AN EXPLORATION OF OPPORTUNITIES AVAILABLE IN SLUMS FOR MULTINATIONAL PHARMACEUTICAL COMPANIES: A CASE OF KIBERA SLUMS

BY

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A Project Report Submitted to the Chandaria School of Business in Partial Fulfillment of the Requirement for the Degree of Masters in Business Administration (MBA)

UNITED STATES INTERNATIONAL UNIVERSITY

SPRING 2013
STUDENT’S DECLARATION

I, the undersigned, declare that this is my original work and has not been submitted to any other college, institution or university other than the United States International University in Nairobi for academic credit.

Signed: Nicholas M. Kanyi (ID No. 631128) Date: 25/01/2013

This project has been presented for examination with my approval as the appointed supervisor.

Signed: Prof. Joe K. Kamaria Date: 25/01/2013

Signed: Dean, Chandaria School of Business Date: 25/01/2013

Signed: Deputy Vice Chancellor, Academic Affairs Date: 25/02/2013
ABSTRACT

Nearly half the world's population now lives in urban settlements. Cities offer the lure of better employment, education, health care, and culture, and they contribute disproportionately to national economies. However, rapid and often unplanned urban growth is often associated with poverty, environmental degradation and population demands that outstrip service capacity. These conditions place human health at risk. Reliable urban health statistics are largely unavailable throughout the world. Data that are available indicate a range of urban health hazards and associated health risks: substandard housing, crowding, air pollution, insufficient or contaminated drinking water, inadequate sanitation and solid waste disposal services, vector-borne diseases, industrial waste, increased motor vehicle traffic, stress associated with poverty and unemployment, among others. Local and national governments and multilateral organizations are all grappling with the challenges of urbanization. Urban health risks and concerns involve many different sectors, including health, environment, housing, energy, transportation, urban planning, and others.

The main purpose of the study was to explore the opportunities available to Multinational Pharmaceutical companies in Kenya's slums for provision of healthcare. To adhere to this, the demographics and health status of the people in Kibera were analyzed and the kind of medication and its accessibility explored.

Descriptive research design was adopted due to the large population. The study had two strata, the first represented the pharmacies in the slums and the other will represent the health centers in the area. Data was collected using a questionnaire; the first part was the general section which addressed the respondents' demographic characteristics. The other three subsections will specifically address the research objectives. Analysis of the collected data was done using SPSS and presented by way of figures and tables.

Regarding the demographic of Kibera, the respondents in the study were in agreement that housing, population, social amenities, medical facilities and unemployment had an effect on their business. The study also confirmed that respiratory complications and diarrhea were the most frequent illnesses reported in the health facilities. Others that were not listed but came up as frequently reported were reproductive health emergencies,
Sexually Transmitted Infections, complications in delivery and induced abortion. The research also revealed that the residents were price sensitive and prescription was based on drugs accessibility, effectiveness and company of manufacture. This is very crucial for pharmaceutical companies because it clearly shows that the brand really matters and they should therefore seek to strengthen their brand so that it can be preferred among the people.

The study therefore concludes that there is need to have other health facilities in the area given the large population and the few number of health facilities. This would be a great opportunity for multinational pharmaceutical companies to partner with Non Governmental Organizations to ensure that they effectively meet the demand. The study also concludes that the residents of Kibera are price sensitive therefore efforts to improve the access to affordable quality medications should be enhanced. The research also noted that most of the respondents run out of drugs from one time to another. It would therefore be important to ensure that the pharmaceutical companies should find a way to ensure that there is adequate distribution of their products within the slum area.

This study recommends that the pharmaceutical companies work closely with NGOs and Faith Based Organizations to provide affordable medicine to Kibera residents. This will ensure that the high population is able to access health facilities at ease. They should also endeavor to introduce high quality generic medicines which are within the reach of slum population. The multinational corporations should highly consider introducing medicines effective in management of infectious diseases like diarrhea and respiratory tract infections which were found to be very common in the slum area.
ACKNOWLEDGEMENT

I acknowledge the senior management of Glaxosmithkline for allowing me to pursue my course as I continued working. The support offered through the entire schooling period was immense and made a difference in my performance. To my dad for always reminding me the need to go back to school and do my post graduate degree. Your relentless reminders made me to gather the courage to go back after many years of finishing my undergraduate studies.

To my lectures who guided me through the MBA course, your efforts made me to be a different person and will forever be grateful. Finally my acknowledgement goes to all the students whom we shared the various units, group works or spent time in discussions, knowing you and sharing one thing or another improved my perspective in life.
DEDICATION

This project is dedicated to my wife Florence Wangari who stood by me through my entire course. You took care of the children when school life became busy for me. To my kids Kanyi, Njeri and Macharia, I dedicate this to you for all the nights that you waited for daddy to come from school before you could sleep. You are the most wonderful kids.
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### ABBREVIATIONS

<table>
<thead>
<tr>
<th>Acronym</th>
<th>Full Form</th>
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<tr>
<td>AIDS</td>
<td>Acquired immune deficiency syndrome</td>
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<tr>
<td>CBOs</td>
<td>Community Based Organizations</td>
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<tr>
<td>FBOs</td>
<td>Faith Based Organizations</td>
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<tr>
<td>GNP</td>
<td>Gross National Product</td>
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<td>MOH</td>
<td>Ministry of Health</td>
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<tr>
<td>NGOs</td>
<td>Non Governmental Organizations</td>
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<tr>
<td>ROK</td>
<td>Republic of Kenya</td>
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<tr>
<td>TB</td>
<td>Tuberculosis</td>
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<tr>
<td>UN</td>
<td>United Nations</td>
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<tr>
<td>UNEP</td>
<td>United Nations Environment Program</td>
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<td>WHO</td>
<td>World Health Organization</td>
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CHAPTER ONE

1.0 INTRODUCTION

1.1 Background of the Problem

Cities play a vital role in the social fabric of countries and in national and regional economies worldwide. In theory and in popular opinion, cities offer opportunities for education, employment, services, and cultural enrichment, and the expectation of better health. In reality, these opportunities may not be as uniformly promising as hoped (Moore, Keary, & Philip, 2002). On one hand, national income and level of human development are strongly and positively correlated with level of urbanization (United Nations Center for Human Settlements, 2001). Urban areas in almost every country account for a disproportionately large share of gross national product (GNP). For example, Bangkok produces 40 percent of Thailand's GNP but has only 12 percent of its population (United Nations Environment Programme, 2002). As a whole, cities in the developing world account for 50 to 80 percent of their nation's respective GNP (United Nations Centre for Human Settlements, 1996). Child survival rates may be better in cities than in rural areas because of better access to health care (United Nations Center for Human Settlements, 2001). On the other hand, rapid and often unplanned urban growth is also associated with settlement on marginal land, environmental degradation, and population demands that outstrip environmental service capacity, such as drinking water, sanitation, and waste disposal and treatment. Unemployment is also common, especially among the burgeoning populations of peri urban poor. Urban poverty is a fundamental problem associated with rapid urbanization, particularly in developing countries (Moore, Keary, & Philip, 2002).

The United Nations Environment Program (UNEP) noted that 'managing the urban environment sustainably will therefore become one of the major challenges for the future' (UNEP, 2002). However, the importance of cities in national and global economies, and the inevitability of increasing urbanization create an imperative to achieve livable and sustainable cities. Well managed cities offer better economies of scale in terms of land use, environmental resource and service efficiency, and proximity to services (UNEP, 2002).
Urbanization has historically been presumed to lead to mortality reduction due to economic prosperity and increased access to modern medical care. However this has not been the case for most developing countries (Dobson, 1992) where evidence suggests that quality of life in some urban areas is even worse than in rural areas mainly due to high levels of poverty in pockets of the urban population (Brocerckhoff & Brennan, 1998).

Urban growth in Africa continues to be fuelled by rural urban migration. Unlike in developed countries where urbanization was accompanied by economic boom, the reverse has been the case for Africa. Between 1970 and 1995, Africa’s urban population grew by 4.7 percent per year, while it’s GDP dropped by 0.7 percent (World Bank, 2000). Indeed most of Africa’s urbanization has occurred amidst economic liberalization, structural adjustment programs, abolition of subsidies, retrenchment and cost-recovery plans that were necessitated by poor economic performance (Jakhanwal, 2001). It has been predicted that assuring conditions in which the urban poor can be healthy, and especially those living in the informal settlements, is going to present a major challenge for decades to come (Caldwell & Caldwell, 2002).

The primary driver of the continent’s urbanization according to a report by Ricardo (2012) is economic activity, for example, oil in countries such as Angola, Gabon, Libya, Cameroon, Algeria and Nigeria; minerals in Botswana, Democratic Republic of Congo and Zambia; or small industries and agro business in countries such as Ivory Coast, Kenya, Tunisia and Zimbabwe. In Mauritania drought conditions provided the driver of urban growth, while it was civil war in the 1980s in Mozambique that resulted in the country’s rural people seeking safety in the urban areas.

Evidence from Demographic and Health Surveys indicate that the urban poor in sub-Saharan Africa have less access to health services, and consequently exhibit higher mortality rates than residents from other population sub groups including rural residents (African Population and Health Research Centre, 2002). Caldwell and Caldwell (2002) found disproportionately higher mortality rates in the poorer households in Dhaka informal settlements affirming the World Bank’s position that children born into poor families have a higher chance of dying before their first and fifth birthday than those born into better-off families (World Bank Group, 2002).
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In Kenya, the urban population grew from 3.8 million in 1989 to 9.9 million in 1999, constituting 34 percent total population. For instance, Nairobi’s population was only 120,000 in 1948 (Muwonge, 1980) and by 1999 it was estimated at 2.3 million (Republic of Kenya, 2001). Women form about 49 percent of the urban population. These population increases have been accompanied by a rapid rise in the level of poverty from 29 percent in 1992 to 52 percent in 1997 (UNDP, 2001). As rapid urbanization takes its toll, so has the development and growth of slums. More than 34 percent of Kenya’s total population lives in urban areas and of this, more than 71 percent is confined in informal settlements (UN-Habitat, 2009). This number will continue to increase unless a serious and concerted action by all relevant stakeholders is undertaken.

According to a report by ROK (2002), much of Nairobi’s urban footprint is unplanned settlement driven by rapid population growth and urban poverty, among other things. Sprawling informal settlements handicap the city’s delivery of social services and negatively impact the quality of life. Informal settlements date to the city’s earliest days when European settlers appropriated large tracts of land displacing the local African population with no provision for their resettlement. In the early 1990s, it was determined that over half of the city’s population was living in unplanned settlements that occupy only 5 percent of the residential land area. These settlements tend to be marginal, located in marshy areas, near railway lines and next to dumping sites. These urban poor experience high unemployment levels leading to income poverty that further limits their access to health, education and opportunities for skills development. The urban poor therefore constitute the majority of the approximately 32 percent of Nairobi’s population that is economically inactive (Republic of Kenya, 2002).

Ongoing rural to urban migration, high natural birth rates, and poor or inappropriate city planning conspire to continue degrading the city’s water and air quality. In turn, environmental degradation has impacts on human health and the economy. For the country to achieve the MDGs, progress must be made in Nairobi, as Kenya’s capital city and its largest urban centre. An important target is stabilizing the fertility rate at 2.1 by 2010, as recommended by the Population Policy for Sustainable Development (Central Bureau of Statistics, 2004).
Kibera settlement, one of the slum areas in Nairobi is located on two Nairobi divisional administrative areas; Dagoreti and Lang'ata divisions. The slum is divided into 14 villages with varying populations. Kibera informal settlements suffer from a host of challenges. The residents live under mass poverty leading to a collection of sustainability challenges. Access to clean water, improved sanitation, good housing, solid waste management, proper health care, security and energy are some of the most fundamental challenges faced by slums dwellers. Together with this is the lack of enough schools and educational centers and a huge deficiency of other urban infrastructure (Guy, Marvin, & Moss, 2001). In addition, Kibera is heavily polluted by human refuse, garbage, soot, dust, and other wastes. The slum is contaminated with human and animal feces and all sorts of wastes which are worsened by open sewages and lack of drainage systems (Hardon, Mitlin, & Satterhwaite, 2003). Poverty, lack of improved sanitation combined with poor nutrition among residents’ accounts for many illnesses and diseases in slums (Heynen, Kaika, & Swyngedouw, 2006). It is estimated that 20 percent of the 2.2 million Kenyans living with HIV live in Kibera.

1.2 Statement of the Problem

According to Riccardo (2012), Africa is currently the least urbanised region in the world, but this is changing fast. Of the billion people living on the African continent, about 40 per cent live in urban areas. The urban population in Africa doubled from 205 million in 1990 to 400 million in 2010, and by 2050, it is expected that this would have tripled to 1.23 billion. Of this urban population, 60 per cent is living in slum conditions.

The contribution of environmental factors to human morbidity and mortality is well acknowledged as outlined below. Whether from a research or a programmatic perspective, it is clear that people living in unhygienic environments as indicated by poor drainage systems, inadequate or nonexistent sanitation, and piles of uncollected refuse, suffer higher levels of morbidity and mortality. Because of their illegal status, residents of informal settlements do not receive government services such as water, drains, sewerage and rubbish collection (Caldwell & Caldwell 2002). It is estimated that 40 percent of world deaths can be attributed to various environmental factors (Clarke, 1993). Most of these deaths occur mainly among the poor that live in developing countries (World Bank, 2003). Poor sanitary conditions contribute to approximately 4 million deaths, mostly among infants and young children, every year. Access to water correlates strongly with
the survival of children under five years (Gleick, 1993). Malnutrition, also a major cause of child morbidity and mortality, can be related to environmental degradation (Pimentel & Pimentel, 1996).

Advocacy aimed at behavior change continues to dominate healthcare delivery to improve child health and yet there is evidence that reducing inequalities in income distribution and the empowerment of the deprived are effective in reducing childhood morbidity and mortality (Spencer 2000). A similar view is expressed by Werner and Sanders (1997) who argue against the notion that ill health of people living in poor countries is largely due to ignorance and overpopulation.

Slums in Nairobi have existed since the cities inception, the government has failed to respond to the flight of slums dwellers accordingly (Mitullah, 2003) even after being classified as illegal. Life is very difficult to approximately 1.5 million people in Nairobi informal settlements. The residents in these areas live under deplorable conditions with lack of the most basic needs and social amenities and face multi dimensional challenges which require multi dimensional interventions such as clean water supply and improved sanitation, energy, solid waste management, housing, schools, and hospitals (Centre on Housing Rights and Evictions, 2008). Since illegal, informal settlements were previously abolished by the government through forced evictions often leading to conflicts. Fortunately, the government has recently drafted strategic plan papers and policies recognizing the existence of slums and the need to improve them though this does not address the lack of security of tenure and fails to help with access to the most essential social services.

In the same light, in 1963 the first government of the Republic of Kenya declared Kibera settlements illegal. However, Kibera slums continued to grow from as low as 6,000 people in 1965 to around one million today. Proximity to the city center provided a cheaper ground for people from rural areas who move in search of employment opportunities. Lack of reliable data on population and growth parameters on Kibera slums has led to disagreements on the size of the slums as one of the largest in the continent. UN-Habitat puts the total population at between 350,000 to one million. International Housing Coalition estimates the population to more than half a million people, while experts on urban slums give an estimate of more than 800,000 people. Government
statistics on the total population of Kibera slums is around 200,000 people (Kenya National Bureau of Statistics, 2010).

According to Richard, Paul, Michael, and Terry (2005) the populations of urban informal settlements such as Kibera face many unmet health needs. The lack of proper health services and facilities is a major problem in the slum due to the high fees charged by private clinics and the lack of alternative affordable health care services. Currently, there are four viable health clinics in Kibera slums (Kibera UK, 2007); these clinics, however, are being overwhelmed by the demand for services from the ever growing population in the slum.

Given the current and expected growth of the slums in Kenya and the current trend in their health status, this study therefore seeks to find out if there is an opportunity for multinational pharmaceutical companies to provide health care to this population. To adhere to this, the study sought to fill the gap in research and to identify the source of drugs for the health centers in Kibera slums as well as seek to find out the health status of the people. This was important for this study for it advised on the exact opportunities that the pharmaceutical companies can have in terms of the right medication. The study on demographics that have an effect on health of Kibera residents also ensured that the pharmaceutical companies are able to package their drugs in a way that will meet the exact needs of the people in terms of quantity, quality and pricing.

1.3 Purpose of the Study

The main purpose of this study was to investigate the opportunities available to Multinational Pharmaceutical companies in Kenya's slums for provision of healthcare.

1.4 Research Questions

1.4.1 What are the demographics of Kibera slum?
1.4.2 How is the current health status of the people in slums?
1.4.3 What kind of medication do the people take and how accessible is it?

1.5 Significance of the Study

1.5.1 Pharmaceutical Companies

This study will give guidance to pharmaceutical companies on whether there exists an opportunity in the slum dwelling population where they could expand their market
through introduction of few doses of the drug in a pack. If by the end of the study it’s established that such a market exist, it will open a completely new market for the pharmaceutical industry that has been ignored for a very long time. This will allow the participation of these firms into the development agenda of the slums as well as improving on patient education which is very critical in bringing about behavioural changes in health seekers amongst the slum dwellers. Through this programme it means slum dwellers like any other urban dwellers can afford to take quality medicines at a reasonably affordable price. This could mean reduction in mortality especially in young children and expectant mothers who are normally the most vulnerable groups. Once completed the study could enable companies to evaluate one of the following ways of overcoming existing obstacles in their ways of operation in the slum areas, including taking new approaches to sales and marketing.

1.5.2 Families
Parents and guardians pay a lot of money for healthcare, thus this study will enlighten them on the causes of some of this diseases and the opportunities that multinational pharmaceutical companies may have to increase accessibility of health care.

1.5.3 Researchers and Academicians
Researchers on this sector will benefit from this study in that, they will understand the current market trends and needs in this segment and thereby have a basis of progressing the research by finding out the best strategy for the pharmaceutical companies to use in supply of the medicines.

1.5.4 Government and other Health Stakeholders
The government and other health stakeholders will also find this study significant because it will enlighten them on the current health trends in the slums and offer them an opportunity to partner with other stakeholders in the health sector to ensure that they capitalize on the opportunity that multinational pharmaceutical companies may provide so as to improve the health of the citizens as stipulated in the Millennium Development Goals.

1.6 Scope of the Study
The study targeted Kibera slum in Nairobi. This was assumed to be a good sample representing similar settings within the country. The study was expected to last in three
months. Since the information required for completion of this study mainly came from the pharmacists and the health care practitioners who run the dispensary, the study targeted to sample some of the respondents who represent a population of about one million people. The study was completed within the three month period that the semester would last as most of data collection was restricted to one slum which was assumed to give a true representation of similar dwellings within the country.

1.7 Definition of Terms

1.7.1 Slum
UN-HABITAT (2010) defines a slum household as a group of individuals living under the same roof in an urban area who lack one or more of the following: Durable housing of a permanent nature that protects against extreme climate conditions; Sufficient living space which means not more than three people sharing the same room; Easy access to safe water in sufficient amounts at an affordable price; Access to adequate sanitation in the form of a private or public toilet shared by a reasonable number of people; and Security of tenure that prevents forced evictions. UN-HABITAT analyses show that Sub-Saharan Africa’s slums are the most deprived; over 80 per cent of the region’s slum households have one or two shelter deprivations, but almost half suffer from at least two shelter deprivations. Approximately one-fifth of slum households live in extremely poor conditions, lacking more than three basic shelter needs. Generally, the lack of sanitation and water in the region’s slums is compounded by insufficient living space for families and inadequate, makeshift housing.

1.7.2 Pharmacy
Pharmacy is a place where the provision or sale of pharmaceutical products by drug retailers takes place. In developing countries, drug retailers include pharmacists and drug sellers. Pharmacists are individuals who have had formal training in dispensing pharmaceutical products. In contrast, drug sellers include individuals who are associated with pharmacies, but do not have formal training in dispensing pharmaceutical products, (Goel, P., Ross-Degnan, P., Berman and Soumerai, S. (1996).
1.7.3 Health Center
According to the US department of Health and Human Services (2012), a health center is a community-based and patient-directed organization that serves populations with limited access to health care.

1.8 Chapter Summary
In chapter two, literature on demographics of slum residents and their health status was reviewed. The type of medication accessible to them will also be analyzed to establish if there is an opportunity that multinational companies can have in this population. Chapter three addresses the research methodology which will include the research design, sample size and sampling technique. Data collection and research procedure is also discussed in this chapter. Chapter four was based on analysis of data collected in the survey. Chapter five presents findings for discussions, conclusions and recommendations.
CHAPTER TWO

2.0 LITERATURE REVIEW

2.1 Introduction

The main purpose of this study is to investigate the opportunities available to Multinational Pharmaceutical companies in Kenya’s slums for provision of healthcare. The objective of this chapter is to deepen the reader’s and indeed the researcher’s perspective on existing literature on the subject of accessibility of healthcare in the slums and the gap that multinational pharmaceutical companies can fill. The study will look at basic demographics that have an effect on health of the slums residents; it will also be imperative to look at the current health status of people in slums; the role of multinational pharmaceutical companies in increasing accessibility of health care in these areas will also be investigated.

2.2 What are the demographics of Kibera Slum?

The provision of infrastructure for basic services such as water supply and sewer reticulation is hampered by the large population living in slums. According to UN-HABITAT (2010), 60 per cent of urban dwellers in Africa lives in slums, but this ratio is declining, and is not the same in all countries. In 2005, the proportion of urban population living in slums ranged from 13 per cent in Morocco to 94 per cent in the Central African Republic and Sudan, and 97 per cent in Sierra Leone (UN-HABITAT, 2010). As informal settlements, slums are not planned and not adequately serviced. Ownership of land is unclear in slums. These areas are rarely mapped and most dwellings do not have official addresses. In order to improve information and better communicate the services and facilities that exist, some cities have begun initiatives to map slum areas, and these include Kibera slum in Nairobi (IRIN, 2011).

The majority of the urban population in Nairobi lives in poverty and in slums. A 2004 report estimated that 44 per cent of Nairobi’s population lived below the poverty line (SID, 2004) while about 30 per cent is living in slums. Nairobi has over 200 slum settlements with inadequate access to safe water and sanitation which is a health hazard. The four largest slum settlements in the city are Kibera, Mukuru Kwa Njenga, Mathare and Korogocho (Government of Kenya, 2010). This study concentrates on Kibera.
Kibera is one of the largest slums in Africa with an average population of approximately more than nine hundred thousand people (Umande Trust Kibera, 2010). The slum stands on a 2.5 square kilometers and is roughly five kilometers away from the city center. In 1912, Kibera was a settlement in a forest outside Nairobi; as a result of World War I, it became a resettlement area for Nubian soldiers returning from service. The colonial government then, allowed settlements to grow and opened gates to other tribes from across the country.

Kibera settlement is located on two Nairobi divisional administrative areas; Dagoreti and Lang'ata divisions. The slums is divided into 14 villages with varying populations - Kianda, Olympic, Soweto West, Gatwekera, Raila, Karanja, Kisumu Ndogo, Makina, Kambi Muru, Mashimoni, Lindi, Laini Saba, Silanga and Soweto East. Makina, with a population of 130,000 people is the largest village by population (Umande Trust, 2010). Below are some of the characteristics of Kibera slum according to (Kibera UK, 2007);

2.2.1 Housing
The Government owns all the land in Kibera; 10 percent of people are shack owners and many of these people own many other shacks and sub let them. All the rest are tenants with no rights. The average size of shack in this area is six feet by six feet built with mud walls, screened with concrete, a corrugated tin roof, dirt or concrete floor. The cost is about Ksh 700 per Month (£6). These shacks often house up to 8 or more, many sleeping on the floor. Kibera UK(2007)

2.2.2 The population
All the people in Kibera are African. According to Kibera UK (2007), the original settlers were the Nubian people from the Kenyan/Sudanese border they now occupy about 15 percent of Kibera, are mostly Muslim and are also mostly shack owners. The other shack owners are mostly Kikuyu (the majority tribe in Nairobi) although in most cases they do not live there but are absentee landlords. The majority of the tenants are Luo, Luhya and some Kamba. There are many tensions in Kibera, particularly tribal tensions between the Luo and Kikuyu, but also between landlord and tenant and those with and without jobs.
2.2.3 Social Amenities

Only about 20 percent of Kibera has electricity. UN-Habitat is in the process of providing it to some parts of Kibera this will include street lighting, security lighting and connection to shacks. According to the report by Kibera UK (2007), until recently kibera depended on water from the Nairobi dam. The dam water is not clean and causes typhoid and cholera. Now there are two mains water pipes into Kibera, one from the municipal council and one from the World Bank. Residents collect water at Ksh 3 per 20 litres. In most of Kibera there are no toilet facilities. One latrine (hole in the ground) is shared by up to 50 shacks.

2.2.4 Medical facilities

In Kibera there are no government clinics or hospitals, the health providers are the charitable organizations: AMREF, and some churches. All people are encouraged to have a free HIV test and if positive to take free generic ARV medicine. It is estimated that 20 percent of the 2.2 million Kenyans living with HIV live in Kibera (Kibera UK, 2007). Due to many men still not using condoms and the availability of illicit brew, many girls become pregnant, at any one time about 50 percent of 16 to 25 year old girls are pregnant. Most of these pregnancies are unwanted, resulting in many cases of abortion. This can be very dangerous (Kibera UK, 2010).

2.2.5 Unemployment

The same report by Kibera UK (2007) states that the rate of unemployment in Kibera is at 50 percent, with majority of people leaving under $1 a day. This amount is hardly enough to sustain the huge family needs leading to most families to leave below poverty levels. This leads to most families being exposed to challenges of handling basic social needs.

2.3 How is the current health status of the people in slums?

Informal settlements by definition are lacking in facilities such as water and sanitation, and are characterised by insecure, poor quality, overcrowded housing (UN-HABITAT, 2005). These living conditions combined with poverty and a lack of access to health care result in a high mortality burden from preventable and treatable diseases. A study of two Nairobi slums revealed a mortality rate amongst the under fives more than four times higher than the rest of the population. Deaths were attributed to pneumonia, diarrhoeal
diseases, maternal causes, malnutrition and anaemia, Acquired Immunodeficiency Syndrome (AIDS) and tuberculosis (TB).

The mortality profile amongst the over fives was very different, with Human Immunodeficiency Virus (HIV)/ AIDS and TB accounting for half of all deaths, followed by interpersonal violence injuries. According to WHO (2009) chronic diseases are estimated to account for more than 60 percent of deaths worldwide and 43 percent of the global disease burden. They are a focus of attention in the developed world, but 79 percent of these deaths occur in developing countries. The top four offenders are cardiovascular diseases, cancer, chronic obstructive pulmonary disease, and type 2 diabetes. Common risk factors for all include high blood pressure, high cholesterol, and being overweight (WHO, 2009). For the populations of informal settlements, rural urban migration and poverty has an effect on diet. Certain psycho-social issues such as alcoholism are also thought to be more prevalent in urban informal settlements. Poor diet and alcohol abuse can both contribute to hypertension and diabetes (Candib, 2007).

Environmental pollution levels, especially indoor air pollution may contribute to chronic respiratory problems. For people living in informal settlements competing priorities and the lack of available health services discourage early diagnosis and management of these conditions. Consequently, patients present with severe disease and end-stage complications. Mental health issues such as depression and anxiety can also be debilitating chronic diseases and have been linked to poverty and inequality (Patel, 2006). Mental health can also impact on medical care, for example by way of drug adherence. Mental health is therefore another important component to integrate into primary health packages in informal settings.

Some Kibera slums dwellers use sewerage water for bathing and washing. They also use borehole, rainwater, and sometimes draw water from broken pipes. This water is highly contaminated and filthy especially when plastic pipes burst and can potentially cause contagious diseases (Umande Trust, 2010).

The report by Umande Trust (2010) continues to state that with few toilets and pit latrines, there has also been a continued growth of “flying toilets”. The reality behind these flying toilets is the inaccessibility of toilet facilities especially during late hours due
to uneven distribution and lack of convenience resulting to insecurity. Most toilets and pit latrines are owned and managed by community groups and also individual businessmen who charge Ksh. 5 per person per every visit.

Solid waste in Nairobi is a byproduct of a broad spectrum of industrial, service and manufacturing processes. Primary high-volume generators of industrial solid wastes include chemicals, petroleum, metals, wood, paper, leather, textile and transportation industries. Secondary smaller generators include auto and equipment repair shops, electroplaters, construction firms, dry cleaners and pesticide applicators. Mismanagement of these wastes typically results in pollution of the natural environment and may pose substantial danger to public health and welfare (Umande Trust, 2007).

Toxic materials are estimated to be 0.2 percent of the total. For households alone, it is estimated that three-quarters of the waste is organic material. Estimates for the daily generation of solid waste in Kibera range from 150 tonnes to 200 tonnes (Umande Trust, 2007). Waste collection services are provided only sporadically to low-income areas because of poor accessibility and very high waste generation which cannot be handled with available vehicles and equipment.

2.3.1 Crowding

Rapid construction of poor quality housing is a feature of many urban centers in the developing world. One factor in urban life is the close proximity of people. Crowding increases the contact with the air and surfaces that other people breathe and touch.

Diseases transmitted through respiratory and fecal oral routes are more frequent in situations involving crowding, for example tuberculosis (Antunes and Waldman, 2001), rheumatic heart disease (caused by group A beta-hemolytic Streptococcus species) (Longo-Mbenza et al., 1998), and helminthic infections (Carneiro et al., 2002). The stress of living with limited privacy in tight quarters contributes to the rates of intentional injuries, both suicide and homicide, and to mental illness in general (Krieger and Higgins, 2002).
2.3.2 Air pollution

Air pollution is a major cause of morbidity and mortality in the developing world, and its effects are mainly felt where air pollution is worst in cities. Asthma, chronic obstructive pulmonary disease, lead and beryllium poisoning are associated with increasing air pollution. Air pollution can have both indoor and outdoor sources. The outdoor sources for particulates and organic and inorganic pollutants are primarily motor vehicles and industrial sites. In Mexico City, three-quarters of the air pollution is caused by motor vehicular exhaust. Lead poisoning from air contaminated with lead is a significant problem in countries where gasoline still contains lead, or where small local refineries are in close proximity to housing (Tong et al., 2000). Indoor air pollution in Kibera slum is most often associated with the use of biomass fuels coal, wood, animal dung, and kerosene, although indoor tobacco smoke is also an increasing contributor. Air pollution, from both indoor and outdoor sources, is one of the major risk factors for developing acute respiratory infections, the most important cause of death for children between 1 and 5 years of age in developing countries (Bruce et al., 2000; EHP, 1999).

2.3.3 Water Pollution

Urbanization often results in significant excess demand and over usage of water from municipal water sources. Water treatment plants for municipal water supplies are sometimes inadequate to meet the demand. Prices are often not market driven, with significant government subsidies to keep prices low. As a result, individuals and industries may have little incentive for water conservation (UNEP, 2002). In poorer neighborhoods, the cost of water may be significantly higher than in other urban neighborhoods (World Bank, 2000). Many people in slums do not have direct access to running water and usually have to rely on a common pump (or ‘tapped’ water pipe). The risk for gastrointestinal pathogens is strongly associated with the lack of a direct source of water in the home (Carneiro et al., 2002; McGranahan and Songsore, 1996). Additionally, the lack of a direct source of water limits hand washing, cleaning food and utensils, bathing, and washing laundry. Studies of louse-borne diseases and scabies show a high association of the presence of these diseases in households with limited access to water (Landwehr et al., 1998; Strickland et al., 2000). Human fecal waste is an important source of disease causing organisms, and is probably the single most dangerous pollutant in surface water supplies (UNICEF, 2000).
2.3.4 Inadequate sanitation

The lack of improved sanitation facilities, including toilets, showers, and sewage disposal has been well documented in Kibera. Ninety four percent of the population in informal settlements does not have access to adequate sanitation. Up to sixty per cent of the population in Kibera must share pit latrines with approximately fifty others. Even when toilet facilities are available, people complain that they are not conveniently located, that they are unclean, or that using them at night poses a security risk. Children are especially vulnerable to inadequate toilets because they may lack access to household keys which unlock the community toilets. The toilets are mostly built by the support of NGOs and managed by CBOs.

Inadequate sanitation is a major risk factor for diarrheal and parasitic disease, including schistosomiasis. Inadequate waste collection services present a variety of hazards, especially in the shantytowns often erected rapidly in any available space in and around the city. Uncollected solid waste may also prevent adequate water drainage and contribute to water pollution (Mabogunje, 2002). Solid waste also can serve as breeding sites for a variety of vectors of infectious disease, such as sandflies and mosquitoes. Tires, cans, or other items facilitating small collections of relatively clean water can serve as breeding places for mosquitoes. Disease vectors, such as rodents and insects, find new habitats within the changing urban landscape.

2.4 What kind of medication do the people take and how accessible is it?

The health sector in Kenya comprises the public system, with major players including the Ministry of Health (MOH) and parastatal organisations, and the private sector, which includes private for profit, Non Governmental Organizations (NGOs), and Faith Based Organizations (FBOs) facilities. Health services are provided through a network of over 4,700 health facilities countrywide, with the public sector system accounting for about 51 percent of these facilities (Richard, Paul, Michael, & Terry, 2005).
2.4.1 Health Facilities Levels in Kenya

According to Kenya Service Provision Assessment survey (2005) the public health system consists of the following levels of health facilities: national referral hospitals, provincial general hospitals, district hospitals, health centres, and dispensaries. National referral hospitals are at the apex of the health care system, providing sophisticated diagnostic, therapeutic, and rehabilitative services. The two national referral hospitals are Kenyatta National Hospital in Nairobi and Moi Referral and Teaching Hospital in Eldoret. The equivalent private referral hospitals are Nairobi Hospital and Aga Khan Hospital in Nairobi. Provincial hospitals act as referral hospitals to their district hospitals.

They also provide very specialized care. The provincial level acts as an intermediary between the national central level and the districts. They oversee the implementation of health policy at the district level, maintain quality standards, and coordinate and control all district health activities. Similar private hospitals at the provincial level include Aga Khan Hospitals in Kisumu and Mombasa. District hospitals concentrate on the delivery of health care services and generate their own expenditure plans and budget requirements based on guidelines from headquarters through the provinces. The network of health centres provides many of the ambulatory health services. Health centres generally offer preventive and curative services, mostly adapted to local needs. Dispensaries are meant to be the system’s first line of contact with patients, but in some areas, health centres or even hospitals are effectively the first points of contact. Dispensaries provide wider coverage for preventive health measures, which is a primary goal of the health policy. The government health service is supplemented by privately owned and operated hospitals and clinics and faith based organisations’ hospitals and clinics, which together provide between 30 and 40 percent of the hospital beds in Kenya.

2.4.2 Mission/Private Health Providers

Although several health oriented NGOs operate throughout the country, the population covered by these NGO health services cannot be easily determined. The MOH and external donors support the health services offered by NGOs and the private sector in several ways. Depending on their comparative advantage, NGOs, FBOs, and community based organisations (CBOs) undertake specific health services. The MOH provides support to mission health facilities by training their staff as well as seconding staff to
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these facilities and offering drugs and vaccines. Currently, the private sector (both for profit and not for profit) contributes over 40 percent of health services in the country, providing mainly curative health services and very few preventive services. Modalities exist for MOH supervision and monitoring of NGO, FBO and other private sector facilities (Richard, Paul, Michael, & Terry, 2005).

2.4.3 Health Needs in Kibera

The profile of health needs for the residents of Kibera is fitting with what we would expect for an urban informal settlement. The bulk of the workload comprises of outpatient consultations, 60 percent of which are for respiratory tract infections or diarrhoea. The MCH department services the sexual and reproductive health needs of the population and performs routine childhood immunisations. A large and growing cohort of HIV positive patients are diagnosed and monitored by the three clinics, mostly adults (Richard et al, 2005).

The populations of urban informal settlements such as Kibera face many unmet health needs. Many of these needs naturally overlap and will present in the same patient, for example, HIV/TB co-infections, the need for PMTCT services within routine ANC, or the relationship between malnutrition, immunity and infection (Global Alliance for Africa, 2011).

Lack of proper health services and facilities is a major problem in the slum due to the high fees charged by private clinics and the lack of alternative affordable health care services. Currently, there are four viable health clinics in Kibera slums; these clinics, however, are being overwhelmed by the demand for services from the ever growing population in the slum (AMREF, 2005).

Most individuals in Kibera slum live on less than one dollar per day, in six foot by six foot shanties constructed of mud walls and corrugated aluminium roofs. Inadequate sanitation, lack of clean water, and intermittent electricity contribute to the poverty, and poverty not only affects maternal and child health but also drives the infection rate for HIV up.

Kianda for instance is one of the largest and most congested villages in Kibera slum with only two proper medical facilities serving a population of 350,000. The population is
faced with many different kinds of infections, including water borne and air borne diseases. HIV/AIDS is rampant throughout the slum. A large percentage of the population in this community is jobless. Most people, especially women, engage in small scale business, like green groceries, kiosks, hair salons, and shoe repair, which have little return and cannot meet a household's daily basic needs. Many women do not take their newborn babies for immunization due to the long distance of the nearest clinics, lack of finances, or not being aware of the importance of immunizations for their children. Mortality rates for both adults and children are high and mainly due to AIDS related complications, as well as malaria, intestinal disease, and tuberculosis. In spite of the difficulty in collecting reliable statistical data, it is nonetheless estimated that the infection rate for HIV in Kibera slum is between 8 percent and 20 percent, one of the highest in Kenya (Global Alliance for Africa, 2011).

During a clinic session in Kibera, AMREF found that the majority of nearly 800 patients suffered respiratory infections, followed by rheumatism and joint pains, intestinal worms, diarrhoeal diseases and skin infections in that order (AMREF, 2005).

2.5 Chapter Summary

This chapter reviewed literature on the demographics and health status of the people in Kibera, the kind of medication and its accessibility. The next chapter will introduce the research methodology. This will include the research design, population and sampling design, data collection, research procedure and data analysis.
CHAPTER THREE

3.0 RESEARCH METHODOLOGY

3.1 Introduction

The main purpose of this study was to investigate the opportunities available to Multinational Pharmaceutical companies in Kenya’s slums for provision of healthcare. This chapter starts by addressing the research design of the study. It then goes on to discuss the population and sample design. The research procedure is also discussed. Under the research procedure, it reviews the method of pre-testing adopted. The chapter further discusses the data collection technique used and data analysis. A summary of the chapter is provided at the end.

3.2 Research Design

Research design is a plan of what data to gather, from whom, how and when to collect the data, and how to analyze the data obtained (Saunders, 2008). A research design can also be described as a systematic planning of research, usually including; the formulation of a strategy to resolve a particular question; the collection and recording of the evidence collected; processing and analysis of these data and its interpretation; and finally the publication of results (Saunders, 2008).

The research design that was adopted was descriptive. The principal use of descriptive research statistics is to describe information or data through the use of numbers. The characteristics of groups of numbers representing information or data are called descriptive statistics (Saunders, 2008). Saunders, Lewis and Thornhill (2003) have showed that surveys are one of the most utilized methods in business research since for they allow the collection of large amount of data from a sizeable population in a highly economic way while describing the status quo. The survey method was therefore justified for this research as it contains the most the advantageous traits given the large sample size and short time span for administration. Some of the traits include; flexibility of data collection, range of questions, sample management, control of the data collection environment, number of data, response rate, rate and expenditure.
3.3 Population and Sampling Design

3.3.1 Population

A population is the total collection of elements about which we wish to make inferences (Coopers and Schindler, 2003). In this study, the population of health centers and pharmacies in all villages in Kibera Slum is 18 and 22 respectively according to the listing by AMREF.

3.3.2 Sampling Design

3.3.2.1 Sampling Frame

A sampling frame is an objective listing of the population from which the researcher can make a selection (Denscombe, 2007). Given the small number of health centers and pharmacies in Kibera, the study sought to cover at least 30 of these health facilities.

3.3.2.2 Sampling Technique

Stratified random sampling according to Sheth, Bhrambhatt & Macwan (2009) is a technique generally applied in order to obtain a representative sample. Under stratified sampling, the population is divided into several sub-populations that are individually more homogeneous than the population, and the different sub-population are called strata. They observe that items are selected from each stratum to constitute a sample (Sheth, 2009).

Stratified random sampling is beneficial in that it helps increase the efficiency; provide adequate data for analysing various strata and enables different research methods and procedures to be used on different strata (Schindler and Cooper, 2000). Stratified random sampling will therefore be adopted.

3.3.2.3 Sample Size

The sample size was based on a formula developed by Yamane (1967) to calculate sample sizes equation. This makes it easy to get results that reflect the target population as precisely as needed. The researcher used this formula to determine the sample size which was 30.

\[ N = \frac{N}{1+N(e)^2} \]
3.4 Data Collection methods

Mugenda (2003), states that descriptive data are collected through questionnaires, interviews or by observation. Following the researcher’s selection of the data collection method, the actual process was started. The questionnaires were administered to the pharmacies and health centres using the drop and pick method.

3.5 Research Procedures

The researcher visited the selected pharmacies and health centres and informed them of the planned research. The researcher took this time to familiarize with the respondents so as to gauge their level of understanding of the area and its health needs. The researcher also got their telephone numbers to make it easier to plan for meetings when the questionnaires were ready. With guidance from the research supervisor, the questionnaires for the exercise were finalized by the researcher using references from existing literature.

A pilot test was then administered to a small sample of the selected health centers and pharmacies to gauge the level of understanding and comprehension of questionnaire by the targeted population. After the pilot test, the questionnaire was reviewed and once the instrument’s suitability was confirmed, the researcher made appointments with the respondents and administered the tool to the thirty targeted respondents that included 18 health centers and 22 pharmacies.

3.6 Data Analysis Methods

The overall method was descriptive statistics. The researcher prepared the data through coding, editing, and cleaning to ensure orderliness, legibility, consistency and reduced errors. Microsoft Excel was used for data cleaning and applicable analysis. Descriptive statistics of modes, frequencies, totals and percentages were computed for various variables. Statistical Package for Social Science (SPSS) computer software was used for statistical computations. These mostly included frequencies and frequency tables. Data from the findings has been presented using Microsoft Word in form of tables, graphs and charts.
3.7 Chapter Summary

This chapter identified the key issues to consider when collecting data. These ranged from identifying the population of interest, the sample frame, the sample size, data collection instrument, data analyzes and presentation in best understandable manner. In the next chapter, a detailed analysis of the data collected was done and findings were presented by the use of tables and figures.
4.0 RESULTS AND FINDINGS

4.1 Introduction

This chapter presents the findings of the primary data collected from the field using the questionnaire as a tool. The study sought to investigate the opportunities available to Multinational Pharmaceutical companies in Kenya’s slums for provision of healthcare. According to the formula for calculating sample size by Yamane (1967) as reviewed in the previous chapter, thirty (30) questionnaires were administered. A total of twenty two (22) respondents returned fully completed questionnaires; eight of the questionnaires had irrelevant response. The chapter gives the analysis of the information collected from the field that covered the demographics and the three research questions discussed. The findings are presented in form of tables and figures and an explanation of the results for each question.

4.2 Background Information

General information for the study comprised of type of health care provider, years of operation, and how much the health facilities were worth.

4.2.1 Type of Health Care Provider

The researcher sought to find out the type of health care provider the respondents represented. There were two strata for school to choose from, pharmacy and health center. Table 4.1 indicates that 32 percent of the respondents were from pharmacies, and 68 percent were from health centers. Thus, this shows that most of the respondents were from health centers.

Table 4.1: Type Health Care Provider

<table>
<thead>
<tr>
<th>Type of Health Care Provider</th>
<th>Frequency</th>
<th>Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pharmacy</td>
<td>7</td>
<td>32</td>
</tr>
<tr>
<td>Health centre</td>
<td>15</td>
<td>68</td>
</tr>
<tr>
<td>Total</td>
<td>22</td>
<td>100</td>
</tr>
</tbody>
</table>
4.2.2 Years of Operation

The researcher sought to find out the number of years the respondents involved in the study had been in operation.

As indicated in Figure 4.1 below, 59 percent of the respondents had been in operation for more than four years, with 73 percent of the respondents have been in operation for more than two years which demonstrate that they understand the area well.

![Figure 4.1: Years of Operation](image)

4.2.3 Business Worth

The researcher sought to find out how much the health providers were worth.

Table 4.3 indicates that 54 percent of the respondents' business was worth below a million with 68 percent of the business being worth below 2.5 million.

<table>
<thead>
<tr>
<th>Business Worth (Ksh)</th>
<th>Frequency</th>
<th>Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>100,000-500,000</td>
<td>6</td>
<td>27</td>
</tr>
<tr>
<td>500,000-1 million</td>
<td>6</td>
<td>27</td>
</tr>
<tr>
<td>1-2.5 Million</td>
<td>3</td>
<td>14</td>
</tr>
<tr>
<td>2.5-3 Million</td>
<td>1</td>
<td>5</td>
</tr>
<tr>
<td>More than 3 Million</td>
<td>3</td>
<td>14</td>
</tr>
<tr>
<td>Total</td>
<td>22</td>
<td>100</td>
</tr>
</tbody>
</table>
4.3 Assessing the Demographics of Kibera
This research question was evaluated in the second section of the questionnaire where the researcher wanted to establish whether the respondents were familiar with their surrounding and whether, and how the demographics of Kibera affected their operation.

4.3.1 Location within Kibera
The researcher sought to find out the village within Kibera where the respondents were located.

As indicated in Table 4.2, 36 percent of the health facilities were located in Kianda village, 27 percent in Ayany, 23 percent in Makina and 14 percent from other villages within Kibera. The majority of the respondents were therefore from Kianda village.

<table>
<thead>
<tr>
<th>Age</th>
<th>Frequency</th>
<th>Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>Kianda</td>
<td>8</td>
<td>36%</td>
</tr>
<tr>
<td>Ayany</td>
<td>6</td>
<td>27%</td>
</tr>
<tr>
<td>Makina</td>
<td>5</td>
<td>23%</td>
</tr>
<tr>
<td>Others</td>
<td>3</td>
<td>14%</td>
</tr>
</tbody>
</table>

4.3.2 Conversant with Kibera Demographics
The researcher sought to find out if the respondents were conversant with the demographics of Kibera and the results were as below.

As indicated in Figure 4.2, 68 percent of the respondents understood the demographics well with only 5 percent of the respondents not understanding the demographics well.

Figure 4.2: Conversant with Demographics of Kibera
4.3.3 Source of Funding

The researcher also ought to find out the source of funding for the health facilities.

As indicated in Figure 4.3 below, 68 percent of the respondents used their personal savings to run the health facility while 18 percent were funded by NGOs and FBOs while 5 percent were funded by the government.

![Figure 4.3: Source of Funding](image)

4.3.4 Supplier of Medicine

In finding out the supplier of medicine for the health facility, the researcher sought to understand who the current suppliers in this market are to analyse opportunities that can be created for them.

As indicated in Table 4.4, 73 percent of the suppliers of medicine for the health facilities were local distributors and 18 percent were MEDs.

<table>
<thead>
<tr>
<th>Age</th>
<th>Frequency</th>
<th>Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>Local Distributors</td>
<td>16</td>
<td>73%</td>
</tr>
<tr>
<td>KEMSA</td>
<td>1</td>
<td>5%</td>
</tr>
<tr>
<td>MEDS</td>
<td>4</td>
<td>18%</td>
</tr>
<tr>
<td>Others</td>
<td>1</td>
<td>5%</td>
</tr>
</tbody>
</table>
4.3.5 Demographics Factors Affecting the Health Providers

The researcher sought to find out the number of times the respondents had been absent from school in the term, bearing in mind that the research was done at the end of the term, two days before the schools closed for holiday. The findings are summarized in Table 4.4.

Table 4.5: Demographic Factors Affecting the Health Providers

<table>
<thead>
<tr>
<th>Factors</th>
<th>Mean</th>
</tr>
</thead>
<tbody>
<tr>
<td>Housing</td>
<td>1.46</td>
</tr>
<tr>
<td>Population</td>
<td>1.60</td>
</tr>
<tr>
<td>Social Amenities</td>
<td>1.59</td>
</tr>
<tr>
<td>Other medical facilities</td>
<td>1.65</td>
</tr>
<tr>
<td>Unemployment</td>
<td>1.31</td>
</tr>
</tbody>
</table>

As indicated in Table 4.4, respondents were in agreement that all the factors listed had an effect on their business. Housing and unemployment had the highest means with 1.46 and 1.31 consecutively. This was followed by social amenities which had a mean of 1.59, and population whose mean was 1.60 and last other medical facilities which had a mean of 1.65.

4.4 Current Health Status of Kibera Residents

This research question was covered in the third section of the questionnaire. The researcher sought to find the current health status Kibera residents. To adhere to this the researcher asked the respondents to rate some illnesses in order of frequency as encountered in their facility.

In asking these, the researcher sought to find out the major diseases reported in hospitals. By use of their records, the respondents were able to report on the most frequent cases reported.

Respiratory complications and diarrhoea were reported to be the most frequent illnesses reported in the health facilities. Others that were not listed but came up as frequently reported were reproductive health emergencies, STIs, complications in delivery and induced abortion.

The respondents were also asked to state whether some listed factors had an effect on the health of the people and their responses are as follows.
4.4.1 Air Pollution
Respondents were asked whether air pollution in Kibera has an effect on the health of its residents. From the table below, 36 percent of the respondents strongly agreed, 32 percent agreed, 9 percent were neutral and 23 percent of the respondents strongly disagreed that air pollution had an effect on the health of Kibera residents.

Table 4.6: Air Pollution

<table>
<thead>
<tr>
<th>Consent Level</th>
<th>Frequency</th>
<th>Percentage Frequency</th>
</tr>
</thead>
<tbody>
<tr>
<td>Strongly Agree</td>
<td>8</td>
<td>36</td>
</tr>
<tr>
<td>Agree</td>
<td>7</td>
<td>32</td>
</tr>
<tr>
<td>Neutral</td>
<td>2</td>
<td>9</td>
</tr>
<tr>
<td>Strongly Disagree</td>
<td>5</td>
<td>23</td>
</tr>
<tr>
<td>Total</td>
<td>22</td>
<td>100</td>
</tr>
</tbody>
</table>

4.4.2 Crowding
Respondents were also asked whether crowding has an effect on its resident’s health. From the figure below, 68 percent of the respondents strongly agreed, 23 percent agreed, 5 percent were neutral and 5 percent of the respondents strongly disagreed that crowding had an effect on the health of Kibera residents.

Figure 4.4: Crowding
4.4.3 Inadequate Sanitation
The researcher also asked the respondents whether inadequate sanitation in Kibera has an effect on the health of its residents. From the table below, 91 percent of the respondents strongly agreed, 5 percent agreed, 5 percent were neutral.

![Figure 4.5: Inadequate Sanitation]

4.4.4 Water Pollution
Respondents were also asked whether water pollution has an effect on its resident’s health. From the figure below, 58 percent of the respondents strongly agreed, 33 percent agreed, 7 percent were neutral and 2 percent of the respondents strongly disagreed that crowding had an effect on the health of Kibera residents.

![Figure 4.6: Water Pollution]
4.5 Accessibility of Medication

In the last part of the questionnaire, the researcher sought to find out the kind of medication prescribed to the people and its accessibility. Various factors were listed where the respondents were to state whether the factors dictated the kind of medication to be prescribed.

4.5.1 Understanding of Accessibility of Health Care in Kibera

Respondents were also asked whether they understood about the accessibility of health care in Kibera. From the figure below, 23 percent of the respondents reported that they understood about the accessibility of health care well, 55 percent understand it well, 18 percent understand it moderately while 5 percent did not understand it well.

Table 4.7: Understanding of Accessibility of Health Care in Kibera

<table>
<thead>
<tr>
<th>Frequency</th>
<th>Percentage Frequency</th>
</tr>
</thead>
<tbody>
<tr>
<td>Not well</td>
<td>1</td>
</tr>
<tr>
<td>Moderately</td>
<td>4</td>
</tr>
<tr>
<td>Well</td>
<td>12</td>
</tr>
<tr>
<td>Very well</td>
<td>5</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>22</strong></td>
</tr>
</tbody>
</table>

4.5.2 Number of Health Centers

The researcher also wanted to know the number of health centers in Kibera. To adhere to this, he asked the respondents to outline the number of health centers they know of in the area.

As outlined in table 4.8, 36 percent of the respondents said that they knew of more than fifteen health centers which was a good indication of the number of the health facilities.
Table 4.8: Number of Health Centers

<table>
<thead>
<tr>
<th>Number of Health Centers</th>
<th>Number</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>4-7</td>
<td>6</td>
<td>27%</td>
</tr>
<tr>
<td>8-11</td>
<td>7</td>
<td>32%</td>
</tr>
<tr>
<td>12-15</td>
<td>1</td>
<td>5%</td>
</tr>
<tr>
<td>More than 15</td>
<td>8</td>
<td>36%</td>
</tr>
</tbody>
</table>

4.5.3 Low Price of Drugs
The researcher also wanted to know whether the people were price sensitive thus informing on the kind of medication to prescribe.

The results as presented in the table below revealed that the residents were price sensitive since the 82 percent of the respondents prescribed drugs that were at low prices because of the economic status of the this market.

Table 4.9: Price of drugs

<table>
<thead>
<tr>
<th>Frequency</th>
<th>N=22</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Yes</td>
<td>18</td>
<td>82</td>
</tr>
<tr>
<td>No</td>
<td>4</td>
<td>18</td>
</tr>
<tr>
<td>Total</td>
<td>22</td>
<td>100</td>
</tr>
</tbody>
</table>

4.5.4 Accessibility of the Drugs
The researcher also wanted to know whether the respondents prescribe drugs that are easily accessible in the area or those that are necessary given the kind of ailment.

Data collected as shown in figure 4.8, revealed that 96 percent of the respondents prescribed drugs that were easily accessible in the area, with only 4 percent of the respondents stating otherwise.
4.5.5 Effectiveness of the Drugs
The researcher also wanted to know whether effectiveness of a drug would lead the respondents to prescribe the drugs.
Data collected as shown in the table below revealed that 100 percent of the respondents prescribed drugs because of their effectiveness.

Table 4.10: Drugs Effectiveness

<table>
<thead>
<tr>
<th></th>
<th>Frequency</th>
<th>Percentage Frequency</th>
</tr>
</thead>
<tbody>
<tr>
<td>Not well</td>
<td>22</td>
<td>100</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>22</strong></td>
<td><strong>100</strong></td>
</tr>
</tbody>
</table>

4.5.6 Company of Manufacture
The researcher also wanted to know whether the respondents considered the company of manufacture when prescribing drugs.
Data collected as shown in figure 4.8 revealed that 64 percent of the respondents considered the company of manufacture when prescribing drugs and 36 percent of the respondents did not consider the company of manufacture while prescribing drugs.
4.5.6 Availability of Drugs

The researcher also wanted to know whether the respondents ever run out of drugs in their store and the reasons behind these.

As indicated in the table below, 68 percent of the respondents admitted that at times they run out of drugs in their facilities with 32 percent of the respondents saying that they do not run out of drug. The reasons given for these were delays in delivery, planning problems, lack of free cash flows, supply logistics and in other cases long bureaucracy.

Table 4.11: Availability of Drugs

<table>
<thead>
<tr>
<th></th>
<th>Frequency</th>
<th>Percentage Frequency</th>
</tr>
</thead>
<tbody>
<tr>
<td>Yes</td>
<td>15</td>
<td>68</td>
</tr>
<tr>
<td>No</td>
<td>7</td>
<td>32</td>
</tr>
<tr>
<td>Total</td>
<td>22</td>
<td>100</td>
</tr>
</tbody>
</table>

4.6 Chapter Summary

This chapter presented key findings of the survey by way of tables and figures. It was sub-divided into four sections whereby the background information of the respondents was obtained then followed by findings of the research questions. In the next chapter, a summary of the findings was drawn followed by discussion of the finding of the specific objectives. Conclusions and recommendations will also be presented.
CHAPTER FIVE

5.0 DISCUSSION, CONCLUSION AND RECOMMENDATIONS

5.1 Introduction

This chapter discusses the findings from analysis of the data collected from the respondents and develops insights into the results based on the research questions. Given that this study aimed at investigating the opportunities available to Multinational Pharmaceutical companies in Kenya’s slums for provision of healthcare, a discussion of the main findings of the study and the limitations of the research are made with the overall study area in mind. The chapter is organized as: Summary; Discussion of findings; Conclusions and recommendations for improvement and further research. The research is concluded on the basis of the conclusions drawn from the research questions.

5.2 Summary

The main purpose of the study was to establish the opportunities available to Multinational Pharmaceutical companies in Kenya’s slums for provision of healthcare. To adhere to this, demographics of Kibera slum were established, current health status of the residents of Kibera were explored to ascertain gaps, and finally, the paper sought to find out the kind of medication do the people take and how accessible it is.

Descriptive research design was adopted. The sample selected was thirty respondents. Stratified random sampling was used. The study had two strata, the first represented respondents from health centers and the other represented respondents from pharmacies. It was then analyzed using Statistical Package for Social Sciences (SPPS) software using descriptive statistics indexes such as frequency and mean. The data was presented in the form of tables and figures according to the research questions.

The study showed the impact of demographic factors in Kibera on the health of the residents which also affects the health care providers. The form of housing for instance leads to the spread of airborne diseases which is also escalated by the high population. Decent housing in the area is very expensive especially for the health facilities that have lower margins from the sales they have in the area. The high population also creates a large market for goods and services offered thus the pharmaceutical companies could take this market as a niche and capitalize on producing generic drugs that can cater for this
market. Another opportunity for pharmaceutical companies would be working with NGOs and FBOs that offer free medical services to the residents.

The study also found out that respiratory complications and diarrhoea are the most frequent illnesses reported in the health facilities in Kibera. Crowding, water pollution, air pollution and inadequate sanitation were also some of the major causes of the poor health standards and therefore needed to be focused on to ensure that the residents health is restored.

Regarding medication accessibility, the study established the need to have other health facilities set up in the area given the large population and the current number of health facility. The government should therefore have a focus on this area to ensure more health centres are set up. The research also noted that most of the respondents run out of drugs from one time to another. Thus the importance of having the pharmaceutical companies come up with a strategy to ensure that their sales people on the ground to supply the pharmacies on time to reduce the delays in supply.

The consecutive paragraphs discuss major findings in details, making conclusions and offering practical recommendations from the study’s revelations.

5.3 Discussion

5.3.1 Demographics of Kibera

According to a report by Kibera (2007) indicated that most of the health providers in the area are charitable organizations and churches. However the research revealed that majority of the health providers finance their facilities from their saving this was at 68 percent while 18 percent were funded by NGOs and FBOs while 5 percent were funded by the government.

The same report by Kibera (2007) outlined factors that have an effect on health of the residents of Kibera include; housing which is mainly characterized by congestion, unemployment which results to insecurity and low paying capacity for health care, lack of easily accessible social amenities, scarce medical facilities and very high population. The respondents in the study were in agreement that all the factors listed had an effect on their
business. Housing and unemployment had the highest means with 1.46 and 1.31 consecutively. This was followed by social amenities which had a mean of 1.59, and population whose mean was 1.60 and last other medical facilities which had a mean of 1.65.

Further to stating whether the demographics factors had an effect on the residents’ health, the respondents explained how this had an effect on the business. In terms of housing, the respondents outlined that most housing structures lack adequate ventilation which leads to spread of diseases within the household. According to Kibera (2010) the average size of shack in Kibera is six feet by six feet built with mud walls, screened with concrete, a corrugated tin roof, dirt or concrete floor which affirms to the response from the respondents. The respondents also expressed that rent was very expensive for the descent housing which is need to set up the health centers which cut on profitability since the medication supplied to these areas are of low price. This therefore discourages more people from setting up health centers. In regard to population, Umande Trust Kibera (2010) estimates the population of Kibera to be approximately more than nine hundred thousand. The respondents in this study felt that there was a huge market and higher sales in the area because of the large population. The respondents also noted that despite having high sales, the margins were very low due to pricing. This is due to high poverty levels and low employment as indicated in the report by Kibera (2007) that states that the rate of unemployment in Kibera is at 50 percent, with majority of people leaving under $1 a day. In terms of social amenities, the respondents noted that during rainy season, poor drainage system had an adverse effect on the residents because of the foal smell, litter. Electricity outages were also a common occurrence and delayed provision of various services. This is confirmed by Kibera (2007) which notes that only about 20 percent of Kibera has electricity. It also notes that there are no toilet facilities. One latrine (hole in the ground) is shared by up to 50 shacks and the contents are emptied in the nearby river thus producing the foul smell. In terms of medical facilities, the respondents noted that the main challenge was free medication and quacks which hampered the clientele flow but generally there was little competition. Lastly, the respondents noted with a great concern that the economic empowerment of most residents was very low since most of them are poor and hardly save for medical emergencies. This therefore leads to stocking of cheap generics and the treating of symptoms other than the root cause of diseases.
5.3.2 Current Health Status of Kibera Residents

According to Antunes and Waldman (2001) diseases transmitted through respiratory and fecal oral routes are more frequent in situations involving crowding, for example tuberculosis, rheumatic heart disease, and helminthic infections. The study confirmed this for respiratory complications and diarrhea were reported to be the most frequent illnesses reported in the health facilities. Others that were not listed but came up as frequently reported were reproductive health emergencies, STIs, complications in delivery and induced abortion. However homicide and mental illness did not come up as frequent illnesses in Kibera as had been stated by Krieger and Higgins (2002). The respondent were however in agreement that crowding had an effect on the residents health status with 68 percent of the respondents strongly agreeing, 23 percent agreeing, 5 percent being neutral and 5 percent of the respondents strongly disagreeing that crowding had an effect on the health of Kibera residents.

Indoor air pollution in Kibera slum is most often associated with the use of biomass fuels coal, wood, animal dung, and kerosene, although indoor tobacco smoke is also an increasing contributor. According to EHP (1999), air pollution, from both indoor and outdoor sources, is one of the major risk factors for developing acute respiratory infections, the most important cause of death for children between 1 and 5 years of age in developing countries. 68 percent of the respondents interviewed agreed that air pollution had an effect on the health of the residents.

91 percent of the respondents agreed that water pollution in Kibera had an adverse effect on the residents’ health. This therefore strongly confirmed earlier research by UNICEF (2000), which stated that lack of a direct source of water limits hand washing, cleaning food and utensils, bathing, and washing laundry. The respondents also noted that efforts to encourage hand washing in the area by UNICEF and WHO through encouraging school children to wash their hands had reduced the cases of water borne diseases.

Inadequate sanitation is a major risk factor for diarrheal and parasitic disease, including schistosomiasis according to Mabogunje (2002). Inadequate waste collection services present a variety of hazards, especially in the shantytowns often erected rapidly in any available space in and around the city. Uncollected solid waste may also prevent adequate
water drainage and contribute to water pollution. The respondents were in agreement with this with 91 percent of them strongly agreeing that inadequate sanitation in Kibera was one of the health risk factors.

5.3.3 Accessibility of Medication

Global Alliance for Africa (2011) stated that Kianda, which is a village in Kibera with a population of about 350,000 had only two proper medical facilities. The researcher therefore sought to find out how many health centres the respondents knew about in the area. It was worrying to note that only 36 percent of the respondents said that they knew of more than fifteen health centers in the entire slum.

Most individuals in Kibera slum live on less than one dollar per day, in six foot by six foot shanties constructed of mud walls and corrugated aluminium roofs (Kibera, 2010). The researcher therefore sought to know if the residents are price sensitive when it comes to health issues given their financial background. The results revealed that the residents were price sensitive since the 82 percent of the respondents prescribed drugs that were at low prices because of the economic status of the this market. 96 percent of the respondents also stated that they prescribed drugs that were easily accessible in the area with accessibility being determined by price. 100 percent of the respondents however said the drugs prescribed were based on their effectiveness. The research also revealed that 64 percent of the respondents considered the company of manufacture when prescribing drugs and 36 percent of the respondents did not consider the company of manufacture while prescribing drugs. This is very crucial for pharmaceutical companies because it clearly shows that the brand really matters and they should therefore seek to strengthen their brand so that it can be preferred among the people.

The researcher also sought to find out whether the health facilities under research run out of drugs and the reasons for these outages. 68 percent of the respondents admitted that at times they run out of drugs in their facilities with 32 percent of the respondents saying that they do not run out of drug. The reasons given for these were delays in delivery, planning problems, lack of free cash flows, supply logistics and in other cases a lot of bureaucracy.
5.4 Conclusions

5.4.1 Demographics of Kibera

With regard to the demographics of Kibera, the study concludes that demographic factors in Kibera have a very high impact on the health of the residents which also affects the health care providers. The form of housing leads to the spread of airborne diseases which is also escalated by the high population. Decent housing in the area is very expensive especially for the health facilities that have lower margins from the sales they have in the area.

The high population also creates a large market for goods and services offered thus the pharmaceutical companies could take this market as a niche and capitalize on producing generic drugs that can cater for this market. Another opportunity for pharmaceutical companies would be working with NGOs and FBOs that offer free medical services to the residents.

5.4.2 Current Health Status of Kibera Residents

The study also concludes that respiratory complications and diarrhoea are the most frequent illnesses reported in the health facilities in Kibera and therefore the pharmaceutical companies ought to develop cheaper drugs for these ailments targeting this market.

Crowding, water pollution, air pollution and inadequate sanitation were also some of the major causes of the poor health standards and therefore needed to be focused on to ensure that the residents health is restored.

5.4.3 Accessibility of Medication

Regarding medication accessibility, the study concludes that there is need to have other health facilities in the area given the large population and the current number of health facility. The government should therefore have a focus on this area to ensure that housing for health centres are provided for a cheaper amount to encourage more people to set up their practices in the area. The study also concludes that the residents of Kibera are price sensitive and drugs supplied should be relatively cheaper but effective and easily accessible to the pharmacies. The research also noted that most of the respondents run out of drugs from one time to another. It would therefore be important to ensure that the
multinational pharmaceutical companies have adequate distribution of their medicines to the slum areas to supply the pharmacies on time to reduce the delays in supply.

5.5 Recommendations

5.5.1 Recommendation for Improvement

5.5.1.1 Demographics of Kibera

This study recommends that the multinational pharmaceutical companies should endeavor to introduce high quality generic medicines which are within the reach of slum population. The multinational corporations should highly consider introducing medicines effective in management of infectious diseases like diarrhea and respiratory tract infections which were found to be very common in the slum area.

5.5.1.2 Current Health Status of Kibera Residents

The recommendation is that the factors that affect the residents should be considered by government and development bodies to ensure that they are addressed and thereby reduce the health hazards of the residents.

5.5.1.3 Accessibility of Medication

This study recommends that the pharmaceutical companies should ensure there is adequate distribution of their medicines to the slum areas to ensure that the health centers do not run out of medicine and that delays and bureaucracy are minimized.

5.5.2 Recommendations for Further Studies

Further studies should be conducted on to find out whether partnership with NGOs and FBOs would be the best strategy for the pharmaceutical companies to use in supply of the medicine or whether direct deliveries to health centers is the best strategy.
REFERENCES


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APPENDIX

QUESTIONNAIRE

Increasing Access to Healthcare in the Slums by Multinational Pharmaceutical Companies

This questionnaire is part of a research study for Masters of Business Administration (MBA) at the United States International University. The research seeks to find out the opportunities available to Multinational Pharmaceutical companies in Kenya’s slums for provision of healthcare. Your answers will be treated with strict confidentiality by the researcher, and no respondents will be identified individually.

Instructions: A respondent to this questionnaire must be working in a health center or in a pharmacy in Kibera.

SECTION 1: Respondent’s Details

1. Type of health care provider (*Please tick one*)
   Pharmacy  ①
   Health center  ②

2. Years of operation (*Please tick one*)
   0 - 1 year  ①
   1 - 2 years  ②
   2 - 3 years  ③
   3 - 4 years  ④
   More than 4 years  ⑤

3. Location within Kibera (*Please tick one*)

4. Business worth in terms of Kshs

5. Source of funding

6. Who supplies you with medicine?
SECTION 2: Demographics of Kibera

7. How well do you understand the demographics of Kibera

<table>
<thead>
<tr>
<th>Options</th>
<th>Code</th>
</tr>
</thead>
<tbody>
<tr>
<td>Not well</td>
<td>1</td>
</tr>
<tr>
<td>Just an Idea</td>
<td>2</td>
</tr>
<tr>
<td>Moderately</td>
<td>3</td>
</tr>
<tr>
<td>Well</td>
<td>4</td>
</tr>
<tr>
<td>Very Well</td>
<td>5</td>
</tr>
</tbody>
</table>

8. Do the following factors have an effect on your business and how/why? (Please tick one response and explain how/why this has/does not have an effect on your business)

<table>
<thead>
<tr>
<th>Factors</th>
<th>Strongly agree</th>
<th>Agree</th>
<th>Neutral</th>
<th>Disagree</th>
<th>Strongly disagree</th>
</tr>
</thead>
<tbody>
<tr>
<td>(a) Housing</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>(b) Population</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>(c) Social Amenities</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>(d) Other medical facilities</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>(e) Rate of unemployment of the dwellers</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
</tbody>
</table>
### SECTION 3: How is the current Health Status of Kibera

9. Please rate the following illnesses in order of most frequent cases?

<table>
<thead>
<tr>
<th>Illness</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Pneumonia</td>
<td></td>
</tr>
<tr>
<td>Diarrhoeal diseases</td>
<td></td>
</tr>
<tr>
<td>Malnutrition and Anaemia</td>
<td></td>
</tr>
<tr>
<td>HIV/AIDS</td>
<td></td>
</tr>
<tr>
<td>Tuberculosis (TB)</td>
<td></td>
</tr>
<tr>
<td>Malaria</td>
<td></td>
</tr>
<tr>
<td>Respiratory complications</td>
<td></td>
</tr>
<tr>
<td>Mental Issues</td>
<td></td>
</tr>
<tr>
<td>Stress/Depression</td>
<td></td>
</tr>
</tbody>
</table>

Others: ........................................................................................................
........................................................................................................
........................................................................................................
........................................................................................................
........................................................................................................

10. Do the following factors have an effect on the health status of the people in Kibera? Please tick and elaborate.
### SECTION 4: What kind of medication do the people take and how accessible is it?

11. How well do you understand accessibility of health care in Kibera?

Not well  1  
Just an Idea  2  
Moderately  3  
Well  4  
Very Well 5

12. How many health centers in Kibera do you know of?

0-3  1  
4 - 7  2  
8- 11  3  
12- 15  4  
More than 15  5
13. Do the following factors dictate the kind of medication to prescribe/issue? (Tick and explain why)

a) Low Price

<table>
<thead>
<tr>
<th>YES</th>
<th>NO</th>
</tr>
</thead>
</table>

Explain

b) Accessibility of the drug

<table>
<thead>
<tr>
<th>YES</th>
<th>NO</th>
</tr>
</thead>
</table>

Explain

c) Effectiveness of the drug

<table>
<thead>
<tr>
<th>YES</th>
<th>NO</th>
</tr>
</thead>
</table>

Explain

d) Company of manufacture

<table>
<thead>
<tr>
<th>YES</th>
<th>NO</th>
</tr>
</thead>
</table>

Explain

e) Others

<table>
<thead>
<tr>
<th>YES</th>
<th>NO</th>
</tr>
</thead>
</table>

Explain

14. Do you run out of drugs in your facility?

<table>
<thead>
<tr>
<th>YES</th>
<th>NO</th>
</tr>
</thead>
</table>

(b) Explain the reasons why?
15. Do you have access to drugs in your facility?

YES ☐ NO ☐

(b) If Yes, who supplies you? (If no answer section c)


b) If No, why? Suggest ways to assist you.


16. Please suggest the kind of drugs you would like to stock in your facility and give an estimate of patients you receive who need this drug per week.

<table>
<thead>
<tr>
<th>Name of Drug</th>
<th>Illness</th>
<th>Number of patients in a week</th>
</tr>
</thead>
<tbody>
<tr>
<td>i</td>
<td></td>
<td></td>
</tr>
<tr>
<td>ii</td>
<td></td>
<td></td>
</tr>
<tr>
<td>iii</td>
<td></td>
<td></td>
</tr>
<tr>
<td>iv</td>
<td></td>
<td></td>
</tr>
<tr>
<td>v</td>
<td></td>
<td></td>
</tr>
<tr>
<td>vi</td>
<td></td>
<td></td>
</tr>
<tr>
<td>vii</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>