POLICY **BRIEF**

MINISTRY OF HEALTH

Pathways to optimal health infrastructure in Kenya

Author ~ **Wanjala Pepela, Njuguna David, Paul Bartilu and David Okoro**

Executive Statement

The constitution of Kenya 2010 and vision 2030 has spelled out the right to the attainment of the highest standard of health to the citizen which calls for a comprehensive effective and efficient infrastructure development. Making critical steps in infrastructure investments are primarily to support sustainable development goals considering the following key principles; - Promoting equity and access to services; People centeredness organized around people's expectations; Participation; Multi-sectoral approach and Social accountability with public participation and efficiency.

Good public infrastructures may lead to linking people to health facilities and access to quality health care services. Bed density remained significantly low 14 beds per 10,000 population while health facility population levels was on average 2.2 health facilities per 10,000 population with great disparities in Counties. National, county and sub-county hospitals have been equipped with specialised equipment and information undergoing automation. Many counties have purchased the state of art ambulances and modernised some of the health facilities to provide comprehensive service delivery and facilitate referral services.

Definition:

Health infrastructure- relates to all the physical infrastructure, inpatient beds, equipment, transport, and technology (including ICT) required for effective delivery of services at the National Government and County Government level.

Optimal- functional and operating to the required standards

Key Messages:

- Coordination of transport for emergency services: There is no established call centre(s) for coordination of transport and management of Emergency services.
- Physical health infrastructure (buildings): Majority of the physical buildings are dilapidated, inadequate space and not prioritized by national /counties as areas of critical investments but influenced by political leaders.
- Bed capacity and medical equipment: There is limited bed capacity with 14 beds per 10,000 population against a global average of 27 and medical equipment for diagnostics, treatment and management of patients across the country. This is coupled with inadequate capacity of technical human resources for health to operate the fixed equipment and machines.
- Communication technologies: there is noted limited access to communication equipment to the health service providers across the country.

Introduction

Global agenda

As the chronometer on the 2030 Agenda for Sustainable Development is now ticking, critical investments to this agenda has been rising in recent years among low-income countries and weak infrastructure is still hampering growth. Governments need to make significant improvements to lay foundations for thriving economies and improving access to healthcare. Good public infrastructure are a precursor to quality health care services. Public health infrastructure provides communities, states, counties and the Nation the capacity to prevent disease, and promote health. It also prepares for and responds to both acute (emergency) threats and chronic (ongoing) challenges to health. Infrastructure is the foundation for planning, delivering, evaluating, and improving public health.

Upgrading and expanding health infrastructure, equipment and basic utilities is key pillar in many countries' for national development strategies. Kenya should not be left behind as it moves to the middle income status. International Monentary Fund (IMF) survey of country teams 2016 reveals that the availability of external financing and administrative capacity constraints are key obstacles to scaling up public infrastructure investment in the most vulnerable countries. However, for low-income countries better connected to global capital bazaars, it is the sufficiency of domestic financial resources that is the most important concern. The global average for inpatient bed density is 27 per 10,000 and the average in the African region is 10 beds per 10,000 population. The service availability and readiness assessment survey (SARA) uses benchmarks of 18 and 39 inpatient beds per 10,000 derived from the average of lower- and upper-middle-income countries, respectively.

According to the World Health Organisation, there should be at least one ambulance per 70,000 to 100,000 people. The purpose of an ambulance is to reach any place within 15-20 minutes after the distress call and transport the patient to a health facility within 20 minutes. But this rarely happens.

Kenyan situation

Kenyan vision 2030 has outlined infrastructure as the foundation of the long-term development plan. As the health sector in Kenya moves towards "Progressively building a responsive and sustainable health care for accelerated attainment of the highest standard of health to all Kenyans" appropriate infrastructure is required to ensure that we have the necessary tools to employ the skills. Access to healthcare is always critical component and measured by efficient utilization of human resources. While infrastructure hereto refers to four different components of these "tools":-

- Buildings: Physical infrastructure;
- Medical technologies equipment: Medical and hospital equipment;
- Transport: Emergency transport;
- Information and communication technologies (ICTs):

Key issues

Kenya, a country of nearly 45 million people, provides healthcare to its citizens through a network of public and private facilities under a system called the Kenya Essential Package for Health. Only approximately 25% of Kenyans are covered by public, private or community based health insurance schemes which mean that the majority have to pay for healthcare out-of-pocket. But despite the system, emergency care remains under developed, under-equipped and unsophisticated even in private facilities. Referral system strengthening is critical in ensuring holistic delivery of services, though it has not been appropriately coordinated or targeted. Lack or inadequacy of a rapid referral system and insufficient facilities to handling immediate maternal cases could be one of the key factors underlying the high mortality cases. At the moment referral mechanism between communities and facilities is still very weak pushing workload of basic conditions from basic care facilities to referral facilities.

Majority of counties in Kenya lack ambulance services, others have contracted private companies. In most cases patients are transferred to hospitals by private means. For instance by car, truck or taxi. Few people make it by ambulance given their cost, scarcity and the lack of a well-connected, reliable central dispatch system or call centre to coordinate these vital services. Emergency centres are often poorly equipped and unprepared.

Dispensaries and health centers do not offer comprehensive basic health care (model health facilities) as stipulated within their mandate; many health centres were elevated to level 4 facilities (hospitals) without the requisite infrastructure. However, these changes have no consistent earmarked resources to the elevated status to offer comprehensive services. In addition, there are disparities in the distribution the various health facility categories across the country. This state of affairs constrains the capacity of the public health system to provide quality KEPH services that are acceptable to different constituents of Kenya's population. This problem is further compounded by lack of National Policy on to guide development of physical facilities and major equipment resulting to growth of unplanned health facilities which works against the national health sector goals.

Both National and county governments have continuously invested their resources in physical infrastructure development more than double the required number of health facilities per 10,000 without concurrent development to conform to the current norms and standards. Also political influence by Members of County Assemblies (MCAs) on where facilities are to be constructed; designs and structures have not been guided by the available norms and standards;

There is lack of prioritised roadmap and investment plan for infrastructure development at national and county levels. The Counties inherited dilapidated structures and weak maintenance capacity and investments, especially at levels 3 and 2 facilities; centralized procurement at the county levels has hindered prompt and preventive maintenance. Strengthening physical infrastructure and capacity for application of medical technologies becomes priority health domain areas of investments.

Methodology:

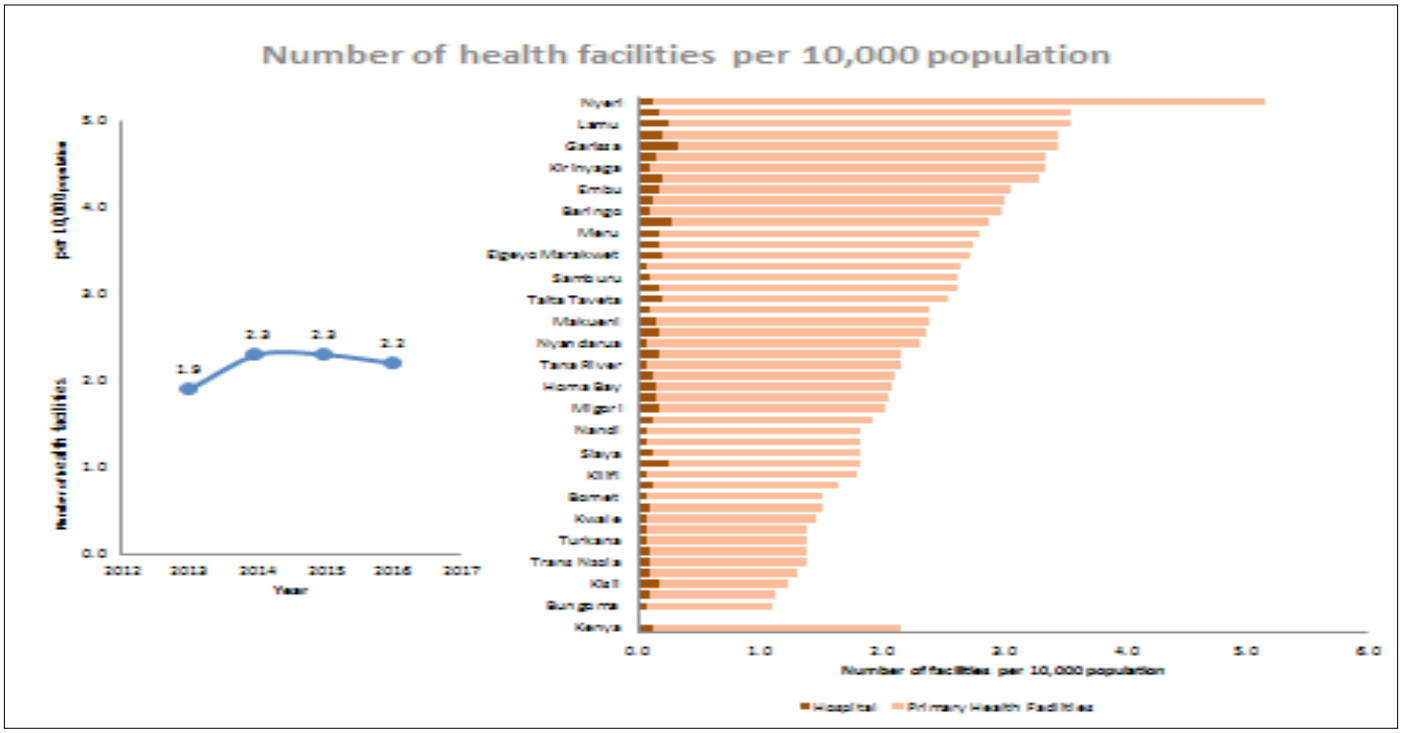
This policy brief is based on a comprehensive desk review of existing literature that included scientific papers, global reports, health sector strategic documents, Mid-term review report, Service availability and readiness assessment in 19 counties and government policy documents.

Results & Conclusions:

Almost all counties have bought a number of ambulances for emergency services for instance;

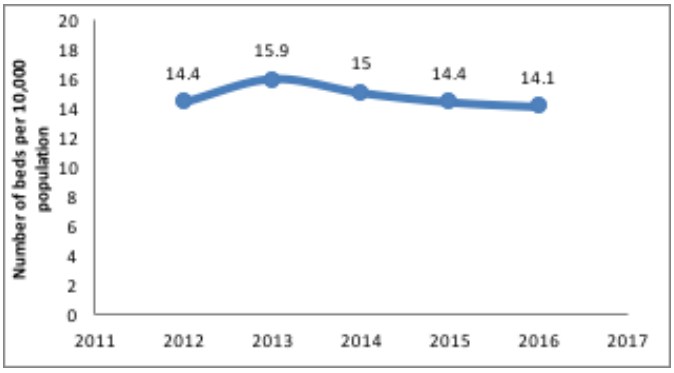
Murang'a County (8), Machakos (70), Laikipia (10), Meru (24), Tana River (10), Kwale (15) and Garissa County contracted 7 ambulances just to mention a few.

Kenya aimed to increase the health facility density from 1.9 per 10,000 population in 2013 to 2.5 per 10,000 population in 2016. This target was not met. The density during the review period remained stagnant at 2.2-2.3 per 10,000 population but represents an improvement, albeit small, from the baseline value. These was more than the required number of facilities but with clear disparities with some counties having less than 1 health facility while others had 4 health facilities per 10,000 people. However, most of these facilities are not meeting the minimum standard norms and therefore misclassified.



Bed population ratio

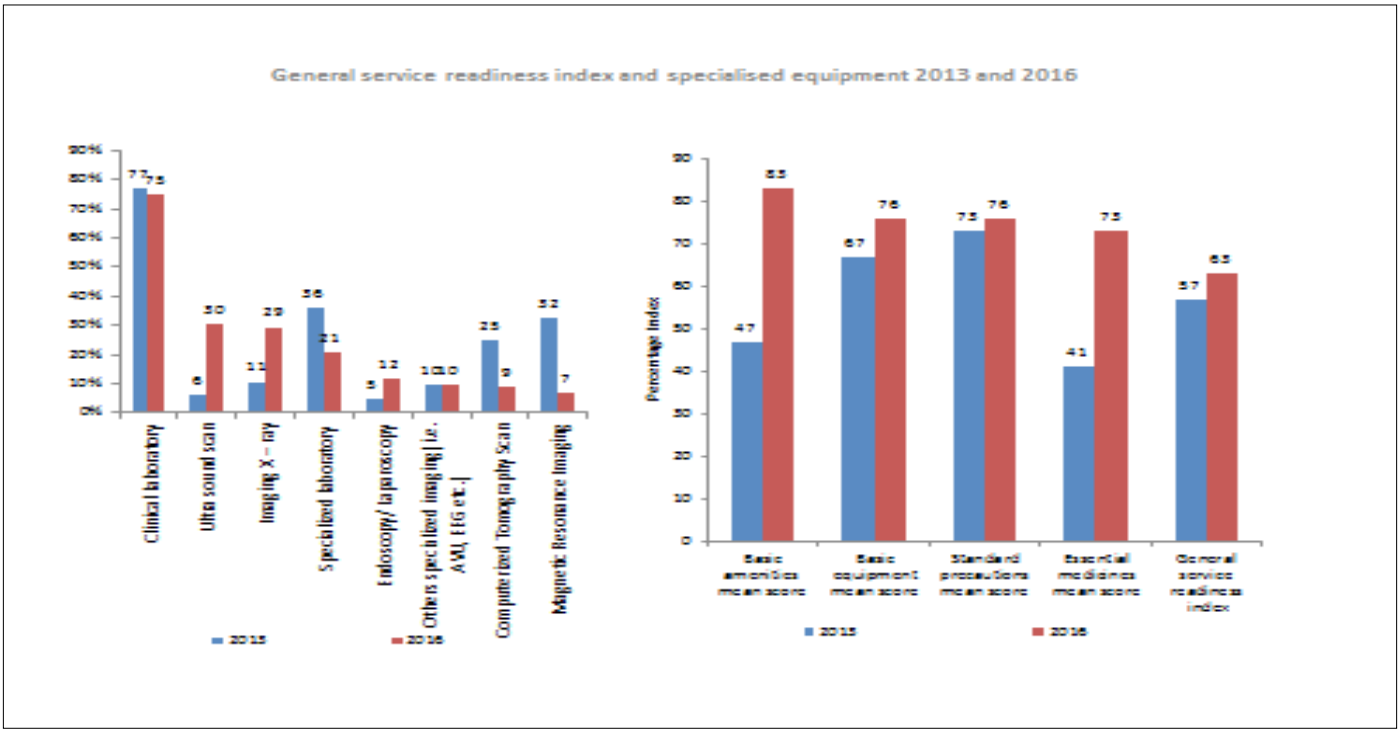
The results suggest that on average bed density in Kenya declined steadily during the review period but remained higher than the average in the African region of 10 beds per 10,000 population. In 2016, Kenya had 14.1 beds per 10,000 population, which represents one bed for every 709 people with only 25% of the counties with densities exceeding 18 per 10,000.



Average bed density in Kenya, by year (DHIS 2012–2016)

Medical Equipment Service (MES)

The introduction of Managed Equipment Services in 2014-15 helped to refocus the investment in infrastructure by equipping 98 government hospitals with specialised diagnostic and critical care equipment through a comprehensive programme involving the supply, installation, and commissioning, training, maintenance, repair and replacement services. A total of 96 theatres, 96 Central Sterilizing Services Departments (CSSDs), 49 dialysis units, 11 Intensive Care Units (ICUs) and 98 radiology units. There is a significant improvement in availability and readiness of critical equipment, infrastructure and medical technologies to facilitate service delivery. National results for Service Availability and Readiness Assessment indicated generally a 17% increase but this is likely to be higher if each county had comprehensive assessment. There are critical shortages of the technical skills in terms of numbers and skill set mix to handle the current equipment. There is also lack of comprehensive physical infrastructure to handle critical emergency services.



Medical equipment service

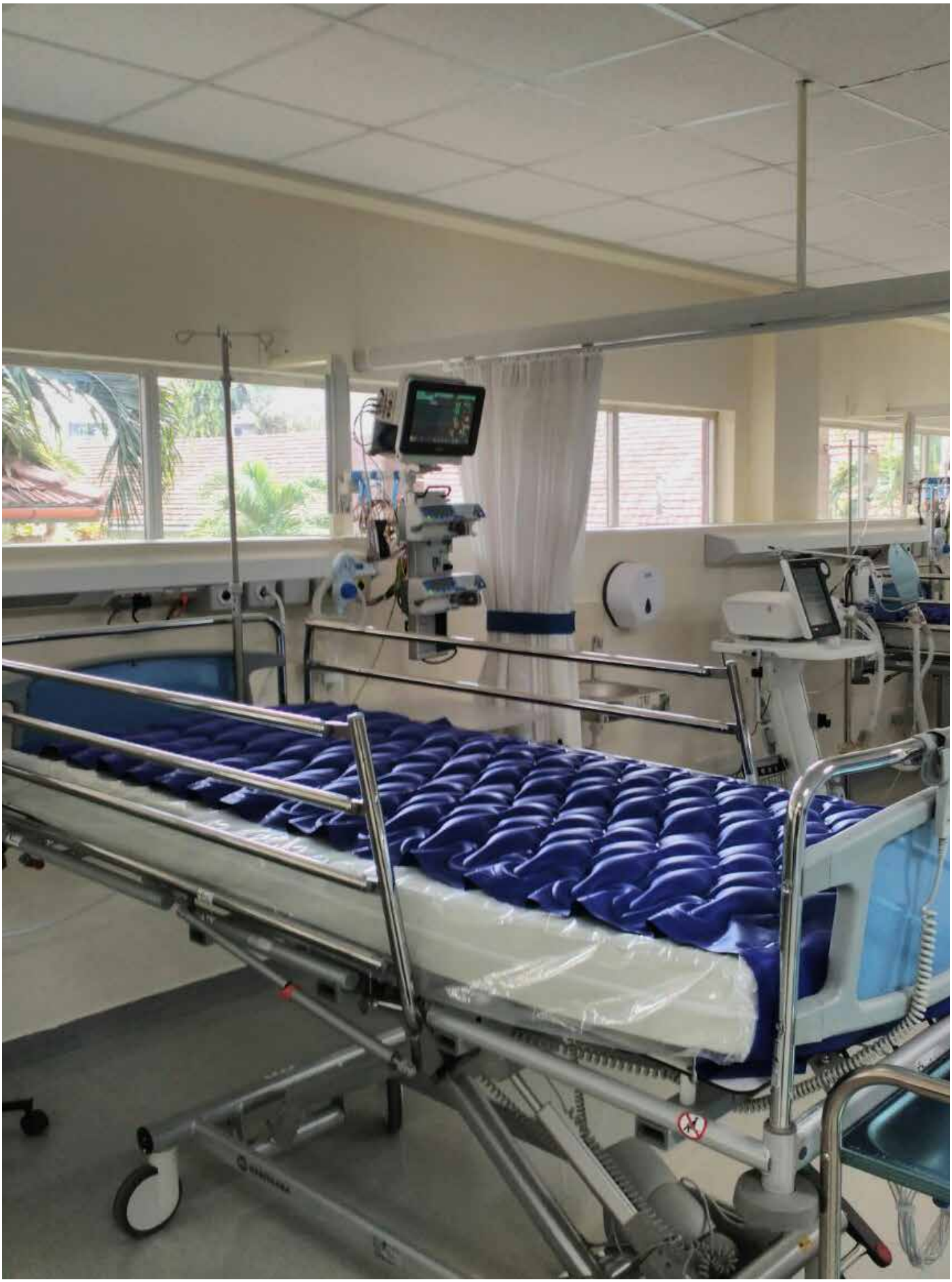
Renal unit Malindi Hospital, Kilifi County

Highly specialized equipment - Kinango hospital Kwale County

X-ray unit Vihiga County Hopsital

THEATRE MACHINES - *Kinango Subcounty Hospital, Kwale County*

ICU unit - *Lamu County*



Conclusion

Strong Pathways to optimal health Infrastructure growth in Kenya improves access to healthcare by citizens and increases good return in investments.

Recommendations-

The Infrastructure pathways for growth aim to support growth in infrastructure by helping address infrastructure constraints through: High return investments in fiscal infrastructure: transport, utilities, and information and communication technologies:-

1. Establish 14 regionalised e-Health hubs with call centres for coordination of Emergency transport and services. To facilitate and maximise referral services, there is also need to purchase two helicopters for highly specialised critical emergency evacuation of needy patients (KNH and MTRH referrals).
2. Physical buildings should be expanded and rehabilitated both at national and county levels to conform to the current norms and standards for the health infrastructure.
3. The technical capacity of the Human resources for health for both national and county levels should be enhanced to support the MES and service delivery.
4. Procure and adequately equip health facilities with patient medical beds and medical equipment to conform to the norms and standards for the health infrastructure.
5. There is need to develop guidelines on how to establish and set up a facility and its operations at all levels.
6. Both levels of government should invest in critical communication technologies to facilitate access and efficient use of health services across the country.

References and Useful Resources

1. IMF. 2016, *A new IMF analysis looks at ways to overcome obstacles.*
2. *MOH. 2016, Mid-term review: Mid-term review analytical report, 2016/17.*
3. MOH. 2016, SARA report: Ministry of Health SARA report 2016
4. https://www.healthypeople.gov/2020/topics-objectives/topic/public-health-infrastructure
5. MOH. 2013, *Transforming Health: Accelerating Attainment of Universal Health Coverage: The Kenya Health Sector Strategic and Investment Plan (KHSSP) July 2014–June 2018*. Nairobi: MOH.
6. GoK. 2010, Constitution of Kenya, 2010.
7. GoK. 2016, Vision 2030, blue print

Government of Japan

PUBLISHED BY THE HEALTH SECTOR MONITORING AND EVALUATION UNIT - MINISTRY OF HEALTH, KENYA