

POLICY **Brief**

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Ministry of Health

Availability and Management of Medical Equipment in Kenya

Insights from the Kenya Health Facility Assessment (KHFA) 2018

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Key Message

- Shortage of medical equipment has a negative impact on patients and the health facility, which usually results from malfunctioning equipment, poor maintenance and unavailability of equipment caused majorly by budgetary constraints
- Nationally, the mean availability of basic equipment stands at 77% with only 24% of health facilities having all basic equipment items
- By facility type, only 17% of dispensaries have all basic equipment, compared to 50% of secondary & tertiary hospitals.
- The health facility equipment management should always ensure that health facility equipment is safe, operational and properly maintained to ensure efficient service delivery
- Proper management, leadership and governance are required to develop and implement procurement, maintenance and quality control plans. These will help to prolong equipment lifespan and reduce potential risks due to frequent breakdowns.

Introduction

Medical equipment is a device, instrument, apparatus or machine used in the prevention, diagnosis or treatment of illness or disease, rehabilitation or for detecting, measuring, restoring, correcting or modifying the structure or function of the body for some health purpose. A medical device can be used either alone or in combination with any accessory, consumable, or another piece of medical equipment to function (WHA60.29, 2017) Medical equipment excludes implantable, disposable or single-use medical devices.

Health systems throughout the world, are struggling with the challenge of how to manage health-care delivery in conditions of resource constraint, whether in developed or developing countries. The emphasis for effective and efficient service delivery has been on the availability and utilization of various healthcare equipment at all levels of the healthcare system. Lack of working equipment has a devastating effect on healthcare in resource-poor settings. Most of the medical equipment in the developing world is broken with estimates ranging up to 96 % out of service. More than half of the laboratory and medical equipment in resource-poor settings are not in service (Ademe et al, 2016).

The government of Kenya has made a commitment to attain Universal Health Coverage under the 'Big 4 Agenda', whose aim is to ensure access to affordable quality health services by all people while protecting them from the risk of financial hardship when accessing care. To achieve this the health sector collaborates with other sectors to attain the health goals. The availability of medical equipment is a key component of effective service delivery required for maintaining population health since the shortage of medical equipment is associated with poor quality of care which leads to low levels of patient satisfaction and preventable deaths. Ensuring the availability of essential medical equipment remains a challenge for many low-income country health systems.

In Kenya, there is inadequate infrastructure and skewed distribution of available infrastructure within the sector institutions and the country with a strong bias towards the urban areas. There is also a lack of adequate physical space for treatment and management of patients to fully benefit from the Medical Equipment. In addition, timely rehabilitation and supportive maintenance remains a key challenge.

There exists obsolete health equipment that requires replacement with modern ones. The provision of modern and operational health infrastructure together with adequate and appropriate staffing will aid in the proper and timely medical care thereby bringing down the disease burden.

Expansion, modernization and operation of the health sector to effectively respond to the changing health service needs is highly dependent on energy, infrastructure and ICT sectors. Reliable infrastructure will facilitate access to health care facilities and emergency services across the country hence improving clinical outcomes.

Methodology

This policy brief uses findings from the Kenya Harmonized Health Facilities Assessment (KHFA) 2018/19, as well as evidence from a review of documents such as the Annual Health Sector Performance Report and the Joint Health Facilities Assessment Reports. Publications on access to TB services were also used to collaborate the findings. The KHFA entailed a review of health facilities in Kenya and their ability to provide services using a modular approach. The modules applied included: Availability, Readiness, Management Support Systems, Quality of care and Community health systems. The survey population included 2,927 facilities with representation across counties, ownership levels and facility types.

This policy brief will inform the managers/policy makers on decisions of equity distribution, functionality of the equipment, human resource and skills gaps on maintenance storage and disposal of the equipment.



Findings

Summary Findings

- Nationally, the mean availability of basic equipment stands at 77%. Only 24% of health facilities have all basic equipment items
- The mean availability of basic equipment items ranges from 64% to 92%. Samburu is the highest at 92%, followed by Laikipia (91%), Murang'a (85%), Kisumu (85%), Taita Taveta (85%), and Lamu (85%), whereas Nandi is the lowest with 64%.
- Every health facility should have all basic equipment. At the county level, the percentage of facilities that have all basic equipment items ranges from 0% in Embu to 69% in Laikipia.
- By facility type, only 17% of dispensaries have all basic equipment, compared to 50% of secondary & tertiary hospitals.
- By managing authority, private facilities (31%) are more likely to have all basic equipment, compared to 17% of government facilities.
- One-third of urban health facilities have all basic equipment, compared to 19% of rural health facilities.

Mean Availability of Basic Medical Equipment

Nationally, the mean availability of basic equipment stands at 77%. Only 24% of health facilities have all basic equipment items while the percentage of the facilities by item is as follows: stethoscope 94%, blood pressure apparatus 94%, thermometer 90%, adult scale 87%, child scale 52%, and light source 44%.

Conclusion

Even though medical devices are indispensable for all aspects of healthcare many appropriate technologies are inaccessible to the majority of people who need them, particularly in low and middle-income countries. The availability and functionality of various healthcare equipment at all levels of the healthcare system should be emphasized for effective and efficient service delivery.

Recommendations

Arising from the foregoing, the following recommendations can be made:

- The National government should ensure the development and implementation of the Medical Equipment Maintenance Management (MEMM) framework.
- Counties should make it mandatory that every health facility irrespective of size and location has a proper health facility equipment management (healthcare technology management) system in place.
- Counties should ensure equitable deployment of medical engineers who have proper knowledge and skills in medical equipment maintenance and management to advise on the improvement of the systems.
- The health facility equipment management should always ensure that health facility equipment is safe, operational and properly maintained to ensure efficient service delivery
- In response to patient safety, operation performance in cost/efficient analysis, and risk evaluation and control of medical equipment in health facilities should be regularly undertaken.



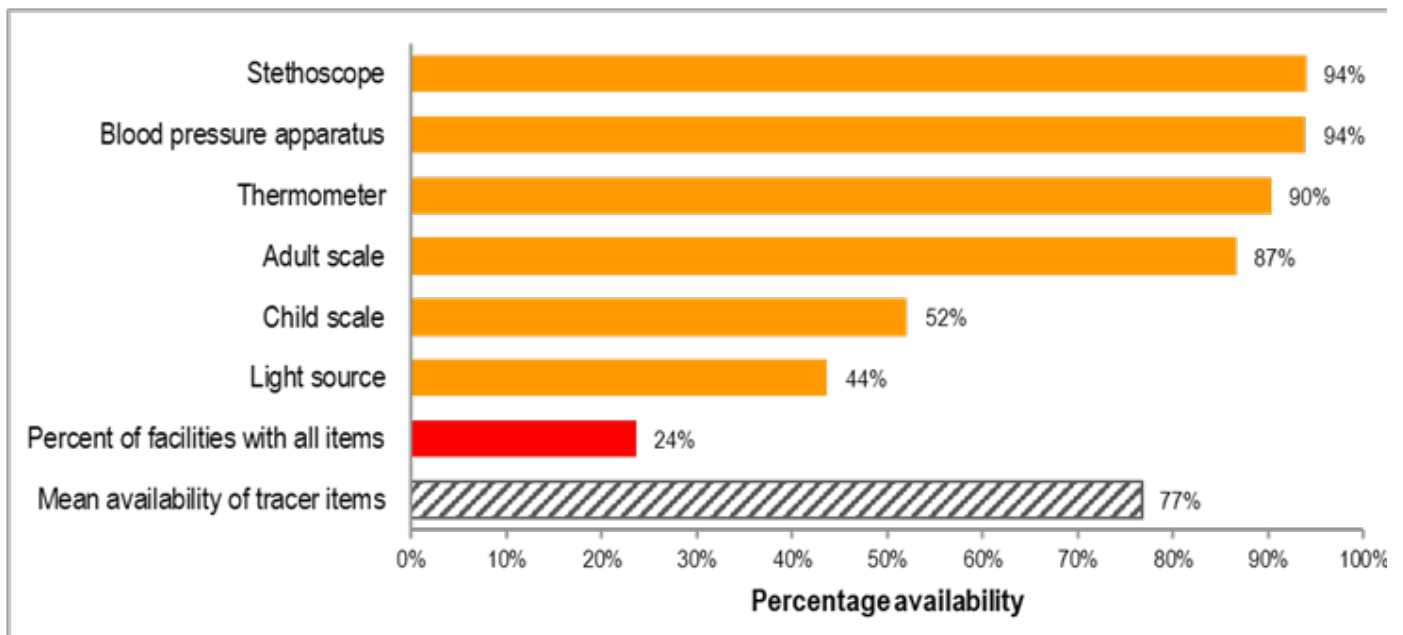
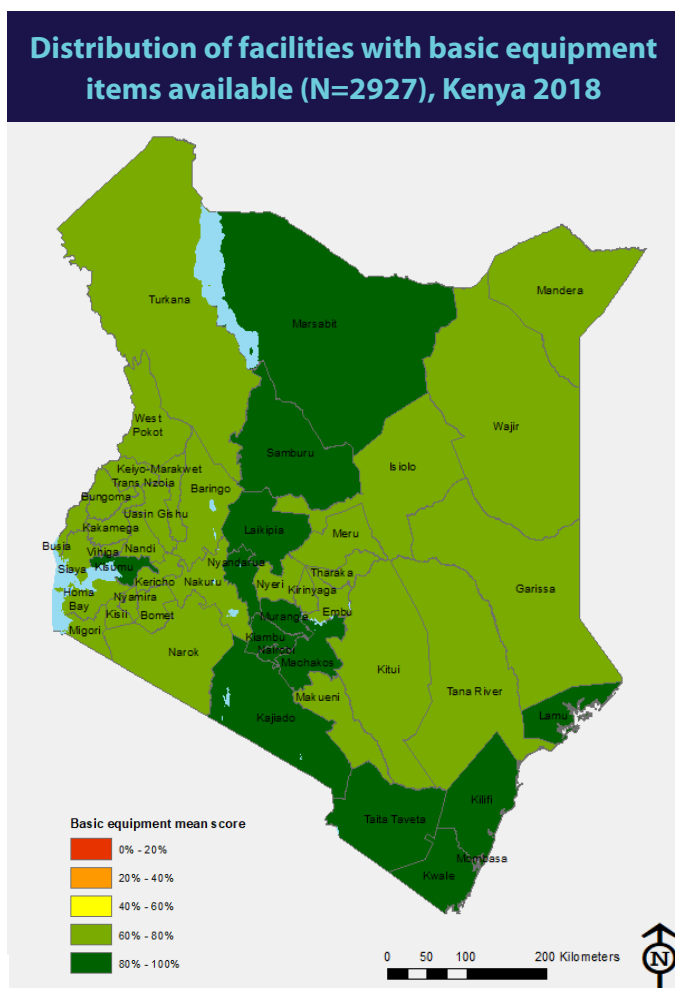


Figure 1: Proportion (%) of facilities with basic equipment items available (N=2927), Kenya 2018



References

1. WHO 2017, Global atlas of medical devices WHO medical devices technical series
2. WHA60.29 May 2007, World Health Assembly resolution
3. D. Mutia, J. Kihui, S.M.Maranga (2012), Maintenance Management of Hospital Equipment: A Case Study for Public Hospitals in Kenya. ISSN 2079-6226: Proceedings of the 2012 Mechanical Engineering Conference on Sustainable Research and Innovation, Volume 4, 3rd-4th May 2012
4. Beyene Wondafrash Ademe, Bosena Tebeje & Ashagre Molla, (2016), Availability and utilization of medical devices in Jimma zone hospitals, Southwest Ethiopia: a case study
5. Ministry of Foreign Affairs (2016), Kenyan Healthcare Sector Opportunities for the Dutch Life Sciences & Health Sector, Nairobi, Kenya
6. Kariuki Joan, Njeri Mercy, Wamae Watu, Mackintosh Maureen (2015) Local Supply Chains for Medicines and Medical Supplies in Kenya: Understanding the Challenges