AN ASSESMENT OF HEALTH SYSTEM IN KENYA: TOWARDS THE ACHIEVEMENT OF UNIVERSAL HEALTH COVERAGE

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Abstract

Crude death rates and mortality rates have been high in most of the developing countries due to inaccessibility to health care facilities. For this reason the Kenyan Government, in its bid to realize the universal health care, it has made many changes in the health sector. This study was therefore carried out to assess Kenya's health system so as to determine its role in the achievement of universal health coverage. While using the desk review approach, the study was carried out between September and December 2018. The main key indicators which were used include; Leadership and Governance, Health Financing, Health Workforce, Medicines and Vaccines, Information Systems and Service Delivery. It was found out that that Kenya has real made a great milestone in most of the key aspects in its journey to realize universal health coverage. Transformational leadership skills have been put into practice and many policies have been formulated and implemented. The number of qualified workforce with necessary skills and experience is increasing and proper guidelines on the use of medicines have been given. It is also worth noting that most of the systems in health facilities have been integrated and this has eased information tracking for patients.

The study recommended that if the realization of universal health coverage is going to be a reality, the following need to be done; Increase health budget allocation from the current 7% to 15% as per the Abuja declaration, Align NHIF to UHC which includes; redefinition of NHIF to include Multi- Tier benefit packages, Improve terms of service for medical doctors and Equip public health facilities so that it becomes the best option as opposed to private (Health financing to improve health infrastructure) health facilities.

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Introduction

Kenya became independent in 1963 when it gained independence from the British. Among the first proposals of a newly formed Government was to offer free health care to all Kenyans with an aim of accelerating economic development. A free health care for all was finalized in 1965 and any form of fees was done away with in all public clinics that were managed locally. The health system was nationalized by the health ministry in 1970 and a free health care system was extended to all Government health facilities. That continued for a short period of about three years until 1973 when it became impossible for the Government to continue offering free health service to its citizens due to economy stagnation. As a result user fees were reinstated in 1989 by the ministry of health.

The process of reformation took place in 1992 and this led to the realization of management boards at the district levels to ensure that funds are available for all health services more especially in the peripheral areas as well as facilitating cost-sharing between the central government and the local government. More financial restraints continued to an extent of carrying out massive restructuring of all health systems which were implemented in the midst of the 1990s. The Kenya Health Policy Framework Paper was published by the Government of Kenya in 1994; giving a long term vision of the sector from 2010 onwards with an emphasis that quality health care should be affordable, acceptable and accessible to all members of the public.

The policy was used as a guiding strategy and was implemented through two five year plans, one from 1999 to 2004 and another one from 2005 to 2010. The health system was organized in an hierarchical pyramid with dispensaries in the villages being of the highest number but at lowest level of care. Higher on the pyramid are the provincial hospitals and district health centers and at the top most is Kenyatta National Hospital which is the largest Government hospital. When the new constitution took effect in 2010, the primary as well as the secondary health services was devolved to the 47 counties of the republic of Kenya. The ministry of health at national level continued to provide support in matters of policy making and technical guidance to all prioritized national programs as well as being in charge of human resource for health in all medical schools, public universities and teaching hospitals of the universities. It is also in charge of all referral hospitals in the republic.

When the constitution of 2010 came into force fully in 2013, change in roles was implemented and as a result most of the responsibilities of the national government were devolved to the counties. This form of devolution was to ensure that health resources are equitably distributed so as to improve delivery of service to all Kenyans, more especially those in the rural areas and in the long run realize universal health coverage in the entire republic of Kenya.

Health is a devolved function that is offered at National and county levels. Policy directions guides both County and National Governments on the operational priorities they need to focus on in Health. The current national transformation agenda revolves around the big four namely: Universal Health Coverage; Food Security; Affordable housing; and manufacturing.

Health Systems in Kenya

The health systems in Kenya uses the following health indicators Health Financing,Health workforce(HRM) and Service delivery entail all the labour force directly involved in the delivery of health services Health financing includes the budgetary allocation to health sectors.Access to essential medicines, where Access is measured in terms of the availability, affordability and quality of essential medicines. Quality is represented by the absence of expired stock on pharmacy shelves and adequate handling and conservation conditions. Rational use is measured by examining prescribing and dispensing practices and the implementation of strategies that have been shown to support rational use, such as standard treatment guidelines and the essential medicines list.Health information systems, include the storage and dissemination of health records. While Leadership/Governance entails how the entire sector is organized and managed.

Universal Health Coverage in Kenya (UHC)

UHC is defined as a means of providing all people with access to affordable, quality health care services in order to ensure that they obtain the health services they need without suffering financial hardship when paying for them (WHO, 2012)

As per vision 2030, Kenya's health system is focused towards attainment of the highest possible health standards in a manner responsive to the population needs. This is in line with the World Health Organization (WHO),sustainable development goals and Africa agenda 2063.Several key policy documents have been drafted to support this realization. For instance, Kenya health policy framework 2014-2030, The Kenya Health Sector Strategic and Investment Plan – KHSSP, Constitution of Kenya-2010). Kenya's healthcare system is structured in a hierarchical manner with six levels of care: Level 1: Community; Level 2: Dispensaries; Level 3: Health centres; Level 4: Primary referral facilities, Level 5: Secondary referral facilities and Level 6: Tertiary referral facilities.

According to WHO (1948), Universal health coverage (UHC) implies that all persons as well as communities can use the curative, promotive, preventive, palliative and rehabilitative health services they require, of assured quality so as to be effective and at the same time ensuring that the employment of these services does not expose the user to financial challenges. Health being among the big four in Kenya's agenda, its universal coverage can be realized through emphasis of various indicators such as: Health Financing, Health Financing, Health workforce (Human Resource Management), Service Delivery, Access to Essential Medicines, Health Information Systems and Leadership or Governance.

Towards achieving UHC in Kenya,It is projected that by 2022, Kenya will achieve 100 percent universal health coverage with an estimated total population of 51,572, 636. Journey to that realization is as given in Figure 1.1

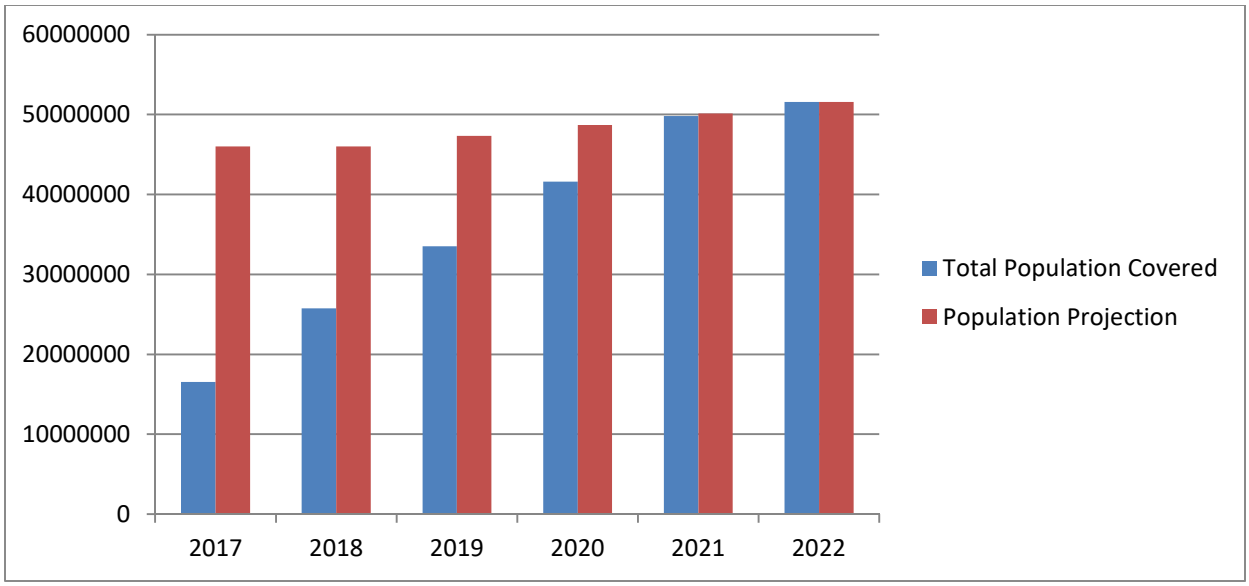

Figure 1: Universal Health Coverage in Kenya and its Projected Population

Source: WHO (2019)

Figure 1 shows that in 2017, Kenya had an estimated total population of 46,000,000 but only an estimated population of 16,538,982 had access to universal health care. By 2018 it increased to 25,740,788 with a total projected population of 46,000,000. By 2019, it is estimated that it will increase to 33,517,183 as the projected population increases to 47,334,000. The total national population is projected to increase to 48,706,686, 50,119,180 and 51,572,636 in 2020, 2021 and 2022 respectively. Within these periods, universal health care coverage is expected to increase by 85 percent in 2020, 99 percent in 2021 to 100 percent in 2022 where a total population of 51,572,636 will be covered.

Literature Review

According to English, (2004), the district hospital is considered essential for delivering basic, cost-effective health care to children in resource poor countries. The study aimed at investigating the performance of these facilities in Kenya. Government hospitals providing first referral level care were prospectively sampled from 13 Kenyan districts. Workload statistics and data documenting the management and care of admitted children were obtained by specially trained health workers. Data from 14 hospitals were surveyed with routine statistics showing considerable variation in inpatient paediatric mortality (range 4–15%) and specific case fatality rates (like, anaemia 3–46%). The value of these routine data is seriously undermined by missing data, apparent avoidance of a diagnosis of HIV/AIDS, and absence of standard definitions. Case management practices are often not in line with national or international guidelines. For malaria, signs defining severity such as the level of consciousness and degree of respiratory distress are often not documented (range per hospital 0–100% and 9–77%, respectively), loading doses of quinine are rarely given (3% of cases) and dose errors are not uncommon. Resource constraints such as a lack of nutritional supplements for malnourished children also restrict the provision of basic, effective care. The study recommends that even crude performance measures suggest there is a great need to improve care and data quality, and to identify and tackle key health system constraints at the first referral level in Kenya. Appropriate intervention might lead to more effective use of health workers' efforts in such hospitals.

Another study by Mathauer (2008) contributed to this analysis by analyzing and understanding the demand for (social) health insurance of informal sector workers in Kenya by assessing their perceptions and knowledge of and concerns regarding health insurance and the Kenyan National Hospital Insurance Fund (NHIF). It serves to explore how informal sector workers could be integrated into the NHIF.To collect data, focus group discussions were held with organized groups of informal sector workers of different types across the country, backed up by a self-administered questionnaire completed by heads of NHIF area branch offices. It was found that the most critical barrier to NHIF enrolment is the lack of knowledge of informal sector workers about the NHIF, its enrolment option and procedures for informal sector workers. Inability to pay is a critical factor for some, but people were, in principle, interested in health insurance, and thus willing to pay for it. In sum, the mix of demand-side determinants for enrolling in the NHIF is not as complex as expected. This is good news, as these demand-side determinants can be addressed with a well-designed strategy, focusing on awareness raising and information, improvement of insurance design features and setting differentiated and affordable contribution rates.

According to Kihuba et al. (2014), Hospital management information systems (HMIS) is a key component of national health information systems (HIS), and actions required of hospital management to support information generation in Kenya are articulated in specific policy documents. The study evaluated core functions of data generation and reporting within hospitals in Kenya to facilitate interpretation of national reports and to provide guidance on key areas requiring improvement to support data use in decision making. The survey was a cross-sectional,

cluster sample study conducted in 22 hospitals in Kenya. The statistical analysis was descriptive with adjustment for clustering. It was found out that Most of the HMIS departments complied with formal guidance to develop departmental plans. However, only a few (3/22) had carried out a data quality audit in the 12 months prior to the survey. On average 3% (range 1–8%) of the total hospital income was allocated to the HMIS departments. About half of the records officer positions were filled and about half (13/22) of hospitals had implemented some form of electronic health record largely focused on improving patient billing and not linked to the district HIS. Completeness of manual patient registers varied, being 90% (95% CI 80.1–99.3%), 75.8% (95% CI 68.7–82.8%), and 58% (95% CI 50.4–65.1%) in maternal child health clinic, maternity, and pediatric wards, respectively. Vital events notification rates were low with 25.7, 42.6, and 71.3% of neonatal deaths, infant deaths, and live births recorded, respectively. Routine hospital reports suggested slight over-reporting of live births and under-reporting of fresh stillbirths and neonatal deaths. Study findings indicate that the HMIS does not deliver quality data. Significant constraints exist in data quality assurance, supervisory support, data infrastructure in respect to information and communications technology application, human resources, financial resources, and integration.

Methodology

Systematic desk review of the literature on health systems was performed between the months September and December 2018 in the republic of Kenya. The review was based on the available health sector reports which were in the public domain and data from the United Nations on millennium development goal indicators as well as World Bank. These sources were complemented by literature search in various electronic databases.

Situation Analysis of Health Systems in Kenya

As given in Table 1.1 Various indicators were used to measure universal health coverage in Kenya, that is, Leadership and Governance whereby attributes such as accountability, collaboration and availability of sector strategies were considered. Health financing was another indicator which was considered and in this case attributes such as adequacy for health funding and out of pocket expenditure payments were analyzed

Quantity available as well as their distribution of the work force was analyzed while considering the aspect of human resource available in the health sector. On the same note, availability of medicines and vaccines was also considered as well as the extent to which health facilities are using the integrated information system. Service delivery also formed part of the key measuring indicator and in this case attributes such as coverage and the package of integrated services were considered. The information can be summarized as in Table 1 below:

Table 1: Assessment Criteria Using Six Key Indicators

Health Key Indicator	**Reviewed Attribute**
Leadership and Governance	Accountability Collaboration

	Availability of sector strategies
Health Financing	Expenditure payments Adequacy of funding for health
Health Human Resource	Quantity of workforce Distribution of workforce
Medicines and Vaccines	Availability of medicines and vaccines
Information System	Facility based data utilization and reporting
Service Delivery	Package of integrated services Coverage

Findings

Leadership and Governance

Most of the African countries have incorporated the millennium development goals. In Kenya they have been implemented through the national MDG planning process. Kenya also has formulated the National Health Sector Strategic Programs or Plans of work which will enhance the achievement of universal health coverage. Many plans have therefore been formulated in Kenya such as reproductive health strategy, communication strategy, child health and immunization.

Other programs include; up-to-date national health strategy linked to national needs and priorities, a published national medicines policy, existence of policies on medicines procurement that specify the most cost-effective medicines in the right quantities, existence of a national strategic plan for tuberculosis, existence of a national malaria strategy or policy that includes drug efficacy monitoring, vector control and insecticide resistance monitoring, existence of a comprehensive reproductive health policy consistent with the ICPD action plan, existence of an updated comprehensive, multiyear plan for child immunization, existence of mechanisms for obtaining opportune client input on appropriate, timely and effective access to health services.

It was also found out that Kenya have a formal collaborating arrangement with development partners through the sector wide approach (SWAp) whose objective is to have all significant health sector funding supporting a single policy and expenditure program. Since inception of SWAp in Kenya, the country holds annual joint review meetings with stakeholders as one form of accountability;

Health Financing

The health sector budgetary allocation was considered and it was found to increase as given in Figure 2. In the realization of universal health coverage, the Government of Kenya has increased its budgetary allocation to health from the lowest 5 percent of total Government Expenditure in 2000 to 10 percent of total Government Expenditure by the year 2022.

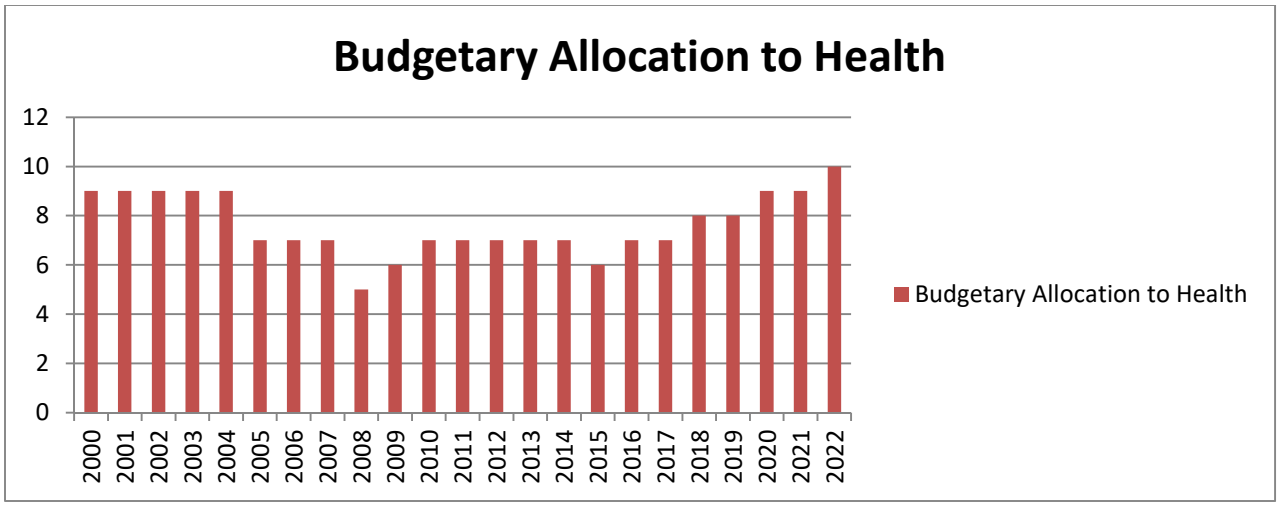

Figure 2: Budgetary Allocation

Figure 2 shows health financing from 2000 to how it is projected to be in 2022. It is evident that the Government of Kenya expects to achieve a 10 percent budgetary allocation in 2022. This will ensure that services beyond the reach of the poor are made accessible to them thus contributing positively towards the achievement of the universal healthcare coverage.

Health Workforce

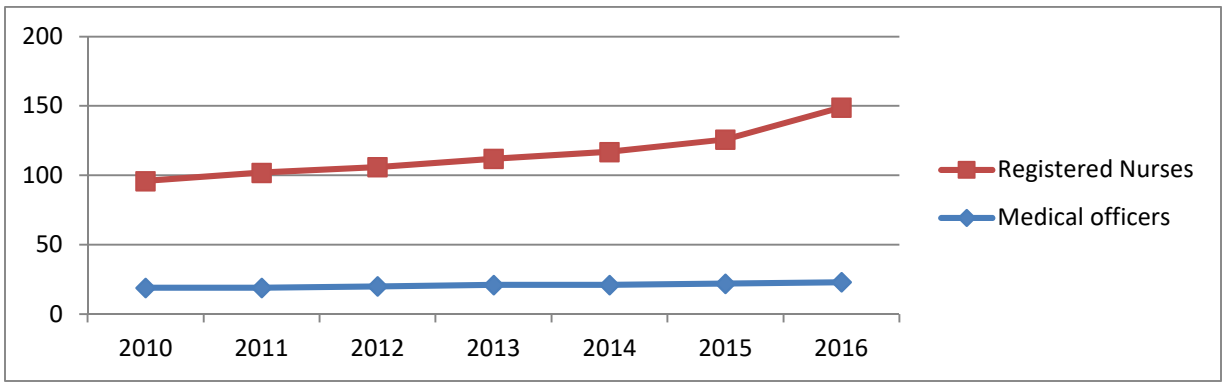

Figure 3: Health Workforce in Kenya

Health Workforce in this case includes medical doctors and registered nurses with necessary skills, qualifications and experience. Figure 3 shows the increase of Kenya registered nurses and medical officers from 2010 to 2016. As can be observed from the trends above, the number of doctors per 100,000 rose from 19 in 2010 to 21 in 2014 and to 23 in 2016. The WHO recommended minimum is 20 per 100,000 people. On the other hand, the number of nurses rose from 77 to 96 per 100,000 people in 2010 and 2014 respectively to 126 per 100,000 people in 2017. However, with the advent of devolution, there are many doctors and nurses in administrative positions in both public and private sectors in addition to those who dropped out of the service through attrition.

Medicines and Vaccines

Ease of access to essential medicines is also another key indicator of universal health care and it was measured in terms of the availability, affordability and quality of essential medicines. Quality was represented by the absence of expired stock on pharmacy shelves and adequate handling and conservation conditions. Rational use is measured by examining prescribing and dispensing practices and the implementation of strategies that have been shown to support rational use, such as standard treatment guidelines and the essential medicines list.

It was found out that most of the medicines are not found in the public facility chemist but even though are available in the private chemists. It was also found that all medicines have guidelines on how they are supposed to be used with an expiry date, whereby they are discarded at the expiry date. It was found out that in Kenya 33 percent of health facilities were without national tracer drugs for a period of more than two weeks in the same fiscal year. A national survey in Kenya in 2004 established that first line medicines that included antimalarial drugs and antibiotics for the treatment of children's conditions were available in 83% of facilities and pre-referral medicines were available in 25% of the facilities; it further reported that 40% of the facilities had all components for providing quality child immunization.

Integrated Information Systems

Universal health coverage in Kenya will be achieved if the information system is well integrated and automated. Many countries have established health information systems (HIS) to be used as the main source of routine health data. In Kenya, the key output is a national database and county databases of health facilities. Kenya designed and developed an electronic medical records (EMR) system to support the treatment and care of HIV/AIDS. This system is built on an open platform which has supported and implemented Kenya EMR in over 300 health facilities throughout Kenya—one of the largest open source EMR rollouts in Africa. The Basic Laboratory Information System (BLIS) was designed, developed and implemented in 2014**.** Starting in 2016, Palladium sub awarded to I-TECH to support the CDC Ke-HMIS II project and specifically lead the capacity building and evaluation activities, across Kenya EMR and IQ Care sites.

Service Delivery

It was found out that Kenya is among many African countries which have implemented health services based on essential health package by level of health services. In measuring the level of health care delivery at county level an index was constructed comprising seven key components: availability of medical drugs, public participation, citizen satisfaction, availability of medical equipment, access to basic amenities including water and sanitation, infrastructure and equipment and human resources for health. The findings indicate that recent government initiatives towards

promoting universal health care have contributed to improved health care service delivery in the country. However, there is need for county governments to address challenges contributing to unavailability of medical officers across facilities and counties and support public participation on health policy making. Finally, it is important for counties to regularly monitor the performance of the health sector under devolution and address any emerging gaps to meet the high expectations among citizens given that universal health is enshrined in the bill of rights in the constitution.

As a result of the steps which have been taken to achieve the universal health coverage, crude death rate, infant mortality rate, less than five mortality rate and neonatal mortality rate have decreased in the recent past as the life expectancy at birth increases.

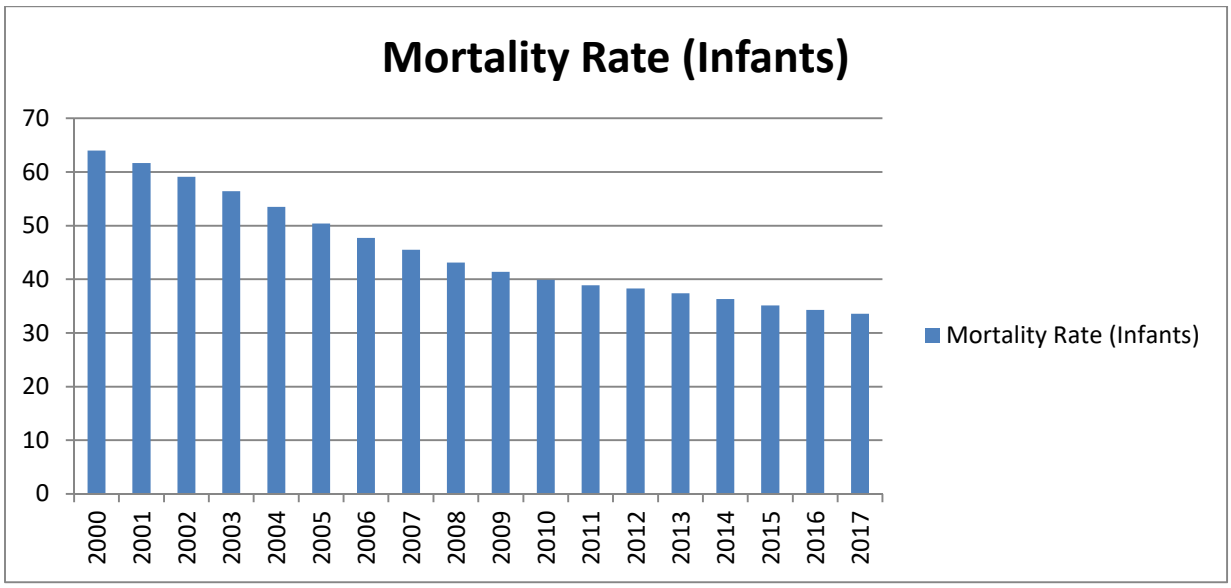

Figure 4: Infant Mortality rate

Source: World Bank (2019)

It is evident from Figure 4 that the infant mortality rate is decreasing from 2000 when it was 64 per 1000 live births to 33.6 per 1000 live births in 2017. This is a big step towards universal health coverage which aims at reducing infant mortality rate in Kenya.

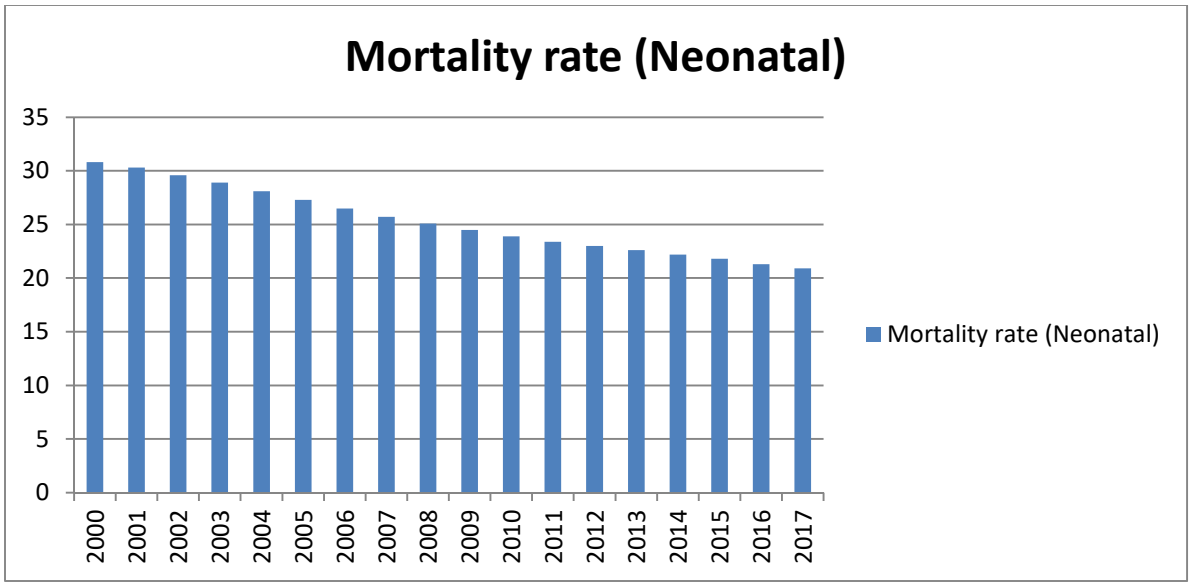

Figure 5: Neonatal Mortality Rate

Source: World Bank (2019)

Figure 5 shows the neonatal mortality rate from 2000 to 2017. It is evident that it has also decreased from 30.8 per 1000 live births to 20 per 1000 live births.

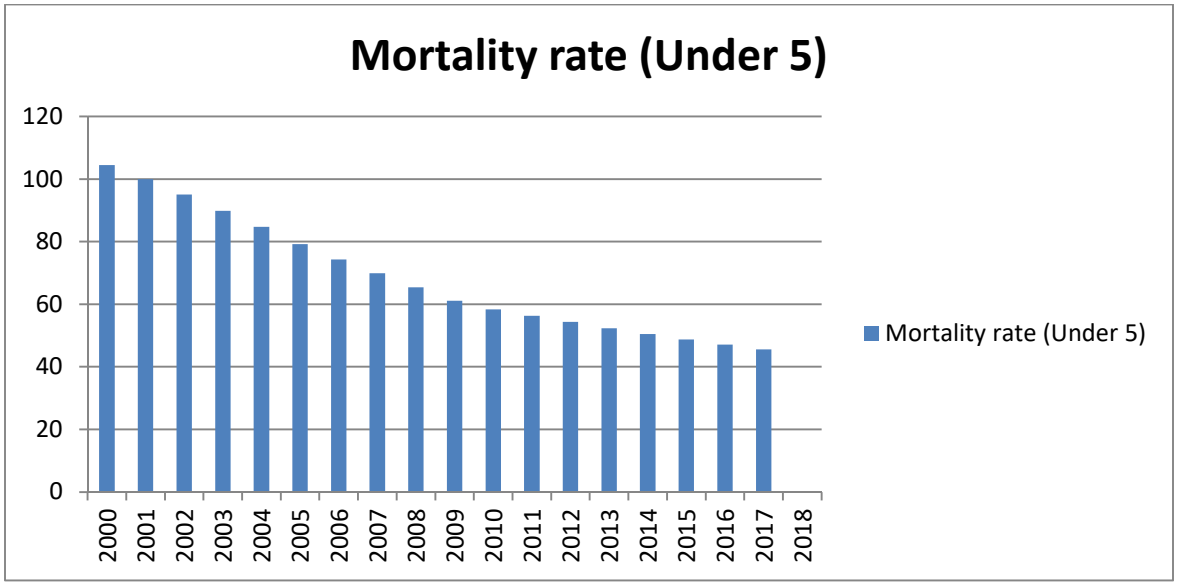

Figure 6: Under Five Mortality Rate

Source: World Bank (2019)

Figure 6 shows the under-five mortality rate from 2000 to 2017. It is evident that it has also decreased from 104.5 per 1000 live births to 45.6 per 1000 live births.

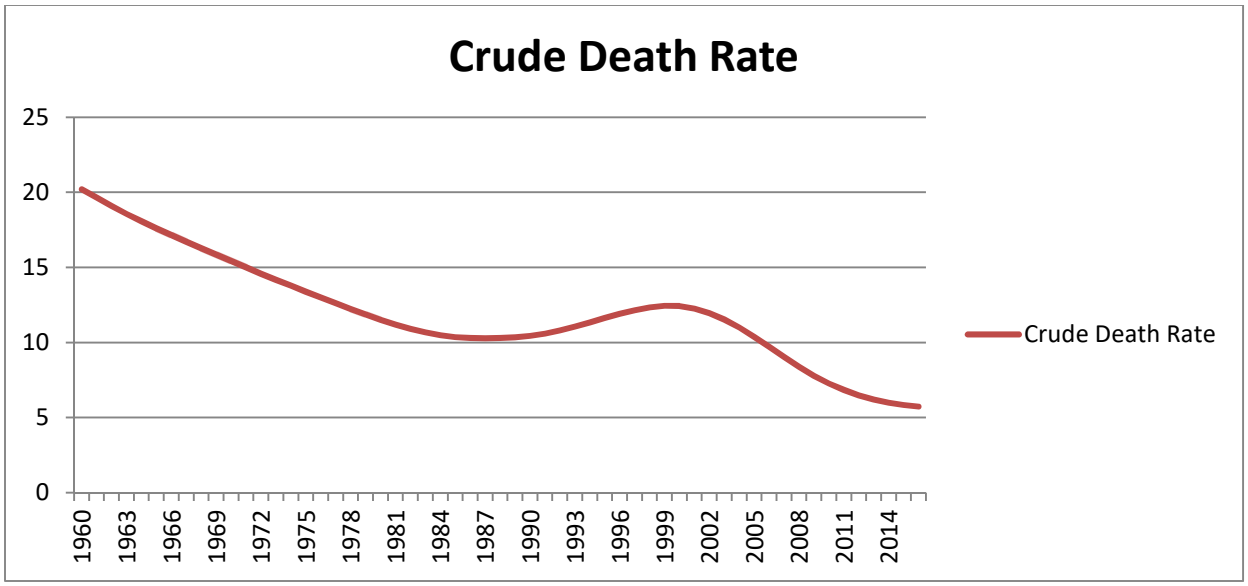

Figure 7: Crude Death Rate

Source: World Bank (2019)

Figure 7 shows the crude death rate from 1960 to 2016. It is a clear indication that as Kenya makes positive moves towards the realization of universal health coverage, the crude rate is decreasing. It is evident that it has decreased from 11.063 per 1000 population to 5.732 per 1000 population.

The life expectancy has also increased as evident in Figure 8 below:

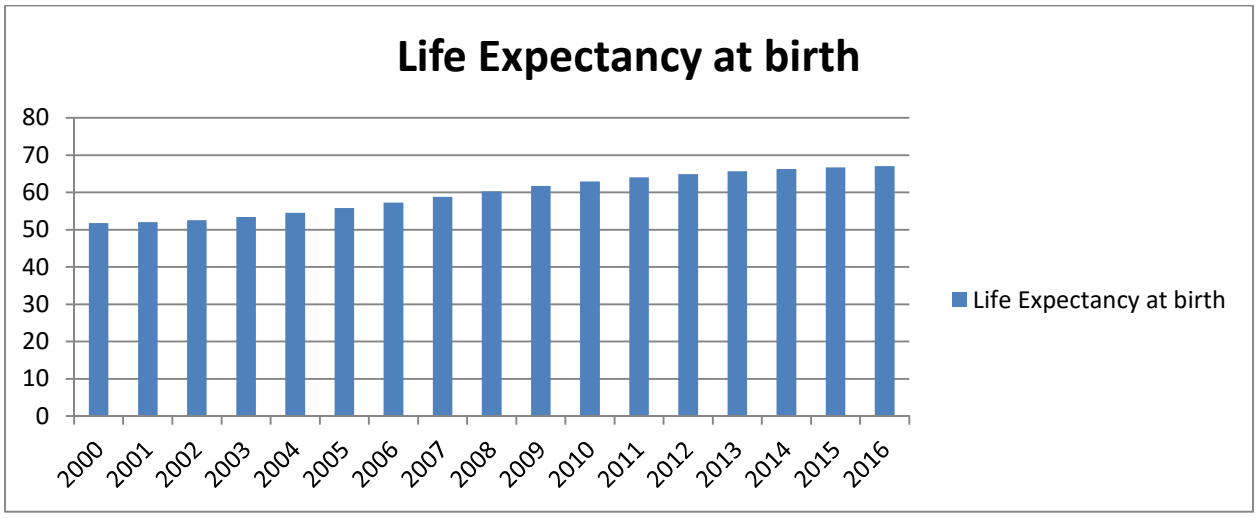

Figure 8: Life Expectancy

Source: World Bank (2019)

Summary, Conclusion and Recommendations

Summary of findings

This study intended to assess the health systems in Kenya so as to realize their roles in the achievement of universal health coverage. The study used various key indicators such as leadership and governance, health financing, health workforce, medicines and vaccines, integrated information systems and service delivery. Some of the most recent empirical studies on the same were also reviewed.

Conclusion

It was found out that Kenya has made a milestone in most of the key aspects in its journey to realize universal health coverage which depends on how it has made significant changes in its systems. Transformational leadership skills have been put into practice and many policies have been formulated and implemented. The number of qualified workforce with necessary skills and experience is increasing and proper guidelines on the use of medicines have been given. It is also worth noting that most of the systems in health facilities have been integrated and this has made tracking of information easy for patients.

Recommendations

The following are the recommendations for the study:

Increase health budget allocation (7% -15%) as per Abuja declaration. Currently it stands at 7 percent and it is expected to increase to 10 percent in 2021. It is therefore recommended that this budget allocation be increased to 15 percent as per the Abuja declaration. This will make the realization of the universal health coverage a reality within the shortest period of time.

Align NHIF to UHC which includes; Redefinition NHIF to include Multi- Tier benefit packages (Governance). Good governance and adoption of transformational leadership style plays a big role in the success of any organization.

To improve terms of service for medical doctors especially at County level so that it becomes more attractive and retain them at the county health facilities. It was found out the working conditions in terms of payments to doctors is not such attractive and it is therefore highly recommended that their terms of service be improved.

Equip public health facilities so that it becomes the best option as opposed to private (Health financing to improve health infrastructure). Private facilities are well equipped than public facilities but they are expensive than the public ones. It is therefore recommended if the universal health coverage is to be realized, it is advisable that public facilities be well equipped.

References

Carrin, G., James, C., Adelhardt, M., Doetinchem, O., Eriki, P., Hassan, M., ... & Krech, R. (2007). Health financing reform in Kenya-assessing the social health insurance proposal. *South African medical journal*, *97*(2), 130-135.

English, M., Esamai, F., Wasunna, A., Were, F., Ogutu, B., Wamae, A., ... & Peshu, N. (2004). Assessment of inpatient paediatric care in first referral level hospitals in 13 districts in Kenya. *The Lancet*, *363*(9425), 1948-1953.

Kihuba, E., Gathara, D., Mwinga, S., Mulaku, M., Kosgei, R., Mogoa, W., ... & English, M. (2014). Assessing the ability of health information systems in hospitals to support evidence-informed decisions in Kenya. *Global health action*, *7*(1), 24859.

Mathauer, I., Schmidt, J. O., & Wenyaa, M. (2008). Extending social health insurance to the informal sector in Kenya. An assessment of factors affecting demand. *The International journal of health planning and management*, *23*(1), 51-68.

World Health Organization. (2006). *Health financing reform in Kenya: assessing the social health insurance proposal* (No. EIP/HSF/DP. 06.1). World Health Organization.

Appendices

Appendix 1: Crude date rate data

Year	Crude Death Rate	Year	Crude Death Rate	Year	Crude Death Rate
1960	20.207	1981	11.191	2002	11.967
1961	19.646	1982	10.909	2003	11.541
1962	19.096	1983	10.675	2004	11.008
1963	18.568	1984	10.495	2005	10.392
1964	18.069	1985	10.371	2006	9.725
1965	17.599	1986	10.301	2007	9.046
1966	17.153	1987	10.277	2008	8.393
1967	16.719	1988	10.293	2009	7.794
1968	16.289	1989	10.346	2010	7.273
1969	15.861	1990	10.445	2011	6.843
1970	15.435	1991	10.599	2012	6.494
1971	15.011	1992	10.808	2013	6.213
1972	14.594	1993	11.063	2014	5.998
1973	14.187	1994	11.346	2015	5.841
1974	13.791	1995	11.637	2016	5.732
1975	13.401	1996	11.918		
1976	13.013	1997	12.163		
1977	12.626	1998	12.347		
1978	12.242	1999	12.445		
1979	11.869	2000	12.427		
1980	11.515	2001	12.267		

Source: World Bank (2019)

Appendix 2: Mortality Rates Data

Year	Mortality Rate (Infants)	Mortality rate (Neonatal)	Mortality rate (Under 5)	Life Expectancy at birth
2000	64	30.8	104.5	51.751
2001	61.7	30.3	100	52.004
2002	59.1	29.6	95.1	52.565
2003	56.4	28.9	89.9	53.413
2004	53.5	28.1	84.7	54.513
2005	50.4	27.3	79.2	55.819
2006	47.7	26.5	74.3	57.271
2007	45.5	25.7	69.9	58.784
2008	43.1	25.1	65.4	60.275
2009	41.4	24.5	61.1	61.68
2010	39.9	23.9	58.4	62.936
2011	38.9	23.4	56.3	64.008
2012	38.3	23	54.4	64.907
2013	37.4	22.6	52.3	65.651
2014	36.3	22.2	50.5	66.242
2015	35.1	21.8	48.7	66.695
2016	34.3	21.3	47.1	67.032
2017	33.6	20.9	45.6	

Source: World Bank (2019)