



COMMUNITY PHARMACY ROLE IN UNIVERSAL HEALTH COVERAGE IN MOMBASA COUNTY

Kailong J. M.¹

¹Assistant lecturer,
Department of Medical Sciences,
School of pure and Health Sciences,
Technical University of Mombasa,
Kenya

Aggrey A.²

²Lecturer,
Department of Mathematics and Physics,
School of Pure and Health Sciences,
Technical University of Mombasa,
Kenya

Mulinya S.³

³Pharmaceutical Technologist,
Department of Medical Sciences,
School of Pure and Applied Sciences,
Technical University of Mombasa,
Kenya

Article DOI: <https://doi.org/10.36713/epra5722>

ABSTRACT

Community pharmacy role in universal health coverage was a qualitative study that entailed close contact to the role played by community pharmacies in healthcare provision. As a "small healthcare" in provision of pharmaceutical services, community pharmacies are required to be included in realization of Universal Health Coverage in Mombasa since it is among the Big 4 Agenda of the national government (MOH, 2013). The objective of the study was to determine community pharmacy role in universal health coverage. A descriptive cross sectional study design was used to collect both qualitative and quantitative data and the design estimate the prevalence of the outcome of interest commonly for the purpose of public health planning. A sample size of 196 was calculated using fishers formula. Data was collected using in-depth interviews and structured questionnaire were administered on a target population of community pharmacies health providers and clients seeking services respectively. The collected data was analysed using SPSS version 20 and interpreted using tables and pie charts. On community pharmacy practitioners respondents; 58% were male, 90.3% diploma holders in pharmacy, 39.8% registered with PPB and 65% had practised for less than two years. 78% of the respondents agree that community pharmacy has a role in UHC and there was 74% affordability of community pharmacy medicines. Bivariate analysis findings show that training and inspection on UHC ($P=0.003$) Covid 19 ($p=0.000$) and inspection fee ($p=0.000$). Accessibility; location of community pharmacies ($p=0.000$) and doctors attitudes ($p=0.000$). Essential medicines; acyclovir 200mg tablets ($p=0.000$), chlorpromazine 100mg tablets ($p=0.000$) and tetanus toxoid vaccine ($p=0.000$). Key determinants of community pharmacy role in UHC were diploma (AOR 666.7; CI 129.6-3429.5), Erythromycin 125mg suspension (AOR 120.3; CI 15.4-940.8), Acyclovir 200mg tablets (AOR 46.823; CI 17.7-124.1) and Occupation (AOR 45.271; CI 15.363-133.404). The study recommends reduction of tax on essential medicines, MOH revise the UHC policy to incorporate community pharmacies and empowerment on management of controlled drugs and vaccines in order to realize effective and efficient UHC in Kenya



INTRODUCTION

Universal Health Coverage may be defined as ensuring all people use the promotive, curative, rehabilitative and palliative health services they need of sufficient quality and effective, while ensuring the use of such services does not expose the user to any financial hardship which has continued to dominate healthcare (Robertson *et al*, 2015). The goal of UHC is to ensure that all people obtain the health services they need without suffering financial destitution when paying for them.

WHO identifies FOUR elements which are necessary towards the realization of universal health coverage. The elements are; strong, efficient, well-run health system, system of financing health services, access to essential medicines and technologies and sufficient capacity of well-trained motivated health workers (WHO, 2010).

Roles of a community pharmacy include provision of over the counter and prescriptions medicines, give pharmaceutical information, compounding which is small scale manufacture of drugs to meet the patients demand, checking and dispensing of prescription drugs with care, accuracy and legality, procurement that is, purchasing of medicines, storage, documentation of prescriptions and medicines, guiding and counseling patients on drug adherence and compliance and engaging in health promoting programs such as vaccination, identification of number of births and deaths. Through all this a community pharmacy becomes so essential in provision of health services nationwide (Lore, 2008).

The vision of health services in Kenya is to provide equitable and affordable service to all Kenyans via both preventive and curative care (MOH, 2013). A community pharmacy is a retail shop which provides prescription drugs, over the counter drugs, among other products but basically pharmaceutical related services (Bhise & Yadav, 2006). Services are provided by trained professional who have gone through a full training and approved by the Pharmacy and Poison Board (PPB). The PPB is the Drug regulatory authority established under the Pharmacy and Poison Act, Chapter 244 of the laws of Kenya (PPB, 2012). The Board regulates the practice of pharmacy, the manufacture and the trade in drugs and poisons (Lore, 2008)

Pharmacists and Pharmaceutical technologists are expert in pharmaceutical care, pharmacotherapy and health promotion. Therefore, Community Pharmacy play a great role in health of individuals hence making it a means to Universal Health Coverage. UHC is a health care system in which all residents of a particular country or region are assured access to health care. It is

generally organized around providing either all residents or only those who cannot afford on their own with either health services or the means to acquire them, with the end goal of improving health outcomes (WHO, 2010).

The purpose of this study was to determine the role of the community pharmacy in UHC being one of the BIG 4 agenda of the National Government through the Ministry of Health (GOK, 2018).

OBJECTIVES

General Objective

To determine Community Pharmacy role in Universal Health Coverage in Kenya

Specific Objectives

- To determine factors to be considered by the government in promoting universal health coverage and health equity.
- To establish the affordability of health services in community pharmacies.
- To determine the accessibility of health care services in community pharmacy.
- To evaluate the available essential medicines in community pharmacy.

METHODOLOGY

A descriptive Cross sectional study design was used in the study. The design is able to estimate the prevalence of the outcome of interest for a given population, commonly for the purpose of public health planning (Levin, 2006). Both qualitative and quantitative data was collected from clients seeking health services at the community pharmacy as well as pharmacy practitioners working at the community pharmacy. All respondents above 18 years of age and were willing to participate via consenting were recruited

Study Site

The study was carried out in Mombasa town in Mombasa County 001 located at the coastal region of Kenya. It has an approximate of 1000 community pharmacies which provide the community with pharmaceutical services (PPB, 2019).

Sample Size Determination

The sample size was calculated using Fisher's formula (Mugenda, 2006)

$$\text{Where; } n = \frac{Z^2pq}{d^2}$$

n = Desired sample size

Z = Standard normal deviation (1.96)

p = Anticipated population proportion (15%)

q = (1 - p)

d = Allowable error (5%)

$$n = \frac{(1.92)^2(0.15)(0.85)}{(0.05)^2} = 196$$

SAMPLING METHOD

A snow ball random sampling was used to recruit subjects into the study among various community pharmacies in Mombasa County. Data collection process was done daily from Monday to Friday at 8am to 5pm until the desired sample size was obtained.

DATA MANAGEMENT

The collected data was edited, transcribed and coded before entry into the SPSS computer software for analysis. All filled questionnaires were kept safe in a lockable cupboard and keys kept by researcher only. The collected data was analyzed based on the study variables, then presented by the use of tables, bar graphs and pie charts

RESULTS

Figures

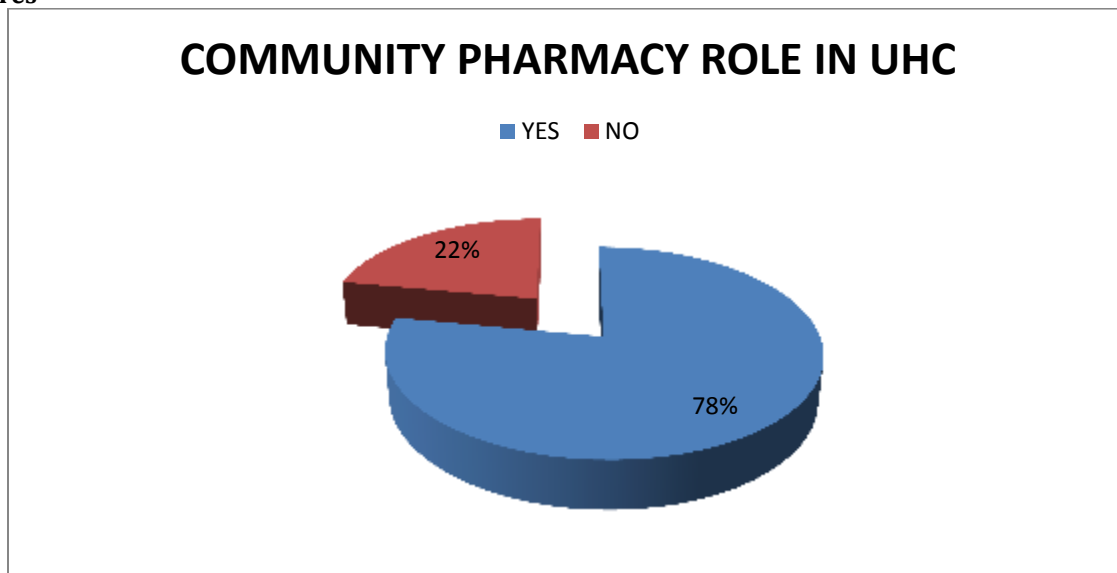


Figure 1: Community pharmacy role in UHC

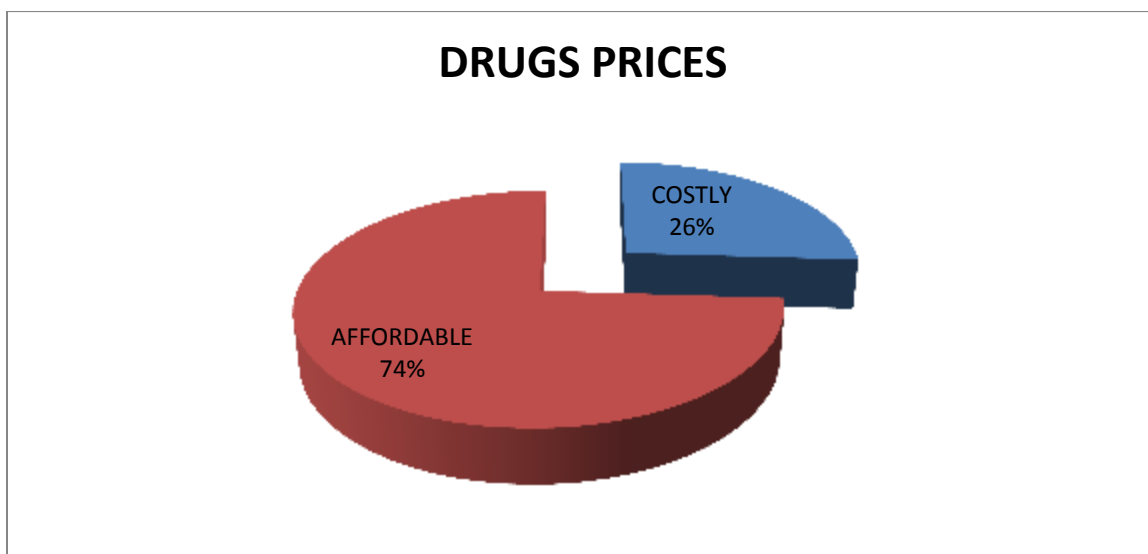


Figure 2: Drugs affordability Tables



Table 1: Socio-demographic factors of the respondents

Variable	Category	Frequency (N=196)	Community pharmacy role in UHC	
			Yes (n=153)	No (n=43)
Gender	Male	114(58%)	78(51%)	36(83.7%)
	Female	82(42%)	75(49%)	7(16.3%)
Education	Diploma	177(90.3%)	150(93%)	3(7%)
	Degree	19(9.7%)	3(7%)	40(93%)
Registration with PPB	Yes	78(39.8%)	76(49.7%)	2(4.7%)
	No	118(60.2%)	77(50.3%)	41(95.3%)
Practicing duration	<2 years	128(65.3%)	86(56.2%)	42(97.7%)
	>2 years	68(34.7%)	67(43.8%)	1(2.3%)
Occupation	Employed	165(85.1%)	148(96.7%)	17(39.5%)
	Student / intern	31(14.9%)	5(3.3%)	26(60.5%)

Table 2: Promotion of health equity

Variable	Category	Frequency (N=196)	Community pharmacy role in UHC	
			Yes (n=153)	No (n=43)
Training				
UHC	Yes	79(40.3%)	70(45.8%)	9(20.9%)
	No	117(59.7%)	83(54.2%)	34(79.1%)
ADR	Yes	78(39.8%)	72(47.1%)	6(14%)
	No	118(60.2%)	81(52.9%)	37(86%)
Malaria management	Yes	137(69.9%)	108(70.6%)	29(67.4%)
	No	59(30.1%)	45(29.4%)	14(32.6%)
Covid 19	Yes	98(50%)	98(64.1%)	0(0%)
	No	98(50%)	55(35.9%)	43(100%)
TB/HIV	Yes	138(70.4%)	121(79.1%)	17(39.5%)
	No	58(29.6%)	32(20.9%)	26(60.5%)
Inspection (PPB)				
Premise	Yes	196(100%)	153(100%)	43(100%)
	No	0(0%)	0(0%)	0(0%)
Inspection fee	Charged	39(19.9%)	39(25.5%)	0(0%)
	Not charged	157(80.1%)	114(74.5%)	43(100%)
Frequency	Often	117(59.7%)	100(65.4%)	17(39.5%)
	Rarely	79(40.3%)	53(34.6%)	26(60.5%)
Inspectors attitude	Very good	20(10.2%)	20(13.1%)	0(0%)
	Good	98(50%)	65(42.5%)	33(76.7%)
	Bad	78(39.8)	68(44.4%)	10(23.3%)
Guidelines provision	Yes	158(80.6%)	153(100%)	5(11.6%)
	No	38(19.4%)	0(0%)	38(88.4%)
GOK commodities (free)				
Condoms	Yes	0(0%)	0(0%)	0(0%)
	No	196(100%)	153(100%)	43(100%)
HIV test kits	Yes	20(10.2%)	20(13.1%)	0(0%)
	No	176(89.8%)	133(86.9%)	43(100%)
Family planning	Yes	0(0%)	0(0%)	0(0%)
	No	196(100%)	153(100%)	43(100%)
PEP	Yes	0(0%)	0(0%)	0(0%)
	No	196(100%)	153(100%)	43(100%)



Pre - EP	Yes	0(0%)	0(0%)	0(0%)
	No	196(100%)	153(100%)	43(100%)

Table 3: Accessibility to community pharmacy and Affordability of drugs

Variable	Category	Frequency (N=196)	Affordability of drugs	
			Affordable (n=145)	Costly (n=51)
Distance	<1km	160(81.6%)	140(96.6%)	20(39.2%)
	>1km	36(18.4%)	5(3.4%)	31(60.8%)
Operation time	Reliable	136(69.4%)	136(93.8%)	0(0%)
	Unreliable	60(30.4%)	9(6.2%)	51(100%)
Client health needs	Met	158(80.6%)	145(100%)	13(25.5%)
	Unmet	38(19.4%)	0(0%)	38(74.5%)
Quality of services	Very good	135(68.9%)	60(41.8%)	1(2%)
	Good	61(31.1%)	85(58.2%)	50(98%)
Doctors attitudes	Satisfactory	158(80.6%)	143(98.6%)	15(29.4%)
	Unsatisfactory	38(19.4%)	2(1.4%)	36(70.6%)

Table 4: Bivariate analysis on socio demographic factors of the respondents

Variable	Category	Community pharmacy role in UHC		Df	Chi square	P - value
		Yes (n=153)	No (n=43)			
Gender	Male	78(51%)	36(83.7%)	1	14.787	0.000
	Female	75(49%)	7(16.3%)			
Education	Diploma	150(93%)	3(7%)	1	162.531	0.000
	Degree	3(7%)	40(93%)			
Registration with PPB	Yes	76(49.7%)	2(4.7%)	1	28.398	0.000
	No	77(50.3%)	41(95.3%)			
Practicing duration	<2 years	86(56.2%)	42(97.7%)	1	25.472	0.000
	>2 years	67(43.8%)	1(2.3%)			
Occupation	Employed	148(96.7%)	17(39.5%)	1	82.474	0.000
	Student / intern	5(3.3%)	26(60.5%)			

Table 5: Bivariate analysis health promotion in equity

Variable	Category	Community pharmacy has a role in UHC		Df	Chi square	P - value
		Yes (n=153)	No (n=43)			
Training UHC	Yes	70(45.8%)	9(20.9%)	1	8.595	0.003
	No	83(54.2%)	34(79.1%)			
ADR	Yes	72(47.1%)	6(14%)	1	15.354	0.000
	No	81(52.9%)	37(86%)			
Malaria management	Yes	108(70.6%)	29(67.4%)	1	0.158	0.691
	No	45(29.4%)	14(32.6%)			
Covid 19	Yes	98(64.1%)	0(0%)	1	55.085	0.000
	No	55(35.9%)	43(100%)			
TB/HIV	Yes	121(79.1%)	17(39.5%)	1	25.2	0.000
	No	32(20.9%)	26(60.5%)			

Inspection (PPB)



Premise	Yes	153(100%)	43(100%)	1	-	-
	No	0(0%)	0(0%)			
Inspection fee	Charged	39(25.5%)	0(0%)	1	13.684	0.000
	Not charged	114(74.5%)	43(100%)			
Frequency	Often	100(65.4%)	17(39.5%)	1	9.304	0.002
	Rarely	53(34.6%)	26(60.5%)			
Inspectors attitude	Very good	20(13.1%)	0(0%)	2	17.288	0.000
	Good	65(42.5%)	33(76.7%)			
	Bad	68(44.4%)	10(23.3%)			
Guidelines provision	Yes	153(100%)	5(11.6%)	1	167.728	0.000
	No	0(0%)	38(88.4%)			
GOK commodities (free)						
Condoms	Yes	0(0%)	0(0%)	1	-	-
	No	153(100%)	43(100%)			
HIV test kits	Yes	20(13.1%)	0(0%)	1	6.26	0.012
	No	133(86.9%)	43(100%)			
Family planning	Yes	0(0%)	0(0%)	-	-	-
	No	153(100%)	43(100%)			
PEP	Yes	0(0%)	0(0%)	-	-	-
	No	153(100%)	43(100%)			
Pre - EP	Yes	0(0%)	0(0%)	-	-	-
	No	153(100%)	43(100%)			

Table 6: Bivariate analysis on community pharmacy and Affordability of drugs

Variable	Category	Affordability of drugs		Df	Chi square	P - value
		Affordable (n=145)	Costly (n=51)			
Distance	<1km	140(96.6%)	20(39.2%)	1	82.723	0.000
	>1km	5(3.4%)	31(60.8%)			
Operation time	Reliable	136(93.8%)	0(0%)	1	156.259	0.000
	Unreliable	9(6.2%)	51(100%)			
Client health needs	Met	145(100%)	13(25.5%)	1	134.023	0.000
	Unmet	0(0%)	38(74.5%)			
Quality of services	Very good	60(41.8%)	1(2%)	2	27.348	0.000
	Good	85(58.2%)	50(98%)			
Doctors attitudes	Satisfactory	143(98.6%)	15(29.4%)	1	115.632	0.000
	Unsatisfactory	2(1.4%)	36(70.6%)			



Table 7: Bivariate analysis on essential drugs

Variable	Category	Affordability of drugs		Df	Chi square	P - value
		Affordable (n=145)	Costly (n=51)			
Paracetamol 500mg tablets	Yes	196(100%)	153(100%)	-	-	-
	No	0(0%)	0(0%)			
Chlorpheniramine 2mg suspension	Yes	196(100%)	153(100%)	-	-	-
	No	0(0%)	0(0%)			
Multivitamin tablets	Yes	196(100%)	153(100%)	-	-	-
	No	0(0%)	0(0%)			
Metoclopramide 10 mg tablets	Yes	196(100%)	153(100%)	-	-	-
	No	0(0%)	0(0%)			
Activated charcoal tablets	Yes	196(100%)	153(100%)	-	-	-
	No	0(0%)	0(0%)			
Albendazole 200mg suspension	Yes	196(100%)	153(100%)	-	-	-
	No	0(0%)	0(0%)			
Metronidazole 400mg tablets	Yes	153(100%)	43(100%)	-	-	-
	No	0(0%)	0(0%)			
Erythromycin 125mg suspension	Yes	152(99.3%)	24(55.8%)	1	69.422	0.000
	No	1(0.7%)	19(44.2%)			
Fluconazole 200mg tablets	Yes	153(100%)	43(100%)	-	-	-
	No	0(0%)	0(0%)			
Acyclovir 200mg tablets	Yes	145(94.8%)	12(27.9%)	1	94.154	0.000
	No	8(5.2%)	31(72.1%)			
Doxycycline 100mg capsules	Yes	153(100%)	43(100%)	-	-	-
	No	0(0%)	0(0%)			
Nifedipine 20mg tablets	Yes	153(100%)	43(100%)	-	-	-
	No	0(0%)	0(0%)			
Metformin 500mg tablets	Yes	153(100%)	43(100%)	-	-	-
	No	0(0%)	0(0%)			
Chlorpromazine 100mg tablets	Yes	92(60.1%)	6(14%)	1	28.630	0.000
	No	61(39.9%)	37(86%)			
Phenobarbitone 30mg tablets	Yes	88(57.5%)	10(23.4%)	1	15.760	0.000
	No	65(42.5%)	33(76.7%)			
Antirabies vaccine	Yes	0(0%)	0(0%)	-	-	-
	No	153(100%)	43(100%)			
Oral typhoid vaccine	Yes	0(0%)	0(0%)	-	-	-
	No	153(100%)	43(100%)			
Hepatitis B vaccine	Yes	0(0%)	0(0%)	-	-	-
	No	153(100%)	43(100%)			
Pentavalent vaccine	Yes	0(0%)	0(0%)	-	-	-
	No	153(100%)	43(100%)			
Tetanus toxoid (T.T) vaccine	Yes	58(39.9%)	0(0%)	1	23.152	0.000
	No	95(60.1%)	43(100%)			



Table 8: Multivariate logistic regression on community pharmacy role in UHC

Variable	Category	Community pharmacy role in UHC		AOR (CI 95%)	P - value
		Yes (n=153)	No (n=43)		
Gender	Male	78(51%)	36(83.7%)	0.202,(0.085,0.482)	0.000
	Female	75(49%)	7(16.3%)		
Education	Diploma	150(93%)	3(7%)	666.7(129.6,3429.5)	0.000
	Degree	3(7%)	40(93%)		
Registration with PPB	Yes	76(49.7%)	2(4.7%)	20.234,(4.726,86.627)	0.000
	No	77(50.3%)	41(95.3%)		
Practicing duration	<2 years	86(56.2%)	42(97.7%)	0.031,(0.004,0.228)	0.000
	>2 years	67(43.8%)	1(2.3%)		
Occupation	Employed	148(96.7%)	17(39.5%)	45.271(15.363,133.404)	0.000
	Student / intern	5(3.3%)	26(60.5%)		
UHC	Yes	70(45.8%)	9(20.9%)	3.186(1.431,7.096)	0.003
	No	83(54.2%)	34(79.1%)		
ADR	Yes	72(47.1%)	6(14%)	5.786(2.311,14.484)	0.000
	No	81(52.9%)	37(86%)		
Covid 19	Yes	98(64.1%)	0(0%)	-	0.000
	No	55(35.9%)	43(100%)		
TB/HIV	Yes	121(79.1%)	17(39.5%)	5.8,(2.8,11.9)	0.000
	No	32(20.9%)	26(60.5%)		
Inspection fee	Charged	39(25.5%)	0(0%)	-	0.000
	Not charged	114(74.5%)	43(100%)		
Frequency	Often	100(65.4%)	17(39.5%)	2.9,(1.4,5.8)	0.002
	Rarely	53(34.6%)	26(60.5%)		
Inspectors attitude	Very good	20(13.1%)	0(0%)	-	0.000
	Good	65(42.5%)	33(76.7%)		
	Bad	68(44.4%)	10(23.3%)		
Guidelines provision	Yes	153(100%)	5(11.6%)	-	0.000
	No	0(0%)	38(88.4%)		
Erythromycin suspension	125mg Yes	152(99.3%)	24(55.8%)	120.3,(15.4,940.8)	0.000
	No	1(0.7%)	19(44.2%)		
Acyclovir 200mg tablets	Yes	145(94.8%)	12(27.9%)	46.823,(17.7,124.1)	0.000
	No	8(5.2%)	31(72.1%)		
Chlorpromazine tablets	100mg Yes	92(60.1%)	6(14%)	9.3(3.7,23.4)	0.000
	No	61(39.9%)	37(86%)		
Phenobarbitone 30mg tablets	Yes	88(57.5%)	10(23.4%)	4.5(2.6,9.7)	0.000
	No	65(42.5%)	33(76.7%)		
Tetanus toxoid (T.T) vaccine	Yes	58(39.9%)	0(0%)	-	0.000
	No	95(60.1%)	43(100%)		

DISCUSSION

The findings show that 58% of the respondents were male, 90.3% had a diploma in pharmacy qualification (pharmaceutical technologist), 39.8% were enrolled or registered with the pharmacy and poisons board to practice and there were 14.9% students and interns being trained. About 78% of the respondents agree that community pharmacy has a role to play in the UHC provision in Kenya. Bivariate analysis findings show that gender (p=0.000), education level (p=0.000), registration with PPB (p=0.000), practising age (p=0.000) and occupation

(p=0.000) were statistical significant to community pharmacy role in UHC. The study findings concur with the PPB guidelines that no one should be allowed to practice a community pharmacy without registration or enrolment with the board (PPB, 2012).

The fourth element of UHC is health workers training and the study was to focus on training of new skills to health workers working in the community pharmacy. The study found out that 40.3% had been on UHC, 39.8% ADR, 69.9% Malaria management, 50% Covid 19 and 70.4% TB/HIV. Bivariate analysis found out that respondent training in UHC (p=0.003), ADR



(0.000), Covid 19 ($p=0.000$) and TB/HIV ($p=0.000$) were statistically significant to community pharmacy role in UHC. Therefore, based on the study findings all community pharmacies practitioners should benefit from the MOH skill training to be able to render better health outcomes to Kenyans. Other studies by (Mwangi *et al*; 2015 and Kibui *et al*; 2015) demonstrates how health workers in private practice must receive training offered by the MOH in order to empower their service delivery to Kenyans.

On the part of government (PPB) role, the study found out that 100% of the community pharmacies had undergone inspection process, 19.9% claim they were charged premise inspection fee yet the process should be free of charge (PPB, 2012), 59.7% agree that inspection process has been done on regular basis, 60.2% agree the inspectors do their work with good attitude and 80.6% of the respondents were provided with inspection guidelines by the PPB inspectors. Bivariate analysis finding show that inspection fee ($p=0.000$), frequency of the inspection exercise ($p=0.002$), attitudes of inspectors ($p=0.000$) and provision of inspection guidelines ($p=0.000$) to be statistical significant to community pharmacy role in UHC

Study was also interested to identify the government role in partnering with the community pharmacies to enhance healthcare reach to the community with certain commodities offered for free to the public by the public hospitals. The study found out that the supply of condoms (0%), family planning commodities (0%), HIV test kits (10.2%), post exposure prophylaxis to HIV (0%), and Pre exposure prophylaxis to HIV (0%). The bivariate analysis found out that HIV test commodities ($p=0.012$) to be statistically significant to community pharmacy role in UHC

The other element of UHC is access to essential medicines and the study was interested to identify availability of essential medicines at the community pharmacy. The study found out that for general drugs; paracetamol 500mg tablets (100%), Chlorpheniramine 2mg suspension (100%), multivitamin tablets (100%), Metoclopramide 10mg tablets (100%), activated charcoal tablets (100%) and Albendazole 200mg suspension (100%). Antimicrobial drugs; metronidazole 400mg tablets (100%), erythromycin 125mg suspension (99.3%), fluconazole 200mg tablets (100%), acyclovir 200mg tablets (94.8%) and doxycycline 100mg capsules (100%). Special drugs; nifedipine 20mg tablets (100%), metformin 500mg tablets (100%), chlorpromazine 100mg tablets (60.1%) and phenobarbitone 30 mg tablets (57.5%). Vaccines; oral typhoid vaccine (0%), hepatitis B vaccine (0%),

pentavalent vaccine (0%) and tetanus toxoid vaccine (39.9%). Based on bivariate analysis, erythromycin 125mg suspension ($p=0.000$), Acyclovir 200mg tablets ($p=0.000$), chlorpromazine 100mg tablets ($p=0.000$) and Phenobarbitone 30mg tablets ($p=0.000$). The UHC is very clear on accessibility of essential medicines and technologies (WHO, 2012). The Kenyan constitution 2010, state that it is the right of every Kenyan to access quality health care (Constitution of Kenya, 2010). Key determinants of community pharmacy role in UHC were diploma (AOR 666.7; CI 129.6-3429.5), Erythromycin 125mg suspension (AOR 120.3; CI 15.4-940.8), Acyclovir 200mg tablets (AOR 46.823; CI 17.7-124.1) and Occupation (AOR 45.271; CI 15.363-133.404).

The study also found out that 74% of the essential medicines were affordable. About 96.6% of the respondents access community pharmacies in a short distance of less than one kilometre from their residence, the community pharmacy meets their healthy needs (100%), 41.8% of the respondents find community pharmacies to offer good and quality health services and 98.6% agree that doctors at the community pharmacy have satisfactory attitudes on patient care. The bivariate findings show that distance ($p=0.000$), operation time ($p=0.000$), client needs ($p=0.000$), quality of service ($p=0.000$) and doctors attitude ($p=0.000$) to statistically significant to community pharmacy role in UHC. The findings agree with the study by Beringer & Remington (2006) whose findings show how community pharmacies are crucial in society needs with drugs and pharmaceutical services.

In Kenya, the government chose National Hospital Insurance Fund (NHIF) as an official vehicle for successful implementation of universal health coverage for the country and it covers treatment of the insurance beneficiaries at both public and private hospitals (Munge *et al*; 2015). This means NHIF beneficiaries are not covered when they take their medications at the community pharmacies.

In Australia, Medicare is a universal health insurance scheme that covers all Australian citizens and permanent residents, with other programs covering specific groups, such as veterans or Indigenous Australians, and various compulsory insurance schemes cover personal injury resulting from workplace or vehicle incidents (Australian institute of health and welfare, 2018). Since 1990, the remuneration that pharmacists receive for dispensing Pharmaceutical Benefits Scheme (PBS) medicines and the regulations regarding the location of pharmacies have been governed by a series of agreements between the Australian Government and the Pharmacy Guild of Australia. The Sixth Community Pharmacy Agreement



(6CPA) between the Australian Government and the Guild provides approximately \$18.9 billion to over 5000 community pharmacies for dispensing PBS medicines, providing pharmacy programs and services and for the Community Service Obligation arrangements with pharmaceutical wholesalers. This provides financial support to pharmaceutical wholesalers, supplying the full range of PBS medicines regardless of pharmacy location and the relative cost of supply. The CSO Funding Pool helps ensure that low volume PBS medicines are delivered to community pharmacies anywhere in Australia and that all PBS medicines are delivered to rural and remote community pharmacies (Vitry *et al*, 2015).

In England, NHS commits almost £13 billion to community pharmacy through its contractual framework, with a commitment to spend £2.592 billion over five years from 2019-2024. This significant investment recognises the contribution that community pharmacy has committed to making towards the delivery of the NHS Long Term Plan (Davies, 2013). Thus, learning from these two countries will enhance country health service delivery

CONCLUSION

UHC elements focus on strong, efficient and well runned health system, financing of health system, access to essential medicines and sufficient capacity of well trained motivated health workers. The community pharmacies have a role in UHC and this can be played through stocking essential pharmaceutical commodities that are effective and meets quality standards prescribed by the regulator (PPB). The community pharmacies require government support in order to get pharmaceutical products and establishment of their retail shop at affordable costs. It is always the government role to empower the all health workers with relevant training in order to ensure that they also render quality health care to the people

RECOMMENDATIONS

The study recommends the following based on it's study findings;

1. The community pharmacies should be empowered by the PPB to stock and manage controlled drugs and vaccines which are essential medicines in UHC
2. The government should consider either to reduce or withdraw tax on essential medicines and technologies as well give support young qualified persons put up a community pharmacy
3. The UHC policy in Kenya should be revised so that the community pharmacies becomes a

stakeholder in provision affordable health services to the people given that they are accessible to many people

REFERENCES

1. Australian Institute of Health and Welfare (2018). *Australia's Health 2018*. Australia's Health. 16. AIHW
2. Ayugi, M. E. (2013). *Uptake of community health strategy on service delivery and utilization in Kenya*. *European Scientific Journal*, 9(23), 102-111.
3. Babar, Z. (2015). *Pharmacy practice research methods*.
4. Beringer, P., & Remington, J. P. (2006). *Remington: The science and practice of pharmacy. Beyond UHC: monitoring health and social protection coverage in the context of tuberculosis care and prevention*. *PLoS medicine*, 11(9), e100169
5. Bhise, S. B., & Yadav, A. V. (2006). *A text book of health education and community pharmacy*. New Delhi, India: Nirali Prakashan
6. Boshoff, C. and Gray, B. (2004). *The Relationship between service quality, customer satisfaction and buying intentions in the private hospital industry*. *South African Journal of Business Management*, 35(4), 27-37.
7. Buong', J. A., Adhiambo, G. C., Kaseje, D. O. Mumbo, H. M., Odera O. and 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.
8. Davies, J. E. (2013). *Community pharmacy businesses and community pharmacists (Doctoral dissertation, UCL (University College London))*
9. De Leeuw, E. (2001). *Global and local (glocal) health: the WHO healthy cities programme*. *Global Change and Human Health*, 2(1), 34-45.
10. Feng Jing, F., Avery, G. C., & Bergsteiner, H. (2011). *Organizational climate and performance in retail pharmacies*. *Leadership & Organization Development Journal*, 32(3), 224-242.
11. Glickman, S. W., Baggett, K. A., Krubert, C. G., Peterson, E. D. and Schulman, K. A. (2007).
12. *Promoting quality: The health care organization from a management perspective*. *International Journal of Quality Health Care*, 19(6):341-348
13. GOK (2018). *Big four agenda implementation status report*
14. Houtkoop-Steenstra, H., & Houtkoop-Steenstra, J. P. (2000). *Interaction and the standardized survey interview: The living questionnaire*. Cambridge University Press. Philadelphia: Lippincott Williams & Wilkins.
15. Kibui A.W., Ruth K.M., Grace N., Ngesu N., Mwaniki I.N., Benard M. (2015). *Health Policies in Kenya and*



- the New Constitution for Vision 2030', *International Journal of Scientific Research and Innovative Technology* 2(1):127.
16. Kelley, K., Clark, B., Brown, V., & Sitzia, J. (2003). Good practice in the conduct and reporting of survey research. *International Journal for Quality in health care*, 15(3), 261-266.
 17. Lambert, A. A., & Lambert, A. A. (2014). Advanced pharmacy practice.
 18. Leah Kimathi (2017). Challenges of the Devolved Health Sector in Kenya: Teething Problems or Systemic Contradictions? *Africa Development*, XLII, (1), 55-77
 19. Levin, K. A. (2006). Study design III: Cross-sectional studies. *Evidence-based dentistry*, 7(1), 24-25.
 20. Lore, B. (2008). Optimising role of drugs in patient care. *East African medical journal*, 85(9), 417-418
 21. Lönnroth, K., Glaziou, P., Weil, D., Floyd, K., Uplekar, M., & Raviglione, M. (2014).
 22. MOH. (2013b). *Human Resources for Health and Health Infrastructure Norm and Standards*. Nairobi, Kenya: MOH.
 23. MOH. (2013a). *Kenya Service Availability and Readiness Assessment Mapping (SARAM) Report*. Nairobi, Kenya: World Health Organization.
 24. Mselle, L. T., Moland, K. M., Mvungi, A., Olsen, B. E., and Kohi, T. W. (2013). Why give birth in health facility? Users' and providers' accounts of poor quality of birth care in Kenya. *BMC Health Services Research*, 13, 174-184
 25. Munge, K., Mulupi, S., & Chuma, J. (2015). A critical analysis of the purchasing arrangements in Kenya: the case of the National Hospital Insurance Fund, Private and Community-based health insurance. London: RESYST.
 26. Mwaniki, D.L. & Dulo, C. (2008). "Migration of Health Workers in Kenya: The Impact on Health Service Delivery." *Regional Network for Equity in Health in East and Southern Africa. Discussion Paper no. 55*,
 27. Mwangi, C., 2013, 'Accessibility to the Kenyan Healthcare System: Barriers to Accessing Proper Healthcare', unpublished PhD thesis, Arcada University.
 28. Noor, A. M., A. A. Amin, P. W. Gething, P. M. Atkinson, S. I. Hay, and R.W. Snow. 2006. "Modelling Distances Travelled to Government Health Services in Kenya." *Tropical Medicine & International Health* 11(2): 188-196.
 29. Quick, J. D., Canavan, C. R., & Jay, J. (2014). People-centered health systems for UHC. *Southern African Journal of Public Health (incorporating Strengthening Health Systems)*.
 30. Regeru, R. N., Chikaphupha, K., Bruce Kumar, M., Otiso, L., & Taegtmeier, M. (2020). 'Do you trust those data?'—a mixed-methods study assessing the quality of data reported by community health workers in Kenya and Malawi. *Health policy and planning*, 35(3), 334-345.
 31. Robertson, J., Magrini, N., Barr, R., Forte, G., & Ondari, C. (2015). Medicines for cancers in children: the WHO model for selection of essential medicines. *Pediatric blood & cancer*, 62(10), 1689-1693.
 32. Vitry, A. I., Thai, L., & Roughead, E. E. (2015). Pharmaceutical pricing policies in Australia. In *Pharmaceutical prices in the 21st century* (pp. 1-23). Adis, Cham
 33. Wamai, R. (2009). The kenya health system: analysis of the situation and enduring challenges. *JMAJ*, 52(2), 134-140.
 34. WHO (2002). *The selection of essential medicine* (NO. WHO/2002.2). Geneva: World Health Organization
 35. WHO (2010). *Monitoring the building blocks of health systems: a handbook of indicator and their measurement strategies*. World Health Organization