



The logo for Healthark, featuring the word "HEALTHARK" in a bold, sans-serif font. Above the "K" is a small white triangle pointing upwards and to the right. The logo is set against a dark blue square background.

Summer Training

At Healthark Insights (WFH)

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Part I

Observational Learnings

Market Research

Syndicated market reports provide overall market insights, which helps in assisting clients with market strategy and brand positioning. The scope of work included gathering insights on Kenya's healthcare and pharmaceutical market. The reports contains brief information on market overview, disease prevalence, market segmentation, growth drivers and restraints and competitor analysis

Therapeutic Areas	Common Diseases	Oncology	Vaccine/Services
• Cardiovascular • Neurology • Oncology • Dermatology • Hematology • Infectious Diseases • Respiratory Diseases	• Diabetes • Sickle Cell Disease • HIV/AIDS • Tuberculosis • Malaria • Hepatitis • Hypertension	• Breast Cancer • Prostate Cancer • Stomach Cancer • Cervical Cancer • Ovarian Cancer • Non-Hodgkin Lymphoma • Oesophageal Cancer	• Rotavirus Vaccine • Seasonal Influenza Vaccine • Human Papilloma Virus (HPV) Vaccine • Dental Care • Physiotherapy market • Digital Health

Customer Profile

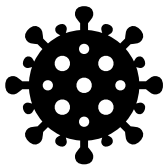
- Putting together a customer map of Geisinger Health System, an integrated healthcare provider in Pennsylvania, USA. It serves more than 3 million residents of Pennsylvania with its network of 12 hospitals and more than 100 health clinics in the region.
- Domains worked on include:



Business Segments & Overview



Community Initiatives



Covid Impact on Business



Financial overview



Hospital Network & clinics



Partnerships & Acquisitions

Online Course

1. **Name of the Course:** *Data Analysis and Presentation Skills: PwC Approach*
2. **Course Description:** It consists of four courses to help understand different data analysis techniques and tools, exploring excel as a tool to solve business problems, data visualization and interactive dashboarding and effective presentation using PowerPoint.
3. **Course Objective:** To learn about data analysis, data visualization and effective presentation skills.
4. **Course Contents:** Data-Driven Decision Making, Problem Solving with Excel, Data Visualization with Advanced Excel, and Effective Business Presentations with PowerPoint.
5. **Learning Methodology:** Whole course consists of video lectures, projects, cases, reading material and some data files for practice exercise, all of them have some weightage in learning the course.
6. **Key Learnings:** Different approaches to Data Analysis, introduction to Big Data, Data analytics languages, dashboarding and visualization in Excel.

Part II

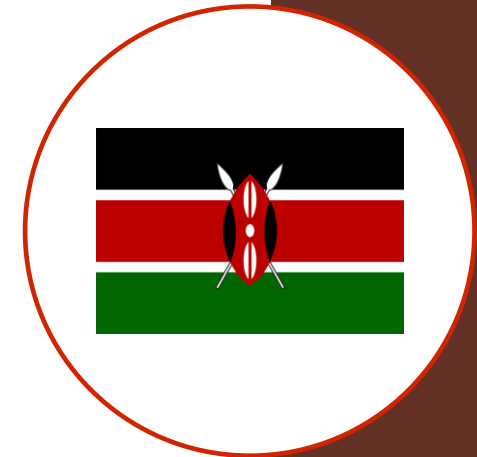
Project Report

Healthcare System and Disease Landscape: Market Analysis for Kenya

A Systematic Review

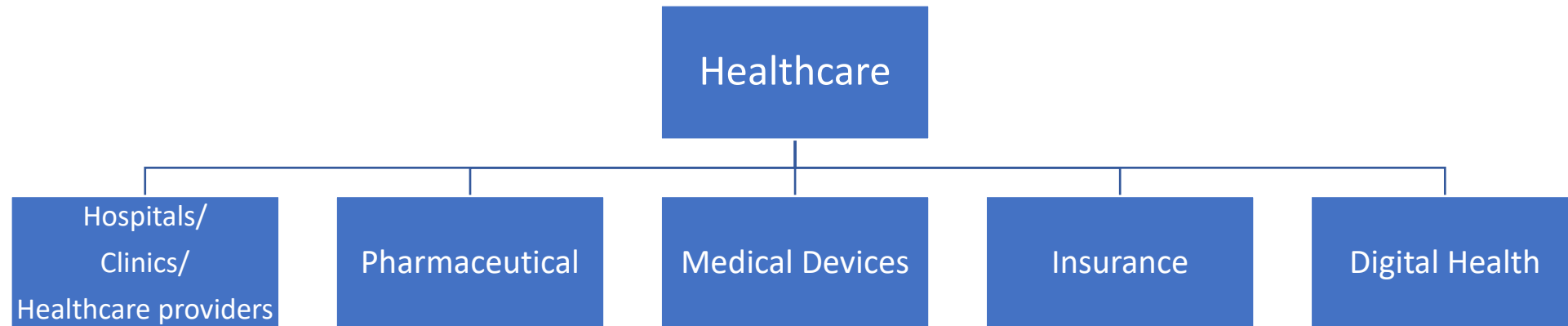
Introduction

- Kenya is a lower-middle income country in eastern Africa with an estimated population of 55 million. It is the fastest growing economy in Sub-Saharan Africa
- Kenya is considered a young country as about 38.71% of its population in the age group of 0-14 years, 20.45% in 15-24 years and only about 3.04% is above the age of 65 years. In terms of urbanization, only 28% of the population live in urban cities.
- The keys challenges are poverty, climate change, inequality, healthcare accessibility, weak private sector investments and skills gap.
- Kenya is home to world's worst HIV/AIDS Epidemic, but the prevalence rates has drastically come down in the recent years.
- Kenya has made significant improvements in controlling malaria, TB, and other infectious diseases
- Kenya faces dual epidemic with rise in non-communicable diseases like diabetes, hypertension, cancer and sickle cell disease etc owing in rapid rate of urbanization



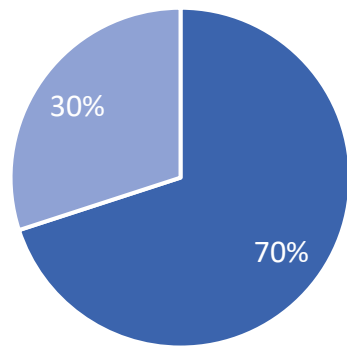
Segmentation

- The healthcare industry comprises of all the companies or entities that provide clinical services, drug manufacturing companies, medical devices and equipment, digital health providers and other health-related support services like medical insurance etc.
- The aim is to provide preventive, therapeutic, diagnostic, and rehabilitative services to the patients or care seekers.

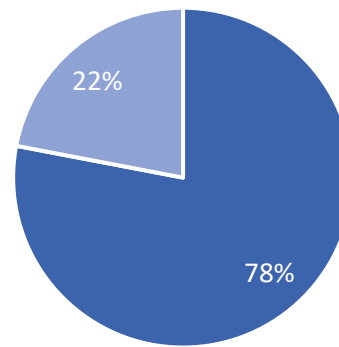


Pharmaceutical Industry: Kenya

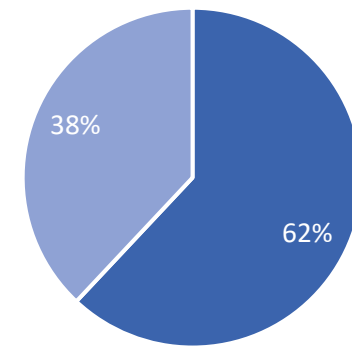
- The pharma industry in Kenya relies highly on imports from foreign countries, mostly from India and China due to limited capacity of production
- The pharmaceutical market in Kenya is also plagued by counterfeit and low-quality drugs
- The market is majorly driven by the high burden of infectious diseases prevalent in the country like HIV/AIDS, Malaria, TB, Hepatitis B, Human Papilloma Virus, Diarrhea, Cholera and Meningitis as well as Diabetes, Hypertension and Cancer.



■ Imported ■ Domestic



■ Prescription ■ OTC

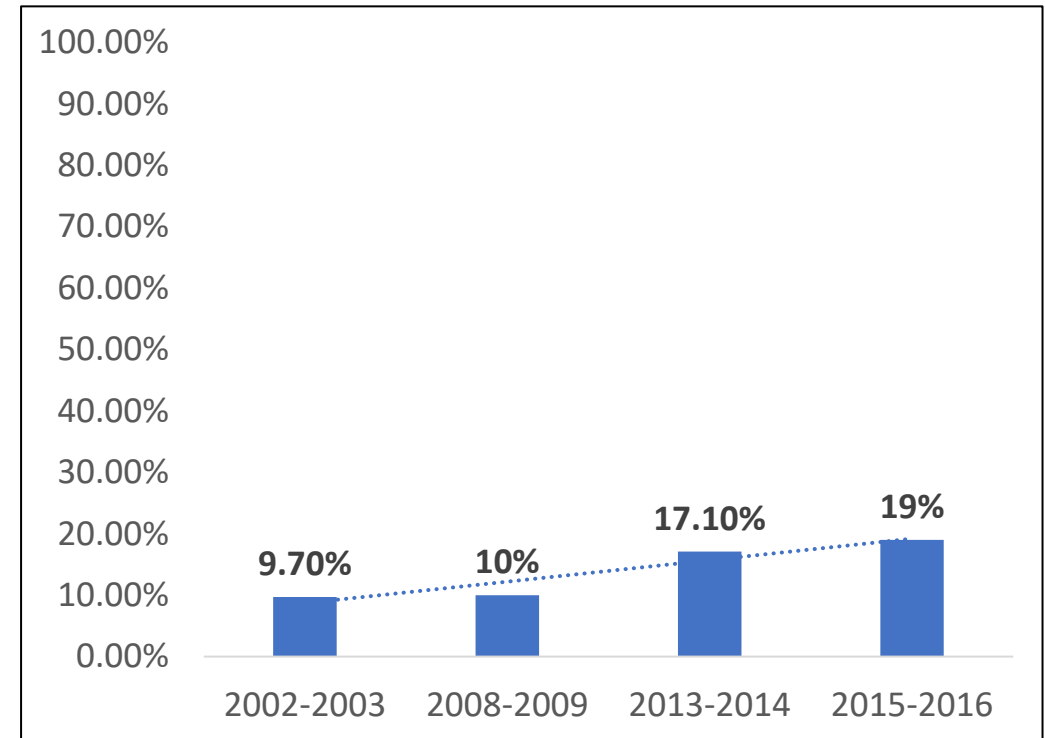


■ Generic ■ Branded

Health Insurance: Kenya

- In Kenya, Health insurance is provided by both government and private health insurance companies, though the coverage of insurance through private companies is limited to just 1% of the total population in Kenya. The National Health Insurance Fund (NHIF) is the main source of health insurance for majority of Kenyans.
- Approximately 19% of the population is covered through the National Health Insurance Fund. The NHIF provides both in-patient and out-patient benefits.
- The NHIF covers hospitalization bills, consultation fees and medicine costs and other allied health services.
- The governing body for the regulation of health insurance in Kenya is the Insurance Regulation Authority (IRA).

Health Insurance Coverage in Kenya



Objectives and Research Question

Objectives

- 1) To study the healthcare system of Kenya
- 2) To understand the existing diseases burden in Kenya

Research Question

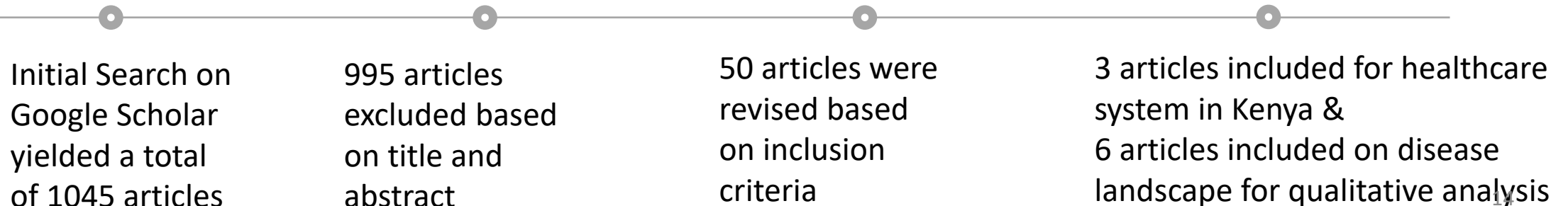
- 1) How is the healthcare system structured and what are the challenges of the healthcare system ?
- 2) What is the disease landscape in Kenya ?

Rationale

A gap in research articles published on healthcare system in Kenya was found. This study is intended to understand different aspects of healthcare in Kenya such as the health insurance, pharmaceutical sector and identify challenges in the Kenyan healthcare system. This study will also help to understand the disease landscape, top causes of mortality and morbidity and initiatives to tackle the challenges

Methodology

- **Type of Study** : Systematic Literature Review
- **Type of Data** : Qualitative Data
- **Study Technique** : Secondary Research
- **Data Collection** : An extensive search for articles using keywords “Healthcare system” “Disease Burden” “Prevalence” “Incidence” “Pharmaceutical Market” “Insurance Coverage” and “Kenya”.
- **Inclusion Criteria** : Descriptive studies conducted to determine the prevalence of diseases in Kenya, risk factors associated with the diseases, healthcare system of Kenya and pharmaceutical industry in Kenya were included.
- **Data Extraction & Analysis** : The fundamental idea was to screen the abstract of the articles generated by the search and identify eligible studies based on the inclusion criteria. If the eligibility of the article was not clear from the title, then full text was obtained and assessed.



Analysis (1/2)

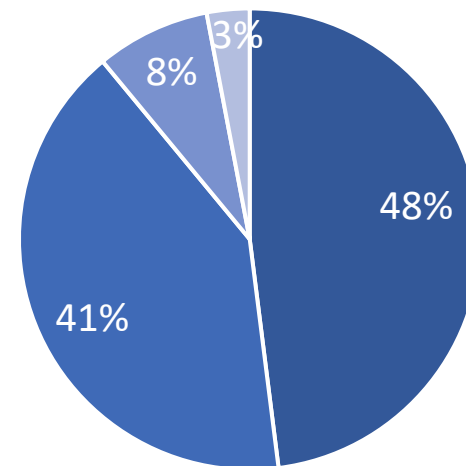
Reference Country	Title	Authors	Study Design	Results/Conclusion
Texas, USA 2018	"Examining Healthcare Systems: A Market Analysis For Kenya"	Elise Catherine Davis et al.	Systematic Literature Review	There is an irregular distribution of hospitals and primary healthcare structure in Kenya. The population lacks access to healthcare due to long distance of travel to obtain facilities, lack of available transportation or inability to afford.
Bangladesh 2014	"Improvement Of Health Sector in Kenya"	Mohajan Haradhan	Descriptive study	The GoK is trying to build an effective health system to provide health access to all its citizens through nation health strategies to combat the diseases
Kenya 2011	"Viewing the Kenyan Health System through an Equity Lens : Implications for Universal Coverage"	Jane Chuma and Vincent Okungu	Literature Review	The Kenyan Health system relies heavily on OPP expenditure that financially drains the poor households when seeking medical care. The National Health Insurance Fund covers only 19% and mere 1% are covered by private health insurance

Analysis (2/2)

Country	Title	Authors	Study Design	Results/Conclusion
London, U.K, and Nairobi (2015)	“Prevalence of malaria parasites in adults and its determinants in malaria endemic area of Kisumu County, Kenya”	Rachel Jenkins et al.	Random Sampling Survey	The prevalence of malarial parasite in the blood samples of adults in area which was declared as an epidemic site for malaria was found to be 28%.
Nairobi, Kenya (2016)	“Prevalence and Incidence of HIV Infection, Trends, and Risk Factors Among Persons Aged 15–64 Years in Kenya”	Kimanga et al.	Cluster sampling survey	The prevalence was found to be 5.6% and incidence stood at 0.5% in the study.
Birmingham U.K, (2013)	“Diabetes Mellitus: the increasing burden of disease in Kenya”	Tiffany L.E. Jones	Descriptive Study	The prevalence of diabetes mellitus as estimate by WHO, is 3.3%. By 2025, the prevalence is expected to rise to 4.5 %.
Nairobi, Kenya (2018)	“Kenya tuberculosis prevalence survey 2016: Challenges and opportunities of ending TB in Kenya”	Masini Enos et al.	Cross-sectional study	The prevalence of TB came out to be 558 per 100,000 population.
Nairobi, Kenya	“Prevalence of hypertension and associated cardiovascular risk factors in an urban slum in Nairobi, Kenya”	Joshi et al.	Cluster sampling survey	The prevalence of Hypertension was found to be 22.8%

Discussion

- The Healthcare system in Kenya relies on government, private providers, non-governmental organizations, and faith-based organizations to provide healthcare services to the population of Kenya.
- Almost half of all the health facilities (48%) is owned by the government under the Ministry of Health (MoH). The private sector accounts for a major chunk (41%) and the rest are shared between NGOs (8%) and Faith-Based Organizations (3%).
- Major private and large public health institutions are concentrated in the urban cities of Nairobi, Mombasa, Kisumu and Eldoret even when more than 70% of the population residing in rural Kenya.
- The existing healthcare infrastructure struggle to provide even basic health amenities in the country.



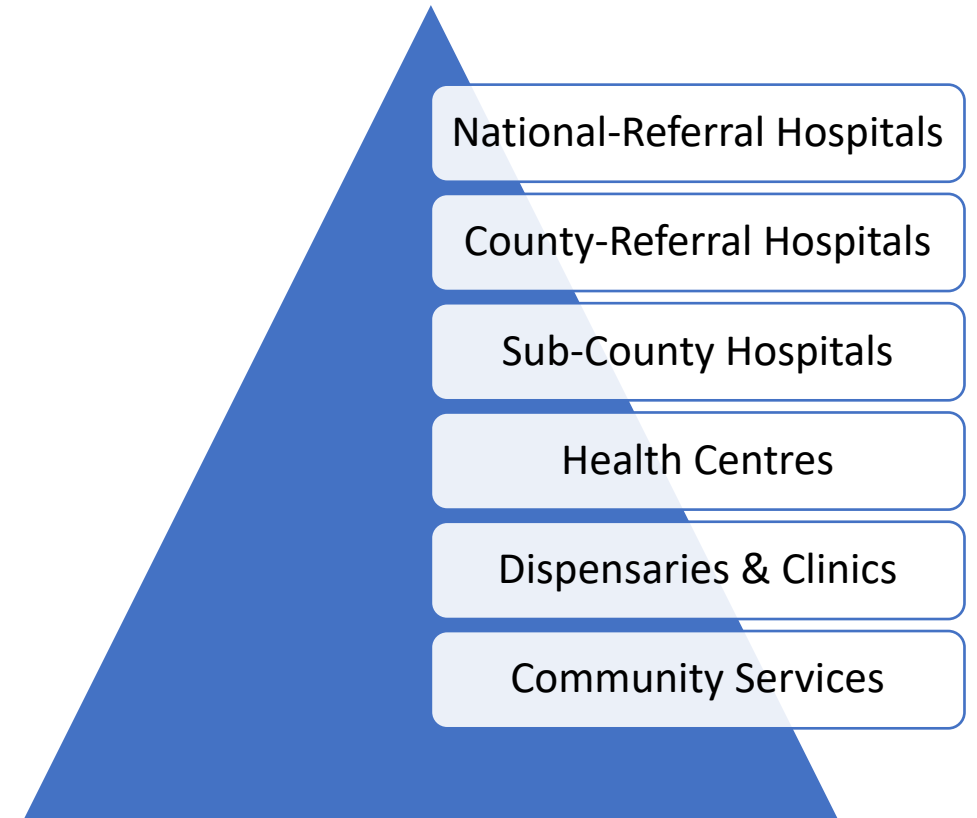
■ Public ■ Private ■ NGO ■ FBO

Distribution of Health sectors in Kenya

	Number of Facilities	Percentage (%)
Ministry Of Health	5,177	47.5%
Other Public Institutions	100	0.9%
Private Sector	4,293	40%
NGOs	1,004	8%
FBOs	327	3%
Total	10,901	100%

Discussion

- It has a hierarchy of six levels - community services, dispensaries and clinics being at the bottom of the structure and national-referral hospitals at the top. Kenyatta National Hospital, located in Nairobi is the apex referral hospital in the country together with the Moi Referral and teaching Hospital located in Eldoret.
- The healthcare system of Kenya faces a challenge of high attrition rates among trained medical professionals in the country in the existing critical shortage of doctors and health care workers.
- Approximately 40% medical workers leave country due to lack of growth opportunities in the country.
- Providing lucrative work opportunities to trained healthcare professions in the country to retain medical talent will ultimately lead to improved health outcomes for the diseases that has crippled the Kenyan healthcare system.



Discussion

Malaria

The National Malaria Control Strategy includes key interventions include vector control program, distribution of mosquito nets, vaccination against malaria, strengthening healthcare infrastructure and health workforce for diagnosis and treatment of malaria.

HIV/AIDs

Approximately 1.5 million people in Kenya are living with HIV/AIDs. The prevalence of HIV has been steadily going down in the past few decades. The government is providing free anti-viral drugs to population who are at high risk of developing AIDS and increase in screening facilities.

Tuberculosis

The high prevalence of TB is also correlated to existing high burden of HIV/AIDs. Kenya has become the first country in Eastern Africa to reach targets for both case detection and treatment of TB.

Diseases		Prevalence
Non-Communicable Diseases		
Diabetes		3.3%
Hypertension		22.8%
Chronic Obstructive Pulmonary Disease		13.4%
Asthma		3-28.6%
Diabetic retinopathy		35.9%
Obesity		9.1%
Sickle Cell Disease		4.5%
Osteoporosis		24.3%
Glaucoma		4.3%
Osteoarthritis	Knee	15%
	Hip	3%
	Hand	5%
Communicable Diseases		
HIV/AIDs		4.7%
Malaria		28%
Hepatitis B Infection		5%
Diarrhea		18.7%

Conclusion

- Kenya has a difficult health landscape with the burden of infectious diseases as well as NCDs like hypertension and diabetes. Adding to the prevailing challenges the health system now also faces Covid-19.
- Tackling the burden of diseases presents many difficulties especially when the country has a limited infrastructure, skilled human resources and doctors at hand. There remains insufficient funding for the implementation of strategy for managing, prevention, and promotion of health in the country.
- Lack of awareness among the general population, cultural beliefs and stigma create obstacles in overcoming the challenges of health access in Kenya. The financial strain from seeking medical treatment hinders Kenya's achievement of Universal Health and Vision 2030.
- Funding needs to be focussed on public health and primary healthcare centres. Vaccination and immunization coverage in children needs to be increased to reduce under-five mortality rates in the country.
- In the study it was observed that health care facilities in Kenya are far below the recommended numbers in the health sector. The government needs to invest aggressively in public health institutions and increase partnerships with not-for-profit private organizations that are working to improve health conditions of the Kenyan population.
- Some of the long- standing challenges in the health sector such as low quality of medicines and counterfeit drugs in the market, corruption and high cost of treatment needs to be addressed.

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Thank you
