



The effect of a pilot universal health coverage program on hospital workload: A comparative study of two counties in Kenya

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ABSTRACT

Aim: Universal health coverage (UHC) aims to provide individuals with the healthcare they need without predisposing them to catastrophic health expenditures. The Kenyan government piloted UHC in four select counties in 2019. Nyeri County was one of the selected counties. Area residents accessed health services from government-owned health facilities at no cost. This study assessed the effect of this pilot on the workload of major health facilities in Nyeri.

Material and methods: The monthly workload of six health facilities in Nyeri was compared with that of similar facilities in the non-participating county of Embu. A difference-in-differences analysis was done for workload indicators. Workload was downloaded from the Kenya health information system. The level 5 hospital recorded an increase in eight workload indicators with four having statistically significant increases. Three indicators recorded non-significant declines. The level 4 and 3 health facilities also recorded an increase in outpatient workload.

Conclusion: The pilot UHC program increased workload and by extension utilization of healthcare among major health facilities in Nyeri.

1. Introduction

The cost of seeking health care is prohibitive to many people living in low- and middle-income countries. Some resort to selling valuable assets like land and animals so as to afford health care. This predisposes them to loss of livelihoods with the possibility of becoming poor or sinking further into poverty. Universal health coverage (UHC) seeks to avoid this by providing individuals and communities with the health care they need without falling into financial hardship. The eighth target of Sustainable Development Goal 3 (SDG) is geared towards achieving UHC and it comprises of two components. The first is adequate coverage of essential health services. This includes curative, promotive, rehabilitative or palliative health services. People in need of these services should be able to access them in the quality required so as to attain the necessary health gains. This is monitored using the UHC service coverage index. Globally, the coverage index increased from 45 in 2000 to 67 in 2019 [1]. Africa had the lowest coverage index of 46. Kenya's service coverage increased from 30 in 2000 to 56 in 2019. The second component looks at financial hardship incurred due to seeking health care. Financial protection is attained when there are no financial barriers to accessing health care and any direct payments made to obtain health care do not cause financial hardship. Households who spend 10% or more of their income on health care are deemed to have incurred catastrophic expenditure. Globally, such households increased from 9.4% in 2000 to 13.2% in 2017. In Kenya, 5.1% of households spent

10% or more of their income on health care and another 1.3% spent more than 25% of their income on health care [1]. This is partly due to low health insurance coverage in Kenya. One national survey found that only 20% of Kenyans had some form of health insurance [2]. In Kenya, there are three types of health insurance. The first is private which mostly caters for the relatively well-off people and it comprises 9.4% of all insured people. The second is community-based health insurance. This is relatively new and is estimated to cover 1.3% of those insured. The third is the public/social insurance scheme called the National Health Insurance Scheme which covers 88.4% of those insured [2]. National Health Insurance Fund (NHIF) is the main insurance provider. It is a state corporation established in 1966 to provide health insurance to its members and their dependents. Enrollment is compulsory for formal workers and voluntary for those in the informal sector and retirees. The government also pays NHIF premiums for those enrolled in its various social protection programs. These include households with orphan and vulnerable children; the poor, elderly, people living with disabilities and a free maternity scheme which caters for all pregnant women in public health facilities [3].

1.1. The pilot UHC program in Kenya

In 2017, the Government of Kenya launched what it termed as the Big Four Agenda, with UHC being one of the four pillars. The goal of UHC was to ensure all person's resident in Kenya have access to the essential

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health services they need for their health and well-being; and at an affordable price [4]. Kenya aims to achieve UHC by the year 2022. Kenya is divided into 47 devolved counties. The bulk of health services are provided by these county governments. The health service delivery in Kenya is organized across six levels of care, beginning at the community level. This is followed by dispensaries (level 2), health centers (level 3), and county referral health services (level 4 and 5). Levels 4 and 5 are the secondary referral facilities [5]. These are county referral hospitals and offer a wide range of curative services with some acting as teaching hospitals. Level 6 consists of tertiary referral facilities offering specialized care and training. Level 1 to 5 facilities are run by county governments.

The national government decided to pilot the UHC program in four select counties with the aim of using the lessons learned to further scale it among the remaining 43 counties [4]. The pilot program was funded by the national government. County governments were to abolish user fees at level 4 and 5 health facilities. In return, the national government would reimburse the county governments for the lost revenue [6]. The funds were allocated as follows: delivery of basic and specialized care (72%), health systems strengthening (15%), community health services (12%) and public health services (1%) [6]. Of the allocation for basic and specialized care, 70% of the funds went to the Kenya Medical Supplies Authority (KEMSA) for purchasing basic medical equipment, medicines and other supplies. The remaining 30% was used for operations and maintenance of level 4 and 5 facilities [7]. Majority of the funds under the health systems strengthening were used to recruit health workers on contract basis. Funds for community health services were used to train and provide supplies to community health volunteers. Funds for public health services were allocated to county health management teams. This was to facilitate quality control, data collection and surveillance.

1.2. The pilot UHC program in Nyeri County

Nyeri County was one of the four counties selected to participate in the pilot UHC program. It was selected due to its high non-communicable disease burden for example diabetes and hypertension [8]. The pilot UHC program begun with community mobilization followed by registration of households. Registration was open to all people residing in Nyeri county including those covered by other health insurances. Trained enumerators registered household heads and all their dependants. A select package of health services was offered in the 125 government owned health facilities (Table 1) [9]. A total of 716,947 people or 349,901 households were registered under the pilot UHC program. This is an equivalent of 86.2% of the population of Nyeri County [10]. The pilot UHC program was designed in a way that beneficiaries were registered to the health facility nearest to their dwelling places. This is where they would initially seek the health services offered under the pilot UHC. If they needed specialized health services available at a higher-level health facility, they would be issued with a referral note. This was aimed at preventing the county referral hospital from

Table 1

Package of health services offered under the pilot UHC.

1	Maternal and child health care services
2	Consultation services
3	Laboratory services
4	Radiology services including MRI and digital x-ray
5	Immunization
6	Nutrition
7	Cancer screening and treatment
8	Renal and dialysis services
9	ICU services
10	Free ambulance services
11	Theatre services
12	Palliative care
13	Rehabilitation services
14	Health preventive and health promotion services offered by 2510 community health volunteers in the villages. This included screening for hypertension and diabetes.

Table 2

Socio-demographics of Nyeri and Embu Counties.

	Nyeri	Embu
Population as per the 2019 national census [17]	759,164	608,599
Population density per square kilometer [17]	228	216
Proportion of population with insurance in 2013 [2]	32.9%	22.6%
Proportion of population living in absolute poverty [18]	19.3%	28.2%
Gini coefficient in 2016 [18]	0.283	0.412

being overwhelmed as majority of residents would prefer to seek health services there [11]. (See Table 2.)

Studies have been done on the impact of the pilot UHC in Nyeri and other counties. These have reported an increase in outpatient attendance in health facilities enrolled in the pilot UHC program. These studies focused mostly on the outpatient attendance workload indicator and utilized a pre and during the intervention design with no comparison group [3,12,13]. This study sought to determine the effect of the pilot UHC in Nyeri county by comparing the workload of the level 5, two-level 4 and three-level 3 health facilities in Nyeri with similar health facilities in Embu County. Embu County did not participate in the pilot UHC program. The study also sought to find out if the pilot UHC program had any effect on the number of surgeries, deliveries, dental extractions and specialized clinics attendance in addition to outpatient attendance.

2. Material and methods

2.1. Study area

Nyeri County has one level 5 hospital, 4 level 4 hospitals, 25 health centers, 88 dispensaries and 251 community units [14]. Embu County has one level 5 hospital, 4 level 4 hospitals, 11 health centres and 77 dispensaries [15]. Embu County is the nearest county to Nyeri with a government-owned level 5 hospital which did not participate in the pilot UHC program. Prior to devolution, these two level 5 hospitals were provincial general hospitals catering for Central and Eastern provinces respectively. These provide specialized care not available at lower-level facilities. They have in their rank's consultants for example surgeons, physicians and paediatricians. They also have general and specialized nurses as well as midwives and public health staff [16]. This means despite them being county referral hospitals, they also receive patients from neighbouring counties which lack specialized health care.

The study selected six health facilities from Nyeri and eight from Embu. The county referral hospitals from both counties were included as level 5 facilities. Two level-4 facilities from Nyeri were selected. These are Karatina and Mukurweini hospitals. Four level-4 hospitals in Embu were selected. An extra two level 4 hospitals from Embu were included as the level 4 hospitals in Embu lacked sufficient data on specialist clinics attendance. These are Runyenjes, Mbeere, Ishiara and Kianjokoma level 4 hospitals. Three level 3 health facilities in Nyeri were included in the study. These are Mweiga, Wamagana and Naromoru health centres. For Embu, Kiambere, Karau and Kiritiri health centres were included.

2.2. Data collection and analysis

The pilot UHC program ran for a year that is the whole of 2019. Data was compared for 2018 and 2019. This covered the similar periods of twelve months pre-UHC and twelve months of the pilot UHC program. The study utilized the Kenya Health Information System (KHIS) for aggregate reporting (<https://hiskenya.org/dhis-web-commons/security/login.action>). Kenya adopted the District Health Information Software 2 (DHIS2) for reporting health data in 2011. This is an open source, free web-based software. It is structured by administrative units with health facilities being classified according to the ward, sub-county and county in which they are located. Data is collected on service delivery, diseases and commodities. Clinicians, logisticians and other health workers collect this

data using paper-based tally sheets, registers and monthly summary forms. These are given to health information and records officers who key them into the KHIS on a weekly or monthly basis. This data is available to registered users who are issued with a password by the administrator [19].

Monthly data on workload for each hospital was extracted from the Services Workload reporting tool commonly known as MOH 717. This report summarizes workload for various sections. General outpatient (filter clinic) attendance is grouped into two sections. These are for the below 5 years and the above 5 years one. It also has a section on special clinics attendance comprising of workload for 16 clinics for example surgical clinic. There is also a section on dental clinic, maternal child health and family planning clinics attendance. This is followed by sections on maternity, inpatient services, operations, and special services like laboratory tests and x-rays. For the level 5 hospitals, 11 workload indicators were chosen because these had complete data for the two years. For level 4 and 3 facilities, only outpatient attendance workload data was used.

Data analysis.

Monthly means for each indicator over the two periods was calculated and the proportion of change calculated. The difference-in-differences method was used to calculate monthly change among each indicator in the intervention health facility using the methodology described elsewhere [20]. A time series graph was done for the over 5 years outpatient attendance for both level 5 hospitals. Stata 13 software was used [21]. The difference-in-differences method is a quasi-experimental design that utilizes longitudinal data to compare changes in outcomes between a population that is enrolled in a program (the intervention group) and a population that is not (the comparison group) [22]. It is normally used to estimate the effect of a specific intervention (for example implementation of a policy). Nyeri County health facilities were the intervention group and Embu County health facilities were the comparison. The analysis looked at the pre-pilot UHC and during pilot UHC differences in workloads of both the intervention and comparison health facilities. The difference between the two differences was the effect of the pilot UHC program. The difference-in-differences method has been shown to control for the effects of both observed and unobserved time-invariant characteristics [22].

2.3. Ethical approval

This study did not seek ethical clearance. This is because it utilized aggregated data which can be accessed with permission from the Ministry of Health. Data from the Kenya Health Information System for aggregate reporting is normally de-identified to ensure patient confidentiality.

3. Results

Preliminary analysis showed that out of eleven workload indicators, ten recorded an increase during the pilot UHC program in Nyeri County Referral Hospital (NCRH). Only minor surgery recorded a decline of 12.5% (Table 3). In Embu County Referral Hospital (ECRH), only four workload

indicators recorded an increase over the similar period, with dental extraction having the highest increase. The remaining seven indicators reported declines of between 3.4% to 19.8% (Table 3).

Difference-in-differences analysis showed that the intervention hospital (NCRH) recorded an increase in eight indicators. Out of these, four indicators recorded significant increase. Three indicators recorded non-significant decline. In terms of absolute numbers, outpatient attendance for the above 5 years cohort had the highest increase (Table 4).

The graph on outpatient attendance showed that attendance increased in the intervention hospital after the pilot UHC started. The comparison hospital did not record changes save for a sharp decline towards the end of the pilot UHC year followed by a slight rise (Graph 1).

Preliminary analysis of level 4 hospitals in Nyeri showed that Karatina hospital recorded an increase in all 8 indicators, with workload for over 5 years outpatient attendance, dental extraction and surgical clinic doubling. Mukurweini on the hand recorded an increase in six indicators and a decline in two indicators.(Table 5).

In Embu, two- level 4 hospitals reported an increase in both over and under 5 years outpatient attendance, one reported a decline in outpatient attendance in the under 5 years cohort only and another reported a decline in both under and over 5 years cohort (Table 6).

All the level 3 health facilities in Nyeri reported an increase in outpatient attendance. In Embu, only one level 3 facility recorded an increase in outpatient attendance. The other two reported declines (Table 7).

Difference-in-differences analysis showed that outpatient attendance for the over 5 years cohort increased significantly among level 4 hospitals in Nyeri County while that of the under 5 years cohort also increased though insignificantly. The reverse was observed for level-3 facilities. Outpatient attendance for under 5 increased significantly while that of over 5 increased though insignificantly (Table 8).

4. Discussion

The health facilities participating in the pilot UHC program reported a higher increase in most of their workload compared to similar health facilities not participating in the pilot UHC program.

The level 5 hospital recorded an increase in eight of its workload indicators, with four increasing significantly. Level 4 hospitals had an increase in outpatient workload with that of over 5 years cohort increasing significantly. Level 3 health facilities also had an increase in outpatient workload with that of the under 5 years cohort increasing significantly. The level 5 hospital had the highest increase in outpatient attendance in terms of numbers. This could be due to increased referrals from lower-level facilities or residents preferring it due to perceived better care available. This study cannot ascertain if the referral systems put in place worked as envisaged. Trends in outpatient attendance among the over 5 years cohort showed that attendance increased in the intervention hospital after the onset of the pilot UHC program. On the other hand, the comparison level 5 hospital showed a sharp decline towards the end of the year 2021 (Graph 1). This

Table 3
Mean Monthly workload for Nyeri County referral hospital and Embu County referral hospital pre-UHC and during the pilot UHC.

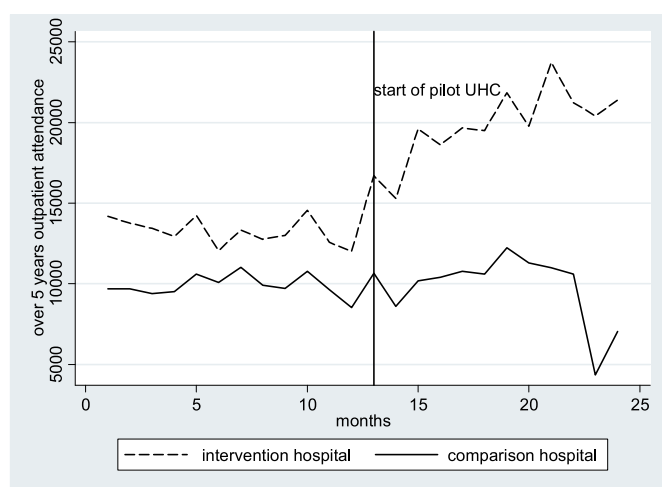
Workload indicator	Nyeri County Referral Hospital		% Change	Embu County Referral Hospital		% Change
	Mean workload pre-UHC	Mean workload during UHC		Mean workload pre-UHC	Mean workload during UHC	
Outpatient attendance for under 5 years cohort	2349	3186	49.7	2438	2268	-7
Outpatient attendance for over 5 years cohort	13,236	19,815	49.7	10,271	11,077	7.8
Ear, Nose and Throat (ENT) clinic	330	390	18.2	1205	966	-19.8
Dental extraction	182	279	53.3	48	162	237.5
Medical clinic	325	392	20.6	500	462	-7.6
Surgical clinic	165	200	21.2	372	337	-9.4
Paediatric clinic	155	209	34.8	177	193	9
Obstetrics and Gynaecology clinic	110	193	75.5	221	211	-4.5
Deliveries	426	428	0.5	488	519	6.4
Minor surgery	104	91	-12.5	265	256	-3.4
Major surgery	140	200	42.9	70	61	-12.9

Table 4
Monthly difference-in differences for workload indicators in Nyeri County referral hospital compared to Embu County referral hospital.

Workload indicator	Difference-in-differences	p value	95% Confidence Interval
Outpatient attendance for under 5 years cohort	1007	0.00	376–1638
Outpatient attendance for over 5 years cohort	6642	0.00	4715–8568
Ear, Nose and Throat (ENT) clinic	300	0.13	–93-693
Dental extraction	–17	0.70	–103-67
Medical clinic	105	0.20	–60-270
Surgical clinic	70	0.10	–16- 156
Paediatric clinic	40	0.23	–26-105
Obstetrics and Gynaecology clinic	93	0.00	36–150
Deliveries	–29	0.82	–100 – 42
Minor surgery	–4	0.92	–93-693
Major surgery	68	0.03	6–131

Table 6
Mean Monthly outpatient workload for level 4 hospitals in Embu County pre-UHC and during the pilot UHC.

Name of Hospital	Pre-UHC outpatient for over 5	Outpatient attendance for over 5 during UHC	% Change	Pre-UHC outpatient for under 5	Outpatient attendance for under 5 during UHC	% Change
Runyenjes	4138	4420	6.8	1672	1987	18.8
Mbeere	942	1317	39.8	775	701	–9.5
Ishira	1818	1573	–13.5	635	531	–19.6
Kianjokoma	1634	2133	30.5	890	1149	29.1



Graph 1. Over 5 years outpatient attendance for intervention and comparison level 5 hospitals.

may be attributed to industrial action by health workers in Embu County during the month of October 2021 partially disrupting delivery of health services [23].

Outpatient attendance for the over 5 years cohort increased significantly for both level 5 and 4 hospitals. Given the high burden of non-communicable diseases, it's likely this increase was partly due to referrals as most specialist clinics are held in level 4 and 5 hospitals. Among level 3 health facilities outpatient attendance increased significantly among infants. A plausible reason could be that caregivers were more likely to seek treatment from nearby level-3 facilities rather than travel longer distances to level-4 facilities. This increase in outpatient attendance as a result of

Table 5
Mean Monthly workload for Karatina and Mukurweini level 4 hospitals, Nyeri County pre-UHC and during the pilot UHC.

Workload indicator	Karatina level 4 Hospital		% Change	Mukurweini level 4 Hospital		% Change	Both Hospitals combined
	Mean workload pre-UHC	Mean workload during UHC		Mean workload pre-UHC	Mean workload during UHC		% Change for both hospitals combined
Outpatient attendance for under 5 years cohort	1436	2035	41.7	603	494	–18.1	24
Outpatient attendance for over 5 years cohort	4366	8842	102.5	2787	3745	34.4	76
Dental extraction	217	519	139.2	126	244	93.7	124.5
Medical clinic	269	407	51.3	463	481	3.9	16.5
Surgical clinic	196	402	105.1	159	163	2.5	49.9
Paediatric clinic	65	72	10.8	34	20	–41.2	–7.1
Obstetrics and Gynaecology clinic	90	123	36.7	104	162	55.8	46.9
Major surgery	64	78	21.9	9	15	66.7	35.3

the pilot UHC has been reported elsewhere. The entire pilot UHC in Kenya increased the outpatient workload of participating health facilities by 1.6 million [3]. Isiolo County which was participating in the pilot UHC program recorded a two-fold increase in the number of outpatient visits [12]. One study found out that Karatina level 4 hospital recorded a 67% increase in outpatient visits, with most beneficiaries being low-income earners [13]. This study delineated outpatient workload and found the increase to be 102.5% and 41.7% for the over and under 5 years cohort in the same hospital.

Specialist clinics attendance increased in level 5 and 4 hospitals in Nyeri. Obstetrics and gynaecology clinic attendance increased significantly in the level 5 hospital. Level 4 hospitals in Embu lacked data on specialist clinics workload. Despite this, preliminary analysis showed that level 4 hospitals in Nyeri generally recorded an increase in workload with surgical clinic attendance doubling in Karatina level 4 hospital. This may infer that the pilot UHC program met the need for specialized care among the residents of Nyeri County. This is because it met the costs of consulting a specialist, drugs and any tests prescribed.

Dental extractions declined in the level-5 hospital. Preliminary analysis of level-4 hospitals showed that dental extractions doubled. This may point to a significant number of extractions being done among the level-4 hospitals. Extractions can easily be done by a dental technologist and do not necessarily need a dentist. Minor surgery and deliveries also declined non-significantly in the level 5 hospital. Minor surgery can be done in lower-level facilities beginning from level 2 [10]. There is a possibility that lower-level facilities handled more minor surgery cases during the pilot UHC as a result of the referral system put in place. On the other hand, major surgeries increased significantly in the level 5. Preliminary analysis of level 4 hospitals also showed an increase in major surgeries. The cost of seeking surgery can be catastrophic. Globally this has been estimated to account for 22% of the population impoverished as a result of seeking healthcare [24]. The poor are more vulnerable. It is plausible that some patients who may have deferred their surgery due to cost related issues took advantage of the pilot UHC program to undergo surgery at no cost. Deliveries declined albeit in a non-significant manner. Deliveries in government health facilities were made free from June 2013 [25]. The deliveries may have been influenced by other contextual factors and not just UHC. These may include preference by pregnant women on which facility to go for delivery.

Table 7

Mean Monthly outpatient workload for select level 3 hospitals in Nyeri and Embu Counties pre-UHC and during the pilot UHC.

Name of Health Centre	County	Pre-UHC outpatient for over 5	Outpatient attendance for over 5 during UHC	% Change	Pre-UHC outpatient for under 5	Outpatient attendance for under 5 during UHC	% Change
Wamagana	Nyeri	1906	2066	8.4	1672	1987	18.8
Mweiga	Nyeri	1456	1825	25.3	446	484	8.5
Naromoru	Nyeri	2795	3032	8.5	873	939	7.6
Kiambere	Embu	730	578	-20.8	144	119	-17.4
Kiritiri	Embu	1743	2207	26.6	777	822	5.8
Karau	Embu	1224	1005	-17.9	137	122	-10.9

Table 8

Monthly difference-in differences for outpatient workload among level 4 and 3 health facilities in Nyeri County compared to Embu County.

Workload indicator	Type of health facility	Difference-in-differences	p value	95% Confidence Interval
Outpatient attendance for under 5 years cohort	Level 4	205	0.37	-249-660
Outpatient attendance for over 5 years cohort	Level 4	2528	0.00	1305-3750
Outpatient attendance for under 5 years cohort	Level 3	54	0.00	318-515
Outpatient attendance for over 5 years cohort	Level 3	225	0.34	-238-687

The increase in workload may infer that the pilot UHC program improved non-communicable diseases control in Nyeri County. This has been collaborated by one study which showed that the pilot UHC program in Nyeri led to a significant increase in free non-communicable disease medicines in Nyeri County [26]. This means that the beneficiaries did not have to buy their own medicine. This may have provided some protection from catastrophic health expenditure. A breast cancer screening pilot held at the NCRH recorded a 614% increase in the number of clients undergoing mammography compared to a similar period in 2018. This was attributed to the pilot UHC program which paid for 98% of all mammograms done at a cost of 20 US Dollars per mammogram [27].

It can be argued that the pilot UHC program increased workload firstly through provision of health insurance and secondly by abolishing user fees. Health insurance coverage increased close to 90% given that 86.7% of residents in Nyeri County were enrolled [10]. In 2013, 32.9% of the population in Nyeri county had some form of health insurance. One study done in 2019 among patients at the NCRH found that 65.7% of them had some form of health insurance [28]. This increase was largely attributed to the pilot UHC program. Moral hazard exists in health insurance. People tend to utilize health care less if they are required to pay for the out-of-pocket expenses. The reverse is true. Health insurance lowers cost of out-of-pocket expenses increasing health care utilization [29]. Someone in Nyeri county with access to a health facility providing free health care may have consumed more health services compared to someone in Embu County who has to pay to access similar care. The pilot UHC was also pro-poor as subsidized or free healthcare is likely to help more poor people access health care. A national survey found that only 2.9% of poorest people had health insurance compared to 41.5% among the richest [2]. Poor people also tend to seek health care from public health facilities compared to non-poor people. Those unable to afford formal health care may opt for informal health care. This may include self-medication at local pharmacies and use of traditional medicine. The removal of the user fees may have enabled them to seek health care more.

The pilot UHC program abolished user fees as the beneficiaries were not required to co-pay for anything. They were only required to meet their transport costs. A review has shown that abolition of user fees in health facilities in Africa resulted in increased utilization of health services. This ranged from 17% in Madagascar to 80% in Uganda. Abolition of user fees also benefitted the poor more as they were more able to access health services, and it was also shown to result in heavier workloads with a 47% average increase in workload per health worker reported. Heavier workload was as a result of increased number of people seeking health care [30]. Studies have also shown that UHC increases health services coverage and utilization in low- and middle-income countries. In Rwanda, it improved

medical care utilization and protection from catastrophic health expenditure. An example being utilization of skilled deliveries increasing from 39% in 2000 to 67% in 2008 [31]. In Thailand, UHC increased outpatient visits by 13% and inpatient admissions by 2% thus having a positive impact among the population covered [32]. Kenya is classified as being in East Africa. In this region, only Rwanda has achieved UHC through community-based health insurance (CBHI). The CBHI scheme caters for the informal sector, which accounts for 95% of Rwanda's population. Its revenues come from members' contributions, government subsidies, and donor support for vulnerable groups [33]. In 2019, 83% of men and women within the 15-49 years age bracket in Rwanda had health insurance [34]. It is advisable that the government of Kenya scales up UHC in the entire country.

The study could be having some limitations. Reporting systems may be liable to have missing data due to under reporting and misreporting. The study could not include some key workload indicators due to incomplete data. An example is the inpatient admissions workload.

5. Conclusion

The workload of health facilities implementing the pilot UHC program increased compared to similar health facilities not implementing the pilot UHC program. This means that the pilot UHC program may have led to increased utilization of health services. It is advised that the UHC program be rolled out in the entire country.

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This research was not funded.

Data availability

Data from the Kenya Health Information System is owned by the Ministry of Health, Kenya and they are the only ones authorized to share it with other parties.

Declaration of Competing Interest

The author has no conflict of interest to declare.

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