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COUNTRY EXPERIENCES IMPLEMENTING OBJECTIVE-ORIENTED REFORMS

Examining the Implementation Experience of the Universal Health Coverage Pilot in Kenya

Lizah Nyawira[a], Yvonne Machira[b,c], Kenneth Munge[d], Jane Chuma[e], and Edwine Barasa[f,g]

[a]Strategic Purchasing Africa Resource Center (SPARC), Amref Health Africa, Nairobi, Kenya; [b]Global Access Programme, IAVI Africa, Nairobi, Kenya; [c]Tafiti Research Group, Nairobi, Kenya; [d]Health and Nutrition Department, The World Bank, South Africa; [e]Health and Nutrition Department, The World Bank, Nairobi, Kenya; [f]Health Economics Research Unit, KEMRI-Wellcome Trust Research Program, Nairobi, Kenya; [g]Center for Tropical Medicine and Global Health, Nuffield Department of Medicine, University of Oxford, Oxford, UK

ABSTRACT

The Kenyan government implemented a Universal Health Coverage (UHC) pilot project in four (out of 47) counties in 2019 to address supply-side gaps and remove user fees at county referral hospitals. The objective of this study was to examine the UHC pilot implementation experience using a mixed-methods cross-sectional study in the four UHC pilot counties (Isiolo, Kisumu, Machakos, and Nyeri). We conducted exit interviews ($n = 316$) with health facility clients, in-depth interviews ($n = 134$) with national and county-level health sector stakeholders, focus group discussions ($n = 22$) with community members, and document reviews. We used a thematic analysis approach to analyze the qualitative data and descriptive analysis for the quantitative data. The UHC pilot resulted in increased utilization of healthcare services due to removal of user fees at the point of care and increased availability of essential health commodities. Design and implementation challenges included: a lack of clarity about the relationship between the UHC pilot and existing health financing arrangements, a poorly defined benefit package, funding flow challenges, limited healthcare provider autonomy, and inadequate health facility infrastructure. There were also persistent challenges with the procurement and supply of healthcare commodities and with accountability mechanisms between the Ministry of Health and county health departments. The study underscores the need for whole-system approaches to health-care reform in order to ensure that the capacity to implement reforms is strengthened, and to align new reforms with existing system features.

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Background

Kenya has made a commitment to achieve Universal Health Coverage (UHC) by 2030. In 2018, following the re-election of President Uhuru Kenyatta, the government outlined four key development priorities labeled "the Big Four Agenda," one of which was "affordable healthcare for all."[1] To implement the "Big Four" development agenda, the Ministry of Health (MOH) designed and piloted a UHC model to test the feasibility of implementing and scaling up a supply-side mechanism for attaining UHC in four (out of 47) counties.[2] The objectives of the UHC pilot were to improve population coverage with health services and to increase financial risk protection.

This study set out to examine the implementation experience of the UHC pilot in the four counties: Isiolo, Kisumu, Machakos, and Nyeri. Understanding this implementation experience can inform the refinement of existing and planned reforms in Kenya and similar settings. The objectives of our study included: examining the impact of the pilot on achieving UHC coverage goals (including health services utilization and financial risk protection); and, understanding the factors that enabled or constrained implementation of the UHC pilot.

In this paper, we report on the implementation of the UHC pilot and achievement of its stated objectives. This paper is part of a special issue on "Objective-Oriented Health Systems Reform." Objective-oriented health systems reforms identify health system underperformance problems, design interventions that influence the problems, and continuously monitor the reform process to learn and adjust the interventions.[3] By taking the health system as the unit of analysis, our study aims to understand the impact of the pilot within the broader context of other ongoing health systems reforms and identify the factors that contributed to the pilot's implementation outcomes.

Kenya Health Financing Context

Kenya has a devolved system of governance that integrates the national government and 47 semi-autonomous county governments. The national government has

CONTACT Lizah Nyawira lizahnm@gmail.com

policy formulation and regulation roles, while county governments are responsible for service delivery—they own and manage all public healthcare facilities within their jurisdictions.[4] The country has a mixed healthcare delivery system, with the public and private sectors contributing almost equal proportions of healthcare facilities. Service delivery in the public sector is organized in four tiers: community, primary care, county referral, and national referral across six levels of care.[5]

The health system is financed by four revenue streams: 1) government (national and county), through taxes and donor funding; 2) the National Health Insurance Fund (NHIF), through member contributions; 3) voluntary private health insurance companies, through member contributions; and, 4) out of pocket (OOP) spending by citizens at points of care.[5] Purchasing of healthcare services is carried out through three avenues: 1) supply side subsidies to public facilities by national and county governments (for instance, county departments of health provide line budgets to county hospitals to finance service delivery to citizens within the county); 2) the NHIF, which contracts with public and private healthcare facilities and pays for services provided to enrolled members; and, 3) private health insurance companies, which contracts with and pays private healthcare facilities for services provided to their enrolled members.[6]

To make progress toward UHC, the country has implemented several reforms over the past decade. In 2013, the then newly elected government removed user fees for all public primary healthcare facilities and introduced a free maternity policy in all public facilities.[7] In 2015, the government expanded the benefit package of the country's now defunct social health insurer, the NHIF, beyond general inpatient services to include outpatient, maternity, cancer chemotherapy and radiotherapy, renal dialysis, surgeries, rehabilitation for drug and substance abuse, specialized laboratory tests, foreign treatment, and emergency evacuation services.[7] In 2016, the government introduced the "Linda Mama" (Swahili for "care for the mother") policy, which moved the management of the free maternity program to the NHIF.[8] Under the *Linda Mama* program, the NHIF could reimburse both public and private facilities for antenatal care, facility deliveries, and post-natal care.[8] In 2018, the government introduced health insurance coverage, dubbed *EduAfya*, for all secondary school-going children.[9]

[2]The Kenya UHC pilot

The Kenyan government launched a one-year UHC pilot on December 12, 2018. The pilot entailed a change in policy direction to a "supply-side" financing approach, involving supply-side subsidies to counties and health facilities. These were designed to facilitate: 1) removing user fees in public hospitals; 2) strengthening the health system by filling supply-side gaps (including human resources, equipment, commodities, etc.); 3) allocating funds to the Kenya Medical Supplies Agency (KEMSA) to supply medicines to healthcare facilities in the pilot counties; and, 4) providing community health services. The pilot was intended to reduce citizens' financial barriers to access and improve the utilization of needed health services. These aims were to be achieved by removing user fees at the point of care and increasing the availability of healthcare commodities. The design features of the pilot are outlined in Table 1.

The UHC pilot was implemented in four counties. These counties were selected to achieve geographical and political balance, as well as representing diversity in disease burden and important demographic characteristics. The pilot counties had varied socioeconomic and demographic characteristics, as highlighted in Table 2.

Table 1. Key UHC pilot design features.

Design feature	Description
Pilot counties	Kisumu Isiolo Machakos Nyeri
Duration of coverage	12 months (December 2018 – December 2019)
Pilot Funding	The pilot was funded from funds allocated by the government from general revenues, and donor support by the World Bank. This funding was used to provide supply side subsidies to counties and health facilities in the pilot counties
Population coverage	The entire population in the 4 pilot counties
Purchasing agency	County governments
Benefits package	On paper, this was expected to be the UHC benefit package proposed by the health benefits advisory panel. In practice this was likely to be the services available in public health facilities, guided by the Kenya Essential Package for Health
Service provision	Services were provided by public healthcare facilities in the pilot counties
Provider payment mechanisms	• Line item budgets • Salaries • In kind supplies of commodities and other essential medical supplies

Table 2. Socio-economic and demographic characteristics of the UHC pilot counties.

Characteristic	Isiolo	Nyeri	Kisumu	Machakos	National
Population (2019)[10]	268,002	759,164	714, 668	1,007,854	47, 564,296
Poverty head count (2015/16) (%) [11]	8.9	0.2	6	3.5	8.6
Overall HIV prevalence (2018) [12]	3.2	3.7	16.3	3.8	4.8
% of county budget allocated to health (FY 2018/19) [13]	22.4	33.3	34.1	35.1	27.0
% of households incurring catastrophic health expenditure (2018) [14]	9.5	16	19.6	7.6	10.7
% of population with health insurance (2018) [15]	11.1	41.8	18.1	18.9	19.9
Selection criterion [2]	Arid county with a sparse, nomadic population and high maternal mortality rates	High levels of NCDs	Densely populated, high (hyperendemic) HIV burden	High rates of traffic accidents	

A total of KES 3.9 billion (33 USD million) was allocated to implement the pilot. About 80% of this allocation was earmarked for compensation of basic and specialized health services provided at the county level. Of this allocation: 70% was allocated to KEMSA; 17% was allocated to the counties to support health system strengthening (including hiring additional staff, training, and the health management information system); 2% was allocated to finance the Community Health Workers (CHWs) program; and, 0.08% (equivalent to KES 4.1 million/34 USD,000) was allocated to core public health management, allocated equally across the four counties.[2]

Methods

Study Design

We employed a mixed-methods cross-sectional design. We collected qualitative data using in-depth interviews, focus group discussions, client exit interviews, and document reviews. Quantitative data were collected at county and facility levels.

Study Population and Data Collection

Interviewees included both national-level stakeholders (MOH, NHIF, KEMSA, and development partners) and county-level stakeholders (county departments of health, NHIF branches, county health management teams (CHMTs), health facilities, CHWs, patients, and residents. At the national level, we collected data through document reviews and in-depth interviews (IDIs). We collected data in each of the four pilot counties at the county administration and healthcare facilities using document reviews, IDIs, exit interviews (EIs) at facilities, and community focus group discussions (FGDs). All interviewees provided informed consent and were audio recorded. Table 3 presents the distribution of study respondents.

All data collection tools were pre-tested through a pilot exercise to minimize bias and enhance validity. Data collection was conducted over three months (October-December 2019) at the tail end of the UHC pilot.

Table 3. Distribution of study respondents across the levels of the health system and study counties.

Respondent Type	Number of FGDs and IDIs Conducted
Supply-Side Legitimisers and Actants	
(1) Ministry of Health	12 IDIs
(2) NHIF Office—National Level	1 IDI
(3) NHIF Offices—County and Sub-county Level	3 IDIs
(4) KEMSA—National Level	10 IDIs
(5) KEMSA—County Level	2 IDIs
(6) County Leadership	7 IDIs
(7) Stakeholders & Enabler Ministries	3 IDIs
(8) County Senior Officials	29 IDIs
(9) CHS Coordinators	4 IDIs
(10) Health Facility Managers (from 16 facilities)	32 IDIs
(11) Consultant Specialists	2 IDIs
(12) Development Partners	18 IDIs
Demand-Side Beneficiaries	
(1) Community Health Volunteers (CHVs)	6 FGDs
(2) UHC Beneficiaries	16 FGDs
(3) Exit interviews (EI)	316 EI
Total Sample Overall	**134 IDIs, 22 FGDs, and 316 EI**

Health Facility Selection

We purposively sampled county health facilities to include facilities that serve predominantly urban or rural populations, and high- and low-volume facilities. We sampled four public health facilities, representing each level of care (Levels 2–5) in the county health system, in each of the study counties.

In-Depth Interview Participants Selection and Data Collection

We used purposive sampling combined with snowballing to select national- and county-level respondents for the IDIs, considering their roles and experiences in the UHC pilot design and implementation. We conducted a total of 134 interviews using qualitative topic guides. The interviews and FGDs were conducted by two trained facilitators, with one facilitator leading the discussions while the other took notes. The facilitators adhered closely to the topic guides to ensure consistency but allowed flexibility for the conversations to flow naturally based on participants' comments. This approach balanced structure with adaptability, enabling a deeper exploration of emerging themes while maintaining alignment with the research objectives. Each IDI lasted approximately 45–60 minutes. We stopped data collection upon reaching data saturation.

Focus Group Discussion Participants Selection and Data Collection

A total of 22 FGDs were conducted (6 with CHWs and 16 with county residents). We selected CHWs and county residents as participants in the focus group discussions (FGDs) using convenience sampling. We conducted 5 or 6 FGDs in each of the pilot counties. Each FGD had 8–12 participants. We used qualitative topic guides to conduct the FGDs. FGDs lasted between 90 and 120 minutes.

Exit Interview Participants Selection and Data Collection

At each of the selected health facilities, we randomly sampled patients for EIs after they had received healthcare services. We aimed to interview 20 patients per health facility. A total of 316 EIs were conducted using a structured questionnaire: 75 (24%) in Isiolo, 86 (27%) in Kisumu, 67 (21%) in Machakos, and 88 (28%) in Nyeri.

Review of Documents

We collected various reports and other documents containing information on, and related to, the UHC pilot and its implementation. These included: the pilot concept note, pilot implementation plan, pilot monitoring and evaluation plan and reports, and minutes of planning and review meetings. We extracted relevant data from the selected documents using data abstraction guides.

Data Analysis

We transferred transcribed data from the interviews and FGDs to NVIVO (Version 10) for coding and analysis. We used thematic analysis to analyze the data [16] using the following steps: reading and familiarizing ourselves with the data; development of a coding framework based on the questions and topics used; coding the data using the coding framework; charting the data; and, integrating and interpreting the charted data by identifying connections among the various themes. We sought to elicit from the data an understanding of participants' perceptions about the experience of implementing the UHC pilot. We conducted descriptive analysis on the quantitative data to obtain proportions for variables of interests.

Results

Positive Outcomes of the UHC Pilot

We identified four main positive outcomes from the UHC pilot:

Healthcare Facilities in the Pilot Counties Did Not Charge User Fees to Clients

Exit interviews revealed that there was overall fidelity to the removal of user fees by health facilities in the pilot counties. Across the counties, only one EI respondent in Isiolo reported paying user fees.

Procurement and Availability of Healthcare Commodities Increased

The UHC pilot led to the increased procurement and health availability of essential healthcare commodities (medicines, laboratory reagents and other non-pharmaceuticals). One health facility manager stated:

> Before the UHC pilot, health facilities did not have drugs for the special clinics; and when I talk about special clinics here, I mean clinics that take care of hypertension and diabetes. But now with the

Table 4. County spending on healthcare commodities before and during the UHC pilot.

County	County Spending on Commodities in 2018 (KES)	Value of Processed Orders for Commodities under UHC (KES)	Percentage Difference (%)
Isiolo	74,406,904.00	285,435,834.65	383.61%
Kisumu	249,844,778.00	415,565,971.07	166.33%
Machakos	188,463,602.00	332,329,449.47	176.34%
Nyeri	255,011,948.00	388,692,551.32	152.42%
Total	**767,727,232.00**	**1,422,023,806.51**	**185.23%**

> introduction of the pilot, the county is able to supply such drugs to health facilities. - Machakos Health Facility Manager

Table 4 compares the value of procurements in the year preceding the pilot and the pilot year, showing significant increases during the UHC pilot.

Utilization of Outpatient Health Services Increased

County and health facility respondents in all four counties reported increases in the utilization of healthcare services during the UHC pilot. In particular, respondents reported that outpatient services experienced greater increases in demand compared to inpatient admissions. For example:

> Outpatient care has had the greatest increase in patients. On a day like Mondays it is just crazy, we can have even 250 in a day, and as the week goes by the number goes down. - Machakos Health Facility Manager

> At the onset of universal health coverage pilot, the demand for health services skyrocketed, especially for the first few months, what we termed as "UHC fever." Most of the departments were generally running above their capacity. - Isiolo County Official

Awareness of UHC among the population increased

Respondents reported that the UHC pilot created increased awareness of UHC throughout the population. One county official noted:

> The other thing that has worked very well in terms of UHC was the registration process. The manner in which it was structured, the door-to-door campaign using Community Health Volunteers, was a brilliant way forward in improving the knowledge on UHC of the population. - Isiolo County Official

Implementation Challenges

The respondents and documents also described the numerous challenges the pilot faced.

Lack of Clarity on the Relationship Between the UHC Pilot and Existing Health Financing Arrangements

The pilot design did not sufficiently take into consideration existing health financing mechanisms. For instance, stakeholders at all levels assumed that the UHC pilot was replacing the *Linda Mama* free maternity program. As a result, the NHIF initially stopped reimbursing health facilities in the pilot counties for *Linda Mama* services. However, the NHIF later communicated to health facilities to resume submitting claims for *Linda Mama* services.

It was also reported that some residents in the pilot counties stopped making premium contributions to the NHIF because they assumed that the UHC pilot had replaced the NHIF. There was uncertainty regarding how the two programs would be harmonized.

Benefit Package was Not Clearly Specified—And Hence was Poorly Understood

One of the hallmarks of the UHC pilot was the change in the policy direction from demand-side to supply-side financing. The previous NHIF-based demand-side financing had a more explicit benefit package. The benefit package included in the UHC pilot's supply-side financing approach was ambiguous, resulting in the lack of clarity among health facilities and beneficiaries. Before the pilot began, the Health Benefits Advisory Panel developed a package. However, this package was not adopted for the pilot after the supply-side model was selected.

> The (Health Benefits Advisory) Panel worked knowing what we need to do is create a package and then cost a premium for which the pilot will pay for the total informal sector into NHIF for that benefit package. Then they are offered. Now when we abandoned NHIF and went supply side, what's the role of the package now? So, that link did not carry through. - Development Partner

Respondents reported that the benefit package for the UHC pilot was neither clearly defined nor communicated to healthcare providers and the public. The lack of clarity on the benefit package led to the assumption that all services offered in public health facilities were free. This led to confusion about what services beneficiaries were entitled to receive and providers to deliver.

The UHC pilot also failed to state whether services offered at county referral hospitals (Level 5), which serve a regional, multi-county catchment population, were to be provided free of charge for people from the

pilot counties only or for everyone. It also remained unclear whether, and how, referrals to Level 6 hospitals would be covered under the UHC pilot. Despite provisions made by the MOH, this led to access challenges for patients from the pilot counties in need of specialized health services at Level 6 hospitals, such as Kenyatta National Hospital or Moi Teaching and Referral Hospital.

> It is not clear the services the UHC pilot was to cover, so you find that there are some services you are still required to pay. They (government) should just be specific on whether UHC is covering all services or if there are those, like cancer treatment, that require payment. They need to be open. - Kisumu FGD Respondent

Delays in the Flow of Funds from the National Government to KEMSA and Healthcare Facilities

By November 2019 (one month before the end of the 12-month pilot), KEMSA had only received half of the funds it was due. Funds for the third and fourth quarters were delayed and were only disbursed to KEMSA at the end of December 2019 (the stop date of the pilot).

> KEMSA is still owed 930 million/7 USD.8 million simply because that money was not in the budget. The MOH is doing a supplementary budget so that they can pay. – MOH official

There were also delays in both the disbursement of funds by the National Treasury to county governments, and then in the allocation of funds by county assemblies to the county departments of health.

> The flow of money started with a hitch. We got our money in February and the rollout was in December. We got the second batch in June, and now we've not gotten the third one and we are in the fourth quarter. - Nyeri Health Facility Manager

Further, budget credibility was a challenge, with county departments frequently receiving less than was approved on their budgets. For instance, in Kisumu, the county assembly approved KES 261,000/2200 USD per quarter for public health activities—this amounted to about a quarter (26%) of the full KES 1,000,000/8400 USD quarterly allocation.

> It (county assembly) finally gave us in a quarter, KES 261,000 (2200 USD) which we have not even accessed today. Even now that we have an [cholera] outbreak. I'm just asking for help from partners. - Kisumu County Official

Limited Healthcare Provider Autonomy Compromised facilities' Utilization of UHC Funds

Access to and use of funds allocated to healthcare facilities in the pilot counties was compromised because the healthcare facilities lack financial autonomy. Facilities were required to remit funds to the county revenue fund, rather than spend them at the facility level. This led to inefficient fund management and delayed operational spending.

> The first disbursement was done end of December, and until April our facilities have not been able to get those funds because at the county level there is no legislation in place to allow the hospitals to run their own accounts and to collect their revenues. - Isiolo County Official

Facilities Were Unable to Handle Increased Demand

It was reported that the health infrastructure was inadequate to meet the increased demand of healthcare services. Infrastructure challenges were especially dire with lower-level health facilities (levels 2 and 3).

Health worker challenges also attenuated the potential impact of the UHC pilot. Increased healthcare utilization, without a proportional increase in staffing, led to increased workload for healthcare workers. This was said to result in a demotivated workforce and compromised quality of care. The initial increases in demand and utilization of health services were reported to have been further dampened by national and county health worker strikes. Utilization of health services was impacted by a nationwide health worker strike in February 2019. Kisumu County, for example, experienced three health worker strikes in February, August, and September of 2019.

Inadequate Capacity at KEMSA to Meet Procurement Demands from the UHC Pilot Counties

Respondents reported that there were persistent challenges related to KEMSA's capacity to meet increased demand for health commodities. This was attributed to various factors, such as insufficient preparation time, lack of technical specifications for tendering, and the complexity of closed systems for laboratory reagents. Our EIs with clients accessing care in healthcare facilities revealed that one-third of patients interviewed needed to purchase medicines from the private sector because they were out of stock in the public health facilities (see Table 5).

> People expected that all the medicine can be found in public hospitals, but you go there and find that the

Table 5. Proportion of patients that purchased medicines in the private sector.

County and Health Facility	No of exit interviews	No Patients who purchased drugs from the private sector	% Patients who purchased drugs from the private sector
Isiolo	75	8	11%
Kisumu	86	29	34%
Machakos	68	28	42%
Nyeri	88	28	32%
Grand Total	316	95	30%

> drugs you are looking for are not available. - Nyeri FGD respondent

KEMSA's order fill rate (Table 6) was low for certain commodities, including laboratory reagents, specialist commodities for imaging and specialized care (e.g. intensive care unit, dialysis services), point of care equipment, and CHW kits. Across all counties, the primary service sought outside health facilities were laboratory and imaging services.

When medicines and diagnostics were unavailable, patients were referred to the private sector to seek certain services, incurring out of pocket expenditures.

> If you go to the ward, there are other services that are not available, and you will be referred to go and buy the drugs from a chemist because they don't stock everything. For instance, they could be having the service of testing blood, but they tell you it is not available. They refer you to go and seek from outside, after which you bring them the test results. - Nyeri FDG Respondent

Inadequate Accountability Mechanisms Between the Ministry of Health and County Health Departments

The lack of strong mechanisms for accountability was a notable design weakness in the UHC pilot.

> One of the things that was done is a financing agreement between the counties and the national government clearly outlining conditions and prerequisites for funding disbursements. Some of the conditions were not well implemented or were not obeyed. For example, counties were supposed to use part of the funds to hire additional health workers. That was not achieved. - MOH Official

Counties were expected to submit quarterly reports detailing how the UHC funds received had been utilized. The MOH reported that county reporting on spending was sporadic—and even when done, it was delayed.

Table 6. KEMSA order fill rates.

County	Average order fill rate
Isiolo	77%
Kisumu	69%
Machakos	66%
Nyeri	78%
Average across the four counties	**73%**

> The counties were expected to provide service delivery and financial reports at the end of every quarter. We send our auditors to go to the ground to verify. Those are the mechanisms we put in place. While this was done by the counties, it was mostly delayed. - MOH Official

Many respondents noted that the Memorandum of Understanding signed between the MOH and counties did not provide either incentives or sanctions for accountability.

> They (counties) actually didn't fulfil several aspirations of the UHC pilot, based on the fact that you know the conditions (in the Memorandum of Understanding) were not enforced and largely because there was no mechanism of enforcing them. - MOH Official

Lack of a Post-Pilot Phase Roadmap

Respondents highlighted that the lack of a post-pilot roadmap impeded county planning efforts. The counties were aware that the pilot would only last one year, and communication regarding the post-pilot phase was lacking, leading to significant uncertainty among stakeholders. They also felt that the pilot was not long enough to generate sufficient evidence of impact. County officials described their quandaries:

> Counties remain unclear on what comes next after the pilot and so they have begun to set up infrastructure using UHC funds and prepare in advance. How can the national government reward and/or encourage this proactivity in other counties as they anticipate scale up? - Machakos County Official

Discussion

We set out to examine the implementation experience of the 2019 UHC pilot in Kenya by reviewing documents and interviewing implementers and intended beneficiaries. The pilot was thought to have improved the utilization of healthcare services as intended, due to its key design features: user fee removal and supply-side subsidies to health facilities. We found that during the pilot, patients did not pay user fees to access healthcare facilities and improved availability of medicines at lower levels—indicating that, in general, the pilot met its objective of reducing financial

barriers to access. However, we also note that there were reported instances of patients paying for services at higher levels of care because of lack of clarity of the benefit package by facilities and beneficiaries. The pilot also generally improved the availability of health commodities in healthcare facilities. These improvements were made possible by the pilot design feature that entailed allocating funds to the central medical supplies agency (KEMSA) to procure and supply health commodities to pilot counties, while assigning health commodity drawing rights to public health facilities in pilot counties. These findings align with findings from a study that compared the impact of the UHC pilot on hospital workload in two counties in Kenya.[17] That study observed that the UHC pilot program resulted in higher utilization of healthcare services in major health facilities in Nyeri compared to the non-pilot county.[17]

Despite achieving some successes, our findings demonstrate that the supply-side reform was constrained by health system challenges, pilot design issues and implementation challenges.

First, the pilot design lacked clarity on the relationship between the UHC pilot and existing health financing arrangements, including the NHIF and the *Linda Mama* free maternity program. This created fragmentation, resulting in confusion and, sometimes, counterproductive outcomes. Fragmentation during health financing reforms has been observed in several other settings. A review of performance-based financing schemes in Africa found that these schemes were often introduced parallel to, rather than integrated with, existing financing mechanisms, creating policy incoherence.[18] The extent to which it makes sense to integrate pilot programs into existing health system frameworks depends, in part, on the pilot's objective.[19] Pilots focused on testing or refining reform concepts, especially when there is significant confidence in the reform's feasibility, typically require closer alignment with the current health system structure. This is in contrast to pilots aimed at generating demand for reform or exploring possible designs. As Bennett et al. suggest, the greater the likelihood of scaling up the pilot, the more crucial it becomes to ensure that implementation conditions closely resemble those of a full-scale roll-out.[19]

Second, the benefit package that the population was entitled to under the pilot was not clear to managers, providers, or beneficiaries. Inadequate clarity about benefit entitlements disempowered the public and impaired access to services. For instance, beneficiaries failed to access the full range of maternal health services covered by the *Linda Mama* program because service providers and beneficiaries were not aware of the full range of services that were covered by the program.[8] Similar findings were reported in Tanzania during the implementation of the Tiba Kwa Kadi (TIKA) scheme, where limited community awareness created dissatisfaction among beneficiaries that led to membership non-renewal.[20]

Third, the UHC pilot experienced several public finance management (PFM) challenges, namely delays in the disbursement of funds and inadequate provider autonomy. Delays in release of funds make it difficult to implement health financing policy in support of UHC in several ways. Delays make it difficult for health purchasers to enter into credible contracts with providers. For example, in Ghana, delays in transfers of earmarked taxes to the National Health Insurance Authority interrupted contracts with providers and resulted in providers threatening to pull out of the scheme.[21] Disbursement delays also compromise the absorptive capacity of providers, resulting in underspending of health budgets. A documented example of this occurred in Nepal in 2012, when more than half of the health budget was not received until the last four months of the year—this caused underspending and left almost 20% of the budget unused.[21]

Fourth, we found that the UHC pilot was not able to correct the supply-side capacity challenges in infrastructure, human resources, and health commodities. One implication of these supply-side challenges is the continued exposure of patients to OOP payments incurred when they seek care in private health facilities due to the unavailability of some medicines and diagnostic services in public health facilities.[22] This is similar to findings in other settings; for example, OOP payments were reported in the context of a free maternal healthcare policy in Burkina Faso. These were attributed to deficiencies in health facility pharmacies' management and supply system.[23] Several studies in Kenya have also cited low readiness at PHC level to provide reliable basic clinical care and to support UHC program implementation.[24,25] An assessment of health systems' capacity for implementation of UHC in Kenya found no significant differences in health workers' availability between UHC pilot counties and non-UHC pilot counties.[26] This underscores the need for a whole-system approach to UHC reforms. While the UHC pilot intended to use such an approach, supply-side health system strengthening was inadequate, compromising the success of the UHC pilot.

Fifth, the study found the accountability mechanisms between the MOH and county health departments were inadequate, making it difficult for the

MOH to enforce the conditions outlined in the agreements. Weak accountability mechanisms influence health system by compromising performance.[27–29] In Kenya generally, accountability is compromised by inadequate coordination mechanisms between the national government and county governments.[27]

Lastly, the lack of a post-pilot roadmap impeded counties' efforts for effective planning. As documented by Nganga and colleagues, [30] the country expected to scale up a UHC model that was based on health insurance subsidies implemented by the NHIF. Switching to a different UHC model is perhaps symptomatic of the constant tension among policy makers in Kenya (and in other low- and middle-income countries) between two policy options for financing UHC: a universal noncontributory approach or a targeted contributory approach.

The existence of this tension could be explained in several ways. First, interests and ideological leanings vary among health sector actors in Kenya, with some favoring and others opposing a contributory insurance approach. Second, fiscal constraints may lead policy makers to prefer a contributory approach as a mechanism to shift the direct burden of revenue contributions to households. The pilot was not scaled up because doing so in its original design would have required the government to commit a significant budget for procuring health commodities and compensating hospitals for the removal of user fees across all 47 counties. This level of financial commitment was a key barrier, as it would have necessitated substantial and sustained funding from the government, which may not have been feasible given other budgetary priorities and constraints. It was likely considered more affordable and feasible to scale up a plan that entails allocating a budget to finance health insurance subsidies for the poor, while requiring the rest of the population to make contributions to the NHIF.

One notable limitation of this study is its predominantly qualitative and descriptive approach. This design limited both our ability to conduct an unbiased assessment of the effects of the pilot on the target outcomes and the generalizability of the study's findings. Nonetheless, this evaluation does provide several valuable lessons for countries intending to introduce UHC initiatives:

- **The design of UHC interventions should align with existing health system arrangements**. This policy coherence is critical in ensuring that the overall health system effect of the intervention is positive rather than introducing further fragmentation.
- **UHC reforms should be implemented as whole-system reforms**. This requires commensurate prioritization of the strengthening of the supply side aspects of health system, in addition to addressing financing and service delivery interventions.
- **Public finance management is critical to the performance of health systems**. Health financing reforms that are part of UHC initiatives should seek to proactively identify and address PFM bottlenecks to ensure the smooth flow of funds to subnational levels and health facilities. Reforms must also ensure that health facilities have access to and authority to use these funds.
- **UHC reforms should be explicit about the population's entitlements**. Clarity about what is covered under the policy both empowers individuals and enables health system managers and healthcare providers to effectively plan for the delivery of these services.
- **UHC reforms should strengthen accountability mechanisms among different levels of the health system**. This feature will help to ensure fidelity between the reform's design and actual implementation, thereby enhancing the effectiveness of reforms.

Conclusion

Kenya's 2019 UHC pilot resulted in improvements in health service utilization in pilot counties. However, health system challenges constrained the pilot from achieving its intended objectives of increasing health service utilization and financial risk protection. The country is currently undergoing other major health financing reforms toward achievement of UHC (including enacting social health insurance and facility improvement financing); these efforts could benefit greatly from the lessons derived from the UHC pilot. The challenges the pilot encountered provide potential targets for interventions to enhance the effectiveness of UHC reforms and offer lessons for other health systems introducing UHC reforms. This study also revealed areas where additional research is warranted, including: the transition from pilot to scale-up; the influence of pilots on scale-up arrangements; and the political economy of UHC reforms.

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Authors' Contributions

Study was conceived by JC, KM, and EB. Data collection and analysis were carried out by YM and LN. The first draft was developed by LN and EB. All authors contributed to the revision of the manuscript.

Availability of Data and Materials

The quantitative datasets generated and/or analyzed during the current study are available upon request. The qualitative data are not publicly available due to participant confidentiality.

Ethics Approval and Consent to Participate

We obtained Institutional Review Board (IRB) approval from the African Medical and Research Foundation (AMREF) Ethics and Scientific Review Committee (ESRC) in September, 2019 (Ref. AMREF-ESRC P696/2019). Before engaging in either interviews or discussions, all respondents received an information sheet detailing the study objectives and consent form. The researchers obtained written consent from each respondent to participate in the study.

List of Abbreviations

CHMT	County Health Management Team
CHW	Community Health Worker
EI	Exit Interview
FGD	Focus Group Discussion
IDI	In Depth Interview
KEMSA	Kenya Medical Supplies Agency
KES	Kenya Shilling
MOH	Ministry of Health
NHIF	National Health Insurance Fund
OOP	Out of Pocket
PFM	Public Finance Management
TIKA	Tika Kwa Kadi
UHC	Universal Health Coverage

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