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Research Article

INFLUENCE OF HEALTH SERVICE PROVIDER COMPETENCY ON UTILIZATION OF UNIVERSAL HEALTH COVERAGE IN SEME SUB-COUNTY, KISUMU COUNTY, KENYA

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Health workers competency is very critical in realization of quality health care which is a major pillar of Universal Health Coverage. This study assessed the influence of healthcare provider competency on Universal Health Coverage utilization in Seme Sub County, Kisumu County. The study targeted community households and health facility managers. The health facilities were stratified according to their tiers and randomly sampled. The catchment population was stratified by locations and a proportionate sampling technique applied in each stratum giving a computed sample of 377 participants. The descriptive statistics were summarized using tables and charts, while logistic regression was used to determine relationship between variables. The results revealed that quite a number of health service providers are not competent enough in their departments of operation and there is no periodic training on new guidelines. This study further revealed a statistical effect on competency of health service provider on UHC (OR=2.29, 95%CI=1.02-5.15, p<0.05). Healthcare service provider competency levels have direct significant influence on utilization of UHC services by community members.

Keywords: Universal Health Coverage, Utilization, Health service provider, Competency

INTRODUCTION

As Universal Health Coverage (UHC) becomes the main focus of global health and sustainable development goals, it is important to look at how this main goal is understood to better its implementation (Obare *et al.*, 2014). Protections of population health, benefits packages, and poverty eradication have been the main focus of UHC in global planning. Achieving Universal Health Coverage is capable through strengthening healthcare systems to provide affordable, safe and high quality care that includes prevention, promotion, treatment, rehabilitation and palliative care(Moses *et al.*, 2019),(Mimiko, 2017). Global commitment to achieving universal health coverage has grown stronger in recent years. With this dedication there is realization that, for UHC to succeed, the health workforce must possess clinical and non-clinical skills and competencies which will make them rightfully understand what UHC principles require and properly respond to the population health needs (Foster *et al.*, 2018). The adequate workforce is important in ensuring functionality of health care delivery systems and equitable access to 0health services,(Miseda *et al.*, 2017) but it is not enough to produce more health workers and place them where they are needed without transforming their knowledge which will in turn positively influence their perception (Tangcharoensathien & Evans, 2013).

The global initiative of UHC and Primary Health Care (PHC) has been facing persistent challenges influenced by a number of factors including extreme poverty, Knowledge gaps in health care service delivery, health inequalities, emerging and existing vulnerable populations, the growing impact of social determinants of health and diversity in demographic characteristics (Kasey & Diane, 2019).

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Various factors have riddled the utilization of UHC which includes availability of drugs, essential equipment and competent health workers (Pakenham & Bukachi, 2009). Other factors that have greatly contributed to poor implementation of health services include health policies in some regions in Kenya (KNHSSP, 2003). Solutions to these factors requires well prepared health professionals, educated and empowered to clearly understand UHC and respond to and improve population health outcomes (De Ceukelaire & De Vos, 2009). Close monitoring of postgraduate training program, adequate round the clock senior supervision and assessment of professional competence on regular basis is very significant in realization of skillful health service providers (Attia Bari *et al.*, 2016).

Lack of competency on UHC implementation contributes to non-uniformity in modalities through which countries implement health system reforms (Evans *et al.*, 2014). There are often on and offs that are influenced by political and administrative challenges, resource and financial constraints and political environments in which UHC decisions are meditated (Adebayo *et al.*, 2015). At a meeting held in Bellagio, United States, UHC experts shared their experiences to build the evidence on how countries can overcome the challenges experienced in UHC implementation to ensure the success of emerging UHC schemes (Miseda *et al.*, 2017). In developing countries specialized healthcare staff is far from being achieved in healthcare facilities.

Summary of Materials and methods Used

Assan *et al (*2018) used a descriptive qualitative design with a purposive and snowball sampling approach in a study on systematic approach to universal Health Coverage in Ghana. In this study the descriptive data were summarized in tables and charts and chi-square test used to test the relationship between the variables. Okech (2015) conducted analytical study on Universal Health Coverage and Equity on Health in Kenya where both Primary and secondary data were used. The secondary data reviewed included Policy documents from various Health sectors. Random sampling technique was adopted and the analysis done by both chi-square and multiple regression. Wang *et al.,* (2010) conducted a cohort study on Progressive Pathway to Universal Health Coverage in Tanzania where both qualitative and quantitative data were collected and analyzed by use of multivariate regression technique. Considering the materials and methods adopted in the mentioned studies, the following limitations were noted; Assan *et al., (*2018) used chi-square for testing the association between the variables which only indicated the p-value but not the strength and direction of the demonstrated effect. Okech (2015) used secondary data which led to bias due to missing information from the reforms documents. This study departed from the reviewed works to use cross sectional design, both stratified and proportionate sampling techniques and collection of primary data. The analysis method was logistic regression due to the nature of the dependent variable being dichotomous and the ability of the sampling technique to show the strength of association and the 95% confidence interval of the true values.

METHODOLOGY

This was a descriptive cross sectional study design on influence of competency of health workers on utilization of UHC in Seme Sub County. The health facilities were stratified according to their levels of care and eight were randomly sampled for the study. The catchment population was stratified by administrative locations and a proportionate sampling technique applied in each stratum giving a computed sample size of 377 participants, determined by Fischer's formula:

$$\text{Sample Size (n)} = \frac{Z^2pq}{d^2}$$

n = Sample size (where population is more than 10,000)
Z- Value= 1.96 for 95% Confidence Interval
p = proportion of the population using UHC (50% since specific statistics are unavailable)
q = 1-p
d= margin of error (5%)

Substituting,

$$N = \frac{(1.96^2*0.5*0.5)}{0.05^2} = 385 \text{(including the 8 facility managers)}$$

Data collection was done by trained research assistants using semi structured questionnaires. The descriptive statistics were organized and summarized using tables and charts, while logistic regression analysis was used to determine relationship between variables. The respondents were assured of the purpose of the study to be basically academic and that all the information given will be treated with confidentiality. No inducement was given to the respondents and provocative terminologies were avoided. The validity was ensured by pretesting and retesting of questionnaires to determine their ability to address all the research questions, and proper training of research assistants on how to carry out data collection. The respondents were also briefed on the importance of giving the right information.

RESULTS

The study on healthcare provider competency influence on Universal health Coverage was conducted in all the six administrative locations in Seme Sub County with proportionately sampled households and health facilities. The study targeted Community households who are registered under UHC and Health facility managers from sampled health facilities. The response was at 100% that is 377 households' representatives and 8 health facility

managers. The demographic characteristics were analyzed and presented (Table 1). Logistic regression examined the influence of competency of healthcare provider on utilization of UHC and it was evident by the findings as a competent worker is more likely to influence many people to use UHC cards than incompetent health service provider.

Socio-Demographic Characteristics of the Community Members

According to the results in Table 1, the distribution of the population by gender shows that majority of the community respondents were female 216(57.29%) and male were 161(42.71%). With respect to age, 39(10.35%) of the 377 sampled population were between 18 to 25 years old; majority of the respondents were 147(38.99%) were aged between 26 years old and 35 years; 107(28.38%) were aged between 36 years and 45 years and 84(22.28%) were 46 years and above. With regards to education attainment, 4(1.06%) out of 376 community members who responded had no any level of education; 90(23.94%) had primary education; majority of the respondents 200(53.19%) had secondary as the highest level of education and 82(21.81%) attained college. The results also illustrates that out of 377 respondents, 69(18.3%) were single; majority of the respondents 270(71.62%) were married; 30(7.96%) were widows and only 8(2.12%) were divorced. In relation to occupation, majority 269(71.35%) of the respondents were employed in informal sectors; 89(23.61%) were employed in formal sectors and 13(3.45%) were students. However, 6(1.59%) out of 377 respondents were unemployed. The distribution of the respondents by monthly income reveals that out of 361 respondents, 27(7.48%) were earning less than KSh. 2500; majority 122(33.80%) were earning between KSh. 2501 and KSh. 5000; 80 (22.16%) of the respondents were earning between KSh. 5001 and KSh.7500; 40(11.08%) of the 361 respondents were earning between KSh. 7501 and KSh. 10000 and 92(25.48%) were earning above KSh.10000.

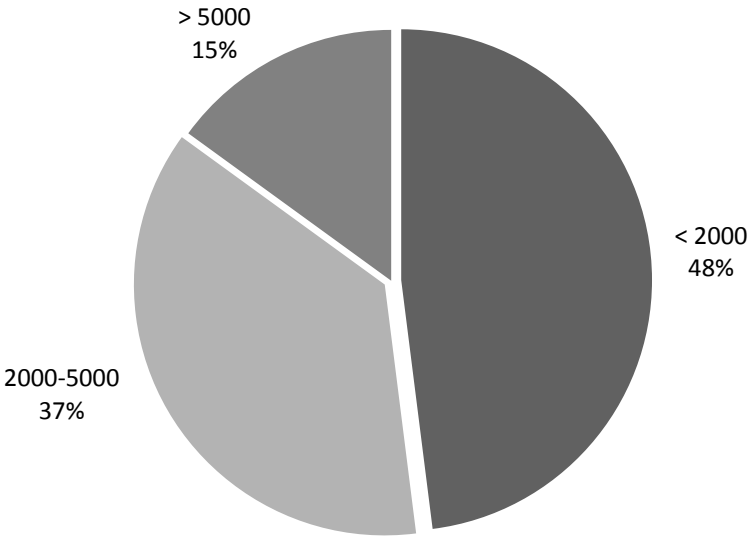
Table 1: Socio-Demographic Characteristics of the Community Members

Variables	Frequency (n)	Percentage (%)
Gender (N=377)		
Male	161	42.71
Female	216	57.29
Age (N=377)		
18 to 25	39	10.35
26 to 35	147	38.99
36 to 45	107	28.38
46 and above	84	22.28
Mean(SD) 37.46 (10.86)		
Level of education (N=376)		
None	4	1.06
Primary	90	23.94
Secondary	200	53.19
College	82	21.81
Marital status (N=377)		
Single	69	18.3
Married	270	71.62
Divorced	8	2.12
Widowed	30	7.96
Occupation (N=377)		
Formal employment	89	23.61
Informal employment	269	71.35
Unemployed	6	1.59
Student	13	3.45
Monthly Income in KSh (N=361)		
0-2500	27	7.48
2501 - 5000	122	33.80
5001 - 7500	80	22.16
7501 - 10000	40	11.08
Above 10000	92	25.48

Community Medical Expenses for the Past One Year in KSh

Figure 1 presents the medical expenses incurred by the community members after the launch of UHC in Kisumu County, 183 households (48%) spent below KSh. 2000, and 139 households (37%) spent between KSh. 2000 to KSh. 5000 while 55 households (15%) spent more than KSh. 5000.

Figure 1: Community Medical Expenses for the Past One Year in Kenya shillings



Influence of Competency of Health Workers on UHC Utilization in Seme Sub County

Multivariate analysis presented in Table 2 involved the logistic regression to establish the influence of competency level workers on utilization of UHC. As illustrated, two factors; adequate health knowledge and misdiagnosis were used to measure the influence of level of competency on the use of UHC and were found to be statistically significant at $p < 0.05$. With regards to knowledge of health workers, the respondent who agreed that health workers had adequate health knowledge were 2.29 times more likely to solely use UHC as compared to those who thought health workers had no adequate health knowledge (OR = 2.29, 95%CI = 1.02 - 5.15, $p < 0.05$). Wrong treatment or misdiagnosis at some facilities was also found to be a significant factor influencing utilization of UHC, where the respondent who on any occasion had been misdiagnosed was 0.47 times less likely to solely utilize UHC compared to one who had not on any occasion been misdiagnosed (OR = 0.47, 95%CI = 0.23 - 0.96, $p < 0.05$).

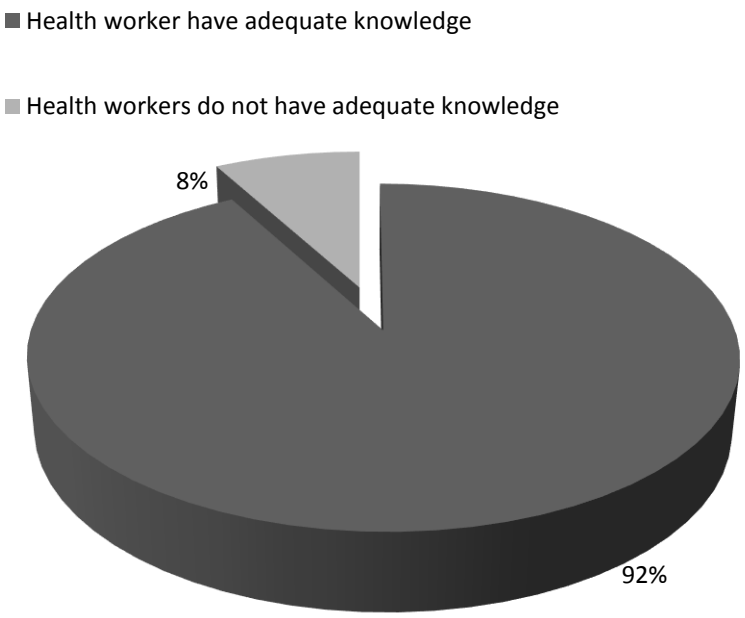
Table 2: Multivariate Logistic Regression of the Influence of Health Workers Competency on Utilization of UHC

Variables	n(%)	Odds Ratio	p-value	95%CI
Adequate health Worker's Knowledge				
Yes	347(92)	2.29	0.044	1.02 - 5.15
No	30(8)			
misdiagnosed				
Yes	38(10.13)	0.47	0.039	0.23 - 0.96
No	337(89.87)			

Community members' response on Competency of HCWs on UHC implementation

In Figure 2, majority of respondents 347 (92%) agreed that the HCWs have adequate knowledge to offer required health services while 30 (8%) did not agree.

Figure 2: Community Members' Response on Competency of Health Care Workers on UHC Implementation



As shown in Table 3, the majority who agreed said that the HCWs are professionals and are capable of managing patients with various types of conditions and that they were managed well when they went to the health facilities. The few with the contrary opinion also had their views. This was mostly common in the pharmacy department. The respondents said that in some of their facilities, drugs are dispensed by support staffs that are not qualified. Interestingly some respondents knew the reason for such. One respondent said that because of understaffing some subordinate staffs perform technical duties like dispensing drugs. Another respondent said that sometimes untrained staff is used in the treatment room when the nurse is overwhelmed. Some respondents viewed knowledge in terms of rapport and said that they think the staffs lack adequate knowledge because they talk carelessly to patients.

Table 3: Community Narrative Responses on Competency of Health Care Workers on UHC Implementation

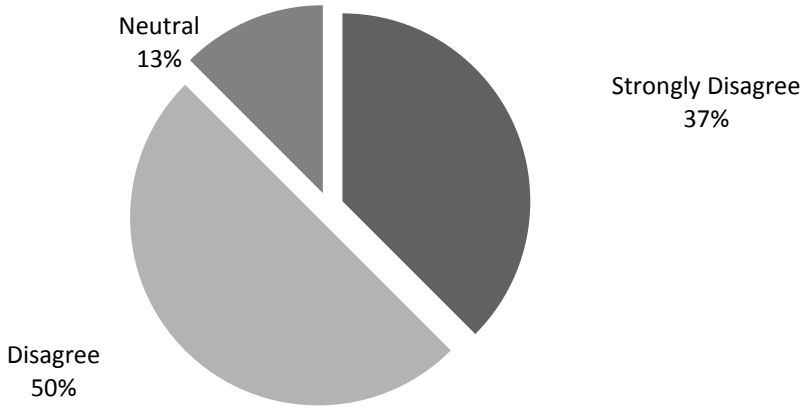
Do you think HCWs have adequate knowledge to offer required health services?	
Yes	**No**
They are professionals and can manage to test many types of diseases Participant 01, 24 years old male	*Very rude, Close the facility before normal time.* **Participant 50, 28 year old female**
I received proper treatment from them. Participant 02, 30 year old male	*Start working late, Talk to patients rudely*. **Participant 195, 68 year old male**
They are capable of managing patient with various types of conditions. Participant 05, 21 year old male	*Because of understaffing some subordinate staffs perform technical duties like dispensing drugs.* **Participant 32, 32 year old female**
Capable of managing even complicated cases of diseases. Participant 28, 29 year old male	*Rude to patients, do not issue people with drugs prescribed, Close the facility early i.e. 2pm*. **Participant 225, 32 year old male**
They are well trained and most patients attending facility for treatment get cured. Participant 51, 50 year old male	*Open the facility past 10 am, lazy and talk rudely to patients*. **Participant 85, 30 year old male**
Explain to people well how to take drugs. Participant 68, 30 year old male	*Some nurses do shout when talking to women.* **Participant 202, 35 year old male**
Cordial relationship to patients, give appropriate pieces of advice. Participant 130, 45 year old female	*They do open the facility late, they ask for money before offering treatment to patients.* **Participant 122, 38 year old female**

Advice people on safer health practices which in-turn help them when applied. Participant 153, 51 year old female	*Open the facility late and close early, do not give patients time to explain their health problems*. **Participant 134, 65 year old male**
***They take proper history and treat people as per the diagnosis*.** Participant 174, 50 year old male	*Some of them are harsh while talking to patients hence making some patients go back without being treated*. **Participant 110, 23 year old female**
***Patients get treated well and sometimes they give referrals where necessary*.** Participant 283, 40 year old female	*Untrained staffs in the pharmacy, and sometimes treatment room when the nurse is overwhelmed*. **Participant 35, 26 year old male**

Adequacy of Technical Staffs

Figure 3 indicates that majority (50%) of managers disagreed that there are adequate technical staffs in their facilities; 37% of the managers strongly disagreed that they had adequate technical staffs in their respective health facilities while only13% of the managers were neutral in their responses.

Figure 3: Adequacies of Technical Staffs



Competency of Health Care Staff on UHC Implementation

The results in Table 4 shows that health facilities lack competent staffs since all of the 8 managers disagreed that they had adequate competent staffs that could carry out health related duties diligently. This could be brought about by lack of periodic training of staffs since it is clear that only 2(25%) of the managers agreed that periodic trainings are conducted to their staffs. However, the health care providers adhere to the standard operation procedures and guidelines. Majority of the managers (75%) also agreed that their staffs follow guidelines and operation procedures and 12.5% were neutral about standard operation procedures and guidelines.

Table 4: Competency of Health Care Staff on UHC Implementation

Variables	Strongly agree n(%)	Agree n(%)	Neutral n(%)	Disagree n(%)	Strongly disagree n(%)
There is adequate competent staffs	0(0.00)	0(0.00)	0(0.00)	8(100)	0(0.00)
There is periodic training of staffs	0(0.00)	2(25.00)	2(25.00)	4(50.00)	0(0.00)
Health care providers adhere to Standard Operation Procedures and guidelines	1(12.50)	6(75.00)	1(12.50)	0(0.00)	0(0.00)

DISCUSSION

Dedication of various counties to achieving universal health coverage has grown stronger in recent years. With this commitment there is realization that, for UHC to succeed, the health workforce must possess clinical and non-clinical skills and competencies which will make them rightfully understand what UHC principles require and

properly respond to the population need. The adequate workforce is vital to ensure functionality to health care delivery systems and equitable access to health services, but it is not enough to produce more health workers and place them where they are needed without transforming their knowledge which will in turn positively influence their perception and uptake of UHC (Tangcharoensathien & Evans, 2013).

Various factors have riddled the utilization of UHC which includes availability of drugs, essential equipment and competent health workers. Other factors that have greatly contributed to poor utilization of UHC include health policies in some counties in Kenya (KNHSSP, 2003). For example in Kisumu County, health workers have continued to down their tools, sighting low payment and dilapidated health infrastructure. This was noticeable in the responses of the health care providers on how UHC utilization can be improved in Seme Sub County, where majority mentioned improved infrastructure and prompt payment and motivation of health care workers.

Health workers must have must have adequate skills, competency and behavior that creates trust in the population and promotes demand for quality services (Petterson *et al.*, 2016). However the results from our study in contrary show that quite a number of health care providers are not competent enough and there is no periodic training of staff. Our study further reveals that there is a statistical effect of competency of health worker on utilization of UHC as competent worker is 2.29 times more likely to influence many people to use UHC than incompetent health care provider (OR=2.29, 95%CI=1.02 - 5.15, $p < 0.05$). This concurred with several studies which found out that health professionals' competency improve patient's outcome (Lie *et al.*, 2011). A study done by kasey and Diane in 2019 also revealed that knowledge gaps in health care service deliveries hindered implementation of UHC which meddled with its utilization. Human resource for health has for decades been at the center for improving health services (WHO, 2006). Annual report from ILO suggested that training of more staff is necessary in many countries given the fact that more than 100 countries lack professional health workers if the ILO's access deficit indicator is used to set the threshold for density 1000 per population (ILO, 2008). Recruiting more staffs is often more necessary but not sufficient to improve quality of health services offered in the health facilities (Ustun *et al.*, 2010). Wrong treatment and misdiagnosis at some facilities were also found to be a significant factor influencing utilization of UHC, where the respondent who on any occasion had been misdiagnosed was 0.47 times less likely to solely utilize UHC compared to one who had not on any occasion been misdiagnosed (OR = 0.47, 95%CI = 0.23 - 0.96, $p < 0.05$). This is in agreement with a study done by Attia *et al* in 2016 which concluded that medical errors and mismanagement experienced in health care settings are attributed to lack of adequate trainings and lack of competencies. Looking at the results from other studies and the findings from our study, many health care providers lack periodic training on the new treatment guidelines and standard operation procedures.

Today, in most government health facilities patients experience inaccurate diagnosis and medication errors due to unsafe clinical facilities and practices. The providers who lack adequate training and expertise prevail in most of the health facilities. This has resulted to loss of trust and patients are propelled to seeking care from private practitioners where they incur a lot of expenses. The economic and social benefits are clear and we need to see a much stronger focus on investing in and improving quality to create trust in health services and give everyone access to high-quality and people-centered health services as it is evident that good health is the foundation of a country's human capital.

CONCLUSION

Healthcare staff competency levels have direct significant influence on utilization of UHC services by community members. Many health care providers lack periodic training on the new treatment guidelines and standard operation procedures. Some departments like pharmacy and drug stores were found to be lacking qualified staffs hence compromised competency. This may results to mismanagement of client hence loss of trust to the health care workers.

RECOMMENDATIONS

The health care providers need to get periodic trainings on new treatment and prevention of disease and health promotion guidelines to improve their competency thus promote utilization of Universal Health Coverage in Seme sub county and the entire Kisumu County. The county government of Kisumu should facilitate posting of adequate qualified technical staffs to all the government health facilities to promote quality care being a major pillar in Universal Health Coverage. A comparative study between public and private healthcare facilities should be undertaken to find further evidence on competency of medical staff and its influence on utilization of UHC.

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ETHICAL DECLARATIONS

Conflict of Interest: The authors have no any conflict of interest.
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Ethical Approval: Ethical approval was obtained from Jaramogi Oginga Odinga Teaching and Referral Hospital ERC and a study permit from National Commission for Science, Technology and innovation (NACOSTI).
Informed Consent: A written consent was obtained from both the Health facility managers and the community members before starting the study.

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