpose	What the policy says about integrated care delivery	Budget provided
Malawi Mental Health Policy	Reduce the burden of mental health problems and improve access to integrated quality mental health	Provide comprehensive, integrated and responsive mental health services to all individuals, families and communities and all levels Train healthcare workers to screen for mental health within ART, NCD and antenatal clinics	Does not provide a budget
Malawi PEN-PLUS Operation Plan		Provide integrated, chronic care services for many of the severe NCDs prioritized by the Malawi NCDI Poverty Commission and chronic hepatitis Integrate with HIV missed-visit tracking for people default from clinics	Provides a budget for implementation
Health Sector Strategic Plan 3	To increase equitable access to, and improve quality of, healthcare services; to improve overall health, environmental health and prevent disease through addressing social determinants of health and burden of disease; to improve the availability, accessibility and quality of health infrastructure and medical equipment at all levels of healthcare; to improve the availability of competent and motivated human resources for health for quality health service delivery that is effective, efficient and equitable	Provide integrated people-centred care from primary to tertiary levels "One plan, one budget, one report" which means integrating all services including budgets so as to remove siloed funding for specific diseases	Provides a budget implementation

integration. Interestingly, some participants viewed the HSSPIII as a translation of existing health policies, while others described it as a tool to guide the formulation of new policies.

> *"I think, much as not all expired policy documents have been updated, you have no choice with the HSSP, otherwise the sector doesn't exist. The way I look at it is that the HSSPIII is a translation of health policies in Malawi. If we have a health policy, we must have a HSSP" (Pm_mw08, male, ministry of local government).*

Recent policies have been structured in response to reforms across the WHO building blocks which led to service delivery reforms from vertical funding to integrated interventions at point of delivery. Several policymakers felt that health systems reforms showed high political will to improve service delivery. However, several participants feared that integration faces hesitation because it may need restructuring of the Ministry of Health.

> *"Integration is also feared because it might mean certain departments within government need to be collapsed. But politically will that work?" (Pm_mw13, male, Funder).*

Rethinking health financing

The Malawian health system faces low government investment and is heavily dependent on donors, often leading to disease-specific funding. For a long time, NCDs were underfunded with priority going to HIV, tuberculosis, malaria and other communicable diseases. Participants reported that integrated approaches are a means to reduce siloed approaches while improving access to care for all patients. For example, the current HSSP (HSSPIII) was formulated based on health financing reforms which aim to reduce siloed services, through having "One Plan, One Budget and One M&E." The health sector also wants to revise public facility access to remove free services for all. This means that certain so-called non-poor populations and those working in informal sectors will now pay a fee to access public health facilities, which they believe will increase domestic funding towards health service delivery.

Policy content

Most policies ($n = 7$) focused on service delivery, and two explicitly discussed disease prevention. A detailed description and summary of the findings from the policy documents can be found in Table 3.

Integration in policies

None of the policy documents reviewed explicitly mentioned multimorbidity as a term. However, the National Action Plan for the Prevention and Management of NCDs (2017–2022), National Mental Health Policy (2020), The National Cancer Control Strategic Plan (2019–2020), National Strategic Plan for HIV and Acquired Immunodeficiency Syndrome (AIDS; 2020–2025) and the HSSPIII (2023–2030) highlighted integrating HIV services with tuberculosis, sexual and reproductive health, NCDs, viral hepatitis, mental health and nutrition at the systemic and clinical level. The National Strategic Plan for HIV and AIDS explicitly acknowledges the essential act of integrating services to manage coinfections or comorbidities, while the rest vaguely talk about the benefits. Apart from disease screening, we found that the modes of integrated care were rather vague. This implies that integrated multimorbidity care has been incorporated into Malawian health policies.

Almost all policies mentioned the integration of NCD services with HIV programmes. However, we noted several gaps in terms of integration among NCD multimorbidity. For example, the National Cancer Control Strategy does not mention integration with other NCDs. This is a missed opportunity, as cancers share risk factors with other NCDs. Several policymakers saw the integration of HIV and other conditions as an opportunity to highlight the growing burden of NCDs, that has historically been neglected.

> *"We spent so much time on HIV and AIDS, TB, malaria, not knowing that we have a bigger animal sleeping but getting bigger and those are NCDs. So, integration shows that they are all important," (Pm_mw05, male, Ministry of Health).*

The HSSPIII, National Action Plan for the Prevention and Management of NCDs and the PEN-Plus Operation Plan mentioned the need for integrated screening for long-term conditions, when the PEN-PLUS included testing for chronic hepatitis. In contrast, at the time of writing the 2021 PEN-PLUS operation plan, the document indicates that glucometers, blood pressure cuffs and weighing scales were among so-called nonessential supplies at secondary facilities in Malawi. This means that even though integrated screening was recommended in existing policies, allocating resources to achieve it was not implemented.

Multisectoral implementation plans

In all policies, the implementation plan involved multisectoral action in both public and private sectors. However, we find that there was a lack of detailed

responsibilities and prescriptive action, which can hinder the implementation of policies and in turn, challenge the success of these policies. For example, the Alcohol Policy acknowledges harmful consumption as a risk factor for HIV, cancers, diabetes, liver cirrhosis, heart disease, mental health and injuries and was intended to promote health sector response to harmful alcohol use. We noted that most of the implementation was left in the hands of the police department and little from the health aspect even though the Ministry of Health is the lead. This risks the so-called criminalization of people living with alcoholism without providing adequate healthcare support. Several policymakers felt that several components of the policies are not implemented because there is poor enforcement, accountability and weak monitoring frameworks, which we noted were missing from most of the policies.

> *"We had quite serious challenges implementing the alcohol policy. The main challenge is that nothing happens when rules are not followed" (Pm_mw07, male, Ministry of Health).*
> *"So, you usually have the policy document that explains who key players are and their roles. The biggest challenge has been how to monitor the outcomes of everything that you've inputted into the policy and the buy-in from other stakeholders or other members" (Pm_mw05, male, Ministry of Health).*

A promising feature in most of the policies is the high priority given to community-based and primary healthcare approaches, which several policymakers feel shows the acknowledgement that primary healthcare is key in tackling multimorbidity. Several policymakers reported a lack of guidelines for community workers as a potential barrier as lower cadres may not have adequate information on multimorbidity.

> *"We work with community health workers to share the message to improve screening and understanding of NCDs, but there are no guidelines for the community level. Nothing to consolidate the message or tell them that this is how we manage a patient with HIV and diabetes, this is what we look for" (Pm_mw02, female, ministry of local government).*

Willingness to invest in integration

Several participants mentioned that integrated multimorbidity care is not cheap because you need to have a system in place, which requires significant investments. In total, five of the policies reviewed had budgets for implementation and operations (Table 3). The National Cancer Control strategy and the National HIV Prevention Strategy only budgeted for disease-specific activities, despite mentioning plans to provide integrated care. The majority of HSSPIII budget went to infrastructure and medical products and developing human resources. Even though the budgets were not clearly elaborated in the policies, policymakers reported that all activities pertaining to achieving integrated care had been adequately budgeted for.

> *"With integration, we have planned it around thematic areas. So, our activities are also based on the WHO building blocks, that's how we aligned most of our activities. So that is looking into the availability of drugs, skilled health workers, equipment. We have also added in a lot of engagement meetings with the implementors and the health workers" (Pm_mw05, male, Ministry of Health).*

Actors in the policy process

Document review revealed a wide range of actors participating in the policy formulation process, including various ministries, funders, research institutions and civil society organizations, with the Ministry of Health leading. Non-health sector stakeholder engagement during the policy formulation process was not elaborately explained outside of those at the ministry level but were expected to be part of the implementation. Having non-health sector stakeholders as part of the implementers shows Malawi's commitment to include the health agenda in all policies and practices as recommended by the WHO Health in All Policies (HiAP). Though the health in all policy supports policy actors beyond the health sector as key players in policy formulation and implementation, there is a need for a coordinated approach in planning and ensuring implementation. Otherwise, there is a risk of neglecting other outcomes or expectations, that is, the case of alcohol policy in Malawi.

Several respondents reported poor engagement of healthcare workers and low representation of people from the community level and the primary healthcare level. Policy documents that we reviewed did not acknowledge contributors on an individual level; therefore, we were unable to see how many involved healthcare workers.

> *"We rarely involve people that are working on the ground for policy formulation. I think community healthcare workers should be involved because impact on policy making because they would be talking about their challenges, how they do their works and then what they have observed is working and maybe suggest what can work according to what is on the ground" (Pm_Mw02, female, ministry of local government).*

All the policy documents included in this study provided an implementation plan that involves multisectoral partnerships in accordance with the WHO global strategy [38]. Respondents acknowledged multisectoral involvement in policy processes as a tool to ensure integrated management policy success because factors around multimorbidity transcend the health sector.

> *"Because we realized that most of the issues which we are combating are not health sector problems. So, we had to involve other sectors" (Pm_mw06, female, Ministry).*

Varying stakeholder influence

Participants echoed that various stakeholders were consulted throughout the policy formulation and dissemination process in workshops, with academia and research institutions contributing to the pool of evidence and patient groups contributing to the feasibility of the policies. Participants also reported an imbalance of power between stakeholders, mainly funders, and local government. Funders influence policy through vertical funding, which affects policy content, direction and implementation.

> *"They [funders] usually focus on infectious diseases which influences service delivery because when we are developing the integrated strategy, sometimes because of lack of resources, we must rely on the funders. You end up skewing the focus according to what the funders want" (Pm_mw06, female, Ministry of Health).*

Several respondents from the local government felt that they were only invited to the table to tick a box, and their input was not valued as that of other stakeholders.

"As a district representative, our presence is merely cosmetic. We make recommendations, but I know that sometimes, it's the people up there that make the decisions" (Pm_mw09, male, ministry of local government).

Policy formulation process and implementation

Policies followed similar processes that included a series of meetings between senior management. Participants unanimously recognized the importance of having a guiding instrument such as the HSSPIII, which aids in synergizing the strategies and action plans produced by the ministry. However, some respondents reported that the idea of waiting for one guiding document (HSSP) makes the process long and slows policy updates and evaluations. This delay means Malawi relies on outdated versions of key policies such as the National Action Plan for the Prevention and Management of Noncommunicable Diseases and Mental Health in Malawi.

> *"It expired in 2022…they said we should wait until the HSSPIII is finalized so that all documents produced should align with the HSSP. So currently we're still working on updating it" (Pm_mw09, female, Ministry of Health).*

All of the respondents described the policy process as consultative and following a government blueprint for inclusion and consultation to ensure ownership and successful implementation. The policy dissemination process has been described as a "cascade," with the Ministry of Health leading the launch, printing out and training, except some policies, such as those for HIV, which are led by external donors. The top-down dissemination process could mean not all healthcare workers implementing these policies are aware of the contents or equipped to act.

Unclear multimorbidity burden

Most policies presented single disease burden data in their introduction sections. Participants reported a challenge in obtaining adequate and frequent data on the burden of multimorbidity, highlighting that the system used to capture the data is not always functional and does not account for multiple conditions within an individual. They also reported insufficiencies within the system. For HIV and NCD multimorbidity, several respondents felt a lack of harmonization between the two departments at the Ministry of Health level was driven by different expectations and requirements. This leads to the fragmented care, making integration less effective at the ground level.

> *"You would see that the NCD Department and the HIV Department are just the opposite doors at the Ministry of Health, but they don't have any form of communication or integration. When you look at the ART MasterCard, there is a slot for screening for high blood pressure, but how do we use that information? There is no involvement of the NCD team in that" (Pm_mw10, male, Ministry of Health).*

Vertical funding undermines integration

All respondents reported a misalignment between policies and actual practices in most districts, except for Neno, where Partners in Health successfully implemented integrated HIV and NCD services following the PEN-Plus model. Participants attributed this to fragmented care to single disease donor funding. Participants praised the strides made in HIV care and the functional and well-resourced systems that accompany it, owing to an influx of donations from Global Fund and PEPFAR who set the HIV activities to be funded, including drug

procurement, policy and guideline training for implementers and monitoring sessions. Unlike communicable diseases such as HIV, malaria and TB, the implementation of NCD activities is usually left to a constrained government budget, leading to unequal availability of resources, including medication. Participants described how this led to NCDs been neglected and in general perpetuates single disease focus.

> *"We still run vertical programs. Because of the vertical program, integration of hypertension and HIV does not work due to challenges with supply chain. Drugs for HIV are available all the time, but the rest often stock out" (Pm_mw12, male, funder).*

Inadequate number and training of healthcare workers

There is a conflict between the vertical approach of the health system and integration, with healthcare workers caught somewhere in the middle. For example, ART clinics can screen and diagnose NCDs but refer patients to an NCD clinic instead of managing them at the ART clinic, which exposes patients to frequent hospital visits and increased out-of-pocket costs. Several participants felt healthcare workers are inadequate in number and unequipped to provide integrated multimorbidity care as their knowledge is biased towards communicable diseases. They cited limited on-the-job NCD training compared with training for HIV and other communicable disease management and poor guidance provided to healthcare workers through policy dissemination and training to equip them to implement the policies.

> *"Our providers are not well trained. We are yet to reach to a point where every healthcare worker is confident enough to manage diabetes and HIV in one person, to manage diabetes and chronic kidney disease. So, the first barrier is having healthcare workers who do not have adequate knowledge and the confidence to manage multimorbidity" (Pm_mw03, male, ministry of local government).*

Discussion

We found that Malawi is among the countries in sub-Saharan Africa advocating for integrated care delivery for chronic communicable and NCDs in recent policies. Although multimorbidity is not explicitly mentioned in the policies reviewed in this paper, consideration of integrated disease management implicitly acknowledges multimorbidity. Facilitators in policy formulation and implementation included political commitment to local and global agendas and availability of leadership. Barriers to implementation included unclear burden of multimorbidity, single-disease funding and inadequately equipped healthcare workers.

In addition to trying to attain locally set health goals, international recommendations such as the SDGs, UHC and other WHO strategies also influence Malawi's policies [39, 40]. The influence of external actors in policy formulation is common, especially in sSA [41]. Aligning policies with international guidelines has been seen as a sign of government commitment important for health policy processes [19, 42]. While the government's ability to commit to international recommendations to provide integrated chronic disease care may be seen as political will, our findings of insufficient government funding for policy implementation contradict this [38, 40, 43]. This contradiction has been previously reported in NCD prevention policies in Malawi, Cameroon, Nigeria, Kenya and South Africa [44]. Several studies say a lack of resources and technical allocation by governments can mean a lack of genuine will.[45] However, the Malawi government has attempted to harmonize donor funds and distribution to implement HSSPIII, which may contextually assure their political will to implement integrated service delivery by leveraging available resources [31].

Our findings reveal an imbalance of power between local policymakers and external actors, who oftentimes fund the process. Other studies have shown how power is inherent to policy formulation and is expressed through policy dialogue, rollout and implementation [29, 46, 47]. Although some studies in sSA show that policy emergence can result from government and donors holding equal power and working in synergy towards a common interest, our respondents felt donors usually drive the agenda through siloed resource allocation which sometimes counters the aims of integrating management [48, 49]. Our findings also confirm observations from Malawi, Cambodia and Pakistan, that donors control financial resources for health, which was reflected in vertical funding [31, 50]. In line with findings from a 2013 study in Mozambique, we found that vertical funding perpetuated health system inequalities and undermined integration due to an unequal supply of resources, especially between HIV and NCDs [51]. We believe Malawi may have needed vertical services to manage the HIV pandemic in earlier years as it was an emergency. Still, there has long been a need to shift the focus and look at HIV as a chronic disease, rather than an acute infection.

Participants reported an imbalance of healthcare worker's knowledge between communicable and noncommunicable diseases. A study in Mozambique found vertical funds for HIV supported training and incentives to HIV-specific staff, which did not support other chronic conditions and led to knowledge bias [51]. The specialized

on-the-job training, vertical reporting and supervision structures for vertical disease could explain why participants felt some healthcare workers were not well trained to provide integrated care.

Our findings support the idea that power in policy is not always a top-down approach and that healthcare workers influence the impact of a policy [45]. Considering that most healthcare workers in primary and secondary facilities are generalists and cut across multiple departments (mostly due to understaffing), we did not expect to find clinician barriers. However, this could be due to a lack of clear guidance for healthcare workers on the multimorbidity disease burden and integrated service delivery. The availability of clear national guidelines was reported to facilitate the implementation of HIV and NCD integration in Ethiopia [52].

The unclear burden of multimorbidity data reported in this study is not unique to Malawi [15]. Lack of local data has been a recurring issue in health policy formulation in LMIC [28, 43, 53]. For example, HIV and NCD programmes are managed by different departments that do not share data, despite HIV patient cards recording and screening for NCDs. This leads to poor reporting of HIV–NCD multimorbidity. NCDs also face challenges in capturing prevalence and morbidity data. The poor availability of NCD data at the facility level has been reported in other studies [54]. Mulupi et al. reported that the lack of reliable (multimorbidity) data to inform policies and resources, coupled with the limited capacity and low availability of staff to manage these conditions, also perpetuates the neglect of some NCDs, which we believe undermines integration [43].

Several studies show that multimorbidity care is a large expense to the health system [55, 56]. Even with integration, large investments may be required to restructure the health system [57]. It is assuring to see a large proportion of the HSSPIII budget being allocated to infrastructures, medical products and human resources, which can potentially restructure the health system. However, the low allocation of funds for service delivery may lead to implementation delays or even resistance from the wider health system if not addressed.

Strengths and limitations

We triangulated findings from policy documents and interviewed policymakers which provided some explanations of the policy content and a deeper understanding of the context in which they were created. We also believe the timing of this study is a strength, as it aligns with local and global efforts. For example, this study was conducted before the frameworks and action plans for the HSSPIII were completed, meaning that it can provide some data to the process.

The study has several limitations. First, the study focuses on integrated multimorbidity care from the lens of NCDs and HIV, which is not surprising considering the common multimorbidity clusters; however, it does not reflect all possible multimorbidity requiring interventions. Second, the use of respondents who were part of the policy formulation process may have limited their introspective response to the challenges and limitations of the policy processes. Third, we did not involve some stakeholder representatives, such as research institutions, healthcare workers, nonhealth actors and civil society organisations, which could have provided broader perspectives. However, triangulating various participants and policy documents ensured that various aspects were captured in context. We reached saturation with our sample and explored all aspects of the study. Further research is needed to understand the level and extent of power healthcare workers hold to influence policies. Further studies should also examine multimorbidity policies beyond the HIV + NCD angle.

Conclusions

We have shown that Malawi has taken the initiative to incorporate chronic disease management in its policies through advocacy for integrated care. We believe that ensuring comprehensive data that captures multimorbidity will require restructuring data collection tools and harmonization of the different units within the ministry to share their findings. In Malawi and other sSA, resource allocation, integrated digital information systems, building clinicians' capacity through integrated multimorbidity care workshops and harmonizing donor-government goals to accompany integrated care policy rollout and implementation. The integration of horizontal programmes within the existing vertical funding stream can be key to creating context-specific solutions that can start by leveraging the existing HIV routine training and supply chain. Tailoring integration approaches to the local context within sSA will ensure sustainability. However, government ownership and strategic planning are critical to ensuring sustainable care, particularly in anticipation of major changes in priorities and donor support, which may impact HIV platforms that several African countries leverage for multimorbidity integration. Before the HSSPIII expires in 2030, stakeholders should consider producing and adequately disseminating integrated multimorbidity treatment guidelines, which should go beyond HIV + NCDs.

Supplementary Information

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Additional file 1.

Additional file 2.

Additional file 3.

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Author contributions
G.T.B., F.L., R.M. and M.T. conceptualized the study. G.T.B. and M.T. drafted the initial codebook, and F.L. and R.M. and M.T. approved the codebook and themes. G.T.B. and E.R.M.P. identified, screened and extracted relevant data from the policy documents. G.T.B. drafted the manuscript and all authors have read, critically reviewed and approved the final manuscript. This manuscript was written on behalf of the Multilink Consortium, which acquired the funding.

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Availability of data and materials
All data generated or analysed during this study are included in this published article and its supplementary information files. Anonymized copies of original transcripts can be shared upon reasonable request.

Declarations

Ethics approval and consent to participate
We contacted participants by phone or email for the initial introduction of the interviewer and research topic. We emailed the study information sheet in advance to allow time for informed consent. All participants consented to be interviewed, audio recorded and quoted in research dissemination. The interviews were conducted in a private room (both physical and virtual) with just the interviewer and participant. All study participants were financially compensated for their time. The study received ethical approval from the College of Medicine Research and Ethics Committee (COMREC) in Malawi, ref. P.11/21/3462, and the Liverpool School of Tropical Medicine in England, ref. 21–086.

Competing interests
The authors declare no competing interests.

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References

1. Amu H, Brinsley TY, Kwafo FO, Amu S, Bain LE. Improving investment in chronic disease care in Sub-Saharan Africa is crucial for the achievement of SDG 3.4: application of the chronic care model. Arch Public Health. 2023;81(169):1–5. https://doi.org/10.1186/s13690-023-01181-5.
2. Multimorbidity: a priority for global health research London: the Academy of Medical Sciences; 2018 [cited 2024 03/11]. 11–13]. Available from: https://acmedsci.ac.uk/file-download/82222577.
3. Spencer SA, Yongolo NM, Simiyu IG, Sawe HR, Dark P, Dula D, et al. The burden of multimorbidity-associated acute care hospital admissions in malawi and tanzania: a prospective multicentre cohort study. 2024.
4. Oni T, Youngblood E, Boulle A, McGrath N, Wilkinson RJ, Levitt NS. Patterns of HIV, TB, and non-communicable disease multi-morbidity in peri-urban South Africa – A cross sectional study. BMC Infect Dis. 2015. https://doi.org/10.1186/s12879-015-0750-1.
5. Roomaney RA, van Wyk B, Turawa EB, Pillay-van WV. Multimorbidity in South Africa: a systematic review of prevalence studies. BMJ Open. 2021;11(10):e048676-e48776. https://doi.org/10.1136/bmjopen-2021-048676.
6. Kwaitana D, Jafali J, Bates MJ, van Breevoort D, Mildestvedt T, Meland E, et al. Demographic and clinical characteristics of older people with multimorbidity accessing primary healthcare in Malawi: a cross-sectional study. J Multimorbidity Comorbidity. 2025. https://doi.org/10.1177/26335565251317380.
7. Kasambara A, Kamndaya MS, Masangwi SJ, Mulaga A. Non-communicable diseases and HIV/AIDS burden by socio-demographic characteristics in Malawi. J Glob Health Rep. 2023;7:e2023080–180. https://doi.org/10.2939/001c.91080.
8. Banda JC, Muula AS. Burden of chronic disease comorbidities among cancer patients at queen Elizabeth and Kamuzu central hospitals in Malawi: an exploratory cross-sectional study. Pan Afr Med J. 2021. https://doi.org/10.1160/pamj.2021.40.167.31069.
9. Spencer S, Rylance J, Quint J, Gordon S, Dark P, Morton B. Use of hospital services by patients with chronic conditions in sub-Saharan Africa: a systematic review and meta-analysis. Bull World Health Organ. 2023;101(09):558–70. https://doi.org/10.2471/BLT.22.289597.
10. Zakumumpa H, Rujumba J, Kwiringira J, Kiplagat J, Namulema E, Muganzi A. Understanding the persistence of vertical (stand-alone) HIV clinics in the health system in Uganda: a qualitative synthesis of patient and provider perspectives. BMC Health Serv Res. 2018. https://doi.org/10.1186/s12913-018-3500-4.
11. Salisbury C, Guthrie B, Bower P, Mercer S. How should health policy respond to the growing challenge of multimorbidity?: Public Library of Science; 2018.
12. Health Organization Regional Office for Europe W. Integrated care models: an overview working document. 2016. http://www.euro.who.int/pubrequest
13. Goodwin N, Stein V, Satylganova A, Tello J, Barbazza E. Integrated care models: an overview WHO working document. Copenhagen; 2016.http://www.euro.who.int/pubrequest
14. Chandraratne N, Harrison C, Siriwardena A, Pithirathna K. A comparison of policies and guidelines related to multimorbidity in the UK, Australia and Sri Lanka. Aust J Gen Pract. 2018. https://doi.org/10.3112/AFP-09-17-4346.
15. Adeyemi O, Lyons M, Njim T, Okebe J, Birungi J, Nana K, et al. Integration of non-communicable disease and HIV/AIDS management: a review of healthcare policies and plans in East Africa. BMJ Glob Health. 2021;6(5):e004669-e4769. https://doi.org/10.1136/bmjgh-2020-004669.
16. Pfaff C, Scott V, Hoffman R, Mwagomba B. You can treat my HIV—But can you treat my blood pressure? Availability of integrated HIV and non-communicable disease care in northern Malawi. Afr J Primary Health Care Family Med. 2017;9(1):1151–251. https://doi.org/10.4102/phcfm.v9i1.1151.
17. Duffy M, Ojikutu B, Andrian S, Sohng E, Minior T, Hirschhorn LR. Non-communicable diseases and HIV care and treatment: models of integrated service delivery. Trop Med Int Health. 2017. https://doi.org/10.1111/tmi.12901.
18. Multimorbidity: Technical Series on Safer Primary Care. 2016. Report No.: 978–92–4–151165–0.http://apps.who.int/bookorders.
19. Juma PA, Mapa-Tassou C, Mohamed SF, Matanje Mwagomba BL, Ndinda C, Oluwasanu M, et al. Multi-sectoral action in non-communicable

disease prevention policy development in five African countries. BMC Public Health. 2018. https://doi.org/10.1186/s12889-018-5826-6.
20. Otorkpa J, Otorkpa O, Adefunmilola Adebola O, Emmanuel S, Adamu A, et al. From policy to practice: a review of Africa's public health policy. Public Health Policy Cen-tral Afr J Public Health. 2024;2:90–9. https://doi.org/10.1164/j.cajph.20241002.
21. Kakade SV, Suke SP, Patil D, Shaber Ali G, Garud DK, Vijayakumar PP. Health policy implementation in developing nations: challenges and solutions. South East Eur J Public Health. 2023;11:26–38. https://doi.org/10.7013/seejph.vi.447.
22. Waldron C. Multilink Consortium 2022 [Available from: https://multilinknihr.com/.
23. Spencer SA, Rutta A, Hyuha G, Banda GT, Choko A, Dark P, et al. Multimorbidity-associated emergency hospital admissions: a "screen and link" strategy to improve outcomes for high-risk patients in sub-Saharan Africa: a prospective multicentre cohort study protocol. NIHR Open Res. 2024;4:2–2. https://doi.org/10.3310/nihropenres.13512.1.
24. Ugwu CI, Ekere JN, Onoh C. Research paradigms and methodological choices in the research. Inform Sci Technol. 2021;14(2):2021–121.
25. Baxter P, Jack S. Qualitative case study methodology: study design and implementation for novice researchers. Qualitative Rep. 2008. https://doi.org/10.4674/2160-3715/2008.1573.
26. Gustafsson J. Single case studies vs. multiple case studies: a comparative study. 2017.
27. Juma PA, Mohamed SF, Wisdom J, Kyobutungi C, Oti S. Analysis of non-communicable disease prevention policies in five sub-Saharan African countries: study protocol. Arch Public Health. 2016. https://doi.org/10.1186/s13690-016-0137-9.
28. Shiroya V, Neuhann F, Müller O, Deckert A. Challenges in policy reforms for non-communicable diseases: the case of diabetes in Kenya. Glob Health Action. 2019. https://doi.org/10.1080/16549716.2019.1611243.
29. O'Brien GL, Sinnott SJ, Walshe V, Mulcahy M, Byrne S. Health policy triangle framework: narrative review of the recent literature. Amsterdam: Health Policy OPEN: Elsevier B.V.; 2020.
30. Gill W, Gilson L. Reforming the health sector in developing countries: the central role of policy analysis. 1994. https://academic.oup.com/heapol/article/9/4/353/649125
31. Sharma L, Heung S, Twea P, Yoon I, Nyondo J, Laviwa D, et al. Donor coordination to support universal health coverage in Malawi. Health Policy Plan. 2024;39(1):i118–24. https://doi.org/10.1093/heapol/czad102.
32. Government of the Republic of M. National Decentralization Policy. 1998. https://npc.mw/wp-content/uploads/2020/07/Decentralization-policy.pdf
33. Hennink M, Kaiser BN. Sample sizes for saturation in qualitative research: a systematic review of empirical tests. Soc Sci Med. 2022. https://doi.org/10.1016/j.socscimed.2021.114523.
34. The National Planning C. Report on Vision 2020 Malawi. 2019.https://npc.mw/wp-content/uploads/2022/05/Vision-2020-Review-Report.pdf
35. International QSR. NVIVO 2023. https://help-nv.qsrinternational.com/12/win/v12.1.115-d3ea61/Content/welcome.htm.
36. Braun V, Clarke V. Using thematic analysis in psychology. Qual Res Psychol. 2006;3(2):77–101. https://doi.org/10.1191/1478088706qp063oa.
37. Korstjens I, Moser A. Series: practical guidance to qualitative research. Part 4: trustworthiness and publishing. Eur J Gen Pract. 2018;24(1):120–4. https://doi.org/10.1080/13814788.2017.1375092.
38. World Health O. 2008–2013 Action plan for the global strategy for the prevention and control of noncommunicable diseases. Geneva: WHO; 2008.
39. Kasomekela N. Malawi PEN-Plus Operational Plan 2021. 2021. https://static1.squarespace.com/static/55d4de6de4b011a1673a40a6/t/60d9f30fbd36ae7b031f346d/1624896278874/Malawi+PEN-Plus+Operational+Plan_FINAL_23-June-2021.pdf
40. Government of the Republic of M. National Action Plan for the prevention and management of non-communicable diseases in Malawi 2017–2022. Lilongwe; 2017.https://www.iccp-portal.org/system/files/plans/MWI_B3_s21_Malawi%20NCD%20Strategy_2018.pdf
41. Odoch WD, Senkubuge F, Masese AB, Hongoro C. How are global health policies transferred to sub-Saharan Africa countries? A systematic critical review of literature. Glob Health. 2022. https://doi.org/10.1186/s12992-022-00821-9.
42. Chen R, Wong E. The feasibility of universal HPV vaccination program in Shenzhen of China: a health policy analysis. BMC Public Health. 2019. https://doi.org/10.1186/s12889-019-7120-7.
43. Mulupi S, Ayakaka I, Tolhurst R, Kozak N, Shayo EH, Abdalla E, et al. What are the barriers to the diagnosis and management of chronic respiratory disease in sub-Saharan Africa? A qualitative study with healthcare workers, national and regional policy stakeholders in five countries. BMJ Open. 2022;12(7):e052105-e52205. https://doi.org/10.1136/bmjopen-2021-052105.
44. Juma PA, Mohamed SF, Matanje Mwagomba BL, Ndinda C, Mapa-Tassou C, Oluwasanu M, et al. Non-communicable disease prevention policy process in five African countries authors. BMC Public Health. 2018. https://doi.org/10.1186/s12889-018-5825-7.
45. Mhazo AT, Maponga CC. Beyond political will: unpacking the drivers of (non) health reforms in sub-Saharan Africa. BMJ Glob Health. 2022. https://doi.org/10.1136/bmjgh-2022-010228.
46. Mwisongo A, Nabyonga-Orem J, Yao T, Dovlo D. The role of power in health policy dialogues: lessons from African countries. BMC Health Serv Res. 2016;16(S4):213–313. https://doi.org/10.1186/s12913-016-1456-9.
47. Kapilima VC. The impact of power and power relationships in the public policy formulation process: a case study of the formulation process of 2014 Tanzania's education and training policy. Open Polit Sci. 2020;3(1):220–30. https://doi.org/10.1515/openps-2020-0020.
48. Gautier L, Ridde V. Health financing policies in sub-Saharan Africa: government ownership or donors' influence? A scoping review of policymaking processes. Glob Health Res Policy. 2017;2(1):23–23. https://doi.org/10.1186/s41256-017-0043-x.
49. Etiaba E, Uguru N, Ebenso B, Russo G, Ezumah N, Uzochukwu B, et al. Development of oral health policy in Nigeria: an analysis of the role of context, actors and policy process. BMC Oral Health. 2015. https://doi.org/10.1186/s12903-015-0040-8.
50. Khan MS, Meghani A, Liverani M, Roychowdhury I, Parkhurst J. How do external donors influence national health policy processes? Experiences of domestic policy actors in Cambodia and Pakistan. Health Policy Plan. 2018;33(2):215–23. https://doi.org/10.1093/heapol/czx145.
51. Mussa AH, Pfeiffer J, Gloyd SS, Sherr K. Vertical funding, non-governmental organizations, and health system strengthening: perspectives of public sector health workers in Mozambique. Hum Resour Health. 2013;11(1):11–11. https://doi.org/10.1186/1478-4491-11-26.
52. Badacho AS, Mahomed OH. Facilitators and barriers to integration of non-communicable diseases with HIV care at primary health care in Ethiopia: a qualitative analysis using CFIR. Front Public Health. 2023;11:1247121–221. https://doi.org/10.3389/fpubh.2023.1247121.
53. Mukanu MM, Zulu JM, Mweemba C, Mutale W. Responding to non-communicable diseases in Zambia: a policy analysis. Health Res Policy Syst. 2017. https://doi.org/10.1186/s12961-017-0195-7.
54. Kassa MD, Grace JM. Noncommunicable diseases prevention policies and their implementation in Africa: a systematic review. Public Health Rev. 2022;42:1604310–410. https://doi.org/10.3389/phrs.2021.1604310.
55. Picco L, Achilla E, Abdin E, Chong SA, Vaingankar JA, McCrone P, et al. Economic burden of multimorbidity among older adults: impact on healthcare and societal costs. BMC Health Serv Res. 2016;16(1):173–273. https://doi.org/10.1186/s12913-016-1421-7.
56. Glynn LG, Valderas JM, Healy P, Burke E, Newell J, Gillespie P, et al. The prevalence of multimorbidity in primary care and its effect on health care utilization and cost. Fam Pract. 2011;28(5):516–23. https://doi.org/10.1093/fampra/cmr013.
57. Lebina L, Kawonga M, Oni T, Kim HY, Alaba OA. The cost and cost implications of implementing the integrated chronic disease management model in South Africa. PLoS ONE. 2020. https://doi.org/10.1371/journal.pone.0235429.

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