



(Independent, 2022)

# How to Improve Health in Kenya

## Executive Summary

In Kenya, **substantial improvements** are needed in the healthcare sector, particularly in **reducing HIV/AIDS prevalence** and **improving prevention and treatment of stroke**. Therefore, strategies combatting the **double burden of disease** include implementing **decentralization** and **task shifting** to enhance access to HIV/AIDS treatment such as ART. Furthermore, in prioritizing stroke care, there should be a promotion of **healthy diets**, implementation of **phone-based interventions**, and establishment of **stroke care units**. This policy brief emphasizes **possible actions** and calls upon the Kenyan government to take steps to **prevent additional fatalities**.

## Introduction

Since the introduction of the Kenya Health Policy Framework (1994-2010), Kenya has experienced significant improvement in various health indicators like infectious diseases (Ministry of Health, 2014). As a result, Kenya ranked second with a score of **61.5 points on the health care index** among African countries in 2023 (Statista, 2023). Moreover, **rates of overall death and health loss are better** in Kenya than in many neighboring countries. Additionally, **deaths from HIV/AIDS have diminished** by more than 50 % (Institute for Health Metrics and Evaluation & the International Centre for Humanitarian Affairs (IHME & ICHA), 2016).

Nevertheless, there is still a long way to go to reach the Vision 2030 goals, Kenya's long-term development agenda in which

health plays a crucial role (Ministry of Health, 2014). **Challenges** for instance of inadequate funding, poverty, high costs of services, and shortages of health workers remain (Africa Health Business, 2021). Moreover, the **double burden** of communicable diseases like HIV/AIDS and non-communicable diseases such as stroke intensify the urgency to tackle certain challenges and recommend possible solutions (IHME & ICHA, 2016).

**Life Expectancy:**  
61 years (2021)

**Cause of death, by communicable diseases:**  
48 % (2019)

**Cause of Death, by non-communicable diseases:**  
41 % (2019)\*

## The National Health System

Nearly **10,000 health facilities** are spread throughout Kenya, with only roughly **47.6 % publicly owned** and the rest privately owned (Africa Health Business, 2021). There is a **significant disparity in hospital bed surge capacities** among the 47 counties, and only 22 counties have at least one intensive care unit (ICU). Approximately 22 % of the population lives within a 2-hour radius of an ICU facility, leaving 25 counties without such access (Barasa et al., 2020). **Universal Health Coverage** remains a top priority, yet only 25 % of Kenyans have health insurance coverage. Resulting in 75 % of the Kenyan population facing **out-of-pocket payments** for health treatments (Africa Health Business, 2021).

**Specialist surgical workforce:**  
2 per 100,000 population (2016)

**Physicians:**  
0.2 per 1,000 (2021)

**Nurses and midwives:**  
1.2 per 1,000 (2018)\*\*

**Domestic general government health expenditure:**  
8.23 % of the general government expenditure (2020)

**Risk of impoverishing expenditure for surgical care:**  
36 % of people at risk (2020)\*\*\*

\* World Bank Open Data, 2019a; World Bank Open Data, 2019b; World Bank Open Data, 2021a 1

\*\* World Bank Open Data, 2016; World Bank Open Data, 2018; World Bank Open Data, 2021b

\*\*\* World Bank Open Data, 2020a; World Bank Open Data, 2020b

## Research Approach

To achieve the key objectives of the Kenya Health Policy 2014-2030, such as eliminating communicable diseases, addressing the rising burden of non-communicable diseases, and ensuring essential healthcare, effective actions have to be taken (Ministry of Health, 2014). This policy brief is developed on data provided by the **Global Burden Disease project, the World Bank Group, and UNAIDS**, aiming to facilitate **evidence based-policy making**. In order to establish appropriate recommendations for enhancing Kenya's healthcare system, **extensive analysis of systematic reviews and academic studies** has been conducted.

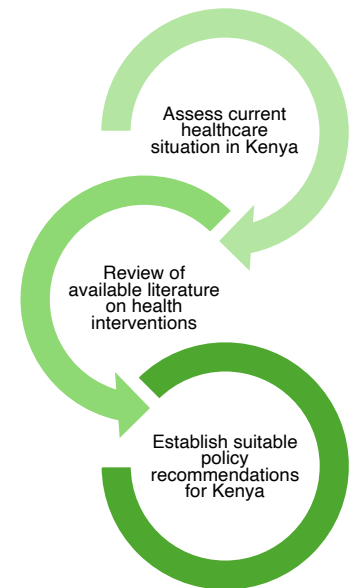


Figure 1: Visual Illustration of Research Approach (own illustration)

## Limitations

Even though, extensive research has been done on the healthcare system in Kenya, **limited data remains** on some issue such as stroke (Jowi & Mativo, 2008). Moreover, studies frequently focus on urban areas and overlooking rural areas. Given the **geographical disparities**, it is crucial to recognize that some recommendations might be effective in one county but not in another. Additionally, this policy brief only touches on a few recommendations to enhance healthcare in Kenya. Political and financial aspects, for example, are not thoroughly explored.

## Key Findings

As briefly mentioned before, the **double burden of disease** is reaching Kenya. Consequently, an evaluation of the most significant health challenges and the development of recommendations is needed. Firstly, **HIV/AIDS** remains the **predominant cause** for most deaths and disabilities in 2019, even though, the number decreased by over 40 % between 2009 and 2019. Notably, HIV/AIDS in Kenya is related to more deaths and disabilities compared to other Sub-Saharan African (SSA) countries. Secondly, **stroke**, a non-communicable disease, is already the fifth leading cause of death in Kenya. Unlike HIV/AIDS,

the trend shows a concerning increase over 20 % of deaths and disabilities due to strokes between 2009 and 2019 (Institute for Health Metrics and Evaluation, 2019). These rankings illustrate the need to comprehensively understand these diseases and implement tailored health interventions.

## HIV/AIDS

The initiative “**Getting to Zero**” by the United Nations entails the goals of fewer new infections, and deaths, and zero discrimination by 2030 as illustrated in Figure 2 (UNAIDS, 2015). While Kenya is moving in the right direction, this goal is likely to be missed without further interventions (Levy et al., 2021).

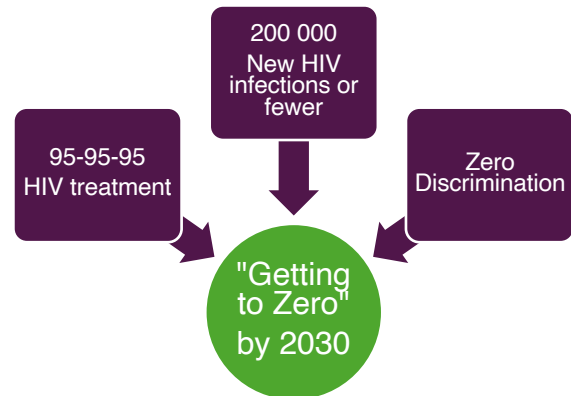


Figure 2: "Getting to Zero" by 2030 (own illustration)

In 2022, **1.4 million** people lived with HIV (PLHIV) in Kenya and **94 %** of these people were on **antiretroviral therapy (ART)** (AIDSinfo, 2022). Despite the decreasing rate in HIV infections, as people live longer, the sum of people needing care will rise (IHME & ICHA, 2016). ART is the recommended treatment for HIV, best initiated promptly. While not a cure, it prolongs life and enhances overall health, while reducing the risk of HIV transmission by suppressing viral load (Office of AIDS Research, 2021). However, **shortages of health workers** have hindered ART expansion in many areas due to inadequate recruitment, training, and uneven distribution across urban and rural regions, as well as between public and private healthcare sectors (Kredo et al., 2014).

The main cause of HIV infections in children is **mother-to-child transmission (MTCT)** which can happen during pregnancy, while delivering the baby or through breastfeeding (White et al., 2014). Another common mode of HIV transmission is **unprotected sexual contact**. The lack of condom use remains a serious barrier when it comes to controlling new HIV infections (Mashaphu et al., 2022). More generally, the appropriate contraceptive method is important when combating further HIV infections (Lopez et al., 2016). In 2022, only 67.9 % of adults aged 15 to 49 used condoms at their last high-risk sex in Kenya (AIDSinfo, 2022). **Effective contraceptive use** is crucial not only for heterosexual couples but also for key populations (250,000 individuals) such as female sex workers and men who have sex with men, who

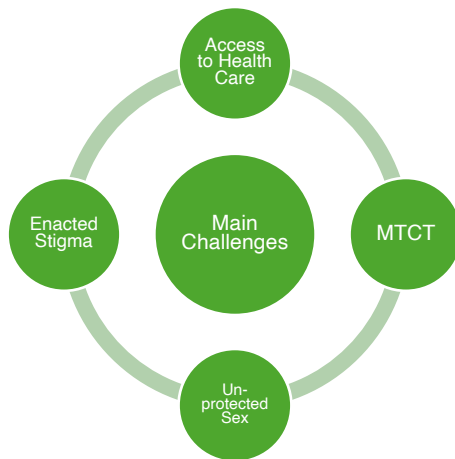


Figure 3: Main Challenges in Combatting HIV/AIDS (own illustration)

experience high HIV incidence rates. HIV prevalence among these groups is significantly higher than in the general population, yet they often face structural barriers that prevent access to HIV/AIDS programs (Musyoki et al., 2022; AIDSinfo, 2022).

Social barriers are also hindering further advancement in combating HIV/AIDS. For instance, **social concerns** about unwanted HIV status disclosure and HIV-related stigma, prevent pregnant

women to access preventative health care regarding MTCT (Nordberg et al., 2020). This particularly in SSA widespread **stigma** also causes less testing and delaying treatment among people with HIV/AIDS (Levy et al., 2021). This stigma is illustrated by 11.9 % of people who would not buy fresh vegetables from someone with HIV (AIDSinfo, 2022). Closely linked to stigma within communities is **knowledge** about HIV, which can influence health behavior and discrimination. For example, only 59.89 % of young Kenyans know about HIV prevention (AIDSinfo, 2022).

## Stroke

In recent years, SSA has been challenged by the increase of non-communicable diseases. Particularly, the stroke burden is dramatic with an estimate of **316 cases per 100,000 persons** (Waweru & Gatimu, 2021). Reasons for these developments are related to economic and population growths which have led to **urbanization, changes in lifestyle** and enhanced prevalence of risk factors for stroke (Elmberg Sjöhol et al., 2021; Jowi & Mativo, 2008). Even though stroke is already an urgent health issue, limited focus has been put on stroke in Kenya. Nevertheless, it is apparent that **relatively young patients** suffer a stroke with a mean age between 58.6 and 68.8 years (Waweru & Gatimu, 2021).

The key risk for suffering a stroke is **hypertension**. Therefore, although approximately one-fourth of Kenyans have hypertension, only 22.3 % receive treatment, with a mere **3 % achieving controlled blood pressure levels** (Waweru & Gatimu, 2021). Addressing modifiable risk factors like hypertension can be managed through primary and secondary

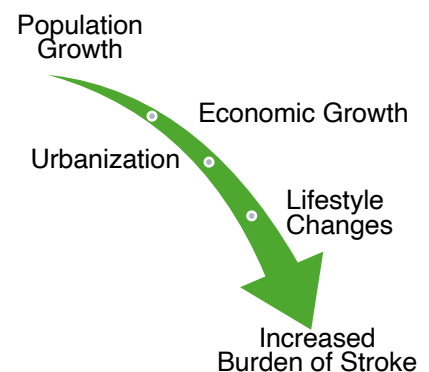


Figure 4: Reasons for Increased Burden of Stroke (own illustration)

prevention, facilitated by an effective healthcare system. Hypertension is highly connected with being overweight, making a **healthy diet** crucial for stroke prevention. Unfortunately, Kenya is categorized as a food-deficit country struggling with malnutrition (Elmberg Sjöhol et al., 2021).

As stroke has only emerged recently in Kenya, limited knowledge of stroke is evident among Kenyans (Elmberg Sjöhol et al., 2021; Mithi et al., 2021). Therefore, **insufficient knowledge and awareness** is a key factor for prehospital barriers to essential stroke care. For instance, according to a study, around 80 % identify stress as a major risk factor, while 50 % know about thrombolysis/thrombectomy availability and only 37.9 % are aware of the treatments' correct time frames (Mithi et al., 2021).

Another obstacle to stroke care before reaching the hospital is the **absence of emergency medical services**, leading to delayed ambulance arrivals. Kenya lacks a fully operational national health emergency service or centralized dispatch system, leaving patients dependent on private providers for timely transportation to hospitals. A study revealed that approximately 59.2 % of patients arrived at the hospital via private means. Similar to other African countries, there is an **average delay of 15 hours**. Consequently, most of the patients are not arriving early enough to qualify for definitive ischemic stroke treatment (Mithi et al., 2021).

Another main challenge is Kenya's **poor health infrastructure** and **shortage of specialists**. Stroke patients are typically treated in general wards by non-neurologists and clinical officers with limited stroke care training. In Kenya merely 13 % of healthcare facilities possess computed tomography scanners. Moreover, 4 % of health facilities provide rehabilitation

services with minimal access to speech and occupational therapy. Additionally, Kenya has only **8 registered neurologists** mostly concentrated in urban and private hospitals. As expected, the mortality rate among stroke is four times higher in public than in private hospitals. Roughly **25 % of stroke patients pass away** within one month (Waweru & Gatimu, 2021).

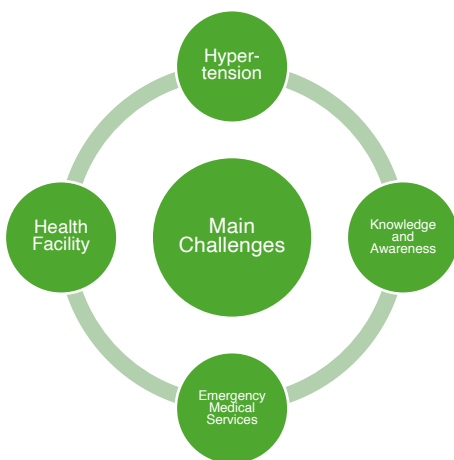


Figure 5: Main Challenges in Combatting Stroke (own illustration)

## Policy Recommendations

### HIV/AIDS

To continue the road in tackling HIV/AIDS and reaching UNAIDS’ “Getting to Zero” goals by 2030, **several health interventions** should be considered. The focus should lay on overcoming the **main challenges** such as access to health care, MTCT, enacted stigma, and unprotected sexual relations.



Stigma, and especially **enacted stigma**, which is how a community treats an individual with HIV, worsens HIV incidences. PLHIV facing stigma often avoid testing or postpone HIV/AIDS care and treatment. Studies indicate that if there was no stigma around HIV, the rates of HIV would be lower.

Consequently, efforts targeting enacted stigma could increase testing and treatment among people with HIV/AIDS. Therefore, **public health campaigns** that aim to **change communities’ views** by addressing directly the people surrounding PLHIV, rather than solely focusing on PLHIV, should be initiated (Levy et al., 2021).



Figure 6: Policy Recommendation: Public Health Campaigns (own illustration)

Moreover, many women fear **involuntary HIV disclosure** when seeking medical care during pregnancy, which acts as a barrier to accessing MTCT prevention services such as ART or infant prophylaxis. Consequently, **health care professionals need to undergo training** to understand and address the social and emotional obstacles pregnant women face regarding HIV disclosure and MTCT prevention. In addition, **healthcare systems** need to be structured to **minimize the risk of involuntary HIV disclosure** during pre- and postnatal visits (Nordberg et al., 2020).

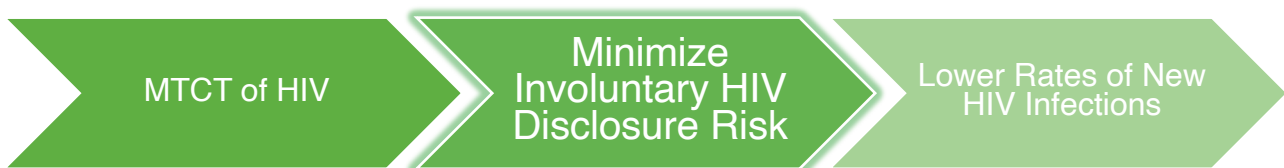


Figure 7: Policy Recommendation: Minimizing Involuntary HIV Disclosure Risk (own illustration)



**Unprotected intercourse** remains a primary mode of HIV transmission in SSA, particularly among serodiscordant couples. Implementing **behavioral risk-reduction interventions** in such cases can significantly enhance condom usage and HIV knowledge. These interventions consider the cultural context and beliefs that impact people’s behavior such as power dynamics and social reputation. They typically entail **sessions** with individual couples, single gender and couples groups. The focus should be on **communicating** amongst and between couples, alongside skills-building through practical exercises that address real-life scenarios reported by participants (Mashapu et al., 2022). While these interventions have usually targeted heterosexual couples, there is value in extending them to **homosexual couples**, who constitute one of the key populations disproportionately affected by HIV incidence (Musyoki et al., 2021).

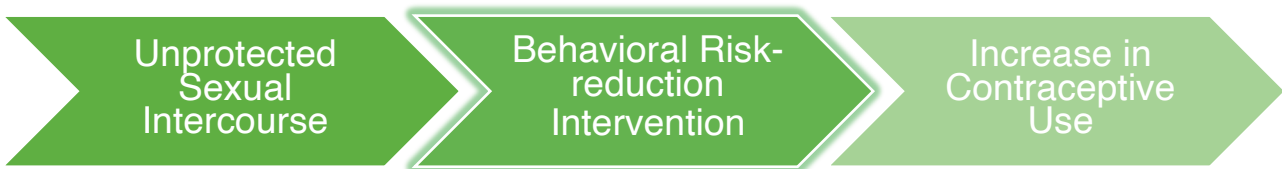


Figure 8: Policy Recommendation: Behavioral Risk-reduction Intervention (own illustration)

**ART** is the most effective treatment for enhancing health and curbing HIV transmissions. However, Kenya faces challenges in ensuring equal healthcare access, particularly in **rural counties** with limited hospital availability (Barasa et al., 2020). Transportation costs, travel time and time spent waiting at the hospital frequently hinder PLHIV from starting and maintaining treatment. Decentralizing ART services from hospitals to peripheral health facilities is a recommended approach to improve treatment access. Partial decentralization, whereby ART initiation occurs at a hospital and continues at a health center, has proven to reduce patient attrition and losses in care. Decentralization enhances access to care and improves health outcomes. With **reduced workloads**, nurses and counselors can provide better patient care, while patients benefit from **decreased financial and time costs**, as ART services are closer to their homes (Kredo et al., 2013).



Figure 9: Policy Recommendation: (Partial) Decentralization (own illustration)





Closely related to decentralization is **task shifting**, which involves assigning certain tasks to different levels of healthcare professionals with shorter training and fewer qualifications. The **shortage of healthcare workers** poses a challenge to providing ART to HIV infected individuals in low and middle-income countries. By shifting tasks to various levels of healthcare workers who receive specialized, skills-based training, this problem of limited access can be addressed. Tasks can be entirely shifted to nurses or initiated by doctors and then continued by nurses or community workers. Particularly, when nurses are both starting and continuing follow-up HIV treatment, there has been a **reduction in the number of patients lost to follow-up**. Generally, in all cases of task shifting, no notable differences in mortality rates have been observed. Therefore, this intervention **optimizes the use of healthcare workers** to alleviate delays in service delivery. Patients have also reported receiving **high quality care** from nurses and health officers when they are adequately trained and supervised. Similar to decentralization, **patients are very satisfied** as caregivers have more time for them, and their **financial burdens are reduced** (Kredo et al., 2014).

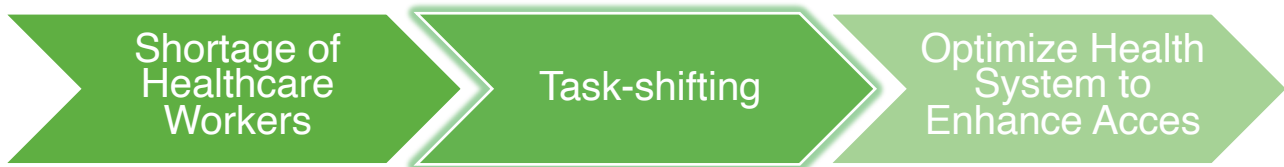


Figure 10: Policy Recommendation: Task-shifting (own illustration)

## Stroke

Given the limited stroke care in Kenya, various interventions are necessary. SSA encounters **significant challenges in health promotion, disease prevention, and acute stroke care** (Akinyemi et al., 2021). The following recommendations aim to address these hurdles.



The most common risk factor, hypertension, is highly connected to overweight and, thus, **promoting a healthy diet** can already have a significant impact on stroke in Kenya (Elmberg Sjöhol et al., 2021). Primary prevention, which involves population-wide interventions to reduce exposure to risk factors such as hypertension, is crucial for decreasing stroke incidence and fatalities. While increasing fruit and vegetable consumption might be unrealistic, a feasible measure

would be to lower salt intake. To effectively reach the broader population, it is beneficial to **engage with community and faith-based organizations** and host gatherings with influential local leaders and radio programs to **spread messages promoting healthy lifestyles**. This approach facilitates reaching rural communities and clinics, where it is also crucial to reinforce the importance of a healthy diet (Kolapo & Vento, 2011). Additionally, healthcare professionals should receive training to understand the necessity of healthy eating and effectively communicate this to patients. Furthermore, addressing the shortage of **nutrition specialists** underscores the importance of supporting ongoing education in this field (Elmberg Sjöhol et al., 2021).



Figure 11: Policy Recommendation: Promoting Healthy Diet (own illustration)

Another preventative measure is **prioritizing optimal blood pressure management** among individuals at high-risk. Particularly, hypertensive stroke survivors face the highest risk of recurrent strokes. Key obstacles to maintaining blood pressure within healthy ranges include **medication non-adherence** and **delays in adjusting therapy** when needed. To improve patients' self-efficacy and motivation for adhering to antihypertensive medications, integrating a **phone-based intervention** shows potential. Given the widespread ownership of cell phones among adults in Sub-Saharan Africa leveraging health technology presents a promising approach. Possible features of such interventions include **SMS reminders**, access to adherence information, personalized **motivational messages**, visual and auditory feedback on blood pressure, and follow-up calls from nurses for missed appointments or delayed refills. Furthermore, physicians would receive **summary reports** to promptly adjust therapy if required (Ovbiagele, 2015).

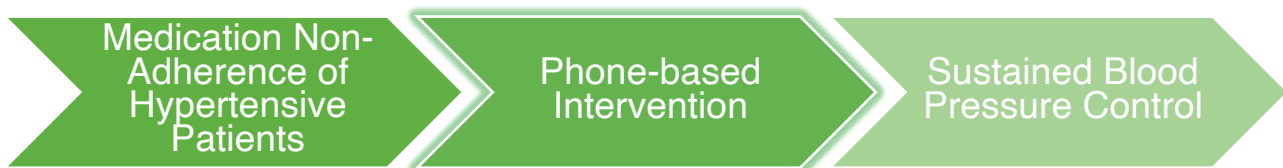


Figure 12: Policy Recommendation: Phone-based Intervention (own illustration)



In the event of a stroke, **timely medical care** is crucial. Typically, individuals have a window of up to 3.5 hours for thrombolysis treatment. Firstly, many people struggle to recognize the signs of a stroke and may make wrong decisions, such as contacting a doctor instead of calling an ambulance first.

Addressing this issue requires a **public awareness campaign**, possibly in collaboration with the Stroke Association of Kenya, to educate individuals on the **Face Arm Speech Test (FAST) for stroke diagnosis**. Community and healthcare workers, who often lack knowledge of stroke diagnosis, could also undergo training for this test (Kolapo & Vento, 2011; Mithi et al., 2021).



Figure 13: Face Arm Speech Test (own illustration)

Secondly, Kenya's lack of a fully functional national health emergency service system leads to patients often relying on private means to reach hospitals. While establishing a **functional national health emergency service system** should be the long-term goal, in the interim, **stroke maps** could be created for different cities to facilitate timely transportation of stroke patients and ensure early treatment. Ambulances should adhere to these stroke maps, and the public should have access to them to locate the nearest and best-equipped hospital (Mithi et al., 2021).



Figure 14: Policy Recommendation: FAST Campaign & Stroke Maps (own illustration)

Research has shown that **specialized stroke unit care** results in a decrease in patient deaths. A stroke unit is a dedicated ward staffed by a **multidisciplinary team** trained in stroke treatment and management, providing comprehensive care for acute stroke patients. This team includes



medical, nursing, and therapy professionals, such as physiotherapists, speech therapists, dietitians, clinical psychologists, and social workers. The extensive implementation and delivery of stroke unit care across Kenya require **financial investments**. Subsidies directed at mitigating these challenges offer a possible policy strategy. Additionally, given the higher prevalence of strokes in **urban areas**, stroke care services could initially be implemented

there. The ultimate objective should be to have integrated stroke units in every hospital to provide specialized treatment (Baatiema et al., 2017).



*Figure 15: Policy Recommendation: Specialized Stroke Unites (own illustration)*

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