



# Cross country study on integration of HIV, TB and Malaria in Uganda, Nigeria, Mozambique, DRC, Zimbabwe and Tanzania

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## Question

What are the key lessons, challenges, successes and recommendations from cross country reports on integration of health services and health systems

- This will cover commitment and initiatives at central governance and policy level down to the community level.

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## 1. Summary

This report is a synthesis of a specified set of reports from BACKUP and K4D with a focus on integration of health care services in relation to Malaria, TB and HIV and how integration efforts contribute or impede health systems strengthening in Uganda, DRC, Tanzania, Mozambique, Nigeria, and Zimbabwe. It does not cover epidemiology or interventions (other than in relation to integration). The K4D reports highlight country specific epidemiology, disease control endeavours and key interventions for each disease including some that would strengthen health systems and promote integration. The BACKUP reports focus more on integration and can add country specific details with recommendations. Where references indicate a country name, this refers to either the K4D report or Backup report from that country. A list of the reports used for this synthesis may be found in the acknowledgement section. Where there are no references, this indicates that this is collective evidence from across BACKUP and K4D reports. Other references are included in the reference section.

### Governance, planning and finance

In nearly all countries there is evidence of political will for integration and a systems thinking approach to health. However, there is a paucity of examples that demonstrate clear strategic planning and governance for an integrated, people centered approach to delivering health care. Coordination mechanisms and a framework for integrated service delivery across programmes at different health systems levels are lacking. Coordination opportunities for planning, developing operational procedures and reviews are available in some countries but are not always utilised to stimulate and improve integration aspirations. For example, technical working groups, human resources for health coordination bodies, national observatories, policy advisory committees, donor coordination groups and others. Policies, standards and guidelines are also deficient in regards to integrated service delivery which creates gaps in understanding of key concepts and principles around people centered health care and systems.

In all countries, the majority of total health spending comes from foreign donors and households (out-of-pocket), rather than from sustainable sources such as government tax-based revenue or health insurance which has an impact on funds for health systems strengthening. Factors constraining integration of finances were non-flexible budgets, with malaria receiving limited funding compared to HIV and TB (Mozambique). In addition, budgets for general running of institutions were reported to be inadequate. Donor funding is mostly not pooled, and efforts for implementation of “basket pools” that enable alignment and more comprehensive planning are suggested.

### Service Delivery

Service integration was discussed in terms of delivering a basic package of health care services or primary health care delivery models that stipulate that all types of care (promotional, preventive, curative and re-adaptive) should be offered at health centre level, by the same team. This was often described as a one stop shop approach where several services could be accessed during a single visit. However, lack of resources and poor infrastructure to deliver

services was reported as being barriers to delivering integrated quality services. TB, Malaria and HIV was found to be integrated in different ways to other programmes including within child and maternal health services, family planning, sexually transmitted infections, gender based sexual violence and gender focused programmes, nutrition, integrated community management of Childhood illness, nutrition and non-communicable diseases (NCDs) such as cervical cancer, However, HIV-TB services integrated into maternal and child health services was most reported, with less integration of Malaria. However, this has not led to systems strengthening overall. There is a growing need to address other co-morbidities including Global Fund diseases and non-communicable diseases such as diabetes and hypertension.

Laboratory services are essential for diagnosis and management of patients, and for disease control, yet they remain among the most neglected health services. Laboratory facilities were lacking with the laboratory network being vertical and associated with the hierarchy of health services.

## **Health Workforce**

All countries reported a Human Resources for Health (HRH) crisis including HRH shortages, inequitable distribution, unmanageable workloads, and poor capacity. Interventions proposed to strengthen integration include; addressing disruptive variances in quality and quantity of health workers by facility; having structured, regular training and retraining that is tailored and has multifaceted, supervisory and group problem solving components; supportive supervision, interventions to improve attitudinal, diagnostic and treatment skills for people centred care, knowledge and practice for health workers; levelling of salaries and other remunerations; improving models for cascade training; performance based financing initiatives, accelerated training of health technicians, privileges programmes for women, humanisation of services in training curricula and reducing staff transfers to ensure those with relevant skills are placed where they are needed most.

## **Health information systems and data management**

Most countries have health information systems that can promote integration. Despite the adoption of health systems, vertical data collection mechanism on malaria, TB and HIV persist, which have led to duplication of efforts, inequitable funding, and inefficiencies in surveillance. There were many different, complex data systems reported but they are disconnected. To add to this, a number of ad hoc or regular data collection activities such as surveys and census' were undertaken in relation to disease programmes which were not synthesised or analysed in a coordinated manner. National health and human resource observatories could have a key role in processing and analysing data across sources as well as making recommendations for improved data collection, but they need investment. Challenges to integrating data systems include staff capacity and understanding, a lack of electricity and connectivity, unjustified restriction of access to data, lack of clarity of routine mechanisms for accessing data and vertical programs having different personnel, communication channels and supportive supervision processes.

## **Supply chain management and access to medicines**

Several bottlenecks and inefficiencies persist in the medical supply chain system such as missing medical commodities, regular stock-outs, poor or unknown drug quality and out of date

medicines and a lack of diagnostic test kits. Inadequate infrastructure for storage of health products, insufficient funding and staff to manage the supply chain, and weaknesses in ordering systems are additional challenges for integration.

## **Integrated healthcare for equity**

All reports alluded to the need to assess the current service delivery arrangements through the lens of at-risk populations and the marginalised, vulnerable, and poorest population groups. The most common vulnerable groups explicitly mentioned were women and children. Strategies to address Universal Health Coverage (UHC) for both at-risk and marginalised groups were being considered in several contexts. However, funding constraints, infrastructure issues, and insecurity are all major barriers to achieving the intervention coverage required to protect vulnerable populations. Except infrastructural initiatives to improve the mobility of individuals to reduced mobility in the public service in general, in some countries concrete actions or policies in the health sector to meet the specific needs of people with physical, mental, or audio-visual limitations were lacking.

## **Community Engagement and peer support in integrated health care**

Community engagement and involvement in the planning, implementing, monitoring and accountability for integrated service delivery is a key finding. This includes through Village Health Committees, Health Centre Committees, Community Health Workers (CHWs) and peer support groups. In order to meaningfully engage the community in integrated care, there must be strong regular capacity strengthening and training, clear implementation strategies with funding and technical support from sub-national and local governance. Strategies that support people with lived experience of a disease to become active agents in programmes has been shown to be effective in some contexts where capacity has been sufficiently strengthened. CHWs are a central component of integrated care, however they are often recruited for vertical programmes which compromises opportunities for integrated care provision and sustainability after programmes end. Investment in government directed CHWs instead of recruiting new community agents for specific diseases is essential for integration and health systems strengthening.

## **Additional considerations for integration**

Other factors that hinder integration efforts and need consideration by donors and domestic partners are the onset and legacy of COVID-19 that has exacerbated inequalities, increasing the numbers of vulnerable and marginalised people, especially the poor who will have little access to funds for health care, and created additional risk for people with TB and HIV/AIDS. Growing conflict means that there are more challenges to delivering care in conflict areas and that more Internally Displaced People (IDPs) in camps need integrated care.

The reports on integrated care focused more on the service delivery elements and less on the side of prevention and risk mitigation such as vector control strategies, tracking insecticide and drug resistance, screening for hotspots of transmission for targeted responses, keeping on top of genetic mutations and new vaccines and general control and mitigation strategies for HIV, Malaria and TB, all of which could reduce the need for health care and be part of integrated care planning and monitoring. Finally, there was minimal discussion around the need for multi-sectoral partnerships and action which could maximise resource use and share the burden of delivering

comprehensive care across the continuum from health promotion, disease prevention, diagnosis, treatment, disease management, rehabilitation and palliative care.

## 2. Integration definitions and concepts shared across reports

According to the WHO's Framework of Integrated, People-centred Health Services (IPCHS), integration is defined as comprehensive care across the continuum (health promotion, disease prevention, diagnosis, treatment, disease management, rehabilitation and palliative care) and coordinated across the different levels and sites of care (WHO, 2016). However, there was very little evidence that the WHO definition was adopted in most countries, rather the focus was on integrated healthcare at the service delivery level. Key concepts described in the reports in relation to integration included:

- Collaboration and coordination across health programmes
- Continuity of services between promotion, prevention, diagnosis and therapy, rehabilitation, and palliative care
- Person centered care
- Life stage triage at a single facility (paediatric, adult, maternal)
- Resilient and Sustainable Systems for Health (RSSH) investment framework
- Horizontal (systems strengthening) programming as a means of building cohesion between key systemic elements: finance, IT, service provision, human resources, technology, leadership and governance (Ncube & Chataway, 2019).
- Services delivered in bundles and by practitioners capable of providing several services
- UHC and basic/minimum healthcare packages
- Primary Health Care Under One Roof (PHCUOR)
- Differentiated service delivery model

Integration was conceptualised in most reports as having mechanisms that allowed for a 'one stop shop' approach to improve utilisation of health services across diseases or integration of services for HIV, Malaria and TB into other Primary Health Care (PHC) programmes;

*most participants understand that the integration of health services is related to the availability of several health services in a single gateway, where several services collaborate with each other and develop health promotion and disease prevention activities. (Mozambique)*

Across most reports, the benefits of service integration were well understood such as to reduce costs (for providers and patients) associated with multiple visits and improvements in the quality of care. Reassuringly there was political will across countries for integration of services and a health system strengthening approach. For HIV/AIDS, TB and malaria, there are already efforts for coordination, particularly between the different programmes. Nonetheless, most of the coordination efforts stagnate in documents and are limited when it comes to implementation, often due to financial and human resource constraints and a lack of practical tools. Many activities in those programmes are still running in parallel and the reports indicate the need for clear definitions of what integration means and training across levels to increase a shared vision

for integration. Recurrently the need for a coordinating body for integration is mentioned, particularly to overcome the fact that change is difficult, and even more so when change means sharing resources.

Understanding of what integration means in practice varied by health systems level and partner definitions. For example, in Tanzania, lowest understanding was perceived to be at service delivery level. Defining integrated health services among partners also created some confusion, for instance, WHO, through the framework on integrated people-centred health services defines integrated health services differently than the Global Funds approach of Resilient and Sustainable Systems for Health (RSSH) investment framework; '*RSSH investment area are narrowly defined with limited cross-cutting approaches as reflected in WHO's people centred approach*' (Global Fund 2019). In Nigeria, at the state level;

*there was emphasis on integration in management of delivery of services such as strengthening of governance and accountability mechanisms, strengthening of the health system for delivery of package of essential health care services, promoting community participation, strengthening coordination and regulatory mechanisms, strengthen the organization of PHC services at LGA [Local Government Area] level, integrated maternal newborn and child health, integrated supportive supervision, focused attention to vulnerable group (i.e., pregnant women, children under 5 and adults above 70 years old) and coordinating services within and across sectors. (Nigeria)*

In Mozambique, health worker understanding was stronger due to one stop shop models of delivery. In Zimbabwe, reports stated that they had a patient-centred philosophy, and this was guided by the Patients Charter and that they engaged patients through suggestion boxes, the Public Relations Department, Health Centre Committees, CBOs, client satisfaction surveys and exit interviews. In Zimbabwe, people-centred care was a focus, and three common lessons were observed in the report;

- Efforts to make care more people-centred were more likely to succeed when linked to complimentary drivers for change such as improving equity in health, establishing the rights of citizens and addressing the challenges of chronic illness.
- Long-term commitment, sustained political will and leadership are necessary to enable changes to embed over time. This needs to be combined with an approach that values bottom-up innovation within a top-down framework in order to provide an enabling environment for changes that align governance and incentive structures.
- Participation and support across all stakeholders in health and other sectors (including policymakers, managers, professionals, community groups and service users) is vital for success since a system-wide approach is needed using multiple policy instruments simultaneously applied to the different levels of the health system (the macro, meso and micro levels).

Across all reports there is evidence of stronger integration of HIV-TB services and less on integration with Malaria and other services. Integration of NCDs such as hypertension and diabetes within TB, HIV and Malaria programmes is being encouraged, which was a particular focus in the BACKUP Zimbabwe report. Other integration activities included:

- Integration of TB, Malaria and HIV within child and health service, postnatal care, family planning, sexually transmitted infections, gender based sexual violence and gender focused programmes, nutrition, integrated community management of Childhood illness, nutrition and NCDs such as cervical cancer.
- primary health care approach where a range of services are provided in one place. (Zimbabwe)
- basic health care packages that aim to integrate service delivery (DRC, Mozambique)
- coordination across national programmes for TB, Malaria and HIV including joint planning and programme reviews
- joint supervisory visits at facility level
- joint training activities for laboratory, pharmacy, and service staff
- co-location of antiretroviral therapy (ART), TB and Reproductive maternal, newborn, child and adolescent health (RMNCAH)
- multi-disease test devices in integrated laboratory networks
- integration of program data into District Health Information Software (DHIS) and Health Management Information System (HMIS)
- bringing traditional and complementary medicine into mainstream health services delivery to promote Universal Health. (Zimbabwe)
- integrating public and private services (Uganda)
- integrated accounting and monitoring systems
- integrated procurement systems

### 3. Challenges to integration

Many challenges to delivering integrated health services were reported in the country reports were synonymous and included:

#### Coordination factors

- Weak coordination and oversight for planning and data validation related to leadership conflict and weak collaboration between programmes
- The absence of a consultation framework between the various stakeholders
- Finance structures that align with external funds and not with national priorities such as Health Systems Strengthening (HSS)
- Lack of definitions, policies and national guidelines that explicitly outline how integrated care should be delivered
- No clear direction for how to manage integrated care for sub-national actors
- Integration requires a lot of effort and inter-sector collaboration (Nigeria)
- Emphasis on narrow short-term performance targets and preference for foreign consultants over building national capabilities and domestic NGOs
- Multiple data systems with poor joint monitoring and evaluation across programmes

#### Human resources and capacities



- The absence of standards/directives/guidelines/tools specific to integrated care for Malaria, TB and HIV/AIDS. The human resources capability in implementing a series of complex guidelines in the health facilities is not clearly articulated. Documents fail to clearly identify linkage mechanisms through which key population may benefit from privileged or dedicated access routes (Mozambique); There is no policy or implementation roadmap on integration (Zimbabwe)
- Overload of service providers due to staff shortages and additional care from one stop shop approaches which require more time with patients, also increasing waiting times for patients
- Staff attrition, poor remuneration and motivation
- Supportive supervision is disease specific and not integrated
- Minimal understanding and training for the service integration approach
- Multiplicity of reporting tools associated with programmes
- Low funding for streamlining monitoring and evaluation
- Technical guides focused on laboratory, testing, medical procedures, missing the opportunity to emphasise systems strengthening, practical service integration, addressing special needs of at-risk populations (Mozambique, Zimbabwe)
- Inadequate skills in different fields and lack of personnel affect the quality and safety of services (Nigeria/Mozambique)
- Service integration perceived as an additional burden at the practice level
- Fractured and unresponsive supply chains

#### **Resource constraints**

- Inadequate infrastructure and workspaces
- Stock-outs of inputs and health commodities
- Lack of financial and human resources

## **4. Health systems assessments and integration initiatives by country**

In order to assess health systems functioning and integrated service delivery, a number of assessments or projects were undertaken across countries with the aim of understanding where the gaps and opportunities lay. Appendix 1 offers case studies for each country to provide a flavour for the types of integration and health systems strengthening (HSS) initiatives that are ongoing and any assessments that were undertaken. The case studies do not include all evidence from reports, however, are useful to gain an overarching picture. The case studies indicate strong integration of HIV-TB services and their integration within maternal and child health services. What is less clear is how these initiatives strengthen health systems in a holistic way or how they strengthen the integration of other services to support a person centered approach. Therefore the remainder of the report will focus on challenges and opportunities shared in reports for integrated care and HSS, applying the WHO building blocks with additional areas for consideration including 'Integrated health care for equity' and 'Community Engagement and peer support'. The report finishes by suggesting areas for further consideration.



## 5. Governance and planning

### Political will

In nearly all countries there is evidence of political will for integration and a systems thinking approach to health. However, there is a paucity of examples that demonstrate clear strategic planning and governance for an integrated, people centered approach to delivering health. Research suggests that one of the reasons for this is that developmental partners have provided more funding to vertical programmes than to integrated disease surveillance and response (Onwe et al., 2021) or to addressing general weaknesses in health system, such as shortages of human resources, fragmentation of services, and decaying infrastructure (Oladele et al., 2020). Collaboration between the different health-related ministries also remains a key issue. For example, in Nigeria, nationally there is little integration between the National Centre for Disease Control and various disease control programmes (Kusimo et al., 2020).

One exception is Uganda, where Health Service integration is highly prioritised in the National Strategic Plans indicating the importance of working across programmes with a focus on the individual. The National strategic plans for HIV, TB, Malaria, RMNCAH and Nutrition are aligned to the National Development Plan III which is promoting a programmatic approach to planning, budgeting, implementing and reporting together for service areas that are related and contributing to common results, consistent with integration. The Health Sector Quality Improvement Framework and Strategic Plan, FY 2015/16-2019/2020 prescribes clear indicators for monitoring some of the integrated service delivery packages, such as the performance indicators for TB/HIV and for prevention of mother to child transmission of HIV (PMTCT) in RMNCAH. MoH officials and partners demonstrate leadership and show commitment to health service integration during joint planning and performance review processes. Health development partners have a forum in which they discuss cross-cutting issues which have an impact on health service integration.

### National level coordination

The need for an integration coordination body is repeatedly mentioned to overcome the difficulty of change, especially when it comes to pooling or sharing resources. In most countries, documents show that at a national/ higher level there is less integration due to separate committees, separate information systems, separate logistical systems, and separate mechanisms for intersectoral collaboration (MoH 2019). Similarly, existing separate funding mechanisms by some development partners act as barriers to integration, since these mechanisms have specific demands with regard to handling logistics and reporting (MoH 2019). NGO projects are frequently grafted onto the health system, without systemic support to the sector (Pfeiffer & Chapman, 2019). Minimal funding has supported basic health system building blocks such as health workforce expansion, transport, or infrastructure (Chapman, 2020; Pfeiffer & Chapman, 2021).

The Nigeria BACKUP report calls for a working group or task force to initiate a systematic review and context appropriate adoption of the WHO integrated people-centred health services strategy in national health policies, strategies and plans.

In Tanzania coordination opportunities at national level include Technical Working Groups (TWGs), Sector-wide Approach (SWAP) and at regional level, joint planning. For HIV, TB, and Malaria, planning is integrated as it falls under communicable diseases- priority number three. Mozambique also have TWGs, however systemic aspects of health services and consideration of health programmes beyond the scope of a specific technical group are rarely incorporated into work and decision-making mechanisms. In Uganda, the MoH undertakes joint planning and reviews through leadership and governance structures like Senior Top Management, Top Management, Senior Management, TWGs and Health Partners Advisory Committee (HPAC). These structures have jointly developed and approved plans with a component of integration. There is no clearly defined organisation, department or individual assigned the responsibility for promoting cross programme integration across the five targeted conditions with clear outputs, deliverables and scope of work.

The MoH in Uganda has a Health Policy Advisory Committee (HPAC) where the challenges of integrating across vertical programmes can be discussed and negotiated. The Country Coordinating Mechanism (CCM) has an advisory or advocacy role for efficient use of the mobilised resources through measures like integration and oversight of all grants. HPAC and CCM functions effectively and convene with sufficient frequency and breadth of participation from the range of health stakeholders. There are also informal coordination processes between disease programmes and their managers. There is growing appreciation for integrated approaches for disease diagnostics, patient monitoring and service delivery between programme service points of care at facility level. This ensures sustainability.

*There is need for more advocacy at the national level about what needs to be integrated and how. This will require designating a focal person at a more strategic level in the MoH to continue advancing and promoting the health service integration agenda across different programmes. (Uganda)*

While there are small projects that have shown successful coordination mechanisms, such as Mozambique's long-lasting insecticidal nets (LLINs) universal coverage campaign which includes a collaborative planning process and strong coordination of campaign actors through central level they are temporary, not scaled up or embedded within systems (Arroz et al., 2018).

## **State level coordination**

In Nigeria, donor coordination units had been established in some states, while regular coordination meetings with donors were held in others, yet local level management teams were unaware of such efforts or the existence of any coherent strategic plan to guide donor coordination across departments and health programmes.

In Uganda, the MoH has engaged and supported some districts in order to strengthen health service integration by promoting joint planning e.g. development of a Comprehensive Annual Work plans and Budgets which includes all sources of funds and what is to be done. This has been promoted in a few districts due to inadequate financial resources. The MoH capacity to implement integrated approaches is limited by staffing shortages and the many local governments under the decentralised system. There is also need for continuous orientation of MoH staff to reduce on the mindset of working in silos. Prospective evaluation of the global fund grants done in 2019 showed that some organisations/donors are not transparent with budgetary and activity information, hindering joint planning and leading to duplication.

In Zimbabwe the Provincial HIV focal person and the Provincial TB focal person report to the Provincial Epidemiology and Disease Control Officer who is fully aware of what is happening in both programmes and hence can cascade this knowledge to the service delivery level. Additional community level coordination mechanisms are detailed in section 12.

## Community level coordination

In Uganda, the Community Health (CH) department is mandated to support integrated public health services for prevention and control of both endemic and epidemic diseases with a goal of achieving high impact health and nutrition interventions at scale, ending disability and deaths due to common preventable diseases and realising other health goals. The CH department is mandated to institutionalize CH as a service/practice at all level of Health Services delivery through effective and efficient linkages of community health projects. According to the mandate of the CH department, it should undertake the responsibility for cross programme integrations for the 5 targeted conditions.

## Policies

At the policy level, most reports identified a need for a national health integration policy document and guidance for different levels of the health systems and for donors/partners. In some cases, there is an integration policy and/or elements of integration within other national health policies but they are not explicit unless it is for HIV-TB integration.

For example, the National Coordination Committee (NCC) in Uganda formed in 2005 alongside the National Policy Guidelines for TB/HIV collaborative activities, standardised implementation of TB/HIV collaborative which led to substantial progress in key TB/HIV indicators.

Leaders are coming up with initiatives like the 'health in all policies' concept, platforms like Sector wide approach (SWAP), Patient and Community-Centered Health Services focus, which all provide avenues for strengthening integration. In terms of TB/HIV, collaborative policies exist and are strong as the pairing is considered more feasible due to the close nature of the diseases. For example, TB - HIV integration is very easy and realistic because by nature TB and HIV are very close to each other compared to Malaria. Malaria is integrated in some policies as a cross cutting service

*“Malaria is cross-cutting, a patient can pop-in at any service point, for it to be fully integrated into all service points through the super-market approach will need a lot more investments” (National level participant-Tanzania)*

## Guidelines

Integrated service delivery is negatively affected by limited collaborative guidelines for HIV, TB and Malaria as well as wider guidelines for integrated service delivery as an area in itself. Rather guidance and training are programme specific, hindering opportunities to support person centered thinking for integrated service delivery. Some integration commitments are described in disease specific strategic plans/guidelines, but there is no written guideline or toolkit for promoting integrated services in one booklet.

Where operational guidelines for integrated services do exist, such as the DRC, they are not applied sufficiently. In 2018-2020, it was planned to organise a national orientation meeting with stakeholders on the planning and scaling up of HIV/TB collaborative activities and the establishment of the One Stop Shop (TB/HIV Single Ticket Office) with workshops in the 26 provinces for the implementation. These workshops should be followed by the organization of training for different care providers and community actors on the new directives (management of TB/HIV co-infection), including One stop shop. However, the implementation has been weak due to lack of funding.

Often guidelines do not clearly identify linkage mechanisms through which key population may benefit from privileged or dedicated access routes. The review in Mozambique has not found a comprehensive guide about integration with other services, but rather the integration of activities typically implies other programmes adopting the fight against HIV through testing and treatment initiation.

## 6. Financing

In all countries, the majority of total health spending comes from foreign donors and households (out-of-pocket), rather than from sustainable sources such as government tax-based revenue or health insurance which has an impact on funds for health systems strengthening. Financing strategies tend to be programme specific, for example TB has the general objective of contributing to the reduction of the catastrophic costs linked to TB and payment schemes to obtain HIV/AIDS services without suffering financial hardship are in place. Factors constraining integration of finances were non-flexible budgets, with malaria receiving limited funding compared to HIV and TB (Mozambique). In addition, budgets for general running of institutions were reported to be inadequate.

Funding and funding mechanisms are seen as a key issue for integration and health systems strengthening as donor funding is generally not pooled. In the DRC there are efforts to implement “common baskets” with the Single Contract. This single contract aims for effectiveness and efficiency in the Steering/Coordination of TB/HIV coinfection in the two programmes and makes it possible to strengthen the services at sub-national and local levels. Likewise, in Nigeria, donor funding is mostly not pooled, and efforts for implementation of “basket pools” that enable alignment and more comprehensive planning are suggested. In Nigeria, the National Health Act has a provision for deducting one percent of national revenue, to finance the “basic healthcare provision fund”. The funds will then be used to strengthen at minimum one PHC per ward towards providing comprehensive and integrated services – this is a planned integration national policy. Implementation has started and is at different levels in each state

In Mozambique, Funding for the health services package can be categorised into two mechanisms, i) within the state budget and ii) outside the state budget. External and state funding (via fees and other sources) make up the “on-budget” mechanism. The vast majority of resources flow ‘off budget’ to NGO clinical partners (Chapman, 2020; Pfeiffer & Chapman, 2019).

## 7. Service delivery

Service integration was discussed in terms of delivering a basic package of health care services or primary health care delivery models that stipulate that all types of care (promotional,

preventive, curative and re-adaptive) should be offered at health centre level, by the same team. This was often described as a one stop shop approach where several services could be accessed during a single visit. However, lack of resources and poor infrastructure to deliver services was reported as being barriers to delivering integrated quality services. TB, Malaria and HIV was found to be integrated in different ways to other programmes including within maternal and child and health service, postnatal care, family planning, sexually transmitted infections, gender based sexual violence and gender focused programmes, nutrition, integrated community management of Childhood illness, nutrition and NCDs, such as cervical cancer. However, HIV-TB services integrated into maternal and child health services was most reported, with less integration of Malaria.

In many countries, the lack of finances to access facilities was a barrier to reaching integrated service delivery and continuity of care. It was noted in one of the facilities visited in Nigeria, that patients must provide or pay for fuel to use the ambulance in cases of emergencies, or electric generators not functioning due to lack of funds for fuel. Inadequate buildings and infrastructure especially at the lower health facility level was one of factors hindering provision of integrated services; for example in Tanzania, as most low level facilities are just one room and highly congested with files. Limited physical space for client consultations, laboratories, stores, etc.

## **Integrated service delivery models**

In Tanzania, HIV-TB and ANC have a relatively clear tool/ guideline to guide integrated health services. Integrated service delivery models were discussed. At the level of hospital and health centre a special triage area either a special tent or a room was allocated to screen all patients visiting before they go for medical consultation. The comprehensive screening of patients allows the facilities to identify clients that need special check-up and confirmation for HIV and TB as well as malnutrition and non-communicable diseases. These were observed in both regions at district and health centre level.

In the DRC, the continuity of services is captured in Health Zone standards, which stipulates that all types of care (promotional, preventive, curative and re-adaptive) should be offered at health centre level, by the same team. The continuity of services in the Health Zone standards also implies the establishment of a referral and counter-referral system. However, expected results for interventions such as PMTCT, HIV TB co-infection, Intermittent Preventive Treatment were not achieved due to insufficient resources.

## **Service delivery risks**

A study on receipt of HIV test results in adults aged 15–59 years old in Mozambique estimates that approximately 51,000 HIV-positive persons were tested but did not receive their results (Mugabe et al., 2019). This represents a missed opportunity to diagnose and treat a large group of PLHIV that have already accessed the health care system (Mugabe et al., 2019).

In Nigeria, facilities reported their limitations to maintain or improve services due to lack or inadequate running cost (since the end of NSHIP). HIV/AIDS and TB programmes appeared to be delivered standalone in facilities, but in some cases with more resources from donors than other services. For example, while in one of the health facilities only one volunteer was serving the record office of the facility, the HIV/AIDS section had 3 visible staff entering records in a computer, and immunisation section having 7 record officers, one for each register.

## **Outreach and mobile technologies**

The proliferation of mobile technology offers another opportunity for coordination and continuity of health services, especially in hard-to-reach areas. In Nigeria, Niger state experimented with a mobile application to monitor drug supply and Gombe state contributory agency intend to use such approach to monitor the quality of care in health facilities. Technologies can also support retention in care. Strategies such as phone reminders, personal counselling or home-visits may help re-engage women lost from ANC and ensure that women who initially tested HIV-negative during pregnancy or breastfeeding receive repeat testing (Fuente-Soro et al., 2021). Such outreach and communication can decrease the number of new paediatric HIV infections and facilitate the timely diagnosis of HIV and treatment initiation (Fuente-Soro et al., 2021).

## **Integration of Non-communicable disease with HIV, TB and Malaria**

Not integrating NCDs was found to undermine malaria elimination (Mbunge et al., 2021a) and to be more common among PLHIV (Smit et al., 2018; Taramusi et al., 2018). Data from 2015 reveal that an estimated 33% of PLHIV are diagnosed with at least one key NCD, compared with an estimated 14% of HIV-negative persons (Smit et al., 2018). By 2035, adult PLHIV are forecasted to be nearly twice as likely to suffer from at least one key NCD and three times more likely to suffer from multiple key NCDs compared with HIV-negative persons (Smit et al., 2018). The identification of cost-effective chronic disease service delivery models to manage the dual burden of HIV and NCDs will be critical to maintain the quality of health services (Smit et al., 2018). NCD services will need to be expanded and integrated into HIV care programmes. Some HIV programmes have already shifted from vertical programmes, focused on HIV diagnosis and treatment, to integrated care management, incorporating testing and treatment for other conditions and exploring community-based delivery (Smit et al., 2018).

## **Laboratory Services**

Laboratory services are essential for diagnosis and management of patients, and for disease control, yet they remain among the most neglected health services in Mozambique (Tadeu & Geelhoed, 2016). Laboratory facilities were lacking with the laboratory network being vertical and associated with the hierarchy of health services. As health facilities become complex, the complexity of clinical laboratories embedded in the same health facilities increases. The network of laboratories is completed by public health laboratories, attached to the National Institute of Health, these being reference laboratories and with advanced testing capacity in terms of technologies such as PCR and similar. These specialised laboratories support integration as they are dedicated to the main endemic diseases, with emphasis on the immunology and phenotypology of HIV, Tuberculosis, Infectious Diarrhoea, Microbiology, Intestinal Parasitology, Entomology, and Malaria, but also vaccine-preventable diseases (Measles, Rubella, Influenza, SARs- CoV-2). A study of rural areas in Tete Province, Mozambique finds a higher level of health service utilisation in health facilities (HFs) with a laboratory, with nearly twice as many consultations and childbirths attended, four times more patients starting ART, and three times as many patients starting treatment for TB, compared to HFs without a laboratory (Tadeu & Geelhoed, 2016). Diagnoses could also be made quicker, and treatment started without delays since there was no need for referrals for samples or patients (Tadeu & Geelhoed, 2016). The study also finds that lack of local laboratory services imposes considerable financial hardship,



with many unable to afford the costs of traveling to access such services (Tadeu & Geelhoed, 2016).

A paper by Mboera et al. (2015) found that a well-established National Health Laboratory System was in place in Tanzania, however, the coordination of HIV laboratory services was found to be weak. The authors reported that whilst in most laboratories, guidelines for HIV diagnosis were available but health care providers but utilisation was poor at subnational levels which was attributed to inadequate training and supervision.

In the DRC, PEPFAR and the Global Fund are responsible for their respective geographic areas. While the PEPFAR-supported zones reached HIV viral load (VL) coverage of 84% by 2020, the national VL coverage remains alarmingly low, under 20%, despite available capacity to reach 79% coverage (PEPFAR, 2021). The programme promises to continue to provide health care workers (HCW) with sensitisation training to systematically request VL tests for eligible patients to address challenges related to low demand. The programme will train phlebotomists to make paediatric specimen collection easier and to ensure that proper paediatric collection materials are available. Point of care VL instruments will be strategically placed targeting high volume ANC clinics to address challenges related to low coverage in pregnant and breastfeeding women (PBFW), infants, and children (PEPFAR, 2021). Emphasis will be placed on the correct filling of the viral load request form to ensure status is well captured.

## 8. Health Workforce

The shortage of health providers was reported as a major barrier to implement integrated care across all reports. All countries reported an HRH crisis including HRH shortages, inequitable distribution, unmanageable workloads, and poor capacity.

### Unmanageable workloads

In some health centres, a single health provider is responsible (both in delivery and in management) for all services who quickly becomes overloaded and consequently there is a delay in service. Heavy workloads of staff at ANC clinics means that they may not have the time to give detailed information about prevention strategies (Arnaldo et al., 2019). Low levels of training and high workloads of health care staff have contributed to poor data documentation, treatment deferral, and loss to follow up (LTFU) of patients overall (Global Fund, 2020; Nyakura et al., 2019). HIV testing misclassification errors have been reported, which can lead to failure to provide ART in the case of false-negatives or inappropriate ART initiation in the case of false-positives (Gregson et al., 2021; Rufu et al., 2018). Health workers have been reassigned to meet Covid-19 testing demand, leading to fewer people conducting HIV and TB testing (Mukwenha et al., 2020). Medical staff anxiety and burnout also influences the degree of HIV and TB testing, as staff are overwhelmed with COVID-19 testing (Mukwenha et al., 2020). Key informants in Zimbabwe noted that one of the factors constraining integration was staff attrition due to lack of accommodation, demotivation due to poor salaries, staff burnout and shortages of medicines and equipment.

Changes in the country's monetary policy also delayed salary payments to health workers in recent years, which can lower staff morale and contribute to brain drain (Muniu & Amendah,



2019). The Global Fund grant in Zimbabwe provides for a top-up allowance for health care workers as an incentive to retain them (Muniu & Amendah, 2019).

## Areas for improvement of HRH for integrated service delivery

Interventions proposed in the literature for human resources are consistent across the three diseases and comprise of; addressing disruptive variances in quality and quantity of health workers by facility; having structured, regular training and retraining that is tailored and has multifaceted, supervisory and group problem solving components; interventions to improve attitudinal, diagnostic and treatment skills, knowledge and practice for health workers; levelling of salaries and other remunerations; improving models for cascade training; performance based financing initiatives and reducing staff transfers to ensure those with relevant skills are placed where they are needed most.

Other potential areas for improvement that have been recommended or implemented in reports to improve the HRH crisis generally or promote integration included;

- Design and implement a targeted health worker retention approach in hard-to-reach areas
- Tanzania has trained almost 600 health workers to offer integrated services (Tanzania)
- Harmonise community health worker curricula and support implementation of training
- PATH worked with partners to hire district and zonal TB–HIV coordinators who provide critical on-the-job training and supportive supervision to health workers. These coordinators have been instrumental in expanding and advocating for more services, monitoring service implementation, and mobilizing resources (PATH). (Tanzania)
- Accelerated training of health technicians, privileges programmes that incorporate female technicians, at a medium and higher academic level and humanisation of services in training curricula were proposed in Mozambique. In addition, the future cohorts of clinical professionals is based on a psychotechnical assessment that considers dimensions of vocation, empathy, and humanization. This approach was considered to contribute to the growth in the number of professionals committed to patient-centred care standards, human rights, and a humanised model. (Mozambique)
- Studies of performance-based financing (PBF) in Mozambique and Nigeria find that PBF can be more effective in advancing primary care service delivery than input financing alone – improving the initiation of treatment in the case of HIV; and the quality of hospital management and supervision (Rajkotia et al., 2017; Schuster et al., 2016). PBF in Nigeria provided funding directly to participating health facilities based on the quantity and quality of services they deliver. Funds were transferred electronically to each facility’s bank account, and the facilities have substantial autonomy in how they use the funds. The facilities used their autonomy and financial means to incentivise their staffs and improved the condition the health facilities. (Nigeria)
- Support health workers with adequate processes of work, clear roles and expectations, guidelines, opportunities to correct competency gaps, supportive feedback, fair wages, and a suitable work environment and incentives. (Zimbabwe)

## Training and capacity strengthening

Staff training for integrated services is seen as key to successful delivery, which includes training on the core concepts of people centered, integrated care. In Uganda, Staff have been trained to offer integrated service delivery and supervisors tend to monitor aspects of integration for example testing for HIV during ANC and all mothers in labour. Service delivery in charges are responsible for ensuring that their staff follow the proposed integrated service delivery approaches. Training materials for integrated service delivery have been developed by partners mainly for HIV/TB and nutrition.

Motivation was reported to be impacted by a lack of training, because health workers often receive guidance from managers, but do not receive training on the subject. The Mozambique report suggests that Provincial health services should carry out periodic continuous training on the integration of health services in the area of TB, HIV, Maternal and child health, Nutrition and Malaria and others such as NCDS, to improve services and teamwork.

In Zimbabwe, a scalable training and mentoring programme was designed to improve: productivity, coverage, and quality of operations; management capacity; and frontline workers' problem solving skills— at the district, clinic, and village level in three provinces of Zimbabwe (Chung et al., 2020). It was based on change management principles, participatory organisation development approaches, and quality improvement methods (Chung et al., 2020). A key component of the approach is that the individuals or teams facing certain operational challenges work with peers to solve these challenges at training events (Chung et al., 2020). Research finds that the programme resulted in significant operational improvements, including better data management in Matabeleland South; greater motivation and confidence among nurses after training in case management, and better data quality, in Matabeleland North; and greater goal-orientation and routine data monitoring in Midlands (Chung et al., 2020). Participants from all provinces also gained skills in listening, communicating, facilitating discussions, and making presentations (Chung et al., 2020).

## Supervision

National Supportive Supervision Guidelines for Health Services in Uganda provides for an integrated supportive supervision approach in addition to technical and emergency supportive supervision approaches. Integrated supportive supervision aims at covering a comprehensive range of services. The process requires a multidisciplinary team, using an integrated checklist. The team should possess a mix of skills commensurate with the task at hand.

The standards, directives, national instructions for integrated supervision in the DRC developed in 2016 present the models of supervision tools allowing the integration of equity, the social determinants of health, gender equality and human rights in each policy and sectorial plan. They also mention the establishment of an integrated supervision system and tools adapted to improve the performance of managers and agents and thus fight against the telescoping of supervisors in the field and the squandering of supervision funds in the provinces.

In Zimbabwe, support and supervision activities were generally carried out in an integrated manner especially those carried out by the Provincial Medical Director and district heads to the clinics. However, most supervision visits were not integrated and were disease specific; especially those carried out by head office staff.

In Mozambique, the integrated and integral supervision of support to the health services is a practice of quality improvement, including the verification of the technical quality in the health services. Technical quality verification is very intensive for HIV, Malaria and Maternal and Child Health program indicators, taking a vertical approach. The attention given to maternal and child health indicators benefits from their integration with indicators for the prevention of mother-to-child transmission of HIV.

## 9. Health information systems and data management

Most countries have health information systems that can promote integration through joint monitoring and evaluation, reporting and attracting funds. Despite the adoption of health systems, vertical programmes on malaria, TB and HIV persist, which have led to duplication of efforts, inequitable funding, and inefficiencies in surveillance (Onwe et al., 2021). The integration of existing vertical programmes into a strengthened health information system could result in more effective disease control for individual diseases and for co-infection, allowing for integrated care (Onwe et al., 2021; Kusimo et al., 2020; Chukwuocha et al., 2019). However, there were many different, complex systems used that are disconnected. The types of data systems used and common challenges are bulleted below. Of note is the focus again on HIV-TB integrated data at the expense of other service data integration.

*“...For now, only TB and HIV services are fully integrated, and data can be captured through the system. Malaria data are collected and reported separately no integrated data is available...” (National level participant-Tanzania)*

### Data system approaches

- National health management information system (HMIS) (Tanzania, Uganda)
- Integrated disease surveillance and response system (IDSR) (Tanzania, Nigeria)
- District health information system (DHIS) (DRC)
- e-IDSR system uses mobile phone technology that is commonly used in mobile money transfer (unstructured supplementary service data) At health facilities, registered users can submit weekly reports that can be viewed in DHIS 2 and accessed by officials at district, regional, and national levels (Measure, 2018).
- Large scale surveys (every 5 years) for collecting health data taken, for situational observation of Malaria, Tuberculosis, HIV, and Maternal Health

*While surveys are integrative of health programs through maternal and child health indicators, thus measuring HIV, malaria and immunization for example, the malaria indicator survey tends to be very specific on disease-specific indicators. (Mozambique)*

- Private sector observatories, such as the rural environment observatory which focuses mainly on economic and social issues that are more distant from the health sector and despite being determinants of health (Mozambique)
- Citizens' health observatory as a platform of activism (Mozambique)

- Census called Service Availability and Readiness Assessment (SARA), implemented by the National Institute of Health in 2018, in partnership with the World Health Organization and the Ministry of Health.
- National Health Observatory as a virtual, multi-institutional body, involving almost all the technical departments of the Ministry of Health, partners, and non-governmental organizations working in health and is technically secretariat by the National Institute of Health. Analytical products of the health situation and its determinants are expected and have been obtained from the health observatory (Mozambique, DRC))
- Observatory of Health Human Resources often a secretariat by the Human Resources Directorate of the Ministry of Health (Mozambique, DRC)
- Community systems for surveillance and records of vital events, mortality, and births, at the national level
- Electronic patient management system (Zimbabwe)- Progress is slow and most facilities still have to continue with the paper-based system alongside
- National HIV/AIDS Indicator and Impact Survey to improve data for planning of HIV prevention and treatment programmes. (Nigeria)
- Multiple electronic TB data capture systems deployed at community and health facility levels by different implementing partners
- Integrated disease surveillance within the framework of the Integrated Epidemiological Surveillance Project in Central Africa (SURVAC).

## Challenges in integrating health information systems

- Continual expansion of reportable conditions (all)
- Vertical programme demands for different data create harmonisation/integration challenges (all)
- Data quality is compromised as capacity to use systems is lacking (all) Health workers are not trained in data management or how to handle DHIS2/HMIS and limited logistical support for HMIS activities (Uganda)
- Information from clients can be found in multiple reporting systems or register books, instead of having harmonised system which ensures data interoperability.
- Ensuring nationwide access- a lack of consistent electricity or Internet connectivity is a barrier to accurate and complete data reporting (DRC, USAID & MEASURE Evaluation, 2019) (DRC)
- information systems are a myriad of informatics subsystems created at different levels, by different actors, for different purposes and programmatic interests (Mozambique). For example, Data from laboratory computer systems, Community health subsystem data is kept separate, records are kept by the Ministry of Justice, Public health emergency data are maintained in their own systems, vertical and separate from DHIS-2. Data on the activities of NGOs are maintained and managed vertically by interested institutions. Data from private health services are sent in paper summaries to provincial health authorities and kept separately. In this myriad of information systems, the collection of aggregated data is privileged and there is little information sharing and almost no system interoperability (Mozambique)

- Even when there are digital government guidelines and/or information systems policies, there is weak capacity to process and use the same data (Mozambique)
- unjustified restriction of access to data with the granularity required by data clients
- Lack of clarity of routine mechanisms for accessing data held in health information systems. (Mozambique)
- Mismatch between interest in describing the public health situation with routine data and the availability and results of data analysis (Mozambique)
- The national health information system also remains underdeveloped, with clinical partners having developed disparate patient management systems (PMS) and parallel data collection systems (Pfeiffer & Chapman, 2019; Hochgesang et al., 2017). (Mozambique)
- Dependency on cumbersome and often duplicative paper-based systems (Zimbabwe)
- Vertical programmes and a poorly implemented regulatory framework have resulted in a multiplicity of data management systems and data collection tools, different to the IDSR tools. This can be chaotic and counterproductive, resulting in ineffective utilization of data harmonization and poor response to outbreaks (Onwe et al., 2021; Kusimo et al., 2020).(Nigeria)
- Vertical programs had different personnel, communication channels and supportive supervision processes from the IDSR system. Although there was evidence of a forum for data harmonization, this forum was ineffectively utilized in 83.3% of cases. Specific disease funding was higher than that of IDSR (92.9%) and only 42.9% reported funding for IDSR activities from development partners in the State. Onwe, Okedo-Alex, Akamike, and Igwe-Okomiso (2021) (Nigeria)
- Poor data management, low priority on IDSR priority diseases, and donor-driven programming were major negative effects of vertical programmes. Improved funding, political ownership, and integration were major recommendations preferred by state epidemiologists and Disease Notification Surveillance Officers (Onwe et al., 2021).
- Health services report narratives do analyse the health sector but only from the point of view of external fund flows (Mozambique)

## Solutions to data management challenges

From across reports the following recommendations to improve integration of data were suggested;

- Comprehensive modernisation and strengthening of all aspects of monitoring and evaluation within the Ministry of Health
- Strengthening the HMIS to improve data collection, reporting, and use for decision making at all levels of the health system
- Integrate and harmonise existing subsystems
- Strengthen the integration and interoperability of existing information systems, including the establishment of an electronic integrated disease surveillance and response system (eIDSR) linked to HMIS

- Improve data quality through: (i) supportive supervision and Data Quality Assessments; (ii) integration of a routine data verification system into HMIS/DHIS
- Secure significant government and external resources to maintain and strengthen detection, notification, reporting, and analysis of information.
- Strengthen facility level capacity for disease surveillance through on the job training and supportive supervision

## Monitoring and Evaluation

The reports across countries alluded to a lack of monitoring and evaluation indicators solely designed to eliminate parallel systems. Instead, quality of care indicators for integrated service packages for example HIV/TB are monitored. There was no evidence of monitored indicators regarding health service integration. In Nigeria documents were developed with well-defined outcomes but were limited by the lack of monitoring and evaluation plans (M&E). This highlights the need to review and, as necessary, enhance M&E mechanisms with appropriate indicators that support a coherent and integrated approach in health-care policy planning and implementation. In Zimbabwe, institutions had M&E tools for the screening of HIV, malaria, TB, cervical cancer, hypertension, diabetes mellitus and mental health conditions but some did not have the appropriate M&E tools and rather relied on the disease specific registers and health information tools such as the OPD register, NCD, mental health, ward and other disease specific registers.

However, Uganda did have some level of integration for M&E data through joint health sector reviews that take place on a regular basis, and with adequate involvement from all stakeholders. They culminate in the development of the annual health sector performance reports. In this way disease specific programme reviews are integrated to a large extent with health sector reviews and priorities. They are part and parcel of the entire process of health sector reviews like the Annual Joint Review Mission, semi-Annual reviews, etc. Recommendations from the joint reviews are used to inform refinements to the disease specific programme annual work plans

## Surveillance and screening

Across all reports there was little evidence of integrated surveillance and screening activities. For example, screening activities for each disease happened independently such as using differentiated models for HIV, strengthening of testing capacity by GeneXpert for TB and counting with community health networks for malaria. Duplication of screening efforts such as in Mozambique, where TB developed its own sample transport network when the HIV sample transport network was well established and resourced. However, there was no evidence that these screening activities worked in partnership to also screen for other diseases and conditions.

Patient tracking systems were also organised vertically. One recommendation was to develop an electronic patient tracking system at the main gateways to the One Stop Systems or integrate and optimise the existing patient tracking system. A recent Global Fund audit in Zimbabwe reveals an under-estimation of people living with HIV due to various data discrepancies; and gaps in communicating test results to patients (Global Fund, 2020). It also finds inadequate surveillance systems to track patients to ensure initiation and adherence to treatment (Global Fund, 2020). Under-reporting and double counting in Nigeria indicate a weak surveillance system, which undermines programmatic responses for disease control (Kusimo et al., 2020).



Many people with TB remain undiagnosed and thus untreated (Abdullahi et al, 2020, 14; Kusimo et al., 2020, 200-201). It is challenging to control epidemics if a large percentage of those infected remain undiagnosed and untreated (WHO & ENGAGE TB, 2021).

While surveillance systems are in place for Ebola there is limited evidence of national level surveillance efforts for HIV, TB or malaria outside of partner funded or supported activities in the DRC. Drug resistance threats also tieback to surveillance and monitoring challenges. Routine resistance monitoring across HIV, TB, and malaria is vital to initiative rescue therapy or change control drugs to improve individual outcomes and prevent resistance spread in the DRC. However, in provinces like Lomami, detection rates are still low. Likewise other reports indicated that community surveillance approaches are disease specific and lack integration.

Suggestions to promote cross programme surveillance include providing community healthcare workers with the capacity to fill surveillance gaps, including through training and distribution of personal protective equipment (PPE) and testing devices (Brooke et al., 2020). The promotion of mobile applications for immediate notification can allow for contact-free, timely notification of cases; and community health care workers can monitor patient adherence and treatment response through telephone follow-up if home visits are not possible (Brooke et al., 2020).

The reports from Nigeria also highlight that non-adherence to diagnosis guidelines by primary health care workers can result in missed diagnoses (Iluyomade et al., 2021). Suggested capacity strengthening options included job aid posters (e.g. signs, diagrams, flow charts or a summary of instruction) to help to enhance adherence to guidelines for malaria and other diseases (Iluyomade et al., 2021). Poor capacity of health workers in reporting adverse drug reactions (ADRs) in relation to HIV, TB and malaria is a key challenge to drug safety surveillance (Avong et al., 2018). Training workshops have been found to increase knowledge significantly among participants, improving detection and actual reporting of ADRs (Avong et al., 2018). Capacity building of community informants on all notifiable diseases is also important to integrating surveillance (Kusimo et al., 2020). Informal service providers should also be the target of capacity building as many people in Nigeria rely on them for treatment of malaria and HIV (Chukwuocha et al., 2019).

The Mozambique Field Epidemiology Training Programme (MZ-FELTP) is a post-graduate in-service training programme that aims to build epidemiological capacity in: public health surveillance, disease control and response to outbreaks, and public health emergencies.

## **10. Supply chain management and access to medicines**

Out of stocks of drugs, inputs and reagents are challenges for integration. Despite improvements made by the Medical Stores Department (MSD), government officials, international organisations, as well as external consulting firms highlight several bottlenecks and inefficiencies that persist in the medical supply chain system such as missing medical commodities, regular stock-outs, poor or unknown drug quality and out of date medicines and a lack of diagnostic test kits. Inadequate infrastructure for storage of health products, insufficient funding and staff to manage the supply chain, and weaknesses in ordering systems are additional challenges (UNDP, 2020c).



Supply chain management was also compromised by hard to reach areas, for example, USAID's health programme strengthens national health commodity supply chain systems (USAID, 2022), however in remote areas such as the east where conflict is still ongoing there are challenges to implementing this programme. Weaknesses in procurement and supply management (PSM) are considered to particularly hinder delivery of health services in Tanzania, including HIV and AIDS, TB, and malaria services (Hickman et al., 2014). The reports called for strategies to improve the medical supply chain system's performance, ensuring medical commodities reach health facilities and patients, regardless of where they are located (Reach Project, 2020). Contributing factors to poor supply chain management identified in the Pharmaceutical Sector Action Plan 2014–2020 Tanzania include performance and capacity issues at different levels; inadequate coordination amongst stakeholders within and outside the Ministry of Health, and challenges related to governance and accountability.

## **Drug quality and shortages**

Drug quality risks were highlighted in DRC reports where anti-depressants and muscle relaxers were sold under the names of the two most prescribed ART drugs in pharmacies (Ahmad, 2004). A further analysis of first-line TB medicines across Africa, including the DRC, found that close to 17% of them failed basic quality testing checking active ingredient levels (Bate et al., 2013). Although, the government of DRC has subsidized TB and antiretroviral treatments (ARV), the supply chain disruptions result in treatment failure and drug resistance. The shortage of medical supplies causes the referral process to fail when the patient does not find this input available in the referral sector.

In addition, supply chain systems in Sub-Saharan Africa typically do not provide real-time assessment of stocks. As such, health care workers are often uncertain as to whether nonadherence is due to patient-related factors or due to interruptions in medication availability (Bravo et al., 2020). Paediatric anti-retroviral medications and anti-TB medications may be especially vulnerable to stockouts as they may not be used in as high a volume as the adult medications for which supplies are more likely to be planned, with alternative supply paths (Bravo et al., 2020). It is also necessary to resolve shortages in diagnostic test kits, given the important of HIV testing as a key entry point into care and HIV education (Bravo et al., 2020).

## **Supply chain staff capacity**

Pronounced shortages of supply chain personnel in Mozambique has also interrupted treatment for people receiving antiretroviral therapy (ART) or anti-TB medications (Bravo et al., 2020). Challenges include the training, retention, and accountability of supply chain staff, including warehouse managers, logistics managers, quality assurance people, accountants, stockers, shippers, and transportation managers (Bravo et al., 2020).

## **Interventions to improve supply chain management**

The Global Fund is investing in improving and integrating supply chains and pharmaceutical management. For instance, the initiative to establish the pooled procurement mechanism, 63 countries benefitted in 2017, that aggregates order volumes on behalf of participating grantees to negotiate prices and delivery conditions with manufacturers. Global Fund investments have helped to scale impact across the three diseases and the health sector in Zimbabwe through

support to procurement and supply chain management (PSM) systems, for example, in warehousing and storage enhancements (UNDP, 2020). UNICEF and UNDP have supported transportation through the provision of refrigerated trucks and double cabs that have facilitated effective supervision of the movement of products from central and peripheral warehouses to health facilities across the country (UNDP, 2020c). Two recommendations from the Pharmaceutical Sector Action Plan 2014–2020 Tanzania are to institutionalize a functioning Logistics Management Unit (LMU) supported by an electronic logistics management information system (e-LMIS) and to strengthen the Medical Stores Department (MSD).

UNDP initiated two major training programmes in 2017: a short certification course by the Chartered Institute of Procurement and Supply (CIPS) and an 11-18-month post-graduate course in pharmaceutical procurement and supply chain offered by the Empower School of Health. These courses seek to improve participants' understanding of the entire supply chain and address bottlenecks (UNDP, 2020c).

In Uganda there are planning mechanisms in place to enhance coordination between supply chains of different programmes such as pooled procurement and coordinated warehousing and cold chain systems at all levels. PEPFAR seeks to improve integration of logistics and transportation, and to invest in generating more accurate data on stock availability, including through a shared e-platform on facility level stocks (PEPFAR, 2019).

In the field of service centered on the person and the community, multi-month drug delivery and decentralised drug delivery programmes were recommended from DRC reports.

Effective interventions related to medicines include, better regulation of drugs available at private pharmacists, integrated logistics management of key drugs and laboratories to minimise stock outs and expired medicines, revisions of drug order forms at the facility level alongside training and supervision for quantification and requisition of medicines, redistribution of surplus commodities from facilities, tools to counter the growing threat of drug and insecticide resistance and use of the malaria vaccine in targeted hotspots.

Opportunities presented in the evidence related to technology include employing spatio-temporal analysis to identify environmental hotspots for targeted malaria interventions, use of the geospatial epidemic model to ensure the most relevant interventions are delivered in the right context to prevent inefficiencies, additional use and sensitivity improvements of rapid diagnostic tests, improving housing materials to reduce malaria occurrence and using audio technology to improve knowledge of HIV in rural communities.

## **11. Integrated healthcare for equity**

### **At risk and vulnerable populations**

All reports alluded to the need to assess the current service delivery arrangements through the lens of at-risk populations and the marginalised, vulnerable, and poorest population groups. The most common vulnerable groups explicitly mentioned were women and children, people with disabilities and indigenous people. Strategies to address UHC for these groups were being considered in several contexts. In the Nigeria reports there were calls for a review of what constitutes vulnerable groups and to establish an order of prioritisation in health policies and

plans. Health equity goals were to be integrated into health sector objectives. Having integrated services for users was viewed as particularly important for vulnerable populations that may have multiple health and access issues. Universal health coverage 2020-2030, was one of the guiding principles for human and gender rights, and one which supported integrated service delivery aspirations. However, funding constraints, infrastructure issues, and insecurity are all major barriers to achieving the intervention coverage required to protect vulnerable populations (WHO, 2018a).

In Tanzania, guidance to improve integrated service delivery among high-risk groups like key and vulnerable populations (KVPs) included targeted services tailored to their unique requirements. For example, ensuring HIV/AIDS programmes are integrated within opioid dependency treatment clinic or sober house and others.

In the DRC, women, children, indigents and key populations in the control of HIV were the most vulnerable groups identified, stating that these population groups are a priority for interventions implemented to improve access and equity to services, including indigence funds, flat pricing and free healthcare for vulnerable groups. Nevertheless, the reports highlighted that some stakeholders felt these were more theoretical than practical, especially since the financial, material and human resources are insufficient to ensure their holistic care.

Flat-rate pricing, mini-campaigns for TB screening in prisons, setting up groups of indigents with reimbursement of subsidies after purchase of services, distribution of LLINs during prenatal or preschool consultation, the free distribution of condoms and lubricants among long-haul truckers were cited as examples of interventions implemented to improve access to services for vulnerable groups in DRC.

The reports in Mozambique stated that inclusion of the illiterate, visually impaired, hearing impaired and other limiting factors is lacking in health services. During the provision of health services, whether preventive or curative, the compensatory effort of health professionals in providing health services in the local language (for the inclusion of the illiterate), just as the attention given to people with disabilities is especially compensated by health professionals through their personal efforts, altruism, empathy, and humanism was discussed. Except infrastructural initiatives to improve the mobility of individuals to reduced mobility in the public service in general, there are no concrete actions or policies in the health sector to meet the specific needs of people with physical, mental, or audio-visual limitations.

Mozambique's HIV responses is guided by the National Strategic HIV and AIDS Response Plan, which recognises the importance of the enabling environment that addresses human rights and gender issues for the HIV response (McLemore et al., 2021). It prioritises four main categories of interventions: reducing stigma and discrimination, legal literacy, reducing discrimination against women and HIV-related legal services (McLemore et al., 2021). Mozambique's 2014 amended HIV Law includes non-discrimination protections for people living with HIV in public and private sectors (McLemore et al., 2021). Mozambique's TB response is guided by the country's national strategic plan for TB, which contains some elements that address human rights-related barriers to TB services, including addressing stigma and discrimination, as well as social and economic protection for people living with TB and their families (McLemore et al., 2021).

## Gender and age

Gender influences notification rates, reporting, exposure and prevalence of malaria, TB and HIV/Aids in a number of ways, with variations reported between rural and urban areas as well between different regions of the countries. For example, studies have shown that the burden of TB in Tanzania disproportionately affects men as compared to women across all the age-groups. Yet currently more than 40% of new HIV infections in Sub-Saharan Africa among women occur among those aged 15-24. Though new infections are declining overall, adolescents and young women have disproportionately higher rates of new infections as compared to other population groups (APHRC, 2018).

Many children under 18 will avoid going to health facilities if parental consent is required rather than share confidential information about their sexual health needs with their parents. Survivors of sexual and gender-based violence, particularly those who are HIV-positive, face high levels of stigma and shame within their families and communities, which has a negative impact on service uptake and retention for those in need of ART (The Global Fund, 2018).

Ministries should include gender components in the training curriculum of community health workers, so that they can adopt gender sensitive services. Project Viva+, which involves the scale-up of paralegal and legal literacy activities in Mozambique, has demonstrated successes in reducing human rights-related barriers to access services; and supporting retention in care – for example, through the removal of girls from premature unions in the Zambézia, Manica and Tete provinces (McLemore et al., 2021).

## Location

There are distinct differences between rural and urban services. Rural/urban split in diseases changes risk and health seeking behaviours. For example, in rural areas, information does not arrive in a timely manner and sometimes it arrives incomplete or unclear due to the influence of the local language. As they are not fluent in the local language, some providers have not had the patience to provide complete information on health in the rural population, which needs more attention. This fact may be contributing to some populations not adhering to some health services. In addition, if they need any specialised service, they are obliged to travel to the districts where there is a district/rural hospital or to the provincial capital where there is a provincial, general or central hospital.

Addressing malaria, HIV and TB epidemics can also be more challenging in rural areas. Although 66% of the country's population live in rural areas, only 36% of rural populations have access to a health facility within 30 minutes of their home (WHO, 2018). Community-based TB and HIV services are available, but they do not cover all rural areas (WHO, 2018). In areas where community-based services are limited or unavailable, PLHIV and those with TB must travel farther to health facilities at significant financial cost (WHO, 2018).

The National Tuberculosis Program (NTP) in the DRC, with support from the Global Fund and Cordaid, is actively detecting and screening TB cases in both urban and rural communities in the DRC. Detecting and screening TB have also been established in prisons and other high-risk locations with the goal of finding and treating patients while leaving no one behind (Cordaid, 2019; WHO, 2018b)

## 12. Community Engagement and peer support in integrated health care

Community health systems are an often-missed focus for integrated service delivery and health systems strengthening. However engaging communities at each stage in the continuum of care is essential to maximise resources and ensure that the most marginalised are not left behind. The community are the centrepiece for quality, resilient, person centered health services. Most reports did discuss the involvement of communities to a lesser or greater extent. The key points for community engagement were in case detection, service planning and implementation, accountability, monitoring and peer support networks for people affected by HIV, TB and Malaria. Strengthening the capacity of community groups and individuals was highlighted as a key action to improve their participation in delivering integrated health care. In Nigeria and Zimbabwe, integration was viewed as patient or people centred. However, the term and concept of IPCHS was not widely known or used. Weak involvement of the community in the planning and implementation of activities to fight against these Malaria, TB and HIV risks sustainability of local level interventions.

There are many interventions related to service provision for TB, malaria and HIV in Nigeria. Community-based interventions such as lay diagnosis and treatment by relatives, community members, mothers or drug shop attendants are common and have mixed results. Active community-based case finding for TB, especially for marginalised communities in Northwest Nigeria and other vulnerable groups had significant impact on TB notifications. Peer delivery models for prevention and treatment support delivered in-person or using social media/text messaging for HIV have shown promise but require strong training frameworks and support. Education based on the information–motivation–behavioural skills (IMB) model improved knowledge recognition and treatment of malaria. Economic incentives to improve HIV health outcomes was found to be cost effective with adolescents. Provider-initiated HIV/AIDS screening for all patients demonstrated an increased rate of HIV testing.

### Community committees for health

In Uganda, the Community Health Department targets integrated service provision within the Parish Model and envisages comprehensive inclusion of HIV, TB, Malaria, RMNCAH and Nutrition services. Community health services are currently managed by village health teams (VHTs) and include integrated management of child illnesses and COVID-19. Interviews with staff of Community Health Department highlighted weaknesses and gaps which can be viewed in the report.

The DRC reports highlight that capacity building of community participation bodies in the planning and implementation of activities, collaboration with community-based organizations (CBOs); community networks such as PLHIV, key populations, women's groups, religious organisations, employers and businesses, and civil society organizations (CSOs) offer opportunities to engage their involvement in the use of services for better integration.

In Uganda, social accountability mechanisms were implemented by strengthening or capacitating the health facility governing committees (HFGC) and village health committee to know the roles, rights and govern facilities in a pro-active approach.

In Mozambique, the community are involved in the management of health services, in which women's and children's health care services, HIV, Tuberculosis, and Malaria are prominent and are directed by a clear and intensive implementation strategy. Co-management committees and health committees are created together with the communities of each health facilities, for the prevention and resolution of various problems as perceived by the communities served by the health facilities. More recently, communities assess the performance of health facilities through a consultation called a "performance card", an activity implemented by the primary health care sector. This activity lacks regularity and sustainability.

## **Community health workers (CHW)**

In Mozambique, CHWs are involved in health intervention campaigns such as vaccination, supplementation, deworming, or distribution of mosquito nets. CHWs have been a resource increasingly used by NGOs, with the consent of the Ministry of Health, for various community activities outside their initially established portfolio, for example, Tuberculosis screening; COVID-19 screening; specific campaigns of health promotion and distribution of massive treatment of parasites. NGOs have vertically promoted the existence of a myriad of other figures who might be termed "community health workers", generally referred to as activists. Activists are maintained vertically by NGOs to carry out specific activities, especially those related to programmes on Malaria, HIV, contraception (Family Planning), TB screening and treatment, interventions on nutrition, micro-censuses, research, and health surveillance. The profile of activists is variable, the coverage of health programs is also unclear, as well as the geographical coverage of activists lacks characterisation. Activists are employed and discontinued under different criteria specific to the promoters, not harmonized, and by the specific orientation of health projects. In the HF there is collaboration between the TB, HIV, MCH, malaria and nutrition services, but this collaboration does not take place at the community level because there is no communication between the activists of the different programmes.

In the DRC, WHO & ENGAGE TB (2021) have been involved in the training of community mobilisers focused on community-based approaches to the management of TB and TB/HIV co-infected individuals, household contact tracing and home visits, safe sputum collection and transportation, community mobilisation and awareness of TB, including action against stigma and discrimination, and advocacy targeting health-care providers and community leaders. The activities implemented at community level were shown to be particularly effective, as they more than doubled the number of people with TB diagnosed and treated (WHO & ENGAGE TB, 2021).

## **Peer support groups**

In the case of PMTCT HIV programming, community engagement (e.g. mentor mothers, male champions and community support groups) has been shown to increase early retention of pregnant women in care, which allows for more effective prevention measures (Chimwaza et al., 2021). However, in Mozambique, only in the HIV program and in the promotion of adolescent and youth health is the use of clients as health agents (activists) prominent. Health programmes generally place users of health services as mere recipients of services created and emanated by health professionals.

Social and behaviour change communication (SBCC) is a key malaria control strategy in Zimbabwe, aiming to counter IRS refusal. Studies have shown peer education groups to be



effective in increasing uptake of HIV services among Adolescent Girls and Young Women ; yet, few have assessed their efficacy in Zimbabwe (Oberth et al., 2021). The Sista2Sista programme is a structured peer group intervention in Zimbabwe aimed at improving health outcomes among vulnerable adolescent girls and young women. Peer groups, led by female mentors called behaviour change facilitators, meet weekly over the course of one year, engaging in exercises that cover a range of topics. Graduates of the programme were more likely to take an HIV test, less likely to get married and less likely to drop out of school (Oberth et al., 2021).

## **Social accountability**

Social accountability mechanisms can help support integrated monitoring and evaluation of services. For example, grassroots monitoring meetings and monthly reviews were mentioned in the DRC, however these were poorly documented, which is important so that information feeds into higher level monitoring. In the DRC BACKUP report , weak community involvement (in activities to combat TB/HIV co-infection was highlighted from document reviews. The DRC Country Operational Plan 2020 (COP20) included community-led monitoring, which trains, supports, equips, and pays members of directly affected communities to monitor the quality and accessibility of HIV treatment and prevention services on a regular basis (PEPFAR, 2017, 2021).

In Zimbabwe, health center committees are an effective governance structure whose impact has been well demonstrated through the Results Based Financing program. All the facilities assessed had suggestion boxes to ensure users provide feedback and complaints to the attention of authorities.

## **Joined up community education and communication**

Education and communication programmes are an effective way of creating awareness and improving health protective and care seeking behaviours. The education and communication programmes in DRC include teaching in a classroom, social medial, including WhatsApp, radio and television, and advertisements such as posters and fliers. In Zimbabwe, a study on TB programming during the pandemic recommends that the government engage in combined education and awareness campaigns on COVID-19 and TB (or on COVID-19 and HIV), with civic groups, media organizations, and community leaders. This could encourage individuals to seek medical attention without fear of discrimination (Nhari et al., 2020).

Recent research also finds that strong radio campaigns to reduce HIV-related stigma and discrimination have served as platforms for increasing legal literacy and access to legal services (McLemore et al., 2021).

## **13. Additional considerations for integration**

### **Conflict**

The DRC is faced with conflict and disaster such as the war. Insecurity within north Kivu continues to directly impact the humanitarian community which hampers the vital assistance of different health programmes that would have provided support to the reduction and control of malaria, HIV and TB infections, exposing more of the DRC population to infection and high morbidity and mortality. Due to the on-going conflict there were 5.5 million Internally Displaced



Persons (IDPs) in DRC, the majority of which live in camps (UNICEF, 2020). IDPs and refugees in conflict zones are affected by human rights barriers to HIV and TB services (The Global Fund, 2018).

## **COVID 19 and disease outbreaks**

The COVID-19 pandemic have caused a sharp economic downturn, which had negative consequences on the national economies and people's livelihoods. COVID-19 appears to have exacerbated existing health inequities, with the most vulnerable, marginalised, and stigmatised being left behind. The pandemic has brought the vulnerabilities that have long been considered as the structural drivers of HIV and TB transmission to the forefront undoing decades of progress in the fight against these diseases (Global HIV Prevention Coalition, 2020; UNICEF, 2020). COVID-19 control measures and service disruptions have also affected the monitoring of malaria case-finding activities and HIV viral monitoring (Brooke et al., 2020).

Since August 2020, the Ministry of Health and Child Care (MOHCC) in Zimbabwe has trained staff and distributed rapid diagnostic tests (RDTs) to health clinics to increase Covid-19 testing rates. Malaria and Covid-19 co-infection may lead to more severe complications and increase the risk of death (Pellegrino et al., 2022). Covid-19 and TB infections have similar symptoms: as such, the management of patients with respiratory symptoms requires testing for both infections (Nhari et al., 2020). The overlap and commonalities for surveillance, screening, diagnosis, care, and management can be leveraged to respond to both diseases, drawing on extensive experience, and knowledge of TB researchers and healthcare workers on infection control (Nhari et al., 2020).

Disease outbreaks are common in the DRC, putting an additional strain on the country's already frail public health and social systems. Since 2018, there have been two Ebola epidemics (including the second largest global outbreak with a reported 2,287 deaths), five Ebola outbreaks and COVID-19 (CDC, 2021b; UNICEF, 2020).

## **Innovations, new technologies and risk management**

When discussing health systems strengthening and continuity of care, reports did little to address the inclusion of innovation and technology or prevention/risk factors such as vector control strategies, tracking insecticide and drug resistance, screening for hotspots of transmission for targeted responses, keeping on top of genetic mutations and general control and mitigation strategies for HIV, Malaria and TB. All of which could be included within integration efforts. In the Uganda reports, there was some discussion about shifting from intervention-specific programming to systems approaches to address vulnerability, risks, exposure and impact mitigation. This involved enhancing economic opportunities for girls, increasing secondary school completion for girls, addressing HIV awareness among young people, programming to respond to cross-generational sex, age-appropriate programming for young women and girls, reducing stigma, addressing alcohol abuse, fighting for gender equality, elimination of gender-based violence, and promoting the reduction of multiple concurrent partnerships. The plan will be implemented using a multisectoral response with a wide range of stakeholders.

## 14. Appendix 1

Appendix 1 offers case studies for each country to provide a flavour for the types of integration and health systems strengthening (HSS) initiatives that are ongoing and any assessments that were undertaken. The case studies do not include all evidence from reports, however, are useful to gain an overarching picture.

### Tanzania

The Health Policy Project – HPP (subsequently HP+) supported the Tanzanian Ministry of Health in conducting a rapid Health Systems Strengthening assessment comprising a desk review and structured stakeholder consultations (HPP, 2014). The Tanzanian health system is reported to have significantly improved the provision of effective essential health services. The Global Burden of Disease Study (2020) reports that in 1990 Tanzania had a Universal Health effective coverage index<sup>1</sup> of 35.6, in 2010 this had increased to 45.2 and in 2019 it was 55.2 (Global Burden of Disease, 2020).

Despite these improvements, Tanzania's health system remains complex and pluralistic. It is comprised of public, private, and donor stakeholders operating at several different levels including national, regional, district, and community levels (USAID, 2013). Persistent health system challenges in Tanzania are also impeding the achievement of national development goals and consequently those relating to Malaria, HIV/AIDS, TB etc. These challenges include, but are not limited to, the shortage of health care workers, health commodity stock outs, and insufficient financing (USAID, 2013).

### DRC

The DRC lacks a cohesive and functional health system due to its large population, widespread poverty, and decades of conflict. HIV and TB service delivery has become very challenging during COVID-19 (FHI 360, 2020). The PEPFAR Country Operational Plan (COP) 2021 analysis in DRC identified a fractured and unresponsive supply chain, inadequate laboratory and sample transport systems, slow and incomplete information management systems, and a lack of institutionalized quality assurance systems as systemic weaknesses (PEPFAR, 2021). All of which pose challenges to the program's goal of epidemic control. There has been an increasing policy focus on horizontal (systems strengthening) programming as a means of building cohesion between key systemic elements: finance, IT service provision, human resources, technology, leadership and governance (Ncube & Chataway, 2019). Integration initiatives included:

- Differentiated service delivery models for HIV and TB with One-stop shop for the management of HIV TB co-infection with TB/HIV coordination meetings at all levels; integration of TB management into HIV management sites; integrating HIV management into TB management sites; training providers on the management of TB and HIV and other IOs; the supply of health facilities with TB and HIV inputs; the application of Performance Based Financing (PBF); convergence of the 3 pathologies financed by the

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<sup>1</sup> The Universal Health Coverage (UHC) effective coverage index aims to represent service coverage across population health needs and how much these services could contribute to improved health.

GF; improvement of the “Basket fund” approach; joint supervision missions for TB HIV co-infection.

- At the provincial level, versatile provincial supervisors were cited as models of integration as well as the organization of tripartite meetings between the three disease programmes
- Contact tracing and index case testing of HIV and TB have proven to be particularly effective in improving HIV and TB testing and prevention in affected households and in identifying people with HIV as well as TB, especially in children and people living with HIV (WHO, 2019b; WHO & ENGAGE TB, 2021).
- Malaria-HIV co-infection efforts include targeting the same community, including awareness campaigns, sex education, access to Long-lasting insecticidal nets LLINs and improved living conditions (Gwitira et al., 2018).

## Nigeria

A paper examining the impacts of the Global Fund’s interventions for HIV, TB and Malaria on Nigeria’s health system found that while the Global Fund has been successful in achieving its specific performance targets, its impacts on Nigeria’s health system has been minimal (Kalu, 2021). Reasons identified included Global Fund’s uncertain/parallel operational structures, little input from Nigeria actors in program design, excessive focus on fiduciary matters as opposed to public health interventions, emphasis on narrow short-term performance targets and preference for foreign consultants over building national capabilities and domestic NGOs. Backup reports indicate that there is limited awareness of the WHO IPCHS strategy and expertise at the state levels was needed to improve understanding. The report suggests that external technical assistance may be required to support the states towards: i) the development and implementation of people-centred integrated health strategies in line with the states specific UHC plans, ii) the development of integration plans for delivery of basic health services, including a minimum package of services, iii) strengthening the referral system to ensure referrals are completed, iv) reflecting integration as a cross cutting topic in all health policy documents, particularly those of individual disease programmes, v) developing and implementing innovative training programmes that are sustainable and easily accessible, quality assured and appropriately financed. Examples of good practices highlighted in Nigeria included:

- integration of all the supplies of commodities through the logistics management and coordination, weekly meetings to coordinate logistics for HIV/AIDS, TB, malaria and vaccines – but distribution is not integrated, data and reporting meetings for HIV/AIDS, TB and malaria, child welfare programmes – malaria treatment and nutrition programmes, antenatal care services are given together with other programmes, malaria in mother and child health programmes, Primary Health Care Under One Roof and integrated supportive supervision
- At the health facility level 1) use of the extra resources and autonomy from the Nigeria State Health Investment Project program to pool resources and use funds generated from a certain service e.g. delivery outcomes to improve service delivery in another area e.g. provision of mosquito nets on hospital beds, building of extra toilets for women and a comfortable ANC area; 2) child welfare programmes – malaria treatment and nutrition programmes; 3) antenatal care services are given together with other programmes; 4) community outreach programs

## Uganda

In Uganda, the MoH has made efforts to strengthen cross-programme integration through the following ways: (i) Development of a framework for integrated support supervision, however it's success has been limited by vertical program implementation; (ii) Using the sector-wide approach to planning although its success has been minimal; (iii) training for integrating nutrition care into HIV/TB/RMNCAH and integrated management of malaria at facility and community levels; and (iv) Data collection tools were revised to support integrate service delivery. There is also availability of multipurpose community health workers (CHWs) to support integrated community-based health services. The MoH with USAID supported Uganda Health Systems Strengthening (UHSS) Activity to develop a CHW engagement framework and plan. This is used to standardize the package of services provided by community workers (CWs) and Social Service Workers (SSWs) across the different partners, program areas, population subgroups and levels of care. It helps to ensure harmonized and appropriate facilitation/remuneration for improved provision of quality, client centred and sustainable community-based services in Uganda.

- HIV integration with RMNCAH included cervical cancer screening, STI screening; HIV and malaria included bed net distribution to people living with HIV (PLHIV), anti-malaria treatment; HIV and Nutrition assessment counselling and support; TB and HIV
- The national strategic plan for TB in Uganda mentions strengthening TB/HIV integrated care through a) Strengthening collaboration, coordination and monitoring mechanisms for TB/HIV integration b) Scaling up implementation of the one-stop model for co-infected TB patients c) Implementing TB/HIV interventions to decrease the burden of HIV among patients with presumptive and diagnoses TB d) Scaling up implementation of intensified case findings (ICF) e) Scaling up implementation of TB infection control practices in all health facilities as well as congregate and community settings.

## Mozambique

There is a recognition for a need to integrate disease programmes. The HIV program is being suggested as a platform where HIV patients are screened for TB, cervical cancer and referred for family planning consultation. The essential package of health services began in 2018 with a strong focus on child and women's health issues, prevention of diarrheal diseases and malaria, HIV and TB through communication and education, joined up surveillance and responses of major endemics.

*the Single Stop at Antenatal Care (ANC) for pregnant women; postpartum consultations (PPC) for mother-child in the postpartum period; child-at-risk consultation (CCR). In the same office, the Maternal and Child Health Nurse (MCHN) has offered a package of care consisting of nutritional counselling, HIV testing, TB screening, malaria testing, malaria Intermittent preventive treatment in pregnancy (IPTp) to all pregnant women in ANC.*

Differentiated health care specifically covers services for HIV and Tuberculosis. These are essentially based on simplified dispensing of medicines, with a lower burden of travel by users to health facilities, and in some geographic locations, community dispensing in a pilot phase. Children are also being screened for HIV during routine growth monitoring and vaccination visits

(Lain et al., 2020; Bergmann et al., 2017). However other aspects of immunodepression such as malnutrition and diabetes are lacking, with emphasis towards HIV-positive TB screening elements. The BACKUP report found little evidence of HIV operations considering the strengthening of other services through its procedures, except for tuberculosis, hepatitis, and syphilis screening.

Implementation of the essential package was reported to have lost momentum due to the unavailability of funding for development actions, allocation of funding without MoH capacity for decision-making and coordination, limited capacity of consultants, onset of COVID and weak involvement of the main health sector donors concerning a new package of essential health services.

## **Tanzania**

In Tanzania, integration is prioritized within the national documents such as national strategic plans, where guidance is provided for integration. The integration approach is reported as being well conceptualized and documented at higher policy level. PATH has collaborated extensively with local and national partners, health care programs, and international partners to implement a coordinated response across Tanzania's entire health system. Their efforts aimed to scale up and improve integrated services, strengthen the private-sector delivery of TB services, enhance health professionals' ability to identify and track cases and provide treatment, improve laboratory diagnostic services, and engage and educate communities (PATH, 2016).

## **Zimbabwe**

TB prevention is well integrated into HIV programs and TB preventive therapy is offered to patients receiving antiretroviral care. Cervical cancer prevention (VIAC, HPV vaccination, cryotherapy, and thermal ablation) is well integrated into HIV programs as this forms part of routine care of women living with HIV. Malaria (chemoprophylaxis, bed nets and IEC materials) prevention has not been integrated into HIV/TB programs as this is only offered to pregnant women in ANC care. Challenge TB, funded by USAID, has supported integrated care and prevention for TB-HIV patients, with a one-stop model for co-infected patients. Care providers offer TB and ART medication, counselling, and education during single clinic visits (USAID and KNCV, n.d.). Diabetes mellitus screening, an important risk factor for TB, was also integrated into the service package (UNDP, 2020b).

Another good practice example from Zimbabwe includes the Community Adolescent Treatment Supporter (CATS) programmes— tailored for children, adolescents and young adults living with HIV integrates peer-led, community interventions within national service delivery, with the goal of improving young people's experience across the HIV spectrum and providing ongoing support for their mental health, social protection, and sexual and reproductive health (SRH) (PEPFAR, 2021a; Willis et al., 2018). Monthly community-based support groups, community outreach teams, and clinic-based Zvandiri Centres provide safe spaces for accessing clinical and social services and linking youth to other forms of assistance, including education in SRH and life skills (PEPFAR, n.d.).





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This report is a synthesis of pre-identified reports and has direct quotes and text from the following:

- 1) Avis, W. (2022). *Malaria, HIV and TB in Tanzania: Epidemiology, disease control and interventions*. K4D Helpdesk Report 1087. Brighton, UK: Institute of Development Studies.
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- 10) Musoke and Senjovu (2021) Rapid Assessment of Integrated Health Services for HIV, TB, Malaria, RMNCAH and Nutrition at the National Level and Two Selected Districts (BACKUP Uganda)
- 11) Binyaruka et al (2022) Assessment of models of integrated basic health service delivery and management at sub-national level in two regions of Tanzania (BACKUP Tanzania)
- 12) Umar and Horstick (2021) Assessment of integration of health services in Nigeria (BACKUP Nigeria)
- 13) PACT (2022) Assessment of integration of health services in Mozambique (BACKUP Mozambique)



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