AN ASSESSMENT OF ELEMENTS INFLUENCING IMPLEMENTATION OF UNIVERSAL HEALTH COVERAGE AMONG COUNTIES IN KENYA: A CASE OF MAKUENI COUNTY

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ABSTRACT

Universal Health Coverage (UHC) is an initiative which promotes access to quality healthcare service, equitably and to everybody regardless of their financial capabilities. The aim of UHC was to ensure that people can get quality, adequate and timely health care services they need without being exposed to any financial risks (WHO, 2010). The aim of this study was to assess the influence of elements of the implementation of Universal Health Coverage among Counties in Kenya. The specific objective was to investigate the effect of technology on implementation of Universal Health Coverage among Counties in Kenya. This study adopted the descriptive research design targeting 291 respondents made up of 7 specialist doctors, 22 medical officers, 201 nurses and 61 clinical officers in county and sub-county hospitals in the county. The study conducted a census of the entire target population responding to the data collection instrument which was questionnaires. The study carried out a descriptive analysis to measure the effects of the independent variables on the dependent variables. Regression analysis was used to measure the relationship between the independent and dependent variables. From the study key findings, it was concluded that technology was a major critical element explaining success of implementation of Universal Health Coverage. Technology helped to improve the efficiency and productivity in the hospitals in the Makueni County. The study recommends that management of Makueni County should continue to invest in emerging medical technology to enhance the UHC implementation.

Key Words: implementation, universal health care and technology

INTRODUCTION

Universal Health Coverage has the potential to transform the lives of millions guaranteeing access to life saving health services while helping individuals and families avoid crippling health expenses and the poverty trap. UHC is a system in which everybody has equal access to the health care services they need without facing any monetary tribulations (Karanja, 2014). The goal of UHC is to provide every single person with affordable access to health services. This entails three correlated objectives which are; fairness and lack of discrimination towards access to health services, that the quality of health care services is desirable and should improve the condition of the patients receiving them; and ensuring that the patients are protected from any financial risks arising from access to healthcare services (KPMG Africa, 2014).

The Government of Kenya has prioritized UHC in its Big 4 agenda over the next 5 years to ensure a healthy and productive population. The government of Kenya has joined hands with various development partners to initiate a number of policies and strategies whose aims are to achieve Universal Health Coverage. Kenya has undertaken several reforms on the health system and financing to increase coverage for quality health services improve the availability of healthcare services and reduce out of pocket expenses (Owino, 2018). Other government
projects towards UHC have managed world-class medical equipment in all counties, free maternity health program and expanded National Hospital Insurance Fund. The path to achieving UHC is not always straightforward, as countries progress toward UHC, they grapple with dual challenges of how to provide universal access to essential health services and ensure financial sustainability (Pandey, 2018). This study seeks to assess the elements that implementation of Universal Health Coverage among Counties in Kenya.

STATEMENT OF THE PROBLEM

It is estimated by WHO that about 150 million people around the world suffer financial catastrophes annually from out of pocket expenditure on health services while about 100 Million are pushed below the poverty line (WHO, 2010). Further according to 2013 Kenya household health expenditure and utilization survey medical expenses account for over 40% of non-food bill in over half of the counties in Kenya. Access to universal health coverage is anchored on the constitution of Kenya 2010, millennium development goals (MDGs), vision 2030, president big 4 agenda as well as legislatively through session paper no 7 2012. In order to ensure the realization of the right to healthcare, the national and county governments have been assigned specific functions and mandates which must effectively and efficiently be executed with the limited resources in an effort to fulfil the constitutional requirement (MoH, 2016). While access to quality health care is a constitutional right, millions of Kenyans are denied access to quality health care due to various reasons such as affordability, geographical barriers, shortage of health care providers among others (World Bank, 2014). Makueni County remains the only county in the country to have successfully implemented universal health coverage. Through its Makueni care social welfare coverage all enrolled residents are entitled to Ambulance services, outpatient services, inpatient services as well as maternity care. In being a trailblazer, the county has set a good president to all other counties and national government who currently are in pilot stage of UHC implementation (Lancet, 2016).

A number of studies revolving around Universal Health Coverage have been conducted both locally and internationally. Oketch (2016) examined Devolution and Universal Health Coverage in Kenya: Situational Analysis of Health Financing, Infrastructure & Personnel. Karanja (2014) studied the Challenges in Provision of Universal Health Care by the National Hospital Insurance Fund, Kenya. Onyango (2016) focused on Response Strategies Adopted by the Ministry of Health to Challenges of Devolved Healthcare Services in Kenya. UHC being a relatively new concept in Kenya, this research provides foundation and reference material to build upon and establish further the current issues surrounding UHC. This research, therefore, sought to assess the influence of elements of Universal Health Coverage Program among Counties in Kenya.

GENERAL OBJECTIVE

The general objective of the study was to assess the elements influencing implementation of Universal Health Coverage implementation among Counties in Kenya.
THEORETICAL REVIEW

This theory was advanced by Everett Rogers (1995). The theory sought to describe how, why, and at which rate does new ideas and technology spreads. He noted that diffusion is the procedure through which the innovation is interconnected over time between the contributors in a social system whereas innovation is an idea, practice, or object that is perceived as new by an individual or another unit of adoption (Orr, 2003). Therefore, Innovation diffusion theory argues that potential users make decisions of adopting or rejecting the beliefs founding the innovation which forms about the innovation (Agarwal, 2000).

Innovation, communication channels, time, and social system are the four key components of the diffusion of innovations. It is essential for wide adoption of innovation so as to sustain them. Within the adoption rate, there is a point at which an innovation attains critical mass. The information flows through networks. The networks nature and the roles played by opinion leaders established the likelihood of adopting the innovation. There is an influence exerted on audience behaviour by leaders through their personal contact, however extra mediators known as agents of change as well as gatekeepers are also part of the diffusion process (Orr, 2003).

Innovation increases the effectiveness on any organization. With reference to this study the Universal Health Coverage has to have the technological aspect to increase service quality and effectives in providing health coverage. Research on the diffusion of innovation has been widely applied in disciplines such as education, sociology, communication, agriculture, marketing, and information technology. This study will adopt innovation diffusion theory in the field of health to explain the spreading of the universal health coverage concept from inception to implementation of the idea in Kenya.

EMPIRICAL REVIEW

A study by Wasonga (2015) investigated the relationship between ICT and the performance of the health care projects. The study found that inadequate ICT infrastructure in the organization hinders service delivery to the healthcare subscribers and that inadequate ICT infrastructure among the subscribers hinders their access to the healthcare services. Other challenges included: lack of technical know-how, ineffective government policies and limited allocation of funds. The findings from the regression analysis revealed that the use of electronic health records, telemedicine, health information systems, the internet and mobile health influences the performance of healthcare projects.

A study by Omondi (2016) analysed factors influencing service delivery in public hospitals. The researcher asked respondents whether they agree that the ICT application increased the efficiency of health care delivery, 29% (majority) of the respondents strongly agreed while only 12% strongly disagreed with benefits of ICT in their facilities. The study further enquired on the Departments in the hospitals using ICT applications and tools, 81% believed that billing and payment services were most utilizers of ICT, followed by pharmacy and management at 6.5% each while treatment accounted for the least users of ICT services in
these facilities. This shows that the uptake of ICT services in these hospitals is still very low, reducing efficiency and productivity of the hospitals.

**RESEARCH METHODOLOGY**

This study adopts the descriptive research design. This design describes a phenomenon and its characteristics (Wilson, 2010). This is the specific population that possesses the desired characteristics and from which information was collected to understand a phenomenon (Nagel & Nagel, 2009). The target population for this research was the healthcare workers among Counties in Kenya with interest in healthcare workers practicing in health facilities in Makueni County. The study population was 291 health care workers consisting of specialist doctors, medical officers, nurses and clinical officers in county and sub-county hospitals in Makueni County. This study used census technique taking into consideration responses of the entire population consisting of Medical doctors, administrators, nurses and clinical officers. The study used primary to achieve the objective of the research. Primary data was collected using research questionnaires administered in a drop and pick method to give respondents sufficient time to deliberate on the questions. Data collected was reviewed for accuracy, completeness and consistency before further analysis. Qualitative data refers to non-numeric information such as interview transcripts, notes, video and audio recordings, images and text documents (Sunday, 2014). The primary data was categorized and coded based on themes. The qualitative data were analysed using content analysis. According to Kothari (2004), content analysis is efficient in analyzing content analysis. The captured data from the quantitative research was arranged systematically for easy analysis and subjected to SPSS Version 25.0 for. Tables and charts were used as appropriate to present the findings. The study carried out was a descriptive analysis to measure the effects of the independent variables on the dependent variables. Frequencies and percentage were applied for the quantitative variables (Kothari, 2004). Regression analysis was used to measure the relationship between the independent and dependent variables. The models to be adopted by the study were;

\[
UHC = \alpha + \beta T + \epsilon
\]

Where: UHC = Universal Health Coverage Implementation; \(\alpha\) = Constant; \(\beta\) = Beta Coefficients; T = Technology

**RESEARCH RESULTS**

**Universal Health Coverage**

The study sought to establish the implementation of Universal Health Coverage in Makueni County asking the respondents to indicate their understanding of UHC and access to information on UHC. On the understanding of Universal Health Coverage, 100 (40%) of the respondents understood UHC to mean free maternity, 80 (32%) to mean free healthcare while 70(28%) understood it to include cost sharing. This implies that there was high appreciation about the goals and implementation of UHC among the majority of healthcare workers in Makueni County.
The sources of information about UHC that the healthcare workers had access to included: National Government Awareness Programmes 108 (43%), County Heath Training Initiatives 85 (34%) and Hospital Continuous Medical Education 57 (23%). The findings point to availability of several sources of information about UHC among the health care workers which increased their application of this new concept in their county, hence the significant achievements made in the implementation of the UHC in Makueni County. It also points out the need to have integrated communication on UHC so as to have uniform understanding and harmony in the implementation. This finding is consistent with Kutzin, (2013) report that states that Financing enables the health system to maximize the attainment of goals and objectives. The objectives of financing policy are mainly to promote universal protection against financial risk, equitable distribution of funding burden, promote equitable use and provision of services relative to the need of those services, improve transparency of the system, promote quality in service delivery, and improving efficiency in organizations and delivery of health services

**Technology and Universal Health Coverage Implementation**

The respondents were to indicate their level of agreement with various statements relating to the influence of technology on the implementation of Universal Health Coverage among Counties in Kenya. The responses were rated on a five-point Likert scale where: 1= strongly disagree, 2-disagree, 3-moderately agree, 4-agree and 5= strongly agree. The study used the formulae IF (B142>=3,1,0) to calculate the percentage. The data was then coded on Excel spread sheet and percentage computed from the proposition compared to the sample size.

From the findings, the majority of the respondents agreed to a great extent that technology was a major critical element explaining success of implementation of Universal Health Coverage among Counties in Kenya like Makueni County as indicated by the overall mean score of 81.46%. More specifically concerning the role of technology in enhancing implementation of Universal Health Coverage among Counties in Kenya, the majority of the respondents agreed that; the County has sufficient ICT staff to support Universal health Coverage 100.00%; hospitals in Makueni County have adequate communication equipment 94.62%; IT promotes innovation in the implementation of Universal Health Coverage 84.30%; The respondent agreed that technology improves knowledge acquisition by healthcare personnel 83.86%; IT promotes efficiency in the implementation of Universal Health Coverage 83.86%; IT enhances collaboration and cooperation possibilities 81.17%. The respondent moderately agreed that there is adequate technological infrastructure in place 78.48%; hospitals in Makueni County have technologically advanced medical equipment 74.89%. The respondent moderately agreed that hospitals in Makueni County have well-functioning Health information systems 69.96%.

From the findings, it is evident that majority of healthcare workers believed in the value technology can bring in enhancing UHC in the county. It also shows Makueni County had leveraged on technology to enhance the implementation of universal health coverage. There is however a big room for improvement as many moderately agreed on various aspects of IT that were examined. This finding concurred with Wasonga (2015) who found that inadequate
ICT infrastructure in the organization hinders service delivery to the healthcare subscribers and that inadequate ICT infrastructure among the subscribers hinders their access to the healthcare services. Other challenges included: lack of technical know-how, ineffective government policies and limited allocation of funds.

**Regression Analysis**

To confirm relationship between the element and the implementation of Universal Health Coverage implementation among Counties in Kenya, the study used multiple regression analysis. The following linear regression model was adopted to help determine the nature of this relationship: $UHC = \alpha + \beta_1 T + \varepsilon$; Where $Y$ is the dependent variable (Universal Health Coverage Implementation), $\alpha =$ Constant; $\beta_1 =$Beta Coefficients; and $T=$ Technology.

**Table 1: Coefficient of Determination**

<table>
<thead>
<tr>
<th></th>
<th>Unstandardized Coefficients</th>
<th>Standardized Coefficients</th>
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</thead>
<tbody>
<tr>
<td></td>
<td>$B$</td>
<td>$\text{Std. Error}$</td>
</tr>
<tr>
<td>Constant</td>
<td>3.312</td>
<td>.328</td>
</tr>
<tr>
<td>Technology</td>
<td>0.439</td>
<td>0.1937</td>
</tr>
</tbody>
</table>

At 5% level of significance, all the four variables were statistically significant as their $p$-value were within the acceptable threshold of ($p <0.05$). From the findings, positive effect on UHC implementation was found on technology with regression coefficient values: $\beta_1=0.439$ respectively. The regression model can therefore be expressed as follows:

$$Y = 3.312 + 0.439(T) + \varepsilon$$

From this regression equation, taking all factors constant at zero, the UHC implementation would be 3.312 while a unit increase in the technology will lead to 0.487 increase in UHC implementation. This finding is concurrent with Kamau, Osuga and Njuguna (2017) who stated that that the implementation of Kiambu County health care referral system faces various challenges like in infrastructure, health information systems, health care staff capacity and financial resources and recommended improvement of infrastructure, implementation a standard referral system monitoring toolkit and provision of adequate funds for implementation monitoring and evaluation

**CONCLUSIONS**

The acquisition of modern technology by the County increased the provision of quality healthcare to a higher size of population as opposed to using manual systems. The study concludes that technology was a critical element explaining success of implementation of Universal Health Coverage among Counties in Kenya like Makueni County. From the findings, it is further concluded that Makueni County leveraged on technology to enhance the implementation of universal health coverage. Technology helped to improve the efficiency and productivity in the hospitals in the Makueni County. A study by Wasonga, (2015) found
that inadequate ICT Infrastructures in organizations hinders service delivery to service providers.

RECOMMENDATIONS

The study concludes that technology was a major critical element explaining success of implementation of Universal Health Coverage among Counties in Kenya like Makueni County. The study recommends that the management of Makueni County should continue to invest in emerging medical technology to enhance the UHC implementation. In particular the study recommends that the county should strive to have an integrated Healthcare information system (HIS) where Knowledge, records as well as critical cases can be shared among healthcare professionals so as to ensure patients regardless of their location can attain quality services through Remote assistance by qualified healthcare workers especially doctors.

REFERENCES


