**FEASIBILITY STUDY (Update)**

**PROJECT: Sustainably Strengthening ENT Services in Zambia**

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# **List of Acronyms**

ARV Antiretroviral Therapy

BCH Beit-CURE Hospital

CBM Christoffel-Blindenmission

COE Centre of Excellence

ENT Ear, Nose and Throat

HNSCC Head and Neck Squamous Cell Cancers

LMIC Lower Middle-Income Country

MOH Ministry of Health

NENTSP National Ear, Nose and Throat Health Strategic Plan

NGO Non-Governmental Organization

NHRHSP National Human Resources for Health Strategic Plan: 2018-2024

PST Professional Speciality Training

WHO World Health Organization

UTH University Teaching Hospital

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# **Background:**

Ear, nose and throat (ENT) conditions are the biggest contributor to ill health in developing countries. These conditions (**ENT) are the most common health problems** warranting a visit to a doctor or health care provider.1-2 This is especially true amongst children; about 50% of all pediatric GP visits are due to ENT-related complaints (e.g. otitis media, rhinitis and tonsillitis).3 Furthermore, for most people living in developing countries, complications and sequelae of otitis media (acute or chronic) are common causes of hearing loss and in some cases mortality.4,5

The World Health Organization (WHO) estimates that about two thirds of the 366 million people with disabling hearing loss live in developing countries.6 Hearing loss is currently one of the leading causes of moderate and severe disability in the world.7 It is also the most common congenital sensory birth defect with a prevalence of 4 to 6 per 1000 live births, in developing countries.8 It is estimated that about 50% of all cases of hearing loss are preventable via primary prevention (e.g. screening for otitis media followed by appropriate medical or surgical intervention).9 However, people do not have access to these preventative interventions, in most developing countries.

Some ENT conditions, such as otitis media and hearing loss, that are more prevalent in low-to- middle income countries can have devastating and long-lasting impact on both the individual and the community. In children, untreated hearing loss can result in difficulties with communication, late acquisition of language, behavioural changes, mental health problems, reading difficulties as well as academic failure including in-grade retention and high school dropout, all of which have far reaching social and economic consequences.10,11 In adults, employment acquisition and retention tends to be challenging for hearing impaired employees.12 This directly impacts on **one’s ability to escape or avoid the cycle of poverty** once they are unemployed. Hearing impaired children and adults are also prone to isolation, discrimination and stigmatization from other members of their society.12

# ***Purpose, objectives and use***

This feasibility study follows shortly after the detailed situational analysis *“Preparatory study on Development of Capacities in ENT medicine and Audiology related the prevention of deafness in Zambia”* which partially informed the design of the planned project. The purpose of the current feasibility study was therefore to **critically review the proposed project and evaluate it with respect to potential for its successful implementation.** The study also sought to update some of the information collected during the situational analysis and evaluate according to the current prevailing conditions in the country. The outcome of this feasibility study will be used by the two partners: Christoffel-Blindenmission (CBM) and Beit-CURE Hospital (BCH) to modify (where necessary) some of the activities planned for this project. The study will also form part of documentation which will be submitted to potential funders when applying for financial resources required for its implementation.

The study was conducted over a period of a week and it integrated the outcome of the previous study (situational analysis). The geographical scope of the study was on the greater Lusaka area and Ndola (information on Ndola came from the situational analysis done in 2016). The actor that received particular attention was the Zambian Ministry of Health (MoH) especially when it comes to its strategic plans in relation to the planned project. Finally, the local implementation partner’s capacity to successfully implement the activities proposed in this project was also evaluated.

The study design included a **document review and semi-structured interviews** with a select number of key informants from BCH, MoH, CBM, and other relevant experts who have insights about ENT services in developing countries. It is anticipated that this feasibility study will further inform the planned project with respect to; its alignment to the needs of the target group, selection of appropriate impact hypothesis, recommendation for a suitable matrix for evaluating project impact and recommendations for enhancing sustainability of the project impact beyond its lifespan.

# ***Initial Situation and problem analysis***

Initial situational analysis was conducted in 2016 and it had a broad focus that considered the development of capacities for provision of ENT services nationally. The outcome of the situational analysis showed that provision of **ENT services in Zambia was severely constrained** and could not meet existing demand for these services. The situational analysis was conducted during a period of political transition given the upcoming presidential elections that year. It was also conducted during a climate of constrained financial resources on the part of the Ministry of Health which hampered provision of certain critical services such as medical ENT services.

The situational analysis showed that the following predominant factors limited provision of ENT services in Zambia: **Lack of trained personnel and equipment to provide ENT services, and antiquated health services infrastructure** that needed urgent maintenance. Furthermore, it was also found that services were not equitably distributed around the country and available services were mainly offered at tertiary and secondary levels of the health care system. These problems were attributed to **inadequate planning and stewardship** on the part of MoH to transform existing services to ensure their sustainability. Lack of services, especially at lower levels of the health care system was especially detrimental to the poor and those living in rural parts of the country because it limited their access to these services. Also, financial barriers to access the services were relatively higher for the poor and other vulnerable members of the society such as the elderly.

The outcome of the situational analysis and CBM’s prior knowledge and experience on previous projects aimed at provision of ENT services in the country, informed the decision to work with MoH and other partners to establish sustainable ENT services in Zambia. The planned project, which has as its overarching aim “**To establish sustainable ENT medical services in Zambia**” was conceptualized. The project’s goal is to improve access to ENT services for the broader Zambian society. The impact hypothesis for the project is therefore: Establishing sustainable ENT medical services in Zambia requires a multi-pronged approach that includes strengthening service provision at all levels of the health care system (in accordance with service levels appropriate each level) via; national policy/strategy change to reposition ENT services with basic medical services, building capacity of the staff and equipping facilities to provide services. A strengthened service provision at all levels of the health care system will lead to sustainable services and ultimately improve access to these services.

# ***Project partner in target country (local partner)***

The local partner for the proposed project is **Beit Cure Hospital (BCH**). It is a reputable Zambian NGO and it is registered as a teaching hospital. BCH is a surgical hospital with 58 beds; a children's ward, physiotherapy, pharmacy, radiology ward, ENT ward and an orthopedic surgery ward. BCH’s mission is the treatment of children with treatable physical disabilities and accordingly the teaching hospital is equipped with disability-specific departments. It is the only hospital in Zambia that can perform certain complex operations (e.g. artificial hip and knee joints and middle ear surgery). The hospital currently has a staff compliment of 105 people, with some highly qualified positions currently being occupied by expatriate specialists. The goal is to transfer these to Zambian specialists by building up local capacities. The current personnel structure is as follows: 4 surgeons, 3 anaesthetists, 3 clinical officers, 28 nurses, 3 other paramedical specialists, 12 nursing assistants, 20 administrative staff and 32 auxiliary staff. The hospital’s budget during the 2017 financial year was US$ 2.212 million and the bulk of this amount 60% still came from international grants, primarily from the US NGO Cure International as well as from CBM and other smaller donors. The Zambian government finances approx. 5% of BCH expenditures, locally generated incomes is slowly but steadily increasing.

Zambia is a lower middle income (LMIC) sub-Saharan African country with a consistent and robust economic growth. The population of Zambia is currently estimated to be 16.76 million. About 75% of the population is estimated to be living below the international poverty line of US1.25 per day (2009-2012).13 Currently, there is one (1) physician for every 17,000 inhabitants. The scenario for delivery of ENT health care services is worse: one (1) **ENT Surgeon for over 5,000,000 inhabitants, and only one (1) Audiologist for the entire Country**. Budget allocated to Ministry of Health during 2018 budget cycle was almost US$700 million (9.5% of the national budget).14

The local partner is set up to provide more complex ENT services and therefore has the requisite capacity (institutional, technical and personnel) to successfully implement this project. However, this could potentially be constrained by the departure of the expatriate ENT specialist who was also central to the development of the proposed project. It is therefore important that a **replacement ENT specialist** be appointed as soon as possible to assist with the project implementation. From the Zambian government (MoH) side, there is a need to have a reliable individual who can serve as a **liaison between the project implementation team and the Ministry of Health** (i.e. National ENT coordinator). It is critical that this individual’s involvement in this project is not constrained by lack of funding from the Ministry of Health. Therefore it is important to clearly communicate to MoH the value of support the National ENT Coordinator’s close involvement in this project and in line with the requirements of the project implementation plan.

# ***Target Groups and stake holder analysis***

1. **Target Group**

The proposed services are intended for the general Zambian public who need access to ENT services. Regionally the project focuses on **Lusaka, and the Central as well as Southern Provinces.** However, there is a special focus on the poor, mainly school-age children who will be identified via schools. The project also seeks to target areas with dense population of poor people. The reason(s) for focusing more on poor people are that they are generally highly vulnerable to catastrophic health expenditure during times when they seek to access health services. Furthermore, young children from poor backgrounds are especially more vulnerable from ENT conditions such as otitis media.4,5 If left untreated, such conditions can have a lasting negative impact on a child’s development.

1. **Stakeholders**

The planned project will mainly driven by **BCH (NGO stakeholder) supported by CBM and in partnership with the Zambian Ministry of Health** (Governmental stakeholder). A detailed description of BCH has been provided in the preceding section of this report. The planned project relates to two strategic policy documents; the National Ear, Nose and Throat Health Strategic Plan (NENTHSP) which was adopted by the MoH in 2017 and the National Human Resources for Health Strategic Plan 2018-2024 (NHRHSP). The two documents were central to the design and planning of the proposed project (see Table 1 for the description of stakeholders).

**Table 1:** Stakeholder analysis

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **Stakeholders** | **Actors** | **Characteristics** | **Support** | **Influence** | **Agreement** |
| Ministry of Health | 1. Director of Clinical Care and Diagnostic Services\* 2. National ENT Coordinator\*\* | Strategic planning, coordination and provision of resource for health services in the country.\*  Oversight of implementation of ENT service plan nationally\*\* | High | High | Yes |
| Ministry of Education | 1. University of Zambia\* 2. Participating primary schools\*\* | Training of ENT specialists\*  A potential partner in service provision\*\* | High | Low | Yes |
| NGOs | 1. Beit Cure Hospital, Lusaka\* (local partner) 2. Cheshire foundation\*\* 3. Starkey Foundation\*\* | Implementation of the planned project\*  Offer an opportunity for collaborating on some elements of the project\*\* | High | High | Yes |
| Health Care Workers | ENT Personnel (ENT specialists, audiologist, clinical officers, nurses, etc) | These are the individuals who are going to implement the planned activities | High | High | Yes |

# **EVALUATION OF THE PROJECT ACCORDING TO OECD DAC-CRITERIA**

1. **Relevance**

This project aims to establish sustainable ENT medical services in Zambia. The project comes at a time when there is a **critical shortage of ENT medical services to the broader Zambian population**. There have not been many initiatives on the part of the Ministry of Health over the past decade (or more) to transform or even establish these services. Therefore, existing services have not kept pace with other developments in the Zambian health care sector and are grossly inadequate to meet the existing need. The contribution of some ENT conditions (e.g. hearing impairment) to the burden of disability, especially in developing countries like Zambia, has been well documented.10,11,12 Although Zambia specific data is very scarce. Disabilities resulting from these conditions have the potential to perpetuate inequalities in the society by limiting economic and social participation by those affected. This can potentially leave the affected individuals trapped in poverty for most of their lives.

Also, a high burden of communicable diseases such as **HIV/AIDS and tuberculosis (TB) in developing countries like Zambia is also increasing the urgency for the provision of ENT services.** Studies have shown that up to 100% of HIV-positive patients will present with an ENT manifestation.15 Oral candidiasis and rhinosinusitis are the most common ENT manifestation in individuals infected with HIV,16 however, following the introduction of antiretroviral therapy (ARV), this has changed. In one South African study, adenoid pathology, cervical lymphadenopathy and chronic suppurative otitis media were found to be now more prevalent in these patients.17 With respect to TB, the majority of patients with multidrug-resistant TB (MDR-TB) have a greater risk of developing treatment-induced hearing loss when they start the WHO-recommended second line treatment that includes aminoglycoside antibiotics. The risk of developing aminoglycoside treatment-induced hearing loss is also substantially higher in patients with HIV/TB co-infection.18

Finally, increase in the incidence of non-communicable diseases, such as **Head and neck squamous cell cancer (HNSCC),** is also contributing to the burden of ENT diseases in developing countries. HNSCC is the 6th most common malignancy and the 8th leading cause of mortality due to cancer, globally.19 The increase in the incidence of HNSCC in developing countries is attributed to increase in life-expectancy from communicable disease control, excess tobacco and alcohol use and HIV.20 Treatment for HNSCC is also a contributor to acquired hearing loss.21

Recognising the challenges outlined above, the MoH has recently adopted a national ENT health strategy and this project is closely aligned to that. A particular focus on the poor members of the society makes this planned project especially relevant to contribute towards **addressing some of the key development challenges in the country**. Specifically, the outcome of this project could lead to enhancing participation of the poor in the broader society by minimizing some of the potential barriers to participation because of disabilities resulting from untreated ENT conditions. The design of the project also considered a broader view of the health care system and planned activities are intended to simultaneously introduce interventions at all the three levels of the Zambian health care system; primary, secondary and tertiary levels of care.

A central component of the project is to train staff, mostly via in-service training, to provide ENT services at relevant levels of the health system. In addition, the project will equip facilities with appropriate equipment that is required to provide services planned to be delivered through this project. In so doing, appropriate and contextually-relevant packages of ENT services will be piloted and implemented. In addition, equipment and the required skills-mix to deliver those packages of care at each level of the health system will be established. It can therefore be expected that at the end of this project; a) Access to ENT services will improve, initially at in the geographical areas that are targeted for its implementation. Furthermore, b) the models of service delivery that will be used in this project as well as key lessons learned during its implementation are likely going to provide a **guide for further scale up of services throughout the country** to broaden access to ENT services by the broader Zambian society. Finally, c) the design of this project has also started discussions on a review of the training curriculum for nurses and clinical officers in Zambia to incorporate ENT specific content. **This is likely to lead to a major change in the way ENT services are provided in the country.**

1. **Effectiveness**

The project adopts a **broad and comprehensive approach** to establish sustainable ENT services in Zambia; an initial investment in training to build staff capacity to plan for and deliver services. The project also seeks to intervene at multiple levels of the health care system via a variety of interventions (i.e. population-based and specialized surgical interventions) at relevant levels of the health care system. Furthermore, through this project, all participating health facilities will be provided with appropriate ENT equipment (and personnel) to deliver the required services. This will ensure that services provided via this **project set the norms/standards** in Zambia with respect to provision of ENT services.

The project design also aims to take advantage of possible **synergies t**hat could be derived from existing projects and plans: First, the project builds on the foundational work put down by an on-going **Scottish Government**-funded project jointly implemented by CBM and BCH which aims to improve ear health services in Zambia. Second, it is **aligned with the NENTHSP** which has now been adopted by the government. Furthermore, the approach proposed by the planned project with respect to training of the required staff is aligned to the Ministry of Health’s framework of the **Professions Speciality Training Programme** (PSTP) which was introduced in 2017. Therefore, most of the activities that are planned to be carried out via this project are either inter-linked with existing projects and/or are aligned with plans and policy direction of the Zambian Ministry of Health. This will ensure that; a) activities outlined in this planned project will be delivered in a cost-effective manner and b), at the end of the project, transition of coordination of the services from the local implementing partner to the government will be smooth.

**Recommendations** from this feasibility study with respect to the project’s support to the establishment of sustainable ENT medical services in Zambia are as follows: Clearly defined set of core ENT services defined according to levels of care (i.e. packages of care); clear referral pathways across different levels of care; capacity building of staff at lower levels of care (primary, level 1 and 2 hospitals) to manage ENT health problems at relevant levels of care; develop a human resource plan that will address the current shortage of ENT personnel; and establishment of health facilities that will serve as regional centres of excellence (COE’s) for ENT services.

The current project seeks to address some of the recommendations, most specifically with respect to training of personnel to provide ENT services. The selection of individuals for training considers the level of the health care system where these individuals are going to work as well as the services that they will be expected to deliver. The training of ENT personnel (specific to the project) will focus on current staff to speed up the process of preparing the required personnel for project implementation.

A decision by the project design and planning team to identify areas (and facilities): **Livingstone and Kabwe general hospitals, and University Teaching Hospital in Lusaka) where there are some existing ENT wards and not start with introduction new ones was critical, especially when considering the lifespan of this project**. It is essential that facilities that currently provide services are prioritized as implementation sites for this project because they will serve as the foundation upon which some of the services that will be re-introduced as part of this project can be modelled. This strategy will save time (and costs) and will significantly increase chances of successful implementation of this project. Furthermore, in line with the recommendations of the situational analysis regarding establishment of centres of excellence for ENT services, the project also is intended to initially focus on one tertiary hospital; University Teaching Hospital Lusaka and first support (re)establishment/strengthening of ENT surgical services in two more sites before scaling up services nationally.

An *impact hypothesis* that should guide this project should be based on the following: Strengthening the health care system via skilling health workforce and appropriately resourcing health care facilities will improve access to ENT medical services and improve health outcomes (re: reduce most prevalent ENT conditions). Therefore, when evaluating the impact of this project a meaningful *impact matrix* should include the following core indicators: Availability and coverage of services, service utilization and health outcomes (see Table 2).

**Table 2:** Core indicators to evaluate impact at the end of the project:

|  |  |  |
| --- | --- | --- |
| Indicator | Description | Baseline 2017 |
| Availability | * Number of health care facilities with adequate ENT equipment1 * Number of staff available to provide ENT services2 | 2 [UTH, BCH  11 [ 2 x ENT surgeons, 2 x ENT specialists, 2 x ENT specialists (medical officer), 1 x medical officer, 1 x clinical officer and 3 x audiometry technicians]3 |
| Coverage | * Service coverage per level of care according to: geographical location and population | Services available at 1/9 provinces; Lusaka, |
| Utilization rates | * Number individuals seen via ENT outreach & shool services per year * Number of patient ENT surgeries at different facilities per year * Proportions of referral across different levels of care | * 12.860 individuals/month (all seen by BCH) * BCH & UTH = 320 * [Not Available] |
| Health outcomes | * Number of patients with prevalent ENT health conditions seen annually * Nature/Type of patients seen with ENT conditions (i.e. identified early or late) | * [Not available] * [Not available] |

1 Based on best practice norms and according to level of care

2 Based on skill-mix according to level of care and service utilization rates

3Considered project implementation facilities only

1. **Efficiency**

The planned project proposes a series of activities that includes mainly training of different categories of personnel on planning and/or provision of ENT services. The project also includes services provision elements via outreaches targeting mostly school-aged children in predominantly poor areas. Lastly it includes significant initial investments in terms of medical equipment and materials.

Structurally, there is a need to have policies/guidelines in place to give direction to the proposed activities. The National Ear, Nose and Throat Health Strategic Plan (NENTHSP) which was officially launched earlier this year (2018) fulfils that need. The nature/type of training for some health care workers (e.g. Primary Ear Care) that will be delivered via this planned project is also aligned to the Ministry of Health’s Professions Speciality Training (PST) programme. This (provides another structure to shape the activities of this project. Further structural requirements for implementation of this project includes suitable facilities for teaching and appropriate clinical training platform (clinically oriented health care workers). **The local partner (BCH) has adequate training facilities for both theoretical content and clinical practice. It only lacks a temporal bone lab**. The establishment of such a lab is part of the proposed project.

In terms of human resources, individuals with relevant experience in delivery and/or planning of public health ENT service, especially in a developing country context, will be required to deliver some of the planned activities. The local partner currently has personnel who can deliver the required training for: Community health workers, Nurses, Speech therapy assistants, and audiometry technicians. CBM also have strategic partnerships with the following institutions; Chainama Health Sciences College and University Teaching Hospital (locally), the University of Cape Town and London School of Hygiene and Tropical Medicine (internationally) which could be approached to ask for support (where necessary) to deliver some of the planned training activities.

With respect to additional skilling of ENT specialists and support for the ENT strategy at the national level, the project proposal includes a plan to **recruit an ENT specialist with a focus on ear diseases and a public health approach.** The expertise is currently lacking in Zambia and hence an expatriate needs to be recruited. This is relatively expensive but the only possibility to achieve the desired outcomes. Therefore, the role of the dedicated ENT specialist will be critical to the success of this project. Finally, there will also be an individual from the local implementation partner who will oversee the implementation of the project (i.e. project manager)

The **budget proposed for the planned activities reflects a reasonable** estimate and careful considerations of the expected costs associated with the project. However, provision needs to be made to offset costs variation due to inflation, especially in the case of equipment. The project **timeline is also adequate** to see the implementation of all the proposed activities to completion.

The approach proposed to implement the planned activities represents the **most efficient and economical way** to carry them out: The human resource requirement for its implementation will be drawn mostly from the available mix of skills and expertise (Speech Therapist, ENT Specialist and Hearing Aid Technicians) currently employed by the local partner. Also, the project takes advantage of opportunities presented by synergies with other projects (described earlier) and further skilling of mostly existing health care personnel to implement the project. Also, a decision to start implementation of the project on facilities in which there is some ENT services provided will save time and costs in the long run. Finally, its focus on young children from under resourced contexts justifies its value given that investing in their ear and hearing health will yield a life-long dividend on an individual and societal level.

1. **Significance/development impacts**

The ultimate impact of the planned project will be the reduction of the burden of disability due to ENT health conditions, particularly hearing impairments. The link between poverty and disability due to some ENT-related health conditions has been described elsewhere in this document. Some of the most prevalent ENT conditions such as otitis media and hearing loss are known to affect children more than adults and their negative impact can last for the rest of an individual’s lifetime. The vicious cycle of poverty and ill health (and or disability), inability to obtain school education thus resulting in inability to escape the poverty trap has also been documented. **Therefore, improving access to ENT services can potentially reduce the burden of disability and/or ill-health due to these conditions, and this presents an opportunity to reduce the proportion of people who are trapped in impoverishment in Zambia.**

One of the key findings during the situational analysis phase was the dire shortage of ENT human resources which significantly undermines access to these services. This finding informed the project objective; to increase human resource for ENT services in order to improve access to these services. The decision to intervene at multiples level of the health care system also enhances the viability of this project. Furthermore, the focus on school-going children from underprivileged backgrounds also increases the relevance of this project on **addressing the broader developmental agenda** i.e. minimizing of barriers, due to ENT health-related issues, that can impede access to education and ultimately limits an individual’s chances of participating maximally in economic activities to escape the poverty trap.

This project is planned to be implemented across a three-year period. The design of the project is such that it will lay the requisite building blocks; training of personnel, equipping of facilities, revision of the training curriculum for nurses and clinical officers as well as provision of specific ENT services at primary health care level. The resources invested at the start of this project will most likely have an immediate impact with respect to improving access to ENT services as well as providing structure to guide further scale up of ENT services across the country. Furthermore, the interventions proposed in this project are based on credible and validated methods (e.g. WHO recommended Primary Ear Care training curriculum which will be used to train nurses). This is exemplary because it takes full advantage of the synergies that exist with other projects and minimizes duplication of work that has already been done or is being done by other stakeholders. Furthermore, communication between, and collaborative engagements across different stakeholders; local partner, CBM and the Zambian Ministry of Health exemplifies positive model for cooperation across different stakeholders to achieve a common objective. Lastly, **aligning the objectives of this project with the broader national agenda (e.g. the NENTHSP and NHRHSP: 2018-2024) will enhance its chances of being sustained beyond its lifespan.**

The design of the project targets three critical spheres of project implementation; a). policy and strategy to influence practice b). building capacity and skilling of the health work force to deliver the required services and c.) service delivery (deliver required services). Using the multi-level approach, the design of the project will be as follows:

* **At *macro level*:** Direct interaction with policy makers (health system decision makers) and senior managers from diverse backgrounds whose work is relevant to this project and train them on ENT- specific public health planning.
* **At *meso-level*:** Health professionals (medical, nursing, and rehabilitation professionals) will receive training on prevention, diagnosis, treatment of ear disease as well as rehabilitation of those who end up with functional limitations resulting from those health conditions. Furthermore, these health professionals will be expected to train others
* **At *micro level*** - Provision of ENT services to those who need them (facility-based and outreach), with emphasis on children from poor backgrounds who will be reached via school-health initiatives.

Collectively, these three levels of the project will fulfil the objectives of this project and will improve access to ENT services in the areas of focus for this project and ultimately the broader Zambian society.

The underlying principles that guided the design of the project seek to address the issues of inclusivity by making ENT services more accessible to individuals who would otherwise not had an opportunity to access them. Some of the service delivery methods such outreach to under-resourced areas seek to overcome geographical access as a barrier to service use to maximize inclusion. Also, the proportion of out-of-pocket (OOP) payments as proportion of the health care expenditure in Zambia remains relatively high (30%).22 this also includes indirect costs, e.g. transport costs. High OOP payments are one of the main reasons for financial catastrophe which can lead to impoverishment when people seek access to health care during a time of need, especially among poor households.23 A pro-poor approach which focuses on children therefore addresses issues of social justice and human rights by enabling vulnerable members of the society who would otherwise not have received these services when they need them to gain access to them. The interventions proposed by this project were also developed with the input from individuals who are well versed in what will be deemed culturally acceptable service to the general Zambian society.

1. **Sustainability**

This project has the potential to make a significant positive impact to the provision of medical ENT services in Zambia. Because of the initial investments in building capacity of personnel to provide, support, train, and steer ENT services at different levels of the health care system, the project is also likely to **provide a road map that will give direction to ENT services delivery in the country**. This is likely to produce an impact that will persist beyond the lifespan of the project with respect to access and quality to and of these services. **Sustainability** of the results and impacts that will be produced by this project can be significantly enhanced through the following strategies;

* *Structurally:*

* + One of the planned activities in this project is to support a review of the **training curriculum for nurses and clinical officers** in Zambia to ensure that it includes content relevant to ENT issues. This will serve to reposition ENT services in the country and highlight its role as an essential part of basic medical care. The will also represent an important structural re-organization that could be attributed to this project.
  + Also, **aligning the training activities planned in this project with the policy direction of the Ministry of Health** with respect to training of the health services workforce (e.g. Professions Speciality Training Programme) as currently done in this project is another strategy to further promote its sustainability.
  + Resourcing of facilities that are selected for implementation of this project will be done in line with service level standards appropriate for respective facilities in terms of equipment and human resources and described in the NENTHSP. This will ensure that scale up of services post the lifespan of the project will not be hampered by lack of consistency in terms of services provided at different levels of care. Furthermore, services delivered will adhere to generally accepted norms and best-practice standards.
  + The national **ENT coordinator (who is also the voice of MoH in this project) should continue to play an active role** during the planning and steering of the project and beyond. A careful consideration needs to be taken to ensure that their participation in this project is not constrained by lack of resources (support) on the part of MOH.
* *Economically:*

The ministry of health is dealing with a number of competing health system priorities at the moment. All these happen in climate of financial constraints due to an **economic slowdown that occurred post 2014.** The proportion of government spending on health care has not increased significantly as real GDP growth declined. For instance, in 2014 total expenditure on health care as a proportion of total government expenditure was 11.3%22 and this has dropped to 9.5% in 2018.14 It can therefore be anticipated that there will be **pressure on the MOH to attend to other priority health projects** that may compete with what is planned in the current project:

* + It is therefore important that the plan to scale-up some of the activities that will be delivered via this project should be discussed with the ministry at all stages of the project including planning and implementation.
  + Also, the Zambian health system relies significantly on external funding. At present about 38% of the total health care expenditure comes from external sources.22 Therefore, there is a need to continue exploring external funding opportunities to increase chances of sustaining some of the activities proposed in this project and enable them to continue beyond its lifespan.
* *Socially*:

This project will strengthen the capacity of the facilities (where the project will be implemented) and deliver services that are in line with NENTHSP. This is likely to influence how members of the public seek and access ENT services.

* + It is therefore critical to use this project to **pilot and revise as needed some of the service level arrangements, referral pathways and to consolidate permanent service delivery models** that are proposed in the NENTHSP so that these continue to be implemented as scale up of services continues after the project.
* *Ecologically*:

From an ecological stand point, the local partner who is going to implement this project is a socially responsive organization and takes issues of environmental sustainability seriously. Careful planning in accordance with the BCH efforts to promote environmental sustainability and responsible corporate citizenship, use of renewable energy technology (e.g. solar panels) and recycling and or responsible disposal of refuse generated during outreach activities will be promoted.

### **Roles/responsibilities:**

**The MOH** is expected to provide leadership and create an enabling environment to ensure that the activities introduced via this project will be successfully scaled up. One area where the ministry has shown commitment to support the NENTHSP (and by extension, this project) is the training of ENT specialists (the number of Zambian ENT specialists is expected to increase to 5 by 2020). Increased number of ENT personnel who serve in the public health care sector will greatly improve sustainability of the impact of this project.

**The local partner (BCH)** will be responsible for carrying out most of the activities proposed in this project; training of policy makers and health professionals and other workers. Implementation and monitoring of this project will also be the responsibility of the local partner in conjunction with CBM who provides the funding.

The Ministry of Health in Zambia acknowledges the gap that exists when it comes to provision of ENT services to the public. One of the key strategies to reduce this gap from the perspective of the ministry is via investing on training of health professional (e.g. ENT specialists as mentioned earlier). There is also further engagements with University of Zambia Medical School to consider a review of its academic offering to offer specialist ENT training in the country. This will also complement the Ministry of Health’s PST programme. The above initiatives are meant to address personnel and human resource capacity primarily at tertiary levels of care. **There are currently limited initiatives that address the lower levels of care specific to ENT services. This project therefore could be seen as strengthening the health care system by complementing initiatives of the MoH with respect to establishing sustainable ENT services in the country.** The project design includes training of community health care workers who are expected to work very closely with local communities (especially poor communities) and sensitize them to ENT conditions and existing service to encourage participation from potential beneficiaries of these services.

Use of already available resources such as the Public Health Planning for Hearing Impairment course offered to health professionals and policy makers as well as a collection of resources (WHO Ear & Hearing Care manuals) will certainly give credence to local initiatives. Technical support (albeit limited) via the University of Cape Town could also complement and support existing capacity to strengthen local initiatives of training other cadres of staff.

### **Risks:**

Like any other project that involves and requires active participation by many stakeholders, there are risks associated with the proposed project:

* *At Institutional* level– Some of the people who are earmarked to be trained as part of this project (e.g. nurses) are currently working in the health system in different roles. Skilling them to provide ENT services could be perceived by some as an additional responsibility in an already overworked cadre of health professionals. **Careful thought must be given to selection of individuals who will be trained.** One of the criteria should be based on an individual’s interest in providing the service. Also, the departure of the expatriate ENT from BCH may leave a gap in terms of an ENT specialist who will be dedicated to fulfilling the responsibility outlined in the project. A prompt replacement of this person can help mitigate that.
* *Reputational* – It is also possible that the services provided by newly trained staff (especially offered at lower levels of health system) may be perceived as being of low quality by members of the public who are used to accessing services directly at tertiary level facilities. **A plan to provide a consistent framework for quality management of services provided should be agreed and adhered to**. It is also important that part of the community health care workers’ responsibilities should be to give regular educational talks to members of the community to sensitize them about ENT conditions and what to do to access these services when required.
* *Context* – This project comes at a time when ENT services provided in some of the government hospitals are limited in terms of scope, infrastructural suitability, and outdated equipment. The project also takes root at time when the new administration of the newly elected government is taking shape. It is therefore important to make sure that packages of services provided through the project are in line with best practice while keeping the unique Zambian context into consideration. **Also, a close working relationship with the officials who may have been appointed post the elections will be helpful to the success of the project.**

# **Summary:**

The planned project **seeks to address one of the key health services interventions** that has not seen much development during the past number of years: Establish sustainable ENT medical services in Zambia. The project is **informed by the need which was determined through several measures**; situational analysis, prior cooperative work with the Zambian ministry of health on provision of ear health care services and the current feasibility study. The project was carefully planned to take **advantage of existing synergies and is closely aligned with the main health system policy/agenda**. Finally, the activities proposed through this project represent the **most cost-effective approach to achieve the project aim**. Also, the local partner has the required capacity (technical and skill-set) to implement deliver on the planned activities. Therefore, this project has a high chance of successful implementation and make a positive impact on provision sustainable of ENT services in Zambia.

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