BMC Health Services Research

RESEARCH Open Access

Mapping health policies for optimum service delivery to adolescents on HIV treatment in Zambia: a document review

Kaala Moomba[1*], Talitha Crowley[2] and Brian Van Wyk[1]

Abstract

Introduction Despite significant advances in HIV treatment regimens, adolescents living with HIV (ALHIV) report lower rates of viral suppression compared to other age groups, reflecting sub-optimal adherence and lower engagement in care. In Zambia, adolescents lag behind in meeting the 95-95-95 targets for HIV care, when compared to adults. It is imperative that the specific needs of ALHIV are addressed in health policies that direct service delivery. This paper reports on Zambian health policies (policy documents and guidelines) that direct the provision of HIV care and treatment services for ALHIV, by assessing their alignment with recommendations for global best practice as presented in global health policies. We contextualize the policy review within the problem that exists in Zambia with respect to poor performance of the adolescents on the HIV cascade.

Methods We conducted a document review of national health policies and guidelines ($N=10$) that relate to HIV service delivery for ALHIV in Zambia and assessed these against the global health policies ($N=6$) of which Zambia is a signatory using the four-step READ methodology for document review in health policy research. We used thematic content analysis to develop key themes that describe the components of health service delivery according to the World Health Organization's (WHO) health systems framework, and comparative analysis to map national health policy against global health policies.

Results The Zambian policies are aligned with global recommendations for *health service delivery* for ALHIV by including psychosocial support, peer support, mental health services and sexual and reproductive health education in their offering. In addition, Zambian health legislation advocates for a change in the age of consent for health services and comprehensive sexual education in schools, as globally recommended. However, there is a lack of deliberate involvement of adolescents, caregivers and community stakeholders in policy development. With respect to health financing, the national policies promote the integration of HIV financing with other health financing mechanisms but lack dedicated funding for adolescent HIV services. While community involvement is emphasised through youth advisory boards, training, and support groups, there is a notable absence of intentional adolescent engagement at the high-level program design stage.

*Correspondence:
Kaala Moomba
2930764@myuwc.ac.za

Full list of author information is available at the end of the article

© The Author(s) 2025. **Open Access** This article is licensed under a Creative Commons Attribution-NonCommercial-NoDerivatives 4.0 International License, which permits any non-commercial use, sharing, distribution and reproduction in any medium or format, as long as you give appropriate credit to the original author(s) and the source, provide a link to the Creative Commons licence, and indicate if you modified the licensed material. You do not have permission under this licence to share adapted material derived from this article or parts of it. The images or other third party material in this article are included in the article's Creative Commons licence, unless indicated otherwise in a credit line to the material. If material is not included in the article's Creative Commons licence and your intended use is not permitted by statutory regulation or exceeds the permitted use, you will need to obtain permission directly from the copyright holder. To view a copy of this licence, visit http://creativecommons.org/licenses/by-nc-nd/4.0/.

Conclusions Zambian health policies and guidelines align with global recommendations to optimize health service delivery for ALHIV in four of the six WHO Health Systems building blocks, as evidenced in the relevant global health policies. However, significant gaps remain in areas such as health legislation, financing and community engagement.

Keywords Adolescents, Document review, HIV treatment, Mapping, Health policies, Service delivery, Legislation

Introduction

Zambia's health policies have increasingly recognized the unique challenges faced by adolescents, emphasizing the need for age-appropriate care and support systems. These policies aim to empower adolescents to engage with their health proactively, fostering a supportive environment for managing their HIV status [1]. Adolescents living with HIV (ALHIV) are increasingly acknowledged as a unique population with health needs that are distinct from children and adults [2]. This heightened recognition of the need for a differentiated health response is reflected in the World Health Organization's (WHO) global strategy [3]. UNAIDS advocated for the Fast-Track goals of 95-95-95 [4] to ensure that 95% of all people living with HIV (PLHIV) know their HIV status; 95% of all PLHIV are initiated and retained on antiretroviral therapy (ART); and 95% of all PLHIV on ART are achieving viral suppression [5]. Whereas several sub-Saharan African countries, such as Botswana, Eswatini, Rwanda, Tanzania and Zimbabwe, have met these 95–95–95 targets for the general population in their respective countries [6], significant disparities exist across age cohorts, with a conspicuous lag among adolescents, aged 10–19 years [7]. In Zambia, the latest population-based HIV/AIDS impact assessment reveals that 88.7% of individuals aged 15 years and above are aware of their HIV status, and of these, 87% are receiving ART and 86% of them achieving viral suppression [8]. However, even lower rates of viral suppression are reported for adolescents and young people (AYP) (aged 15–24 years): 72.8% are aware of their HIV status, with only 71.7% receiving ART, and 66.6% of those on ART attaining viral suppression [9]. It is widely reported that ALHIV encounter significant impediments in attaining viral suppression [10, 11] which is associated with suboptimal adherence and high loss to follow-up [12–14]. National health policies play a critical role in the attainment of the Fast-Track goals, because they impact on clinical and treatment guidelines, health service delivery, as well as the provision of psychosocial and community-based support services to optimize treatment outcomes for ALHIV [15]. A comprehensive, enabling health policy environment is essential to meet the unique health service delivery challenges encountered by ALHIV [16]. Global health policies encapsulate and propagate for the adoption of widely established global recommendations to address adolescent-specific needs for care and support services [17]. In the absence of adequate policy support, ALHIV encounter barriers to accessing HIV testing, treatment and care services, which in turn, result in delayed diagnosis, poor treatment adherence, and increased risk of disease progression and transmission [18]. Globally, it is suggested that individual countries should examine existing laws and policies to identify and address age-related barriers that hinder access to and utilization of services established under these provisions [18, 19]. Aligning Zambia's health policy with global policies ensures the adoption of best practices, improves healthcare quality and efficiency and leads to better health outcomes.

This paper aims to evaluate the alignment of Zambia's health policies with global recommendations for ALHIV. In this study, the term "policy" collectively refers to all national Zambian health policies and guidelines.

Methods

Study design

We followed the four-step READ methodology for document review in health policy research [20]. The first step, *'Ready your materials'*, entailed developing a search strategy and eligibility criteria to identify relevant policy documents for analysis. The second step, *'Extract data'*, involved organizing essential information from identified documents, such as foundational data and key concepts. The third step, *'Analyse data'*, focused on interpreting data and generating findings from the analysis. Finally, the fourth step, *'Distil your findings'*, required evaluating the adequacy of the data for addressing the purpose of the study and refining findings into a cohesive narrative.

Search strategy

We performed an iterative internet search to locate policy and guideline documents available in the public domain, accessible at www.moh.gov.zm and a general internet search of multilateral organization documents of which Zambia is a signatory.

We used the following keywords in our search strategy: "Adolescents"; "Guidelines for Adolescents Living with HIV"; "adolescent health"; "adolescent HIV/AIDS Policy"; "antiretroviral therapy"; "youth and HIV"; "WHO Antiretroviral therapy guidelines"; "UNAIDS 95-95-95"; "UNICEF and adolescents living with HIV"; and "Zambia".

Eligibility criteria

Official health policies and guidelines published by Zambia's MOH, or health policies or guidelines from

international organizations to which Zambia is a signatory were included if they address health service delivery and apply to the Zambian context.

The search period was limited to documents published between 2016 and 2023; due to significant guideline changes recommended by the WHO in their clinical and operational guidelines released in 2015 [21, 22].

Eligibility of the retrieved documents was verified according to the criteria for authenticity, reliability, representativeness and relevance of the data [23]. The first reviewer (KM) conducted the search and presented the list of eligible documents for verification by a second reviewer (BVW). Documents were included if there is consensus between the two reviewers. The final list of included documents was presented to the third reviewer (TC) for approval.

The document selection process is illustrated in Fig. 1. The final analysis included 16 documents: two global health policies and four guideline documents; and four national policies and six guideline documents (Table 1).

Data extraction process

We developed a Microsoft Word data extraction sheet to ensure consistency in the process of data extractions across all policy documents. Afterwards, the identified policy documents were gathered and reviewed to understand their content through an iterative process between the first researcher (KM) and a second researcher (BVW). The key information was summarised with the following headings: Document type; Title; Year of Publication; Developers; Purpose/Aim; Recommendations for improving HIV treatment outcomes for adolescents (see Table 1). To foster quality assurance, one researcher

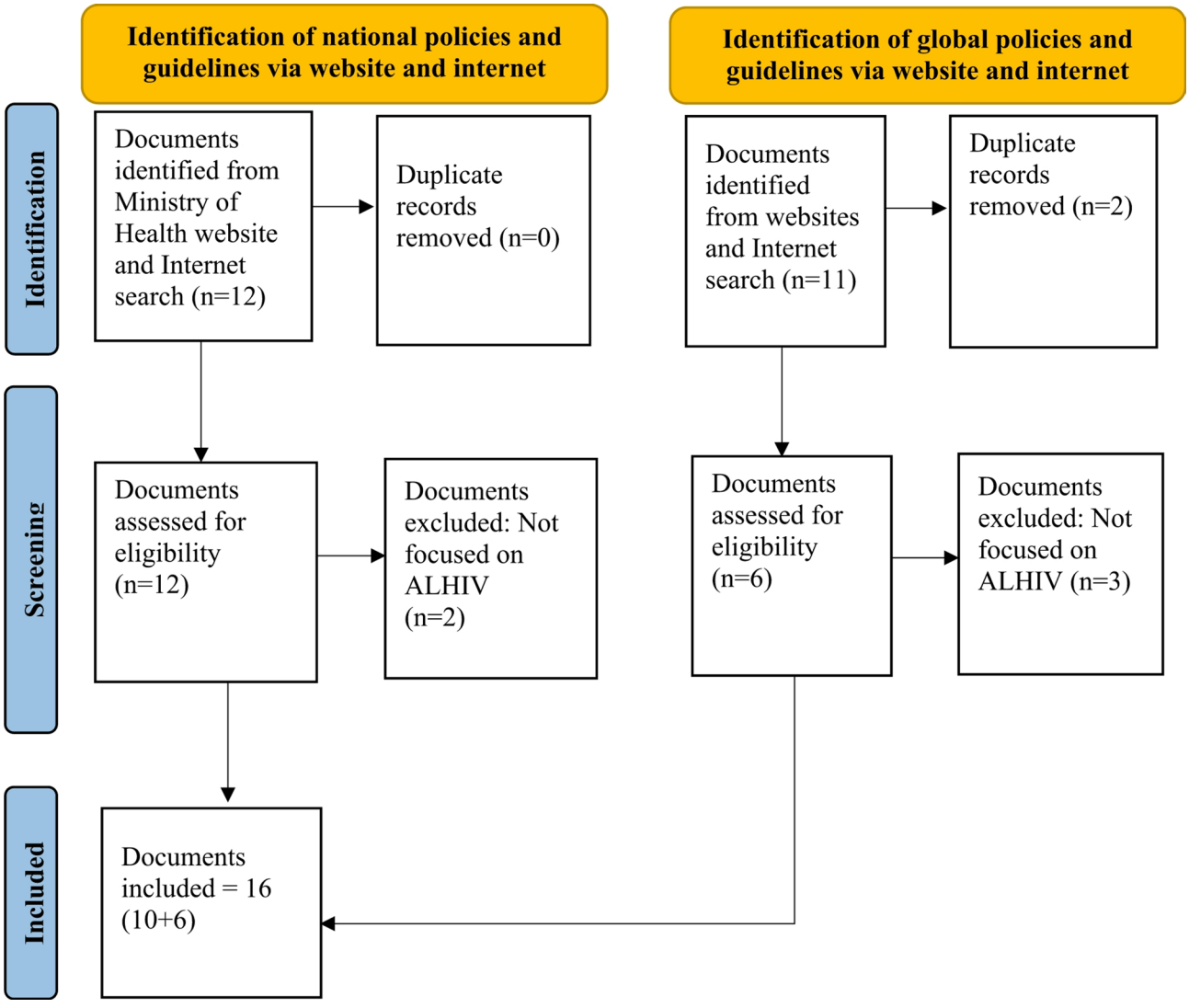

Fig. 1 Flowchart of document selection process: adapted from reference [24]

Table 1 Global policy and program document measures for optimizing service delivery for ALHIV

Type of document	Title of document	Year of release	Developers	Purpose/Aim	Recommendations for improvement of HIV treatment outcomes for adolescents
Policy	Integrating psychosocial interventions and support into HIV services for adolescents and young adults [25]	2023	World Health Organization	To optimize HIV outcomes and support mental health for adolescents and young people living with HIV	Integrating psychosocial interventions into HIV services Counselling and support services - Individual counselling - Support groups Stigma reduction initiatives - Integration of HIV education and support services into school curricula - Leverage community-based structures for adolescents not yet linked into care through health facilities. Peer support programs - Training and supporting peer counsellors to deliver quality psychosocial support. - Promotion of peer-led initiatives and activities. Access to Mental health services
Policy	Adolescent Health: The Missing Population in Universal Health Coverage [26]	2019	World Health Organization	To enhance adolescent health service delivery, financing, and governance to achieve universal health coverage	Optimize health service delivery through: - Coordinated multi-sectoral action with the Education sector - Multiple service delivery platforms such as school health, mobile health, or community-based systems such as use of community-based health care workers - Integration of sexual and reproductive health (SRH), and fa https://sid.spi-global.com:1001/api/espin/qg/40104/1207/300/spinadmin mily planning within HIV services. Redress legislation on 'age of consent' for accessing health services Health financing Adequate/ring-fenced funding of adolescent health programmes - Based on disease burden of adolescents. - Supported by routine monitoring of health outcomes for adolescents, and - Building human resources for adolescent health [service delivery]. Strengthening health systems governance Through mechanisms that allow for meaningful participation of adolescents in decision-making for health service delivery.
Guidelines	World Health Organisation consolidated guidelines on HIV prevention, testing, treatment, service delivery and monitoring: Recommendations for a public health approach [27]	2021	World Health Organization	To provide clinical and operational guidance on HIV prevention, testing, treatment, and service delivery	Age of consent - Review age-of-consent considerations for HIV testing and treatment. Adolescent-friendly services - Provision of separate areas with flexible appointment systems that accommodate school hours and care Community-based approaches to improve treatment adherence and retention in care -Community-based antiretroviral therapy delivery - Sensitization programs in schools Capacity building of health-care workers - Training and in-service-training of health-care workers to support adolescent-sensitive services Psychosocial interventions - Implement psychosocial support interventions to enhance the overall well-being of adolescents
Guidelines	HIV treatment, care, and support for adolescents living with HIV in Eastern and Southern Africa (ESA) [28]	2021	United Nations Children's Fund (UNICEF)	To support scale-up of evidence-driven models in ESA	- Peer-based group interventions - Adolescent-friendly health services - Community-based interventions • Community-based adolescent treatment supporters • Community adherence clubs • School-based initiatives • Social protection and economic strengthening for ALHIV who face multiple deprivations

Table 1 (continued)

Type of document	Title of document	Year of release	Developers	Purpose/Aim	Recommendations for improvement of HIV treatment outcomes for adolescents
Guidelines	AIDS Free Framework to accelerate paediatric and adolescent HIV treatment [29]	2018	World Health Organization	To scale-up ART service delivery to 95% of all adolescents living with HIV.	Drug Optimisation - Provide first line dolutegravir (DTG) based regimen to all eligible adolescents. - Prioritize viral load monitoring - Timely switching to second-line ART regimens - Availability of second- and third line ART regimens - Provision of preventive treatment and care for opportunistic infections and tuberculosis for all eligible adolescents Service delivery - Decentralised HIV services. - Integrated HIV services within outpatient and/or Maternal Child Health (MCH) services - Adoption of mobile technology - Use of unique patient identifiers - Differentiated Service Delivery (DSD) models. Support for adherence and retention - Support groups for parents/caregivers. - Parental involvement in adolescent care - Age-appropriate disclosure process - Adolescent-appropriate • HIV/health literacy • Adherence counselling • Peer led support programs. • Support groups • Family-centred approach • Visits for adolescents based on the school calendar. Adolescent-friendly health services - Train health care providers - Modify facility characteristics service times and waiting times. Community engagement - Facilitate the participation of adolescents in national programming. Country enablers - Reduce age-related barriers: reducing the age of consent (for testing and treatment) Involve the education sector.
Guidelines	Ending the AIDS epidemic for adolescents, with adolescents [4]	2016	Joint United Nations Programme on HIV/AIDS	To provide guidance on how to meaningfully involve youth in AIDS control and broader health programs	Involving all sectors of society - Governments, businesses, civil society organizations, academia, media, communities, and PLHIV. Systematic engagement of adolescents - Provide opportunities for adolescent participation in programming. - Engage adolescents as equal partners in the design, implementation, monitoring and evaluation of programmes and policies. - Prioritise adolescents who are most vulnerable to HIV. Promote adolescents' rights - Access to sexual reproductive health services - Consent to treatment Program Implementers: - Include adolescents on decision-making boards of organisations, and in inter-agency working groups/coordination platforms. Policy makers: - Institutionalize policies for the participation of adolescents in the HIV response.

Table 2 Zambian policy and guidelines for service delivery for ALHIV

Type of document	Title of document	Year of release	Developers	Purpose/Aim	Recommendations for improvement of HIV treatment outcomes for adolescents
Policy	2022–2026 National Health Strategic Plan [32]	2022	Ministry of Health	To address health sector challenges and accelerate progress towards attainment of the national and global health goals.	Provide comprehensive and integrated adolescent-responsive health services - Allocation of physical space Train health workers and peer educators - Pre-service and in-service adolescent health training for health workers - Formal training of adolescent peer educators Conduct adolescent focused outreach programs - Facilitate in schools, tertiary institutions, boarding facilities, refugee camps and communities. Prioritise Social Behavioural Change Communication (SBCC) - Through social media, radio, television and Information, Education and Communication materials Financing - Allocation of financial resources for Reproductive Maternal, Child and Adolescent Health and Nutrition (RMNCAH-N) Community participation
Policy	National Adolescent Health Strategic Plan 2022–2026 [1]	2022	Ministry of Health	To build a robust, resilient, and responsive Adolescent Health System across the continuum of care	Provide equitable access to high quality SRH services for adolescents. - Static and integrated outreach and community-based services - Tailor-made and responsive prevention of mother to child transmission of HIV services for pregnant and breastfeeding adolescents - Community engagement strategies (e.g. support groups, drama groups, debates, health education and dialogue meetings) - Training of health workers in adolescent-friendly age and gender sensitive SRH services - Training peer educators in adolescent health, adherence counselling, psychosocial counselling, and community-based distribution of contraceptives Utilisation of high-impact HIV/STI prevention and treatment services - Static and outreach HIV and STI prevention in communities, schools, and tertiary institutions - Utilisation of efficacious regimen for treatment of HIV treatment on efficacious regimens - Flexible days and times for adolescent services - Implement differentiated service delivery models for HIV treatment such as multi-month refills of ARVs, outreach models to support differential needs of adolescents and adherence clubs Financing - Financial resources to be mobilized from implementing partners to support implementation of activities in the plan. - GRZ to support financing of adolescent activities
Policy	2017–2021 National Health Strategic Plan [33]	2017	Ministry of Health	To address health sector challenges and accelerate progress towards attainment of the national and global health goals, aimed at ensuring equitable access to quality healthcare to all in Zambia, as close to the family as possible.	-Review policy and regulatory frameworks for provision and access of adolescent health services. - Clear policies and guidelines on age of consent to key SRH and HIV services Train health workers and peer educators - Pre-service and in-service adolescent health training for health workers - Formal training of adolescent peer educators and deployment in adolescent friendly spaces

Table 2 (continued)

Type of document	Title of document	Year of release	Developers	Purpose/Aim	Recommendations for improvement of HIV treatment outcomes for adolescents
Policy	Zambia National AIDS Strategic Plan [34]	2017	Ministry of Health/National AIDS Council	To end the AIDS epidemic by 2030 by adopting the Joint United Nations Programme on AIDS (UNAIDS) Fast-Track Goals of achieving the 90-90- 90 treatment targets and focusing on populations most affected.	Expansion and strengthening of Sexual Reproductive Health Services (SRHS) for adolescents - SBCC to raise adolescent awareness. - Address social, religious, cultural, economic, legal, and political factors hindering adolescents' access to HIV and SRH knowledge, skills, and services. Integration of HIV/AIDS, Sexual Reproductive Health, and Other Services - Specific adolescent designated structures at health facilities to provide adolescent-friendly HIV, SRH and other services. - National training of pre-service and in-service health workers to provided integrated services. Synergies with other development sectors - Education sector • Targeted guidance and counselling support for most-at-risk adolescents in primary and secondary schools • Psychosocial support Implement governance community structures
Guidelines	Zambia Consolidated Guidelines for Treatment and Prevention of HIV Infection [35]	2022	Ministry of Health	To provide reference for best clinical practices in the prevention, treatment, and management of HIV infection in Zambia.	Drug optimization - Provide first line DTG-based regimen to all eligible adolescents - Prioritize viral load monitoring - Timely switch over to second-line regimens when treatment failure is identified Optimisation of service delivery - All facilities to have adolescent-friendly spaces - Adolescent led adolescent services - Standardised adolescent transitioning to adult care - Standardised HIV status disclosure process Implement quality standards for adolescent health services - Adolescent health literacy • Training of peer supporters and adolescents in SRH and HIV prevention - Community support • Formation of clubs (adolescent and caregiver) for separate and joint meetings - Appropriate package of services • Separate clinic space where possible or separate waiting space • Optimised clinic flows to allow privacy and reduce waiting time. • Flexible clinic hours • Alternative service delivery settings such as schools • Integrated services such as HIV, SRH, Gender Based Violence (GBV) - Training health workers at service delivery points to provide adolescent-friendly services. • Comprehensive service package for peers, health care workers and caregivers - Equity and non-discrimination • Involvement of multi-layered and multi-sectoral agencies: social protection services and district and provincial health teams. - Adolescents' participation • Implementation of adolescent/youth advisory groups • Peer supporters participating in health team meetings. • Training peers to be self-health managers.

Table 2 (continued)

Type of document	Title of document	Year of release	Developers	Purpose/Aim	Recommendations for improvement of HIV treatment outcomes for adolescents
Guidelines	Zambia Differentiated Service Delivery Framework [36]	2022	Ministry of Health	To provide guidance on Implementation of differentiated service delivery (DSD) models at national, provincial, district, and community levels.	Facility managed models - Fast track - Multi-Months Scripting and Dispensation - Before/After-hours/Weekend clinics Community managed models - Community Adherence Groups - Community ART Distribution Posts - Health Post Model - Community (Retail) Pharmacy Model - Mobile ART Distribution Model - Home ART Delivery Integration of services - Integrate HIV with other services e.g., family planning, Non-Communicable Diseases (NCDs). Transition between ART models Psychosocial support
Guidelines	Adolescent HIV Care and Treatment: Healthcare Workers Manual [37]	2020	Ministry of Health	To support healthcare workers in meeting the evolving needs of adolescents and young people living with HIV infection	Integration or co-location of services • HIV, SRH and other services Adolescent-friendly services • Age and developmentally appropriate services • Training of health workers in adolescent-friendly services Psychosocial interventions for most-at-risk adolescents - Positive behavioural change and teaching risk reduction skills • Safer sex practices • Adherence to treatment (ART) - Promote enrolment into peer groups • Young mothers support groups • Play groups for younger adolescents. • Post-test clubs • Adherence clubs - Develop effective referral system with follow up linkages to other service providers - Use of adolescent friendly approaches for education • Art, drama, music, and dance - Use of adolescents as advocates and as peers to make contact with and provide outreach services to the most-at-risk adolescents Mental health services - Use solution focused counselling. • Brainstorming together • Identifying choices - Encourage peer contact and support - Referral to mental health providers
Guidelines	Manual for Supporting Caregivers of Children and Adolescents Living with HIV [38]	2020	Ministry of Health	To address caregiver challenges of disclosure of HIV status to adolescents	Age by Age disclosure process - Thoughtful and gradual approach to sharing information about their HIV status, taking into consideration their developmental stages, and providing necessary support to help them understand and cope with their health condition.

Table 2 (continued)

Type of document	Title of document	Year of release	Developers	Purpose/Aim	Recommendations for improvement of HIV treatment outcomes for adolescents
	Adolescent and Young People – HIV Surge [39]	2020	Ministry of Health	To rump up the number of adolescents who know their status, are linked to care, and are retained in care.	Establish/Strengthen adolescent and youth-friendly health spaces -Community level -Health facility level Psychosocial support School-based outreach to provide HIV prevention services -Pre-exposure prophylaxis (PrEP) -Family planning Establish/Strengthen and support school health clubs -Capacity building of teachers and selected adolescents to manage clubs in schools Integrated HIV services outreach in communities - SRH, PrEP, family planning Support groups -Adolescent -Caregiver Differentiated Service Delivery -Client-centred approach •Weekend clinics •After-hours clinics Identify adolescent viral load champions
Guidelines	National Comprehensive Manual for Adolescent Peer educators and Facilitators Guide for Prevention and Treatment of HIV [40]	2020	Ministry of Health	To enhance program capacity by engaging ALHIV in offering peer support to their peers, while also guiding health facilities in creating adolescent-friendly, responsive, and high-quality services to better assist ALHIV	Comprehensive HIV care and ART - Antiretroviral therapy provision - Referrals in HIV care - Adherence - Family centred care - Integration of services Psychosocial support - Addressing needs of ALHIV Disclosure process Sexual and Reproductive Health - Contraception and family planning - Elimination of Mother-to-Child transmission (EMTCT) Community Outreach, Education and Linkages

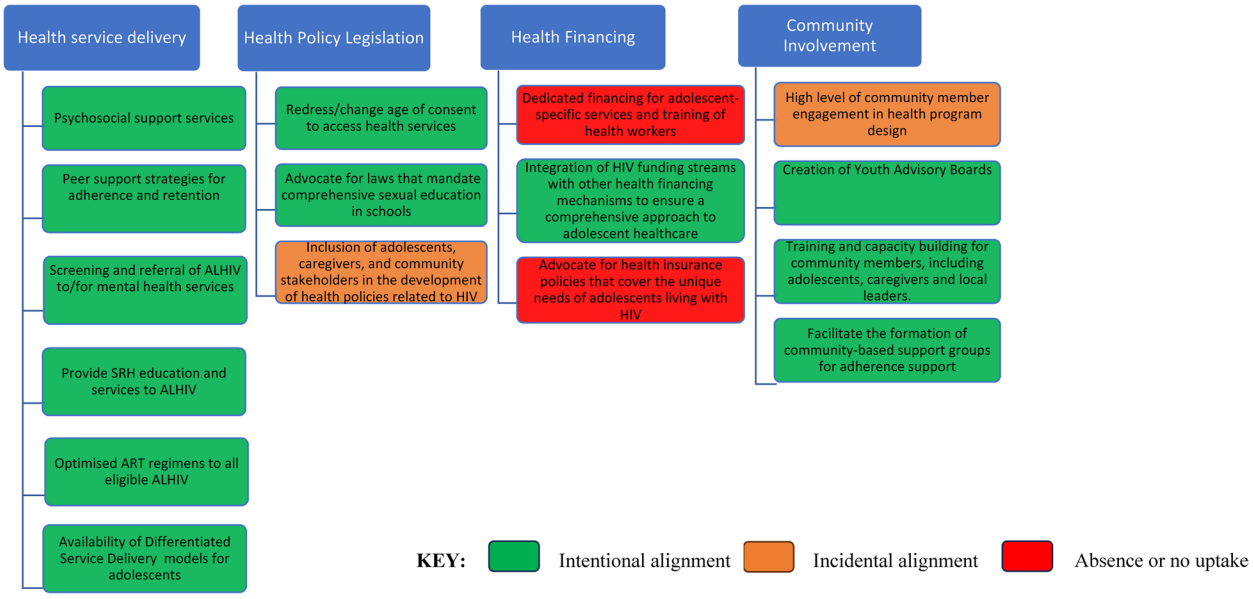

Fig. 2 Scoring Zambian policies on adolescents and HIV treatment against global policy and recommendations

extracted the data, while the other two researchers checked for errors, ensured accuracy and consistency, and provided feedback. All researchers reached a consensus on the final dataset.

Data analysis

We applied thematic content analysis to develop themes as described by Lincoln and Guba [30]. We familiarised ourselves with the policy documents, generated initial codes, grouped the codes into themes and drafted the analysis in a structured format (Tables 1 and 2). Lincoln and Guba's criteria guided the process by ensuring that the interpretation of policy documents is credible and accurately reflects their content. Dependability was maintained through systematic coding and analysis procedures that ensured consistent in identifying theme identification across policy texts. Confirmability was also established through reviewer reflexivity [30]. Two reviewers (KM and BVW) developed a coding scheme and coded the extracted data and organised it into themes and subthemes, which were then confirmed by a third reviewer (TC). The themes are described for each policy/guideline in summary of the content of the policy, as seen in Table 1. Using the WHO health systems framework, we mapped out global recommendations for optimizing service delivery to ALHIV from the global policies (Fig. 2). In this analysis, we regarded the global health policies and guidelines as the standard practice, and therefore also applicable in Africa. Four (of the six) blocks of the WHO health systems framework were evident in the global policies, namely: (i) health service delivery, (ii) health policy legislation; (iii) health financing and, (iv) community involvement [31]. The recommendations from the global policies and guidelines were then grouped as sub-themes under each health system block (theme). The other two blocks, namely, Medical products, vaccines and technologies, and Health information systems were not evident in the global health policies that we reviewed.

We scored the content of national policies and guidelines against globally recommended best practices by utilizing a customized scorecard with a traffic light color scheme (Fig. 2). Themes that denote national policies that were tailored to ALHIV, and in keeping with global recommendations, were scored as "Green" - which signified *intentional* alignment. Where themes in national policies either do not feature in national guidelines, or they lack specificity regarding ALHIV, we scored these as "Orange" – which signified *incidental* alignment. Where there was complete absence or no uptake of specific global recommendations in national policies, we scored these themes as "Red" – which indicate *no* alignment.

Results

Sixteen policies and guidelines were included in the review, of which six were global (including two policies and four guidelines) (Table 1) and 10 national (comprising four policies and six guidelines), as outlined in Table 2. All national policies and guidelines were developed by the National Ministry of Health, Zambia; with some collaborations with civil society ($n = 4$) and international development partners ($n = 10$) and non-governmental organizations ($n = 9$). Contributions to some Zambian policies and guidelines were obtained from adolescents and young people (AYP) ($n = 1$) and peer educators ($n = 2$). These policies and guidelines tend to group

children and adolescents living with HIV (CALHIV) (n = 5), aged 0–19 years, AYP (n = 4) aged 10–24 years, with one specific to adolescents aged 10–19 years.

Health services delivery

As illustrated in Fig. 2, Zambian health policies align intentionally with global recommendations for health service delivery for ALHIV to include psychosocial support, peer support for adherence and retention, mental health services, sexual and reproductive health (SRH) education, optimized ARV regimens, and differentiated service delivery models for ALHIV.

Zambian health policy placed high premium on the provision of psychosocial support for ALHIV as reflected in two national policies [33, 34] and five guidelines [36–40]. Three policies [1, 32, 33] and four guidelines [36, 37, 39, 40] advocate for the application of peer support strategies such as health education for behaviour change, peer groups and peer outreach to improve adherence and retention of ALHIV on ART (Table 2). The Zambian policy is clear and intentional on addressing the mental and emotional well-being of ALHIV [37]. Further, three policies [33, 34] and two guidelines [35, 37] recommend comprehensive SRH education for adolescents. The national ART clinical guidelines [35] is aligned with global recommendations for best practice [41] in advocating for timely switching of eligible ALHIV to dolutegravir (DTG) as a more efficacious first-line regimen [42]. Zambia has further adopted differentiated service delivery (DSD) models for treatment of adolescents and young people (AYP) as described in two policies [1, 33] and five guidelines [35–37, 39, 40]. The models include a Family Centred Care Model, Scholars Model, Mobile ART Distribution Model, Home ART Delivery at the community level and Fast track, multi-month dispensing, transitioning treatment clubs, and Before/After-hours/Weekend Clinics at the facility level (Table 2).

Health policy legislation

Zambian health policy follows global recommendations to revise the age of consent to access health services, advocate for laws that mandate comprehensive sexual education in schools and inclusion of adolescents, caregivers, and community stakeholders in the development of health policies related to HIV. One policy explicitly and intentionally addresses the issue of the legal age of consent for accessing health services, particularly SRH and HIV care [33]. A review of policy and regulatory frameworks for the provision and access of adolescent health services facilitates identification of gaps towards improving access to comprehensive care tailored to their needs, promoting informed decision-making, reducing stigma, and enhancing health outcomes (see Table 2). Additionally, two polices [1, 33] and one guideline [39] advocate for laws that mandate comprehensive sexual education in schools. Two guidelines mention stakeholder engagement with one intentional to the involvement of ALHIV in the development of the guideline [39], while the other outlines community stakeholder participation in development but not specific to ALHIV [35].

Health financing

Global policies and guidelines recommend dedicated funding for adolescent-specific services and health worker training, integrating HIV funding streams with other health financing mechanisms to ensure a comprehensive approach to adolescent healthcare, and advocating for health insurance policies that address the unique needs of ALHIV; however, Zambian specific policies and guidelines contrast, lacking dedicated ring-fenced financing for adolescent-specific services, comprehensive health worker training provisions, and supportive health insurance policies that address the unique needs of ALHIV. Two Zambian policies intentionally and specifically outline integration of HIV funding streams with other health financing mechanisms to ensure a comprehensive approach to adolescent healthcare [1, 32]. This is to be done through government funding and mobilization of resources through implementing partners (NGOs) supporting government efforts in the fight against HIV/AIDS (see Table 2).

Community involvement

Global policies and guidelines recommend high-level involvement of community members in health program design, establishment of youth advisory boards, training, and capacity building of community members, including youth, caregivers, and local leaders, and formation of community-based support groups. Similarly, two Zambian policies [1, 32] and one guideline [35] intentionally recommend the training and capacity building of adolescents and caregivers. This plays a critical role in improving health outcomes, reducing stigma, promoting adherence to treatment, and fostering supportive environments for ALHIV to thrive (see Table 2). In alignment with global recommendations, two Zambian policies [1, 33] and one guideline [39] promote the formation of support groups which provide invaluable emotional, informational, and social support, and empower ALHIV to better cope with the challenges of HIV and AIDS (see Table 2). Additionally, one Zambian guideline [35] recommends the formation of adolescent/youth advisory groups which provide valuable insights, perspectives, and recommendations from the adolescent perspective, ensuring that programs are tailored to meet the specific needs, preferences, and realities of ALHIV affected by HIV and AIDS [43]. These groups empower youth to actively participate in decision-making processes,

advocate for their rights and interests, and contribute to the development, implementation, and evaluation of HIV prevention, treatment, and care initiatives [43]. Two Zambian policies [32, 33] incidentally talk about community engagement with no intentional mention of adolescents (see Table 2) as per global recommendations.

Discussion

This study systematically evaluated the alignment of Zambian health policies and guidelines for ALHIV against global recommendations, revealing both significant gaps in policy implementation and notable areas of alignment, which collectively underscore the need for targeted policy reforms while also recognising existing efforts to address the unique healthcare requirements of ALHIV.

Our review identified policies and guidelines that addressed the needs of ALHIV under the Health Services Delivery pillar. The policies and guidelines to a great extent address psychosocial support services [32, 34, 36–40], peer support strategies [1, 32, 33, 36, 37, 39, 40] for adherence and retention, screening and referral of ALHIV to/for mental health services [37], SRH education and services [24, 30, 36, 40], optimised ART regimens [35] and differentiated service delivery models [33, 35–37, 39, 40] under the health services delivery pillar. This suggests that Zambia is intentional and deliberate on its policy approach and guidelines to improve health service delivery, and shows a clear commitment to providing adolescent-friendly and tailored services for this population. The results of this review show similarities with countries in Southern Africa. Similar to Zambia, South Africa and Malawi, are intentional to health service delivery in relation to psychosocial support services, sexual and reproductive health, mental health, optimized ART regimens for eligible ALHIV, peer support strategies for adherence and retention and differentiated service delivery models [44–48]. However, mental health services are not widely available for AYP who often lack comprehensive youth friendly services in Botswana [49]. Botswana, South Africa and Namibia further align with the Zambian guidelines in relation to optimization of ART regimens for eligible ALHIV and psychosocial support services [44, 50, 51].

Across the documents reviewed, Zambia's policy and guidelines direction is both intentional and incidental within the Health Policy Legislation pillar. The policies and guidelines intentionally address change in age of consent to access health services and advocate for laws that mandate comprehensive sexual education in schools [24, 34, 37]. This aligns with policies from Namibia and South Africa which promote comprehensive sexual education and advocate for changes in age of consent for health services [46, 52]. However, the inclusion of adolescents, caregivers, and community stakeholders in the development of health policies related to HIV is not deliberately mentioned for adolescents and therefore incidental. This is in contrast to the South African National Strategic Plan for HIV, Tuberculosis, Sexually Transmitted Infections 2023–2028 which intentionally and deliberately outlines the involvement of all stakeholders in policy and guideline development with adolescents intentionally mentioned [46].

Within the Health Financing pillar, documents reviewed indicate that Zambia, like other countries such as Botswana, Namibia, and Malawi is intentional in the integration of HIV funding streams with other health financing mechanisms to ensure a comprehensive approach to adolescent healthcare [48, 49, 53]. However, unlike South Africa's National Youth Policy, which intentionally provides for dedicated funding to support adolescent and youth programmes, there is an absence of dedicated funding for adolescent-specific programmes in Zambian policies; with adolescent programs currently receiving funding within the broader health basket funding but not as a distinct, ring-fenced allocation [45]. In all documents reviewed, advocacy for health insurance policies that cover the unique needs of ALHIV was absent. This is similar to other countries (Botswana, Namibia, Malawi) in the region where all documents reviewed, including policies and guidelines were missing this component.

Community involvement was a common theme in most documents reviewed showing that Zambia is intentional in this regard. The intentional recommendation for training and capacity building of ALHIV and caregivers, as highlighted in two national policies [1, 32] and one guideline [35], represents a pivotal step towards optimising service delivery and health outcomes among ALHIV. This is consistent with findings in policies and guidelines from South Africa, Namibia, and Malawi [45–47]. Furthermore, the promotion of support group formation, emphasised in two policies [1, 33] and one guideline [39], underscores the recognition of the invaluable role that peer support plays in the lives of ALHIV. Similar findings are found in documents for South Africa where emphasis on peer support is deliberate [46]. The recommendation for the establishment of adolescent/youth advisory groups, as outlined in one guideline [35], represents a significant stride towards ensuring that programs are tailored to meet the specific needs and preferences of ALHIV. This is similar to findings in the South Africa National Youth Policy which intentionally advocates for adolescent's involvement in advisory groups [45]. However, it is notable that while community engagement is emphasized in two policies [32, 33], it is only incidental to ALHIV. This highlights a potential gap in current policies, suggesting the need for more explicit recognition

of the unique needs and perspectives of ALHIV within community engagement initiatives.

Limitations

The limitation of this paper is that it is based only on the review of policies and guidelines with no direct engagement with policy makers, stakeholders or affected communities who could provide valuable insights, perspectives or feedback that could inform the policy and guideline review process. The current paper reports on the intentions of the Zambian national Ministry of Health as reflected in published policies and guidelines; which may not necessarily translate into practice on the various health services levels.

Conclusion

It is evident that the current national polices and guidelines are comprehensively aligned to global recommendations for the provision of HIV care and treatment services to ALHIV in Zambia. Health service delivery was intentionally aligned across all services while health policy legislation, health financing and community involvement showed areas which were intentional, incidental and no uptake. We thus recommend that areas falling short of alignment be considered during future policy and guidelines reviews.

Abbreviations

CALHIV	Children and Adolescents Living with HIV
DTG	Dolutegravir
DSD	Differentiated Service Delivery
eMTCT	Elimination of Mother-to-Child Transmission
GBV	Gender-Based Violence
HIV	Human Immunodeficiency Virus
ART	Antiretroviral Therapy
MCH	Maternal and Child Health
NCD	Non-Communicable Disease
NGO	Non-Governmental Organisation
PLHIV	People Living with HIV
PrEP	Pre-Exposure Prophylaxis
SBCC	Social and Behaviour Change Communication
SRH	Sexual and Reproductive Health
STI	Sexually Transmitted Infection
UNAIDS	Joint United Nations Programme on HIV/AIDS
UNICEF	United Nations Children's Fund
WHO	World Health Organisation

Acknowledgements

The present study was part of a thesis for a PhD degree in Public Health supported by University of the Western Cape (UWC). The authors would like to express their appreciation to all participants who played a role in getting this work done.

Disclaimer

The views and opinions expressed in this article are those of the authors and are the product of professional research. It does not necessarily reflect the official policy or position of any affiliated institution, funder, agency, or that of the publisher. The authors are responsible for the article's results, findings, and content.

Authors'contributions

KM and BvW conceptualised the study. KM conducted the literature searches. KM did the analysis, writing and first draft of the article. BvW and TC supervised and assisted at all stages in the write up. All authors have read and approved the final article.

Funding

The authors received no financial support for the research, authorship, and/or publication of this article.

Data availability

Our study analysed Zambian and global policies and documents available online. The data is available from the corresponding author upon reasonable request.

Declarations

Ethics approval and consent to participate

The present study received ethical approval from the health research ethics committees of the University of the Western Cape (BM_24_3_4), and Mulungushi University School of Medicine (SMHS-MU2-2024-04). No informed consent was required because all documents reviewed were in public domain. No direct contact was required or made with participants.

Consent for publication

Not applicable.

Competing interests

The authors declare no competing interests.

Author details

[1]Community and Health Sciences, School of Public Health, University of the Western Cape, Belville, South Africa
[2]Community and Health Sciences, School of Nursing, University of the Western Cape, Belville, South Africa

Received: 30 May 2024 / Accepted: 9 May 2025
Published online: 20 May 2025

References

1. MOH. Zambia Adolescent Health Strategic Plan 2022–2026. 2022. Available from: https://www.unicef.org/zambia/media/5881/file/Zambia-National-Adolescent-Health-Strategic-Plan-2022-2026.pdf.
2. Armstrong A, Nagata JM, Vicari M, Irvine C, Cluver L, Sohn AH, et al. A global research agenda for adolescents living with HIV. J Acquir Immune Defic Syndr. 2018;78(1):S16–21.
3. WHO. Global strategy for women's, children's and adolescents' health (2016–2030): early childhood development. World Heal Organ. 2018;03 de mar de 2023:1–9 Available from: https://www.who.int/publications/i/item/the-global-strategy-for-women-s-children-s-and-adolescents-health-(2016-2030)-early-childhood-development-report-by-the-director-general.
4. UNAIDS. Ending the AIDS epidemic for adolescents, with adolescents. 2016. Available from: https://www.unaids.org/sites/default/files/media_asset/ending-AIDS-epidemic-adolescents_en.pdfhttp://www.unaids.org/en/resources/documents/2016/ending-AIDS-epidemic-adolescents.
5. UNAIDS. Understanding Fast-track: Accelerating action to end the AIDS epidemic by 2030. 2016. Available from: https://www.unaids.org/sites/default/files/media_asset/201506_JC2743_Understanding_FastTrack_en.pdf.
6. UNAIDS. The Path That Ends AIDS. 2023. Available from: https://www.unaids.org/sites/default/files/media_asset/2023-unaids-global-aids-update-summary_en.pdf.
7. UNICEF. Understanding and Improving Viral Load Suppression in Children with HIV in Eastern and Southern Africa. Unicef. 2021. Available from: https://www.unicef.org/esa/reports/understanding-and-improving-vls.
8. MOH. ZAMPHIA. 2021. Available from: https://www.cdc.gov/globalhivtb/what-we-do/phia/ZAMPHIA-2021-Summary-Sheet-December-2022.pdf.
9. MOH. Zamph a. 2023;(December):14–5. Available from: https://www.zamstats.gov.zm/wp-content/uploads/2023/12/ZAMPHIA-2021-Final-Report-December-2023.pdf.
10. Odongo I, Arim B, Ayer P, Murungi T, Akullo S, Aceng D, et al. Utilization of antiretroviral therapy services and associated factors among adolescents living with HIV in northern Uganda: A cross-sectional study. PLoS One. 2023;18(7 July):1–12. https://doi.org/10.1371/journal.pone.0288410.

11. Hlophe LD, Tamuzi JL, Shumba C, Nyasulu PS. Barriers to anti-retroviral therapy adherence among adolescents aged 10 to 19 years living with HIV in sub-Saharan Africa: A mixedmethods systematic review protocol. PLoS One. 2022;17(9 September):1–10. https://doi.org/10.1371/journal.pone.0273435.
12. Ryscavage PA, Anderson EJ, Sutton SH, Reddy S, Taiwo B. Clinical outcomes of adolescents and young adults in adult HIV care. J Acquir Immune Defic Syndr. 2011;58(2):193–7.
13. Chhim K, Mburu G, Tuot S, Sopha R, Khol V, Chhoun P, et al. Factors associated with viral non-suppression among adolescents living with HIV in Cambodia: A cross-sectional study. AIDS Res Ther. 2018;15(1):1–10. https://doi.org/10.1186/s12981-018-0205-z.
14. Natukunda J, Kirabira P, Ong KIC, Shibanuma A, Jimba M. Virologic failure in HIV-positive adolescents with perfect adherence in Uganda: A cross-sectional study 11 medical and health sciences 1117 public health and health services. Trop Med Health. 2019;47(1):1–10.
15. WHO. Global Health Sector Strategy on HIV 2016–2021. World Health Organization; 2016. p. 60. Available from: http://apps.who.int/iris/bitstream/10665/246178/1/WHO-HIV-2016.05-eng.pdf?ua=1%0Afile:///C:/Users/Harrison/Desktop/Consult/Mubaric/A1/WHO-HIV-2016.05-eng.pdf.
16. Clair-Sullivan NS, Mwamba C, Whetham J, Moore CB, Darking M, Vera J. Barriers to HIV care and adherence for young people living with HIV in Zambia and mHealth. mHealth. 2019. Available from: https://pmc.ncbi.nlm.nih.gov/articles/PMC6789205/.
17. WHO. Global accelerated action for the health of adolescents (AA-HA!): guidance to support country implementation. 2017. Available from: https://www.who.int/publications/i/item/9789241512343.
18. UNICEF, For Every, Child, End AIDS. 2016. Available from: https://www.unicef.org/media/47401/file/For_every_child_end_AIDS_2016.pdf.
19. WHO. HIV and Young Transgender People. 2015. Available from: https://iris.who.int/bitstream/handle/10665/179866/WHO_HIV_2015.9_eng.pdf?sequence=1.
20. Dalglish SL, Khalid H, McMahon SA. Document analysis in health policy research: the READ approach. Health Policy Plan. 2020;35(10):1424–31.
21. WHO. Guideline on when to start antiretroviral therapy and on pre-exposure prophylaxis for HIV. 2015. Available from: https://iris.who.int/bitstream/handle/10665/186275/9789241509565_eng.pdf?sequence=1.
22. WHO. Consolidated guidelines on the use of antiretroviral drugs for treating and preventing HIV Infection. 2016. Available from: https://www.who.int/publications/i/item/9789241549684.
23. Adamson J. Handbook of Mixed Methods in Social and Behavioural Research. Tashakkori A, Teddlie C (eds). Thousand Oaks: Sage, 2003, pp.768, £77.00 ISBN: 0-7619-2073-0. Int J Epidemiol. 2004;33(6):1414–15. https://doi.org/10.1093/ije/dyh243
24. Moher D, Liberati A, Tetzlaff J, Altman DG, Antes G, Atkins D et al. Preferred reporting items for systematic reviews and meta-analyses: the PRISMA statement. PLoS Med. 2009;6(7):e1000097. https://doi.org/10.1371/journal.pmed.1000097.
25. WHO. Integrating psychosocial interventions and support into HIV services for adolescents and young adults. 2023;(April):1. Available from: https://iris.who.int/bitstream/handle/10665/369133/9789240071476-eng.pdf?sequence=1.
26. WHO. Adolescent Health: The missing Population in Universal Health Coverage. 2019. Available from: https://www.aidsdatahub.org/sites/default/files/resource/iap-adolescent-health-missing-population-uhc-2019.pdf.
27. WHO. Updated recommendations on service delivery for the treatment and care of people living with HIV. World Health Organ Guidelines. 2021;1–61 p. Available from: https://apps.who.int/iris/rest/bitstreams/1344311/retrieve.
28. UNICEF. Treatment HIV, Care, and Support for Adolescents Living With Hiv in Eastern and Southern Africa. 2021;38. Available from: https://www.unicef.org/esa/media/8791/file/Adolescents-HIV-Eastern-Southern-Africa-2021.pdf.
29. WHO. AIDS Free Framework to accelerate paediatric and adolescent HIV treatment. 2018; Available from: http://apps.who.int/bookorders.
30. Lincoln Y, Guba E. Naturalistic Inquiry. Newbury Park: SAGE Publications; 1985. Available from: https://www-jstor-org.ezproxy.uwc.ac.za/stable/pdf/1209257.pdf?refreqid=fastly-default%3A88a380cbfc33a27002740010d5360e0e&ab_segments=&initiator=&acceptTC=1.
31. WHO. Monitoring the Building Blocks of Health Systems: a Handbook of Indicators and. 2010;110. Available from: https://iris.who.int/bitstream/handle/10665/258734/9789241564052-eng.pdf.
32. MOH. 2022–2026 Zambia National Health Strategic Plan. 2022;1–2. Available from: www.moh.gov/?p=3138.
33. MOH. Zambia National Health Strategic Plan 2017–2021. Government printers; 2017. Available from: https://www.medbox.org/countries/zambia-national-health-strategic-plan-2017-2021/previewhttp://www.moh.gov.zm/docs/ZambiaNHSP.pdf.
34. MOH/NAC. Zambia-national-AIDS-strategic-framework-2017-2021. 2017. Available from: https://www.prepwatch.org/wp-content/uploads/2023/09/Zambia-national-AIDS-strategic-framework-2017-2021.pdf.
35. MOH. Zambia Consolidated Guidelines for Treatment and Prevention of HIV Infection. 2022. Available from: https://www.differentiatedservicedelivery.org/wp-content/uploads/August-2022-Zambia-Consolidated-Guidelines.pdf.
36. MOH. Differentiated Service Delivery (DSD) Framework. Lusaka; 2022. Available from: https://www.differentiatedservicedelivery.org/wp-content/uploads/2022-2026-Zambia-DSD-Implementation-Framework.
37. MOH. Adolescent HIV Care and Treatment:Healthcare Worker's Manual. Lusaka; 2020. Available from: https://www.moh.gov.zm/?wpfb_dl=40.
38. MOH. Manual for Supporting Caregivers of Children and Adolescents Living With HIV in Zambia 2020. 2020. Available from: https://www.moh.gov.zm/wp-content/uploads/filebase/guidelines/CAREGIVER-SUPPORT-MANUAL-2020.pdf.
39. MOH. Adolescent and Young People HIV Surge. 2020. Available from: https://www.moh.gov.zm/?wpfb_dl=41.
40. MOH. National Comprehensive Manual for Adolescent: Peer Educators and Facilitator's Guide for Prevention and Treatment of HIV. Lusaka: Ministry of Health; 2020.
41. WHO. World Health Organisation Consolidated Guidelines on HIV Prevention, Testing, Treatment, Service Delivery and Monitoring: Recommendations for a public health approach. 2021. p. 1–592. Available from: https://www.who.int/publications/i/item/9789240031593.
42. Abudiore O, Amamilo I, Campbell J, Eigege W, Harwell J, Conroy J, et al. High acceptability and viral suppression rate for first-Line patients on a dolutegravir-based regimen: An early adopter study in Nigeria. PLoS One. 2023;18(5 May):1–13. Available from: https://doi.org/10.1371/journal.pone.0284767.
43. Chorlton H, Mark D, Kean S, Merico F, Achebe K, Hatane L, et al. Approaching 2020: Scaling up key interventions for children and adolescents living with HIV Complementary and connected: Engaging community and faith-based organizations to deliver PMTCT and pediatric HIV services. 2018. Available from: https://www.researchgate.net/publication/342664589.
44. South African National Department of Health. 2023 ART Clinical Guidelines. 2023. Available from: https://www.knowledgehub.org.za/system/files/elibdownloads/2020-05/2019ARTGuideline28042020pdf.pdf.
45. National Department of Health. National Adolescent and Youth Health Policy 2017. 2017. Available from: http://cdsco.nic.in/writereaddata/National-Health-Policy.pdf.
46. Department of Health. National Strategic Plan for HIV,TB, STIs 2023–2028. 2023. Available from: https://knowledgehub.health.gov.za/elibrary/national-strategic-plan-hiv-tb-and-stis-2023-2028#:~:text The emphasis in the NSP,STI prevention and treatment services.
47. National AIDS Commission. National-Strategic-Plan-for-HIV-and-AIDS-2020-25-Final. 2020. Available from: www.aidsmalawi.mw.
48. MoH. National Youth Friendly Health Services Strategy. 2015. Available from: https://www.healthpolicyproject.com/pubs/673_YFHSStrategyFINALWEB.pdf.
49. Republic of Botswana. A National Commitment for Adolescents Well-Being in Botswana. 2023. Available from: https://cms1.gov.bw/sites/default/files/2023-10/NationalCommitmentonAdolescentWellBeing-FinalVersion%28Revised on29thAugust2023%29toshare_0.pdf.
50. Ministry of Health and Social Services. National Guidelines for Antiretroviral Therapy, Pocket Guide 2021. MoHSS. 2021.
51. Botswana Ministry of Health. 2023 Botswana Integrated HIV Clinical Care Guidelines. Available from: https://www.moh.gov.bw/Publications/HIV_treatment_guidelines.pdf.
52. MoHSS. National Strategic Framework for HIV and AIDS Response in Namibia 2010/11 to 2015/16. Available from: https://catalogue.safaids.net/sites/default/files/publications/National%20Strategic%20Framework%20for%20Namibia.pdf.
53. Ministry of Health and Social Services. National Strategic Framework for HIV and AIDS Response in Namibia 2017/18 to 2021/22. Available from: https://www.unaids.org/sites/default/files/country/documents/NAM_2018_countryreport.pdf.

Publisher's Note

Springer Nature remains neutral with regard to jurisdictional claims in published maps and institutional affiliations.