

**Care processes for children with HIV and Tuberculosis in  
Sub-Saharan Africa with case studies in Senegal and the  
Democratic Republic of the Congo (DRC)**

**Applied Research Project 2023 - 24**

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## **Executive Summary**

This comprehensive report delves into the care processes for children living with human immunodeficiency virus (HIV) and tuberculosis (TB) in Senegal and the Democratic Republic of the Congo (DRC). Despite global advancements in combating these diseases, children in these regions encounter substantial obstacles in accessing adequate care and treatment.

In Senegal, the healthcare system faces multifaceted challenges including inadequate infrastructure, insufficient funding, and limited human resources, all of which hinder the provision of comprehensive care for children with HIV and TB. The absence of specialized pediatric care exacerbates the situation, resulting in delayed diagnosis and initiation of treatment. Additionally, pervasive social stigma and discrimination further impede access to care and contribute to low retention rates among affected children and their families.

Similarly, the DRC faces significant barriers in delivering timely diagnosis and treatment to children with HIV and TB. Systemic challenges, such as a shortage of healthcare workers, the scarcity of pediatric formulations for essential drugs, and inadequate diagnostic facilities impede progress. Furthermore, socio-economic factors, including poverty and geographic isolation, pose additional hurdles to accessing healthcare services, particularly in remote rural areas.

This report adopts a multifaceted approach, incorporating insights from interviews conducted with healthcare professionals. Key research inquiries focus on comprehending the current state of pediatric HIV and TB care, identifying barriers to access and treatment, and evaluating ongoing endeavors to enhance care processes.

In analyzing the landscape of care, the report scrutinizes the efforts undertaken by prominent stakeholders, including UNICEF, UNAIDS, WHO, the Global Fund, PEPFAR, and USAID. These organizations in partnership with the local government play pivotal roles in shaping policies, mobilizing resources, and providing technical support to address the challenges faced by children with HIV and TB in Senegal and the DRC.

This report sheds light on the intricate challenges faced by children with HIV and TB in Senegal and the DRC. Despite commendable progress on a global scale, systemic obstacles persist, hindering access to essential care and treatment. By highlighting these challenges and the initiatives undertaken by key stakeholders, this report aims to inform policymakers about the urgent need for action.

## **Acronyms**

**AIDS** Acquired immunodeficiency syndrome

**ART** Antiretroviral therapy

**ARV** Antiretroviral drugs

**CNLS** Conseil National de Lutte contre le Sida

**DRC** Democratic Republic of the Congo

**DTG** Pediatric dolutegravir

**EGPAF** Elizabeth Glaser Pediatric AIDS Foundation

**HIV** Human immunodeficiency virus

**MDG** Millennium Development Goal

**MSAS** Ministry of Health and Social Action

**NGO** Non-governmental organization

**PASD Hub** Pediatric and adolescent HIV Service Delivery Hub (UNICEF)

**PEPFAR** U.S. President's Emergency Plan for AIDS Relief

**PMTCT** Prevention of Mother-to-Child transmission

**PNLS** National Program for the Fight Against HIV

**PNT** Programme National de Lutte Contre la Tuberculose (National Program for the Fight Against Tuberculosis)

**SBCC** Social behavior change communication

**SDGs** Sustainable development goals

**TB** Tuberculosis

**UNAIDS** The Joint United Nations Programme on HIV/AIDS

**UNICEF** United Nations Children's Fund

**WHO** World Health Organization □

### **Introduction**

The human immunodeficiency virus (HIV) is a pathogen that targets the immune system, leading to acquired immunodeficiency syndrome (AIDS) if left untreated (UNAIDS, n.d.). While HIV compromises the body's ability to combat infections and diseases, AIDS manifests as a consequence of HIV infection. Additionally, HIV elevates the likelihood of contracting Tuberculosis (TB), a respiratory illness that exacerbates the progression from HIV to AIDS. Poverty serves as a common thread linking these diseases, given their prevalence in Sub-Saharan African nations, thereby posing significant challenges to disease management. Children living in impoverished conditions often receive inadequate attention in healthcare processes aimed at addressing these diseases. Countries such as Senegal in West Africa and the Democratic Republic of the Congo (DRC) in Central Africa witness a heightened risk of HIV and TB among children due to limited healthcare access and insufficient preventive measures. It is essential to document the various phases of healthcare and the participants involved to pinpoint obstacles to accessibility, scrutinize healthcare strategies, and devise interventions to advocate for change. Entities like the United Nations Children's Fund (UNICEF) in partnership with the local government are

pivotal in assisting underprivileged children.

## **Background**

Children in Sub-Saharan Africa face a severe health crisis with the high rates of HIV and TB among its population (Ubesie, n.d.). Children within this region, specifically in countries like Senegal and the DRC, bear a substantial burden of these diseases, which profoundly impacts their health, prospects, and overall well-being. Children afflicted by HIV and TB in Sub-Saharan Africa confront severe health repercussions. HIV compromises their immune systems, rendering them susceptible to opportunistic infections and various ailments. Additionally, TB often co-infects with HIV, further complicating their health and leading to delays in development (Ubesie, n.d.). The consequences of HIV and TB can be devastating and potentially life-threatening for children's health in the absence of access to suitable treatment and prompt diagnosis.

The consequences of HIV and TB in children extends beyond immediate health implications. Surviving these diseases may subject children to ongoing health challenges, including compromised immune systems and susceptibility to opportunistic infections. Additionally, the social and economic ramifications of HIV and TB can have enduring effects on their lives. The stigma and discrimination attached to these diseases can result in social isolation, rejection, and the deprivation of educational opportunities. Furthermore, the loss of caregivers due to HIV and TB can disrupt familial structures and exacerbate poverty, causing children to be vulnerable to exploitation, neglect, and abuse.

Migrant, orphan, and refugee children are among the most susceptible demographics impacted by HIV and TB in Sub-

Saharan Africa. These children frequently encounter extra hurdles when attempting to access healthcare services, including challenges stemming from displacement. They face an increased likelihood of being disregarded within healthcare systems, intensifying their susceptibility to HIV and TB. It is crucial that endeavors aimed at mitigating HIV and TB in children incorporate specific interventions tailored to reach migrant, orphan, and refugee children, allowing them to obtain the necessary care.

The significance of tackling HIV and TB in children is linked to the attainment of the Sustainable Development Goals (SDGs). Specifically Goal 3, which aims to ensure universal access to healthcare and promote well-being. Target 3.3 specifically targets the eradication of AIDS, TB, and other communicable diseases by 2030 (UNAIDS, n.d.). By prioritizing the health of children affected by HIV and TB, policymakers can make significant strides toward realizing this objective and fostering sustainable development across Sub-Saharan Africa.

Urging policymakers to take action is imperative in confronting the hurdles presented by HIV and TB in children in Sub-Saharan Africa. Local governments as policymakers and primary responsible entities for health care policy also hold an important role in formulating healthcare policies, allocating resources, and executing strategies to prevent, diagnose, and treat HIV and TB in children. By advocating for evidence-based policies, enhanced funding, and integrated approaches to healthcare provision, policymakers can facilitate the establishment of a conducive environment for prevention and treatment initiatives. Furthermore, policymakers can harness collaborations with international organizations and exchange best practices to strengthen healthcare systems and address the distinctive needs of children affected by HIV and TB.

## **Methodology**

The research aims to explore the impact of HIV and TB on children in countries like Senegal and the DRC, especially considering limited healthcare access and preventive measures. It focuses on documenting the various stages of care and the involvement of key stakeholders to identify obstacles, assess healthcare policies, and suggest interventions for improvement. Important stakeholders include the local government and organizations such as UNICEF, UNAIDS, WHO, and the Global Fund, which play crucial roles in supporting and funding HIV and TB programs. The research highlights the interconnection of these diseases with poverty and addresses challenges faced by children, including neglect in care processes.

This report intends to:

- Assess the availability and accessibility of healthcare services for children with HIV and TB
- Identify barriers to access and investigate factors influencing treatment adherence among children
- Analyze community perceptions and attitudes towards children affected by HIV and TB
- Develop and implement interventions to reduce discrimination against children with HIV and TB
- Analyze existing healthcare policies and advocate for policy changes to improve care processes and outcomes

## **Research Design**

The study will primarily involve reviewing existing literature and conducting interviews with key health informants in Senegal

and the DRC. The interview questions will be based on the literature review. Qualitative interviews will include local civil servants such as community health advisors, community health technicians, health monitoring and evaluation specialists, nurses and other healthcare professionals.

Interviewees were chosen based on specific criteria aimed at collecting comprehensive and relevant insights from a variety of stakeholders with the healthcare system. The selection criteria included direct involvement in pediatric HIV and TB care, practical healthcare experience, clinical knowledge, expertise in managing health data, and a thorough understanding of health systems.

## **Data Collection and Analysis**

Through the literature review, I examined the primary stakeholders and their existing policies and procedures concerning HIV and TB. The qualitative interviews conducted will provide insights into current care processes, effectiveness, key barriers and healthcare policies. Thematic analysis will be conducted on the qualitative data obtained from interviews. Informed consent will be obtained from all participants prior to conducting interviews, guaranteeing their voluntary involvement and the confidentiality of any information disclosed. The research results will be compiled into a detailed report, outlining the care procedures, obstacles, and suggestions for enhancing pediatric HIV and TB care in Senegal and the DRC.

### **Literature Review**

## **Programs being implemented at UNICEF and others:**

UNICEF is currently engaged in the creation of data for



utilization across various platforms, including UNICEF Data and accessible information formats. This encompasses the development of factographs, toolkits, frameworks, policy briefs, and guidance that are made available for use on official websites. UNICEF's treatment in children living with HIV includes expanding availability of lifelong antiretroviral therapy (ART), broadening access to testing and treatment by extending early infant diagnosis and incorporating point-of-care (POC) technology for quicker test result delivery, and improving testing methodologies. (childrenandaids.org, n.d.) This entails incorporating strategies such as family-based index testing to identify older children who may have been overlooked in Prevention of Mother-to-Child Transmission (PMTCT) testing services. (childrenandaids.org, n.d.) The Pediatric Service Delivery Framework outlines approaches to overcome obstacles throughout the entire continuum of care for various age groups, including infants, children, and adolescents. ("Paediatric Service Delivery Framework, n.d.) It delineates inclusive and specific models for service delivery, highlighting the important of robust connections between testing treatment, and care, as well as fostering strong ties between communities and healthcare facilities. The action-oriented service delivery framework seeks to initiate discussions among national stakeholders and program managers, fostering a collaborative effort to more precisely identify priority interventions tailed to the context of infants, children, and adolescents living with HIV at both national and subnational levels. ("Paediatric Service Delivery Framework, n.d.) Irrespective of the nation or circumstances, the framework was not designed to substitute current tools and methodologies that steer HIV programming for infants, children and adolescents. Rather its purpose is to enhance and support existing initiatives. While countries strive to meet the global targets for ending AIDS in these age groups, the framework strengthens, emphasizes, and builds upon established best

practices.

“The Operational Guidance for National Roll-Out of Family HIV Testing in West and Central Africa” is derived from insights gained through implementation experiences and is a practical guide seeking to assist country teams in developing tailored strategies for the rollout of family HIV testing in West and Central Africa.( “The Operational Guidance for National Roll-Out of Family HIV Testing in West and Central Africa”, n.d.) It is intended for utilization by advocates, healthcare providers, implementers, and national program managers in collaboration with partners and technical experts. The guidance acknowledges that West and Central Africa (WCA) shoulders the second highest burden of the global HIV epidemic. Notably, one-third of new infections in children and adolescents worldwide take place in the WCA region. (“The Operational Guidance for National Roll-Out of Family HIV Testing in West and Central Africa”, n.d.) The guidance focuses on the implementation, monitoring, and sustainability of Family Testing in 12 steps that include defining a social behavior change communication (SBCC) strategy, delivering family testing within a package of differentiated HIV testing services, and building capacity (“The Operational Guidance for National Roll-Out of Family HIV Testing in West and Central Africa”, n.d.). It provides background context to the fact that after more than four decades since the onset of the HIV epidemic, a staggering three out of four of the 500,000 children aged 0-14 living with HIV in WCA still do not have access to life-saving ART. (“The Operational Guidance for National Roll-Out of Family HIV Testing in West and Central Africa”, n.d.) The guidance is informed by insights gathered from family testing experiences both within and outside West and Central Africa. It integrates recommendations stemming from the Dakar Expert consultation held in June 2018 and incorporates lessons derived

from the pilot of the Family Testing Operational Guidance conducted in Liberia during the same month.

“The AIDs Free Toolkit” is created by contributors from the AIDS Free Working group and is a resource compilation that encompasses the most recent normative guidance, technical guidelines, policy briefs, case studies, and advocacy materials. It serves to bolster initiatives aimed at attaining the AIDS Free targets in countries facing a high burden of the disease. The AIDS Free Working Group, jointly led by WHO and the Elizabeth Glaser Pediatric AIDS Foundation (EGPAF), spearheads efforts to meet the fast track targets. The objectives of AIDS Free involve offering lifelong HIV treatment to 1.4 million children and 1 million adolescents with the aim of reaching 95% of all children and adolescents living with HIV. (“The AIDs Free Toolkit, n.d.) The contents of the toolkit are a collaborative effort involving various members of the group such as PEPFAR, UNAIDS, and the Clinton Health Access Initiative. The advocacy section focuses on Pediatric HIV and monitoring the Rome Action Plan Online Tracker. This involves tracking the pledges made by significant stakeholders to hasten the introduction, development, registration, research, and acceptance of HIV diagnostics and optimal pediatric antiretrovirals. The tracker also provides updates on the advancements made in fulfilling these commitments. (“The AIDs Free Toolkit, n.d.) The AIDS Free framework facilitates a thorough examination of essential program components and offers a set of suggestions to enhance their planning and execution. Implementation considerations for national programs of pediatric dolutegravir (DTG) seek to guarantee the safe and efficient transition of children to pediatric DTG. This resource offers various usage and implementation considerations for implementing partners, national HIV programs, and service providers.

“The Pediatric and Adolescent HIV Service Delivery Hub (PASD Hub)” is also used by the WHO and serves as a comprehensive resource for discovering innovative and evidence-based interventions that provide care and treatment to children and adolescents with HIV. (“The Pediatric and Adolescent HIV service Delivery Hub PASD Hub”, n.d.). It serves as a single destination for discovering innovative and impactful interventions in HIV care and treatment specifically designed for children and adolescents. Its objective is to disseminate models of care tailored to specific age groups, thereby supporting the widespread implementation of differentiated service delivery models for children and adolescents. Until recently, there has been a scarcity of documentation on effective models of differentiated service delivery to enhance ART coverage among pediatric and adolescent populations. The PASD Hub seeks to disseminate age-appropriate care models, facilitating the expansion of differentiated service delivery models for children and adolescents. (“The Pediatric and Adolescent HIV service Delivery Hub PASD Hub”, n.d.). Currently, the interventions encompassed are limited to those addressing pediatric and adolescent HIV care and treatment, the database may be broadened in the future and there is an opportunity to submit studies or best practices for potential inclusion in the database. The main outcomes of interest include disease progression, retention, mortality and morbidity, and adherence.

The report titled “UNICEF: Working To End AIDS For Every Child” is a document that provides a comprehensive overview of worldwide endeavors to combat the epidemic. UNICEF tailors its response in each country based on factors such as the prevalence of HIV among children, adolescents, pregnant women, and mothers; the opportunities and risks within the

national health system; and the extent of support and collaboration from both domestic and international partners. (“UNICEF: Working To End AIDS For Every Child”, n.d.) There are three overarching response approaches, the first one is monitoring the epidemic and advocating for child-centric measures. UNICEF assesses both the characteristics of the HIV epidemic and the existing responses for children, advocating alongside partners to address crucial gaps and requirements. The second one is targeted responses. Acknowledging regional disparities and deficiencies in HIV prevention and treatment services associated with varying health, protection, and educational systems, UNICEF collaborates with program partners to diminish inequities in the HIV response, particularly among marginalized groups. (“UNICEF: Working To End AIDS For Every Child”, n.d.) The third and final approach is intensifying responses. In instances where epidemiological evidence indicates a necessity for enhanced coverage, access, or improved quality of HIV services, UNICEF addresses issues that hinder program expansion. This is done to implement a public health response aligning with national, regional, and global objectives.

UNICEF also has a report titled “Strategy for Health 2016 – 2030” which focuses on promoting the health and development of all children. UNICEF’s strategy for achieving Universal Health Coverage centers on addressing the needs of children and families consistently marginalized in the progress toward global health objectives. (“Strategy for Health 2016 – 2030”, n.d.) Initial versions of the strategy underwent feedback sessions with UNICEF staff at headquarters, country and regional offices, as well as donors and partners. Subsequent refinements were made based on received feedback, and the revised draft was made available online for consultation with both internal and external stakeholders engaged in the process. The strategy’s vision and

goals align with the SDGs and the “Every Woman Every Child” strategy which emphasizes the “Survive” and “Thrive” components. UNICEF in collaboration with global and local partners will advocate for three key approaches to contribute to the following goals: addressing health outcome inequities, strengthening health systems (including emergency preparedness, response, and resilience), and promoting integrated, multi-sectoral policies and programs. (“Strategy for Health 2016 – 2030”, n.d.) The strategic approaches encompass endorsing integrated, multi-sectoral policies and programs, tackling health outcome inequities, and fortifying health systems with a focus on emergency preparedness and resilience. UNICEF works with other relevant government actors to influence government policy.

UNICEF’s main emphasis lies in child and maternal health, with the management of tuberculosis (TB) programs typically falling under organizations specializing in infectious diseases and public health. It works in coordination with entities like the World Health Organization (WHO) and local authorities to indirectly tackle TB as part of comprehensive health initiatives. The last report on TB on the website is from 2018 and it is titled “Change the Game: An agenda for action on childhood tuberculosis”. As an integral component of the Sustainable Development Goal agenda, the global community pledged to eradicate avoidable child fatalities by 2030. (“Change the Game: An agenda for action on childhood tuberculosis”, n.d.). During the September 2018 UN High-Level Political Meeting on Tuberculosis, international leaders reaffirmed this dedication. As outlined in the report, approximately 250,000 children succumbed to tuberculosis in 2016, with 60 percent of these fatalities occurring in Asia and 35 percent in Sub-Saharan Africa. (“Change the Game: An agenda for action on childhood tuberculosis”, n.d.) The report underscores that when children

receive appropriate treatment, the mortality rate drops to less than 1 percent, in contrast to the approximately 24 percent mortality rate for untreated children. Tragically, over 96 percent of tuberculosis-related deaths among children under the age of 15 result from the absence of treatment. Childhood tuberculosis cases constitute a significant proportion of overall tuberculosis cases, emphasizing the imperative nature of addressing TB in children as a crucial aspect of the global TB response. Despite this urgency, funding for childhood TB remained largely stagnant between 2013 and 2016, experiencing only a marginal increase from 25 million USD to 29.1 million USD.

Other actors such as UNAIDS are building on the success of the “Global Plan towards the elimination of new HIV infections among children by 2015 and Keeping Their Mothers Alive”, a commitment that lays the groundwork for national initiatives aimed at eradicating new HIV infections in children and preserving the health of their mothers. (“Global Plan towards the elimination of new HIV infections among children by 2015 and Keeping Their Mothers Alive”, n.d.), The plan commits to striving for the eradication of new HIV infections in children and ensuring the well-being of their mothers through some of the following actions: providing women with access to high-quality, life-saving HIV prevention and treatment services for both themselves and their children, collaborative efforts between HIV, maternal health, newborn and child health, and family planning programs aim to achieve optimal results and contribute to enhanced health outcomes. (“Global Plan towards the elimination of new HIV infections among children by 2015 and Keeping Their Mothers Alive”, n.d.), The plan concentrates on reaching pregnant women who are HIV-positive and their children, spanning from the onset of pregnancy until the mother concludes breastfeeding. The primary objectives are to decrease the incidence of new HIV infections among children by 90%

and diminish the number of AIDS-related maternal deaths by 50%. UNAIDS also employs the "Start Free Stay Free AIDS Free" framework, centered on attaining ambitious targets for 2018 and 2020. It adopts a life-cycle approach to realize a generation free from AIDS with a specific focus on the initial 0-24 years of age. ("Start Free Stay Free AIDS Free", n.d.). It is spearheaded by UNAIDS and PEPFAR. The plan has driven significant advancements, resulting in a 60% reduction in new HIV infections among children in 21 of the most heavily affected countries in Sub-Saharan Africa.

WHO is generally dedicated to international public health as a global entity. It plays a pivotal role in coordinating worldwide health initiatives, establishing health standards, offering technical assistance, and managing responses to health crises. WHO's primary focus encompasses a broad spectrum of global health issues, spanning disease prevention, the fortification of health systems, the formulation of health guidelines and standards, and prompt actions during public health emergencies. (WHO, n.d.) Operating on behalf of global populations, WHO acts as a coordinating and technical agency, furnishing guidance, setting standards, and aiding nations in enhancing health systems while addressing health challenges. Its expertise lies in global health governance and effective responses to pandemics and health emergencies. Currently WHO has developed a strategy titled "Global health sector strategies on, respectively, HIV, viral hepatitis and sexually transmitted infections for the period of 2022 – 2030". The strategies for 2022 – 2023 propose collaborative efforts and disease-specific initiatives at the country level, with support from the WHO partners. ("Global health sector strategies on, respectively, HIV, viral hepatitis and sexually transmitted infections for the period of 2022 – 2030", n.d.). Lastly, the WHO hosts a guideline titled "Consolidated guidelines on HIV prevention, testing, treatment, service



delivery and monitoring: recommendations for a public health approach” which focuses on HIV prevention, testing, treatment, service delivery and monitoring. (“Consolidated guidelines on HIV prevention, testing, treatment, service delivery and monitoring: recommendations for a public health approach”, n.d.) These guidelines maintain their organization along the spectrum of HIV care, encompassing details on novel combination prevention methods, HIV testing, antiretroviral (ARV) regimens, and treatment monitoring.

The Global Fund recognizes that the implementation of their work on HIV and AIDS has been affected by the impact of COVID-19. (theglobalfund.org, n.d.) The Global Fund is a major contributor to international HIV programs, accounting for 28% of global financing. As of June 2023, their investments total 25.5 billion USD in HIV and AIDS initiatives and 4.6 billion USD in TB/HIV projects. (theglobalfund.org, n.d.) In 2022, the Global Fund extended HIV prevention services to 15.3 million individuals, provided medication to 710,000 HIV-positive mothers to prevent transmission to their infants, and facilitated antiretroviral therapy for 24.5 million people with HIV. (theglobalfund.org, n.d.) Furthermore, 53.1 million HIV tests were conducted in 2022, with a specific focus on priority and key populations, encompassing infants, adolescent girls and young women, adolescents to name a few. (theglobalfund.org, n.d.) The Global Fund contributed 76% of global financing and allocated 9.2 billion to TB prevention and treatment efforts as of June 2023. In 2022, preventive therapy benefited 1.5 million individuals exposed to TB. Moreover, 331,000 TB patients co-infected with HIV received antiretroviral therapy during their TB treatment in 2022.

As of September 30, 2022 PEPFAR has been instrumental in supporting over a dozen countries in curbing the spread of HIV,

aligning with UNAIDS 2025 95-95-95 targets and contributing to the global aim of ending the AIDS epidemic by 2030 (UNAIDS Global AIDS Update, 2023). Noteworthy achievements include delivering life-saving ART to over 20.1 million individuals with HIV substantially improving life expectancy and curbing HIV transmission. PEPFAR's initiatives such as DREAMS have empowered and assisted adolescent girls and young women, leading to a significant reduction in HIV diagnoses within this demographic. (UNAIDS Global AIDS Update, 2023) Additionally, the program has ensured the birth of more than 5.5 million HIV-free babies and offered crucial care and support to 7 million orphans, vulnerable children, and caregivers. PEPFAR's dedication extends to bolstering healthcare systems, training 340,000 healthcare workers, and facilitating access to pre-exposure prophylaxis (PrEP), with 1.5 million individuals newly enrolled as of September 30, 2022.

USAID is committed to ensuring the achievement of HIV epidemic control in diverse countries through a multifaceted approach. Firstly, it offers global leadership by providing guidance in the design of impactful programs aimed at addressing the HIV epidemic. Secondly, USAID supports country-led strategies, utilizing its vast expertise in health and development, coupled with specialized knowledge in HIV/AIDS. The agency recognizes the significance of applying science, technology, and innovation to endorse interventions that are not only cost-effective but also sustainable and appropriately integrated into the broader landscape. This comprehensive approach underscores USAID's dedication to tackling the HIV epidemic on a global scale. USAID's technical areas include HIV/AIDS Product Development and Research, Prevention, Care and Treatment, and Systems Program Sustainability to name a few.

## **Research Objectives and Questions**

The overall objectives of the project are to: 1) Enhance care processes that lead to improved early detection of HIV and TB in children through increased access to diagnostic tools and regular screenings to result in quicker initiation of appropriate treatment and improved health outcomes for affected children. 2) Increase treatment regimens among children with HIV and TB through the implementation of care interventions that lead to enhanced healthcare access. 3) Reduce stigma and empower caregivers and communities.

The **main research questions** are:

### **1) What are the current policies and processes for HIV and TB in regard to migrant, orphan, and refugee children?**

This question focuses on the distinct vulnerabilities encountered by migrant, orphan, and refugee children when accessing healthcare services for HIV and TB. These children are often facing barriers such as poverty, stigma, and discrimination which can hinder their ability to receive adequate care and support. Examining current policies and processes is crucial for pinpointing obstacles to healthcare, evaluating the efficiency of current healthcare systems, and guiding the creation of focused interventions to enhance health outcomes for these vulnerable children.

### **2) Who are the main stakeholders and what are their policies, protocols, and processes (from diagnosis to care)?**

This question focuses on identifying the main stakeholders to gain a grasp on the healthcare network involved in the management of children with HIV and TB. Examining the

policies, procedures, and practices utilized by these stakeholders offers insights into the framework overseeing diagnosis, treatment, and care.

### **3) What is the impact of social services on the success of treatments?**

This question focuses on the important role social services play in supporting children living with HIV and TB. Social services has an impact on addressing the various social determinants of health such as psychosocial support, housing, and education.

The following are **follow up questions** to the main research questions. These questions help to understand the overview of current policies and processes, effectiveness, key barriers, prevalence rates, primary modes of transmission, relationship between social services and treatment, psychosocial support, and examining the existence of programs and initiatives to address mental health.

- 14) Can you provide an overview of the current policies and processes specifically designed for migrant, orphan, and refugee children with HIV and TB?
- 15) How is the effectiveness of current policies and processes for HIV and TB care for children monitored and evaluated?
- 16) Who are the key stakeholders involved in the care of children affected by HIV and TB, from diagnosis to ongoing treatment?
- 17) Can you outline the protocols and processes involved in diagnosing and providing care for children with HIV and TB?
- 18) How standardized are these processes, and are there variations in implementation across different regions or organizations?

- 19) What are the key barriers that prevent children in Sub-Saharan Africa from accessing healthcare services for HIV, AIDS, and TB?
- 20) How do the prevalence rates of HIV, AIDS, and TB in children contribute to the overall public health challenges in Sub-Saharan Africa?
- 21) How does orphanhood, migration, or refugee status impact a child's ability to receive timely and adequate medical attention?
- 22) Can you discuss the long-term consequences for children who are affected by HIV and TB, especially in terms of education and overall well-being?
- 23) What are the primary modes of transmission for HIV and TB in children, and how does vertical transmission contribute to the prevalence of these diseases?
- 24) How does the vertical transmission of HIV impact the health outcomes of children, and what are the associated challenges?
- 25) What is the relationship between social services and the success of HIV and TB treatments for children?
- 26) How important is psychosocial support in the overall care of children living with HIV and TB?

Can you provide an overview of the current policies and processes specifically designed for migrant, orphan, and refugee children with HIV and TB?

- 1) How is the effectiveness of current policies and processes for HIV and TB care for children monitored and evaluated?
- 2) Who are the key stakeholders involved in the care of children affected by HIV and TB, from diagnosis to ongoing treatment?
- 3) Can you outline the protocols and processes involved in diagnosing and providing care for children with HIV and TB?
- 4) How standardized are these processes, and are there variations in implementation across different regions or organizations?

- 5) What are the key barriers that prevent children in Sub-Saharan Africa from accessing healthcare services for HIV, AIDS, and TB?
- 6) How do the prevalence rates of HIV, AIDS, and TB in children contribute to the overall public health challenges in Sub-Saharan Africa?
- 7) How does orphanhood, migration, or refugee status impact a child's ability to receive timely and adequate medical attention?
- 8) Can you discuss the long-term consequences for children who are

affected by HIV and TB, especially in terms of educational and overall well-being and mortality. Efforts to combat TB in children are primarily MOGs of transmission for HIV and TB in children mortality. Despite medical advances in TB detection and treatment, several challenges in managing childhood TB. In 2012, the WHO estimated that 1.5 million children were affected by TB, and it is projected to rise to 2.4 million by 2040. What is the relationship between social services and the success of HIV and TB treatment in children?

12) How important is psychosocial support in the overall care of children living with HIV and TB? Implemented strategies for Bagmati and preventive programs in children address five years of health age and well-being of these children. The National Tuberculosis Control Program highlighted persistent under-diagnosis of TB in children. In response, the program has developed reference guidelines and collaborated with pediatricians' associations. Workshops have been organized to raise awareness and train healthcare personnel in diagnosing TB in children, following the recommendations of the Stop- TB Strategy (A. Ndeye, personal communication, March 16, 2024).

HIV remains a significant global public health challenge, with 40.4 million cases reported to date and ongoing transmission in every country. Some regions are experiencing a resurgence in new infections despite previous declines. While there is currently no cure for HIV, advances in prevention, diagnosis,

treatment, and care for opportunistic infections have transformed HIV into a manageable chronic condition, enabling individuals to live long and healthy lives (A. Coulibaly, personal communication, March 16, 2024).

The WHO, the Global Fund, and UNAIDS have created global HIV strategies aligned with SDG 3.3, which aims to end the HIV epidemic by 2030. In alignment with these strategies, the Ministry for the Family in Senegal has initiated a four year program with an estimated budget of 234 million F CFA to support children and adolescents living with HIV. This initiative is part of the “Take a Child by the Hand” campaign by the Conseil National de Lutte contre le Sida (CNLS), emphasizing the urgent need to close the care gap, as only 1,446 out of nearly 4,000 children living with HIV are currently receiving treatment. The Executive Secretary of the CNLS highlighted the importance of addressing inequalities and eliminating mother-to-child transmission (A. Coulibaly, personal communication, March 16, 2024).

The Ministry for the Family has taken proactive steps to tackle these issues by organizing the national Women’s AIDS Week under the theme “Equalizing care for the concerns of children and adolescents in the face of HIV infection”. The Secretary General of the Ministry stressed the critical role of HIV prevention and called on all stakeholders to ensure access to care for people living with HIV, with a particular focus on children, women, and adolescents (A. Coulibaly, personal communication, March 16, 2024).

In Senegal, there is no specific policy for the care of migrant, orphaned, and refugee children with HIV and TB. However, the Ministry of Health manages the fight against these diseases through two dedicated programs: the CNLS for HIV and the

Programme National de Lutte Contre la Tuberculose (PNT) for TB. These programs ensure the detection and management of cases at the nearest health facilities, providing free medications and referrals at service delivery points (M. Dieng, personal communication, March 15, 2024).

To support migrant children, Senegal has established the National Committee for the Protection of Migrant Children and Young People. This committee identifies children, young people, and adults along the coasts and potential migration points, equipping teams with vehicles to transport individuals to various locations within the country. This approach ensures that migrant children receive the necessary support and protection while addressing their health needs related to HIV and TB (M. Dieng, personal communication, March 15, 2024).

In the DRC, HIV and TB care policies and guidelines emphasize the importance of providing universal access to prevention, care, and treatment. They specifically recommend that services be located near refugee camps, either permanently or through outreach programs, to ensure easy, non-discriminatory access for all populations living in these camps, including migrants, orphans, and children (A. Elie, personal communication, April 8, 2024).

### **Effectiveness of current policies**

The effectiveness of current policies and processes for the care of children with TB is monitored and evaluated through various mechanisms. Key methods include: monitoring epidemiological data, tracking performance indicators, health service evaluation, research studies, and patient and family feedback. Public health authorities track epidemiological data on TB in children, such as incidence rates, detection rates, cure rates, and mortality rates.



This data helps assess the scale of the problem and identify trends over time. TB programs monitor specific performance indicators like the time between screening and treatment initiation, treatment success rates, and patient drop-out rates. These indicators help evaluate the equality of services provided to children with TB. Periodic evaluations of health services are conducted to assess the availability, accessibility, acceptability, and quality of TB screening, diagnosis, treatment, and follow-up services for children. These evaluations ensure that services meet the required standard and are accessible to those in need (A. Ndeye, personal communication, March 16, 2024).

Research studies are carried out to assess the effectiveness of TB policies and interventions children. These studies might investigate the impact of early detection programs, improved treatment strategies, or community outreach interventions. Feedback from patients and their families is collected to understand their experiences with TB care. This feedback helps identify service gaps, assess user satisfaction, and inform necessary improvements. By using these monitoring and evaluation methods, public health officials and TB organizations can determine the effectiveness of current policies and processes for caring for children with TB. This comprehensive approach helps identify challenges, opportunities for improvement, and guides efforts to enhance outcomes for affected children (A. Ndeye, personal communication, March 16, 2024).

The effectiveness of current policies for caring for children with HIV and TB hinges on the prioritization of comprehensive HIV prevention strategies for women, particularly those of reproductive age. Despite attempts to curb new HIV infections among children, the emphasis on mass HIV primary prevention for women remains secondary, leading to consistently high rates of HIV infections among women aged 15-49. In Sub-Saharan

Africa, the utilization of condoms during high-risk sexual encounters remains low, highlighting the pressing need for effective counseling and access to prevention services especially for pregnant and breastfeeding women who face an increased risk of HIV transmission during these phases (A. Coulibaly, personal communication, March 16, 2024).

HIV transmission to women during pregnancy and breastfeeding significantly contributes to new HIV infections in children, with maternal HIV transmission during these critical periods accounting for up to 30% of all new pediatric infections. Addressing the unmet need for contraception among women receiving care at HIV treatment centers is vital for preventing unintended pregnancies and decreasing the risk of vertical HIV transmission to their offspring (A. Coulibaly, personal communication, March 16, 2024).

To enhance the effectiveness of existing policies, there should be a concerted effort to integrate comprehensive HIV prevention measures, such as access to contraception and counseling services, into HIV care and treatment programs. By attending to the specific needs of women, particularly during pregnancy and breastfeeding, and ensuring access to essential prevention services, policymakers can mitigate the risk of maternal HIV transmission and enhance the overall health outcomes of children affected by HIV and TB (A. Coulibaly, personal communication, March 16, 2024).

## **Key stakeholders**

The diagnosis and care of children living with HIV and TB in Senegal involves multiple key stakeholders who each play critical roles in ensuring effective treatment and support. The main stakeholders include health professionals, health

organizations, families and caregivers, and international partners. Doctors, nurses, and other health professionals are essential in diagnosing and treating children with HIV and TB. They adhere to specific medical protocols for screening tests, accurate diagnoses, and appropriate treatments. Additionally, they coordinate regular medical follow ups to monitor and assess the effectiveness of the treatments administered. Both governmental and non-governmental health organizations are pivotal in formulating and implementing policies and protocols for the care of children living with HIV and TB. These organizations ensure the establishment of clear guidelines for screening, diagnosis, follow up care, and treatment (L. Sagna, personal communication, March 17, 2024).

Families of children with HIV and TB are crucial in ensuring treatment adherence, administering medications, maintaining medical appointments, and promoting overall well-being. Caregivers, including social workers and counselors, provide essential psychosocial support to both the children and their families, helping them navigate the challenges associated with the diseases. International partners, such as global health organizations and donors, play a significant role in the implementation of policies and programs aimed at improving care for children with HIV and TB. They offer financial, technical, and logistical support to enhance the capacity of health systems and improve access to necessary care. These stakeholders collaborate to create a comprehensive care framework tailored to the needs of children with HIV and TB. The effectiveness of this collaboration can vary depending on the resources available and the specific health priorities of each country. This multi-faceted approach ensures that children receive the necessary medical attention, support, and resources to manage their conditions effectively (L. Sagna, personal communication, March 17, 2024).

Other stakeholders at various levels include regional non-governmental organizations, national level entities, technical and financial partners, and procedures and partnerships. Solthis Africa and AMREF Health Africa are examples of regional NGOs who develop and implement health programs in partnership with national health structures. They work with local relays and social mediators to execute their activities effectively. The Ministry of Health and Social Action (MSAS), a national level entity, has affiliated departments that oversee the implementation of national health policies and programs. These are categorized into level 1, level 2, and level 3 facilities, each providing varying degrees of health services and care. Plan International and the NGO Consortium among other NGOs, operate at the national level. They collaborate with the state through partnership agreements facilitated by the MSAS (M. Dieng, personal communication, March 15, 2024).

Technical and financial partners offer crucial financial, technical, and logistical support, enabling the execution of health programs and capacity building within health systems. NGOs and other organizations sign agreements with the state, particularly through MSAS, to establish and run health programs. These organizations work in collaboration with health structures, deploying programs that ensure comprehensive health coverage for individuals living with HIV and TB. This includes the provision of antiretroviral (ARV) drugs and anti-TB medications. These stakeholders collectively contribute to a robust framework designed to address the health needs of children with HIV and TB, ensuring they receive the necessary medical care and support to manage their conditions effectively (M. Dieng, personal communication, March 15, 2024).

In the DRC, the key stakeholders involved in the care processes

for children with HIV and TB are structured at three levels within the health system. The first level is the national level. The Ministry of Health and the Ministry of Humanitarian Affairs are primarily responsible for developing policies and directives. The Ministry of Health operates through the National Program for the Fight Against HIV (PNLS) and the PNT. These programs work in collaboration with local and international partners to execute strategic and contingency plans (A. Elie, personal communication, April 8, 2024).

The second level is the provincial level. Provincial ministries of health and humanitarian affairs implement strategic and contingency plans. Representatives of the National HIV and TB Programs, along with local and international partners, play a significant role in this level of support. The third level is the operational level. Local coordination involves health zone executives and local and international implementation partners. Clinical providers (doctors, nurses, etc.) and community providers deliver care, focusing on preventive measures and psychosocial support. These stakeholders collectively ensure the execution and success of health programs designed to address the needs of children with HIV and TB, from policy development at the national level to direct care at the operational level (A. Elie, personal communication, April 8, 2024).

### **Outline of protocols and processes involved in diagnosis and care**

The diagnosis and management of TB in children in Senegal adhere to standardized procedures aligned with the WHO guidelines and national protocols. The process involves several key steps with the first being screening. TB screening for children is conducted through health facilities, community health programs, and awareness campaigns. Children exhibiting

symptoms such as prolonged cough, fever, weight loss, or breathing difficulties are referred for TB testing. The second step is clinical evaluation. Suspected TB cases undergo a comprehensive clinical evaluation, including physical examination, detailed medical history, and additional tests such as chest X-rays, blood tests, and sputum analysis. The third step is diagnosis confirmation. Confirming TB in children can be challenging due to nonspecific symptoms and test limitations. Diagnostic methods include sputum cultures, drug sensitivity tests, and molecular tests to confirm TB presence (A. Ndeye, personal communication, March 16, 2024).

The fourth step is treatment. Confirmed TB cases are treated following national protocols and WHO recommendations. Children typically undergo antibacterial treatment with antibiotics for six months or more, depending on the disease form and symptom severity. Children receiving TB treatment are regularly monitored by healthcare professionals to track treatment response, manage drug side effects, and provide psychosocial support. Community health programs are vital for ongoing monitoring and support. TB diagnosis and management in Senegal involves rigorous screening, thorough evaluation, confirmed diagnosis, appropriate treatment, and continuous follow-up to ensure the best outcomes for affected children (A. Ndeye, personal communication, March 16, 2024).

In the 2016 Political Declaration on Ending AIDS, countries pledged to provide antiretroviral treatment to 1.6 million children living with HIV (aged 0 to 14) by 2018. However by 2018, only an estimated 937,000 children were receiving antiretroviral treatment, significantly missing the global target. Progress in pediatric HIV treatment has slowed despite a global increase in treatment coverage from 20% to 54% between 2010 and 2018. In the period from 2017 to 2018, treatment coverage

only marginally increased from 52% to 54% (A. Coulibaly, personal communication, March 16, 2024).

Timely diagnosis is crucial for effective HIV care and treatment, yet many children with HIV are not diagnosed promptly. In 2018, 80% of adults living with HIV were aware of their status, compared to only 52% of HIV-exposed infants who received testing within the first two months of life. Current screening methods fail to identify nearly 50% of HIV-exposed children. Consequently, 47% of the estimated 530,000 young children living with HIV (aged 0-4) did not receive treatment in 2018, primarily due to a lack of diagnosis (A. Coulibaly, personal communication, March 16, 2024).

## **Standardized processes**

Processes for diagnosis and managing TB in children are generally standardized according to national and international guidelines, such as those set by the WHO. However, the implementation of these processes can vary by region or organization due to several factors. The first is available resources. Differences in financial, human, and material resources can impact a region's or organization's capacity to consistently apply TB diagnosis and management protocols. The second is access to health services. Disparities in the accessibility and availability of health services can result in variations in how children are screened, diagnosed, and managed across different regions or communities (A. Ndeye, personal communication, March 16, 2024).

The third is epidemiological context. Differences in TB prevalence and related risk factors may lead to varied approaches in screening and management across regions. The final is local protocols. Some regions or organizations may have

specific diagnostic and treatment protocols that differ slightly from national or international recommendations due to local or contextual considerations. Given these potential variations, it is crucial for national and local TB control programs to ensure consistent, high quality implementation of diagnostic and management protocols. This requires taking into account local specificities and available resources, alongside efforts to train health personnel, strengthen health systems, and provide regular supervision to achieve the best outcomes for children with TB (A. Ndeye, personal communication, March 16, 2024).

Support and coping mechanisms for HIV within communities can be undermined when external organizations impose their own agendas. Untargeted external assistance may lead community member to feel relieved of their responsibilities during the program's duration. When material assistance is withdrawn, the community may be worse off than before due to a loss of self-initiative. Program activities might also divert community resources from urgent needs, causing resentment. Additionally, targeting external organizations can lead to programming bias, excluding significant groups. Prioritizing community-based approaches does not negate the state's role in creating conducive conditions for community activities. NGOs can effectively support community-level activities by engaging in advocacy, gathering information, disseminating good practices, and seeking additional funding. International NGOs can elevate community issues to the national agenda and influence policy decisions (A. Coulibaly, personal communication, March 16, 2024).

It is important to recognize that not all communities will naturally develop strategies to assist their most vulnerable members. Programs relying on paid staff to distribute aid are often unsustainable and can only reach a limited number of at-



risk children. There is a consensus that external organizations should promote community mobilization alongside improved access to income-generating opportunities, such as micro edit or microfinance services. Although these approaches are not specifically designed to address HIV, they collectively offer a more sustainable way to mitigate the epidemic's impacts (A. Coulibaly, personal communication, March 16, 2024).

## **Primary modes of transmission**

The primary modes of HIV transmission in children are vertical transmission (from mother to child during pregnancy, childbirth, or breastfeeding) and exposure to infected blood, such as through unsafe blood transfusions or the use of contaminated syringes. For TB, transmission mainly occurs through inhaling droplets containing tuberculosis bacteria, which are released by an infected person when coughing, sneezing, or talking. Vertical transmission is particularly significant in the prevalence of these diseases. In the case of HIV, a pregnant woman infected with the virus can transmit it to her child during pregnancy, childbirth, or breastfeeding, making vertical transmission the leading cause of HIC in in children. Similarly, with TB, an infected mother can pass the bacteria to her child during pregnancy or after birth, contributing to the prevalence of TB In children. Therefore, implementing prevention and screening measures to reduce vertical transmission is crucial for protecting children's health (L. Sagna, personal communication, March 17, 2024).

Mother-to-child transmission of HIV can occur through intrauterine or intrapartum (perinatal) exposure, breastfeeding, or feeding pre-masticated food. This transmission route also includes hidden breastfeeding by a surrogate mother when the child is unexpectedly diagnosed with HIV. If the mother or another person chews the food and there is blood in their saliva,

transmission is possible. Historically, blood transfusions are also a significant transmission route in both Senegal and the DRC. In regions where donor and blood product screening is less stringent, transfusion-related HIV transmission remains a risk. The reusing of medical equipment such as needles and syringes is a source of HIV infection in resource-limited countries. Additionally, traditional practices like circumcision and scarification with contaminated equipment can cause transmission, though this is rare (A. Coulibaly, personal communication, March 16, 2024).

Previously, the prognosis for children who contracted HIV perinatally was dire, with high mortality rates. Infants and young children often experience a higher and more prolonged viral load compared to adults, accelerating immunodeficiency and the onset of AIDS-defining illnesses. Without treatment, 20% of perinatally-infected children would develop AIDS within their first year of life, with the median age of AIDS diagnosis being around five years. However the prognosis has significantly improved with robust HIV treatment programs for children (A. Coulibaly, personal communication, March 16, 2024).

## **Key barriers**

Children in Sub-Saharan Africa face numerous hurdles when trying to access TB and HIV healthcare services, these obstacles include a limited access to healthcare, lack of awareness and education, stigma and discrimination, economic barriers, limited child-friendly services, and political instability and conflict. In regards to limited access to healthcare, many areas in Sub-Saharan Africa lack basic health services due to distance, inadequate infrastructure, and a shortage of qualified medical staff. Insufficient knowledge about TB can lead to delays in identifying and diagnosing the diseases in children. Parents and

communities may not recognize TB symptoms or understand the importance of early detection and treatment. TB is often also stigmatized, deterring families from seeing healthcare. Fear of social rejection can delay TB detection and treatment. Healthcare costs, including consultation fees, medication, and transportation expenses, can be prohibitive for low-income families (A. Ndeye, personal communication, March 16, 2024).

Healthcare facilities may not cater well to children, leading to delays in diagnosis and treatment. Child specific tests and medications may not be readily available. Finally, regions experiencing political instability and conflict face disruptions in healthcare access, compromising children's ability to receive HIV and TB diagnosis and treatment. To address these challenges, it is crucial to implement strategies that strengthen healthcare systems, raise community awareness about HIV and TB, and provide accessible, child-friendly services (A. Ndeye, personal communication, March 16, 2024).

The plight of child beggars and street children estimated to number 70,000 in Senegal requires urgent attention. These children who live on the streets begging and working, including those entrusted to Koranic teachers, runaways, children from impoverished or broken families, victims of domestic violence, those excluded from education, and those with disabilities or accompanying disabled individuals. These children are frequently exploited and subjected to various forms of abuse, significantly increasing their risk to HIV (A. Coulibaly, personal communication, March 16, 2024).

### **Prevalence rates**

The high prevalence of HIV and TB among children in Sub-Saharan Africa significantly exacerbates public health issues.

These diseases directly compromise children's health by weakening their immune systems and heightening their susceptibility to other infections and illnesses, resulting in increased morbidity and mortality rates. Additionally, the widespread incidence of these diseases among children places a heavy burden on families and communities. Caregivers often experience financial and emotional strains, affecting their own health and ability to support their families. Moreover, these diseases have far reaching socio-economic repercussions such as reducing the productive workforce, escalating healthcare costs, and putting additional strain on already fragile health systems. Consequently, it is imperative to implement effective prevention, screening, and treatment strategies to reduce the prevalence of these diseases among children in Sub-Saharan Africa, thereby enhancing overall public health (M.Mbaye, personnel communication, March 13, 2024).

### **Timely and adequate medical attention**

Orphanhood, migration, or refugee status can significantly hinder a child's ability to access timely and sufficient medical care, particularly concerning HIV and TB treatment in Senegal and the DRC. Children who have lost one or both parents to HIV or TB face heightened vulnerabilities. Absent parental support and guidance, they may encounter obstacles in accessing crucial healthcare services due to financial limitations, caregiver availability issues, or societal stigmatization. Furthermore, transitions in guardianship or living arrangements may disrupt their healthcare continuity, leading to irregular access to medical treatment and adherence to prescribed medications (M. Fidele, personal communication, April 8, 2024).

Migration whether internal or across borders presents additional hurdles for children affected by HIV and TB to access

healthcare. Migrant children may confront legal, linguistic, and discriminatory barriers when seeking medical services in their countries. Additionally, frequent relocations or displacement owing to migration can disrupt the continuity of healthcare, resulting in treatment gaps and heightened risks of diseases progression. Similarly, refugee status poses significant challenges to healthcare access for children impacted by HIV and TB. Refugees often flee conflict or persecution, arriving in host countries with limited access to healthcare infrastructure and resources. Refugee children may confront overcrowded living conditions, inadequate sanitation, and limited access to clean water, all of which can heighten their vulnerability to infections like TB and complicate the management of HIV (M. Fidele, personal communication, April 8, 2024).

Collectively, orphanhood, migration, and refugee status exacerbate the existing obstacles encountered by children affected by HIV and TB in Senegal and the DRC. Addressing these challenges necessitates comprehensive strategies that prioritize the specific needs of vulnerable children. This includes targeted outreach efforts, community based support services, and policy interventions aimed at ensuring equitable healthcare access for all children, irrespective of their social or legal circumstances (M. Fidele, personal communication, April 8, 2024).

## **Vertical transmission and health outcomes**

Vertical transmission of HIV significantly affects children's health making them more prone to opportunistic infections, growth and development issues, and immune system deficiencies. They may also face neurological and hematological complications. There are many challenges to preventing vertical

transmission. Firstly, pregnant women may lack access to HIV testing and treatment services. Additionally, stigma and discrimination related to HIV can deter women from seeking prenatal care and testing. Preventing mother-to-child transmission also requires antiretroviral prophylaxis, necessitating strict adherence to treatment and regular monitoring. Furthermore, breastfeeding poses a transmission risk, creating a dilemma for HIV-infected women since breastfeeding also has health benefits for infants. To address these challenges it is essential to enhance screening, treatment, and support programs for HIV-positive pregnant women. Promoting education and awareness to reduce HIV-related stigma and encouraging appropriate prenatal care are also crucial (L. Sagna, personal communication, March 17, 2024).

Early diagnosis of HIV is crucial for early treatment which is linked to preventing vertical transmission. Delayed diagnosis leads to higher infant mortality rates before the age of five in the DRC. Additionally, effective therapeutic education aimed at ensuring adherence to treatment is vital for enhancing the quality of life for HIV-positive individuals. One of the significant challenges in this process is communicating the need for treatment (A. Elie, personal communication, April 8, 2024).

### **Relationship between social services and success of treatment**

Social services are vital for the successful treatment of HIV and TB in children, offering essential support to affected families. They assist families in accessing necessary medical care, medication, and treatment. Additionally, social services provide emotional and psychological support to help children and their families cope with the challenges of these diseases. They also improve treatment adherence by offering advice on daily

treatment management, helping to organize medical appointments, and providing regular follow-up. Ensuring access to proper nutrition is another crucial aspect, as social services help families obtain the appropriate nutrition to boost children's immune systems and enhance their response to treatment. In summary, social services are integral to the success of HIV and TB treatment in children, providing comprehensive support from medical care to emotional well-being and proper nutrition (L. Sagna, personal communication, March 17, 2024).

### **Importance of psychosocial support**

Psychosocial support is crucial for the comprehensive care of children living with HIV and TB, addressing their emotional, social, and mental needs. These diseases can significantly affect children's mental and emotional health, and psychosocial support helps them cope by providing a safe space to express their feelings, fears, and concerns. It aids in developing healthy coping mechanisms, building self-esteem, and fostering self-confidence. Additionally, psychosocial support promotes treatment adherence by helping children understand and accept their condition, encouraging them to follow their treatment regimens consistently. It also facilitates social integration by helping children overcome stigma and discrimination, develop social skills, and participate in daily activities, school, and other engagements. In summary, psychosocial support is essential for the overall well-being of children with HIV and TB, enhancing their emotional and social health, promoting treatment adherence, and helping them navigate the challenges of their condition (L. Sagna, personal communication, March 17, 2024).

### **Addressing mental health and wellbeing**

In Senegal, various initiatives and programs focus on improving

children's mental health and wellbeing including mental health programs, mental health centers, awareness and education, and NGOs. The Senegalese government has implemented a mental health program offering psychosocial support services for children. This program includes consultations with mental health professionals, individual and group therapy sessions, and awareness-raising activities to promote mental health. Mental health centers are located throughout the country and these centers provide diagnostic, treatment, and follow-up services for children with mental disorders. They are typically staffed by mental health professionals such as psychiatrists and psychologists. Public awareness campaigns also inform the community about children's mental health issues. Additionally, educational programs in schools aim to promote mental health, self-esteem, and emotional well-being among children. Finally, several NGOs in Senegal support children's mental health by providing counseling, psychological support, and rehabilitation services for children in need. It is important to note that the field of mental health is continually evolving, and new programs and initiatives may be introduced over time (L. Sagna, personal communication, March 17, 2024).

### **Policy Recommendations**

Senegal and the DRC have the opportunity to develop customized healthcare initiatives targeting migrant, refugee, and orphaned children, aligning with SDG 3, which strives to ensure healthy lives and wellbeing for all, with a specific focus on ending the HIV and TB epidemics by 2030. Tailored healthcare initiatives are vital for effectively tackling the unique obstacles encountered by migrant, refugee, and orphaned children when accessing healthcare services. Creating initiatives that cater to their specific needs enables Senegal and the DRC to enhance the availability of healthcare services, strengthen diagnostic and treatment rates, and ultimately alleviate the burden of HIV and



TB among these marginalized populations. Additionally, aligning these endeavors with SDG 3 signifies a dedication to global health priorities and underscores the significance of addressing HIV and TB epidemics in children within broader endeavors to foster health and wellbeing. By focusing on these precise objectives within SDG 3, Senegal and the DRC can contribute to the international mission to eradicate HIV and TB epidemics by 2030, thereby enhancing health outcomes and quality of life for children in their respective nations.

Some ideas that Senegal and the DRC can implement include:

**Tailoring Programs for Vulnerable Populations:** Create specialized initiatives aimed at meeting the healthcare requirements of migrant, refugee, and orphaned children, taking into consideration their distinct vulnerabilities and the obstacles they encounter in accessing healthcare services. These programs should be comprehensive and include regular screenings, early detection, and continuous care for HIV and TB. Implementing screening protocols is important to detect cases of HIV and TB at the earliest possible stage, enabling swift intervention and treatment. Additionally, establishing mechanisms for ongoing monitoring and follow-up care is essential to ensure that children receive the necessary support throughout their healthcare journey. It is crucial to incorporate culturally sensitive approaches into these initiatives to enhance their effectiveness. Recognizing the diverse cultural backgrounds and experiences of migrant, refugee, and orphaned children, healthcare providers should strive to create welcoming, inclusive environments that respect their cultural beliefs and practices. Effective implementation of these programs relies on collaboration and coordination among various stakeholders. This includes forging partnerships with government agencies, NGOs, community based organizations, and international donors. By

pooling resources and expertise, stakeholders can amplify the impact of these initiatives and ensure that they reach the most vulnerable children in need of healthcare services.

**Foster Collaboration with Refugee Agencies:** Strengthen alliances with international refugee agencies and organizations dedicated to child welfare, ensuring a unified and all-encompassing strategy for delivering healthcare services to refugee children, encompassing HIV/AIDS and TB services. Establish shared data systems to track health outcomes and service utilization among these populations, ensuring coordinated care and follow-up. Develop joint training programs for healthcare providers, focusing on the unique needs of refugee and migrant children, including trauma-informed care.

**Champion Inclusive Policies:** Advocate for the formulation of policies that guarantee the inclusion and safeguarding of migrant and refugee children within national healthcare systems, underscoring the significance of providing unbiased access to HIV/AIDS and TB prevention, testing, and treatment services. Collaborate with government agencies to ensure that refugee children are included in social protection programs. Push for legal reforms that protect the rights of migrant and refugee children to receive healthcare without discrimination. Secure funding programs that specifically address the healthcare needs of these children, ensuring sustained and comprehensive service delivery.

**Deploy Culturally Appropriate Interventions:** Put into operation interventions that are culturally sensitive and attuned to the diverse backgrounds and experiences of migrant, refugee, and orphaned children, acknowledging the impact of displacement on their healthcare-seeking patterns. Create educational materials and programs that resonate with the

cultural beliefs and practices of the children and their families, ensuring better understanding and acceptance of health interventions. Establish support groups that provide psychosocial support in culturally familiar settings, helping children and their families cope with the impacts of HIV and TB.

**Offer Support for Mental Health:** Acknowledge and confront the mental health issues confronted by migrant, refugee, and orphaned children, integrating mental health assistance into healthcare initiatives to ensure their overall well-being.

**Ensure Education Continuity:** Implement measures to ensure the continuity of education for orphaned children affected by HIV/AIDS and TB treatment, recognizing the potential disruptions these diseases may have on their academic development. Implement health programs within schools to provide regular health screenings and care for children, reducing disruptions to their education. Advocate for policies that guarantee the right to education for all children, regardless of their health status or background.

**Address Legal Barriers:** Advocate for the removal of legal barriers that may hinder access to healthcare services for migrant, refugee, and orphaned children, emphasizing the importance of a rights-based approach to healthcare delivery. Work with lawmakers to remove legal barriers that restrict access to healthcare for migrant, refugee, and orphaned children. Promote healthcare approaches that are grounded in human rights principles, ensuring that all children receive the care they need.

## **Conclusion**

The ongoing policies and efforts to manage HIV and TB in children in Senegal and the DRC demonstrates significant advancements while also underscoring persistent challenges that demand ongoing attention and improvement. HIV and TB continue to be critical public health issues worldwide with substantial incidence and mortality rates particularly affecting children. Efforts to combat these diseases in children are in line with global health strategies and national health objectives such as the WHO Stop-TB Partnership's 2006-2015 plan and the SDGs.

In Senegal, the progress towards MDGs 4 and 6 highlights a commitment to reducing child mortality and TB incidence. However, the under-diagnosis and under-reporting of childhood TB cases emphasize the need for more robust diagnostic and reporting mechanisms. Initiatives such as the development of reference guidelines and collaboration with pediatric associations are critical steps towards addressing these gaps. Similarly, the HIV epidemic which significantly affects children is being tackled through programs like the "Take a Child by the Hand" campaign, which focuses on enhancing care and reducing mother-to-child transmission.

The effectiveness of current policies is monitored through various mechanisms including epidemiological data tracking, performance indicators, health service evaluations, research studies, and feedback from patients and families. These methods ensure that health authorities and TB programs can assess the impact of their interventions and identify areas for improvement. Emphasizing early detection, timely treatment initiation, and continuous monitoring is crucial for improving health outcomes for children with HIV and TB.

Despite these efforts, significant barriers remain. Limited access

to healthcare, stigma, economic constraints, lack of awareness, and insufficient child friendly services hinder the effective management of HIV and TB in children. Political instability and conflict exacerbates these challenges, particularly in regions with fragile health systems. Addressing these barriers requires a multi-faceted approach that strengthens healthcare infrastructure, enhances community awareness, and ensures equitable access to services.

The role of key stakeholders such as the local government, including health professionals, health organizations, families, caregivers, and international players, is important in the diagnosis, treatment, and care of children with HIV and TB. Collaborative efforts among these stakeholders are essential to create a comprehensive care framework tailored to the needs of affected children. Ensuring the availability of necessary resources, fostering community engagement, and training health personnel are critical components to this collaborative approach.

In terms of standardized protocols and processes, adherence to guidelines and national protocols for diagnosing and managing HIV and TB in children ensures a consistent approach to care. However, the implementation of these protocols can vary due to resource availability, local epidemiological contexts, and access to health services. Ensuring consistency in applying these protocols across different regions and communities is essential for achieving the best outcomes.

By addressing the multi-faceted challenges through comprehensive and collaborative approach, Senegal and the DRC can make significant strides in improving the health and wellbeing of children affected by HIV and TB. The commitment to continuous improvement and adaptation of policies will be crucial in achieving long-term success in combating these

devastating diseases.

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