



**Transform
Health**
KENYA



Landscape Analysis of Digital Health & Universal Health Coverage in Kenya

April 2022

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Abbreviations and Acronyms

| | |
|-------|--|
| CSO | Civil Society Organization |
| DHIS2 | District Health Information System |
| HIMS | Health Information Management Systems |
| HIV | Human immunodeficiency virus |
| ICT | Information and Communications Technology |
| KELIN | Kenya Legal and Ethical Issues Network on HIV and AIDS (KELIN) |
| KEMSA | Kenya Medical Supplies Authority |
| KEHIA | Kenya Health Informatics Association |
| KMHFL | Kenya Master Health Facility List |
| KMTC | Kenya Medical Training College |
| MSM | Men who have Sex with Men |
| NCDs | Non communicable diseases |
| NHIF | National Hospital Insurance Fund |
| NIIMS | National Integrated Identity Management System |
| PWIDs | People who Inject Drugs |
| TB | Tuberculosis |
| UHC | Universal Health Coverage |
| USAID | United States Agency for International Development |
| WHO | World Health Organization |

Acknowledgements

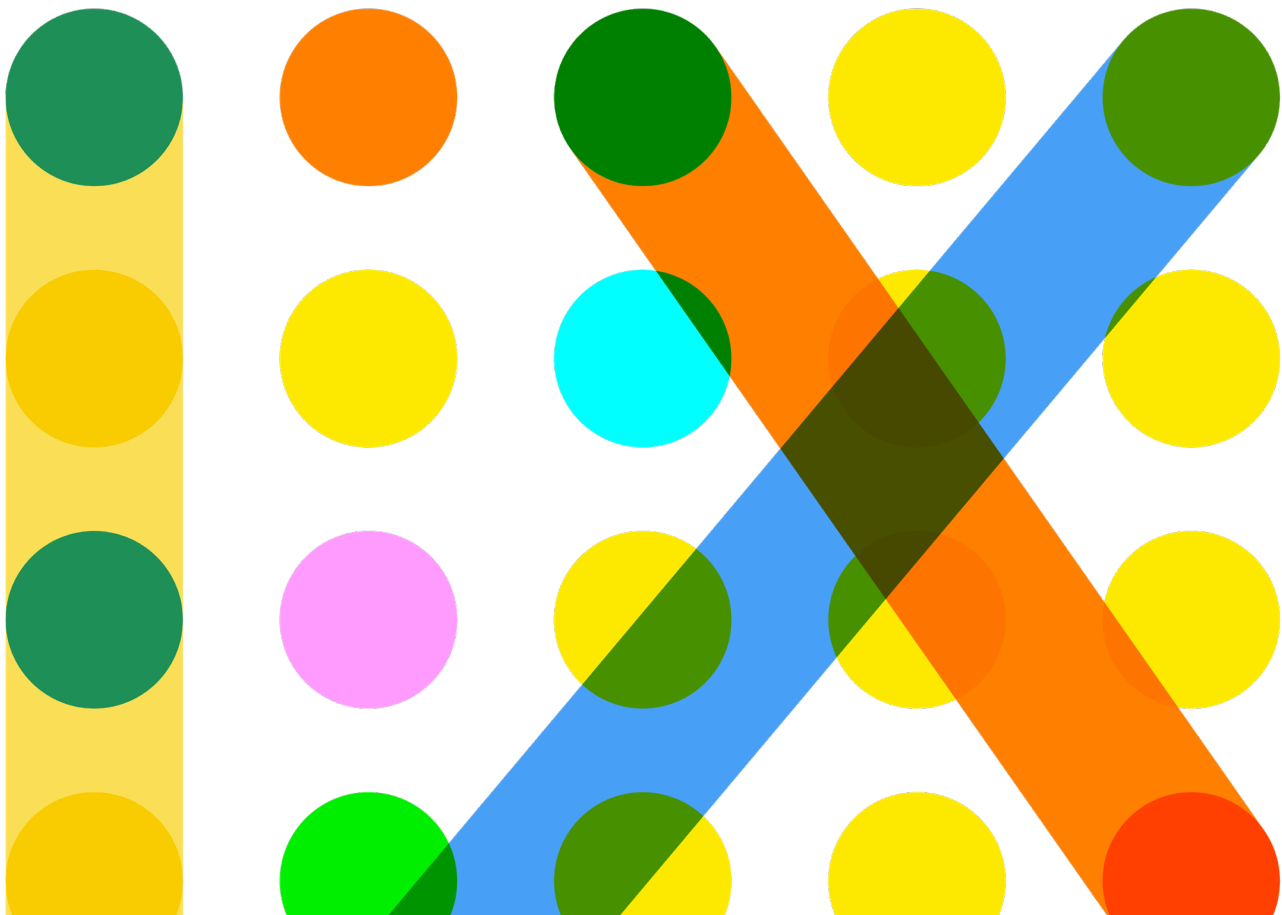
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Introduction

The Kenya Legal & Ethical Issues Network on HIV and AIDS (KELIN) is a human rights NGO working to protect and promote health-related human rights in Kenya. We do this by: providing legal services and support, training professionals on human rights, engaging in advocacy campaigns that promote awareness of human rights issues, conducting research and influencing policy that promotes evidence-based change. KELIN advocates for a holistic and rights-based system of service delivery in health and for the full enjoyment of the right to health by all, including the vulnerable, marginalised and excluded populations in four thematic areas.

[KELIN](#) has been granted by Transform Health to set up the Transform Health Coalition in Kenya. [Transform Health](#) is a global coalition of organisations, individuals and institutions committed to achieving Universal Health Coverage (UHC) through the use of digital technologies and data. Its mission is to build a global movement that brings together organisations and institutions across different sectors who are committed to achieving UHC within the next eight years by expanding the use of digital technology and increasing access to data.

In order to gain a deeper understanding of the digital health context in Kenya, including from the perspective of the Transform Health Kenya coalition members, KELIN conducted a national landscape analysis. The findings of the analysis, conducted between July 2021 and February 2022 and contained in this report, informed the development of the coalition's two-year strategy (2022 - 2023).



PART 1

Universal Health Coverage and Digital Health: Country Context



1.1 UHC and Digital Health in Policy and Law

a) UHC in the Third Medium Term Plan 2018 – 2022

Kenya has, under the [Third Medium Term Plan 2018 – 2022](#), prioritised achievement of Universal Health Coverage (UHC) by implementing programmes that increase health insurance coverage, increase access to quality healthcare services and offer financial protection to people when accessing healthcare.¹ The plan is to expand social health protection schemes to cover harmonized benefit packages to targeted populations and ensure that Kenyans will have access to health insurance mainly through National Hospital Insurance Fund (NHIF) by 2022. Through the NHIF, the government targets 100% coverage of Kenyans from all the 47 counties. The plan is to make it mandatory for Kenyans, both in the formal and informal sector to contribute to the scheme. Workers in the informal sector represent almost 83% of the entire Kenyan workforce. They have to contribute KES 500 (approximately \$5) per month in premiums. On the other hand, people in formal employment have statutory deductions made to the scheme, with marching employer contributions.² To ensure coverage of the economically marginalized members of society, the government of Kenya has a health insurance subsidy programme which targets to cover one million households.

Under the Plan, it was projected that every Kenyan would enjoy UHC through NHIF by 2022. However, as of 2021, only 20% of Kenyans have any form of health

¹Government of Kenya (2018) Third Medium Term Plan 2018 – 2022 available at <http://vision2030.go.ke/wp-content/uploads/2019/01/THIRD-MEDIUM-TERM-PLAN-2018-2022.pdf>

²Thinkwell (2021) “Is Kenya’s National Hospital Insurance Fund Amendment Bill a Silver Bullet for Universal Health Coverage?” available at <https://thinkwell.global/kenya-health-insurance-bill-universal-health-coverage/>

coverage. 80% of them are covered under NHIF. NHIF coverage in the formal sector is 100%, while only 15% of members in the informal sector are covered under the scheme.³ These trends project that the initial goal of realizing UHC by 2022 will not be achieved and the government is not on track. Some of the major challenges facing the Plan include budgetary constraints, high poverty levels, problems relating to the integration of members of the informal sector, misuse of resources, lack of transparency, as well as a broken healthcare system.

In the 2020/2021 budget, the government allocated KES 47.8 billion (almost \$482 million dollars) to achieving UHC. In the 2021/2022 budget, the government allocated KES 47.7 billion, a drop in the overall budget (particularly when the inflation rate of 6.1% is taken into account). Despite these allocations, access to quality and affordable health care remains a major challenge for most Kenyans.

Recommendation:

Transform Health Kenya recommends that the national government fully implements commitments made under the Third Medium Term Plan (MTP III) 2018 - 2022. Noting that MTP III ends this year (2022), Transform Health Kenya recommends that the unfulfilled commitments are included in MTP IV, with clear commitments on implementation, including allocation of resources in order to achieve the goal of UHC.

Transform Health Kenya reminds the national government of its Constitutional obligation to provide information on steps and measures that it has taken to implement the MTP III, the total amount of resources allocated and spent, implementation across the two levels of government, institutional and legal reforms undertaken as well as measures taken to ensure implementation in a transparent, accountable and inclusive manner.

It is important to note that during the implementation phase of the UHC pilot programme in four counties (Isiolo, Kisumu, Machakos, and Nyeri), there were persistent challenges relating to information management. The systems were not transparent and citizens had little access to essential data relating to their enrolment into the programme. Other systemic challenges included: accessing information from the government, poor dissemination of essential information to users and reported cases of misappropriation of allocated funds.

In addition to these issues, there were administration challenges between the county and national governments. The lack of sufficient consultation and the lack of transitional plans detailing the transfer of functions had formerly crippled programmes such as *Linda Mama* which sought to provide free maternal care country-wide. In the *Linda Mama case*, county governments could not provide the said function because the national government failed to consult with them and determine how the programme would be operationalised.⁴ Similar challenges were observed with the UHC pilot project where again key stakeholders including agents from the county government, civil society and members of the public lamented their exclusion from the county pilot selection process.

³Ibid

⁴Lisa Owino, Annette Wangong'u, Nerima Were & Allan Maleche (2020) *The missing link in Kenya's universal health coverage experiment: a preventive and promotive approach to SRHR*, *Sexual and Reproductive Health Matters*, 28:2, DOI: 10.1080/26410397.2020.1851347

Under the Third Medium Term Plan, one of the UHC's strategic outcomes is increasing population access to healthcare facilities to within a 5km radius.⁵ The government sought to establish 10 new referral hospitals and increase the number of health facilities at the community level, including mobile health services. However, construction of additional facilities without improving the existing ones and fixing the teething problems facing the health sector will do little to accelerate UHC. Existing facilities face challenges of persistent drug stock out, lack of enough personnel, perennial health care workers strike, lack of essential equipment – all of which impact negatively on the quality of care.

Recommendation:

Transform Health Kenya recommends that implementation of MTP III (and in extension, the anticipated MTP IV) is undertaken in compliance with the constitutional requirement of public participation. This will ensure that plans, for instance, to increase facilities is in tandem with public expectations, and that the existing health infrastructure is improved.

Further, the Ministry of Health and county governments should use the primary healthcare Vital Signs Profile (VSP) which is a dynamic measurement tool that will assist the Ministry of Health and county governments in identifying areas of strength and weaknesses in the primary health care (PHC) systems, focusing on key areas such as resources invested in PHC, equality in access to and availability of PHC services and governance mechanisms in place that support PHC.

b) Digital Health in the Third Medium Term Plan

Under the [Third Medium Term Plan](#) the government has also prioritised digital health programmes as one of the flagship projects to expedite the development of the healthcare industry. The plan is for the government to digitize services and adopt technologies such as e-health, m-health, telemedicine and space technologies by leveraging on the improved ICT infrastructure and mobile penetration rates (stated to stand at over 80 per cent).⁶ Under the plan, the government commits to undertake the following measures to improve the uptake of digital health technologies:

- Digitization of health facilities including instalment of the Electronic Health Information System to capture patients' data at the health facilities level and enhance digital communication between facilities (Healthcare ICT);
- Enhancement of Mobile health (m-Health) services technology;
- Enhancement of District Health Information System (DHIS2) and Kenya Master Health Facility List (KMHFL) as the national reporting systems; and
- Installation of Enterprise-wide Resource Planning System at Kenya Medical Training College (KMTC)
- Ongoing pilot telemedicine project in Isiolo county hospital and Kenyatta National Hospital to leverage on technology towards mitigation of scarce human resource

⁵Ibid

⁶Third Medium Term Plan 2018 – 2022, *ibid.*

In its progress report, the Ministry of Health reports that in the year 2020/21, it improved access to health data and information through the establishment of the Kenya Health Research Observatory. Further, the Ministry reports that it developed the e-Health Bill, 2020 in line with the Health Act 2017; and is in the process of developing an end-to-end digital health platform.⁷ A significant gap is the lack of costing information to operationalise the above plan. Additionally, there is a gap in information as to the extent in which county governments have prioritised digital health programmes in line with this national government plan.

Recommendation:

- i. The government fast-tracks the development and enactment of a legislative framework for digital health in Kenya. The National Executive should expedite public consultations on the e-Health Bill 2020, and introduce it to Parliament which should in turn ensure a people-centered, rights-based digital health legislation is enacted.**
- ii. The Ministry of Health should conduct an audit of its digital health platforms, for instance, the Kenya Health Research Observatory, to ascertain whether indeed there is improved access to health data and information, and whether this has translated in to improved access to healthcare for all.**
- iii. Both the national and county governments should ensure that they allocate sufficient resources to implement digital health programmes contained in policy documents, as well as ensure proper intergovernmental coordination in implementation.**

c) Overarching legal framework for UHC and digital health

These priorities towards achieving UHC and digital health programmes are supported by the Constitution of Kenya⁸, specifically Article 43(1)(a) that guarantees every Kenyan the right to the highest attainable standard of health, which includes the right to health care services, including reproductive health care.

The priorities are further supported by relevant legislation including the Health Act 2017 which obligates the national government to promote the use of appropriate health technologies for improving the quality of health care;⁹ and recognises e-health as a mode of health service.¹⁰ The Act also obligates the government to ensure the provision of a health service package at all levels of the health care system, including services addressing promotion, prevention, curative, palliative and rehabilitation, as well as physical and financial access to health care.¹¹

⁷Health Sector Working Group Report Medium Term Expenditure Framework (MTEF) for the Period 2022/23-2024/25 October, 2021.

⁸Constitution of Kenya

⁹Section 15(u) Health Act, 2017

¹⁰Section 103 Health Act 2017.

¹¹Section 4(d) Health Act 2017

The Health Act 2017 is important for its explicit definition and recognition of e-health and health technologies. In order to ensure implementation of eHealth provisions of the Health Act, section 104 mandates the Cabinet Secretary to ensure the enactment of legislation that provides for among other things (a) administration of health information banks including interoperability framework, data interchange and security; (b) collection and use of personal health information; (c) management of disclosure of personal health information; (d) protection of privacy; (e) business continuity, emergency and disaster preparedness; (f) health service delivery through M-health, E-learning and telemedicine; (g) E-waste disposal; and (h) health tourism.

The Ministry of Health reports that on implementation of Health Act, 2017, it has drafted the Traditional and Alternative Medicine Practice Bill and e-Health Bill within the 2020/21 financial year.¹²

Recommendation:

Transform Health recommends that the Cabinet Secretary Health complies with section 104 of the Health Act and ensures enactment of a digital health legislation envisioned under the Act.

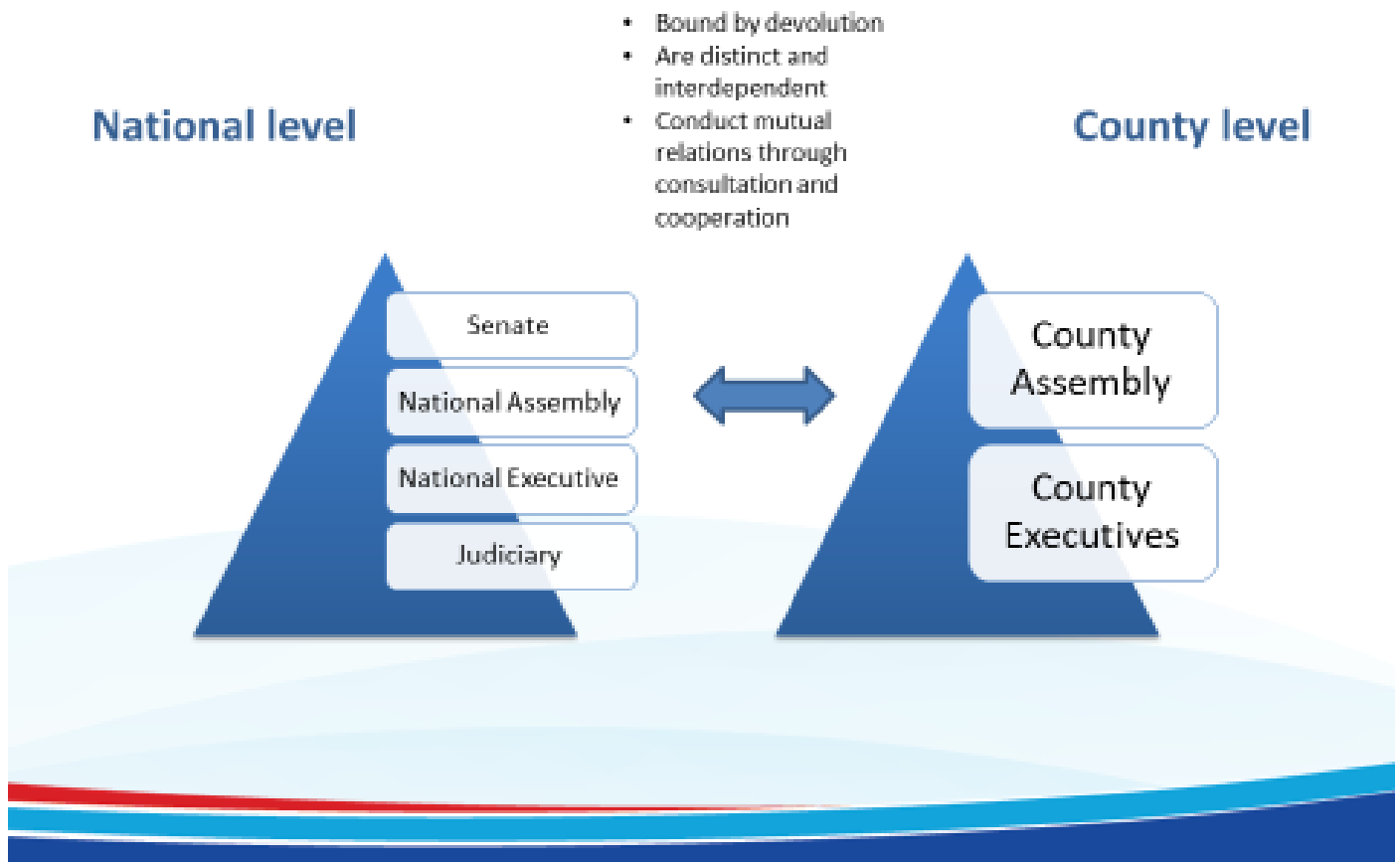
1.2 Health as a devolved function

It is important to note that the Constitution of Kenya introduced a devolved system of governance. Under this system, health (under which matters relating to UHC and digital health fall) is a devolved function.

The Kenyan devolution has two levels of government: one national government and 47 county governments. The national government comprises a bicameral parliament: a National Assembly and Senate. Both the National Assembly and Senate make laws and oversee the Executive arm of government but the Senate's role is limited to protecting county governments and participating in legislation affecting county governments.

In terms of structure of government, there also exists a judiciary and independent commissions and offices established by the constitution at the national level. The national government state organs are mandated to decentralise their services to ensure reasonable access in all parts of the republic. The Kenyan judicial system is not devolved, as is the case with the legislature and the executive, which have county executive committees and county assemblies in each of the 47 county governments.

¹²Health Sector Working Group Report Medium Term Expenditure Framework (MTEF) for the Period 2022/23-2024/25 October, 2021.



In relation to health, the national government is responsible for national policy formulation, provision of technical support to county government, monitoring quality of health services, formulating guidelines on health service charges, and carrying out research on health services management and administration. The national government is also responsible for the national referral hospitals and laboratories, planning and budgeting for national health services, and Health Information Management Systems (HIMS).

County governments are responsible for coordinating and managing the delivery of county healthcare services, the key components being the promotion of primary health care, public health and sanitation, ambulance services, disease surveillance and response, among others.

Recommendation:

CSOs should therefore engage county governments to assess how specific digital health programmes are being implemented to enhance access to healthcare services.

Further, in the context of devolution, CSOs should engage critical intergovernmental bodies, for instance, the Council of Governors (COG) established under Section 19 of the Intergovernmental Relations Act (IGRA 2012) as a consultative body for the 47 governors on matters policy. Both the Health Technical Committee and ICT Technical Committee of COG are relevant.

The national government, through the Ministry of Health, provides support for county governments and, in the area of digital health, has established a eHealth Unit that guides overall policy, sets standards and supports national-level systems such as the Master Facilities List (MFL) and the District Health Information Software (DHIS2) (for collating national statistics on health indicators).¹³

Devolution offers great opportunities for the realization of UHC and other social and economic targets in Kenya. Even then, poor transitory systems and the lack of strategic plans on how to transfer obligations between the national and county governments persist. These challenges have continued to hinder the objectives of devolution and the realization of UHC.

These problems are imminent when it comes to financing and budgetary allocation for healthcare. In the past, as evidenced above through the *Linda Mama* programme, the national government failed to adequately consult with county governments before implementing health-related programmes. They also failed to allocate budgets appropriately- with the evident lack of incremental budgeting to county governments. These led to the failure of programmes aligned with UHC and they remain a continuing challenge.

The lack of coordination between the national and county government has affected the uptake and effective use of digital health technology. As such, despite having technological tools such as Electronic Medical Records systems, Laboratory Information Systems, and the Kenya Health Information System (KHIS), their use is limited and ineffective. For instance, the process of reporting health-related field findings, from the counties to the national government, through KHIS, is paper-based. This presents risks relating to the possible appropriation or loss of data, and other inaccuracies. Besides these, other existing digital technologies on health remain poorly integrated with KHIS.

There are active plans to ensure county autonomy and better administration of UHC funds at the county level through the intervention of the Intergovernmental Relations Secretariat. In addition to this, there are plans to streamline the use of digital technologies in community health administration through the development of a framework anchored in the *National Strategy for Community Health Digitization*.

Despite the challenges of administration and financing between the county and national governments, some county governments have reported great progress in the enlistment of members to the UHC programme and the consequent delivery of health services. Good examples include Laikipia county, with 67% of its population registered with NHIF.¹⁴ Its success is attributed to the fact that there is more investment in promotive and primary health institutions and in community health volunteers who link the government to the community. Secondly, there is West Pokot County, which was the first county to come up with an independent Bill on revenue administration in a bid to ensure better management of its health-related funds and projects.

¹³Muinga, N., Magare, S., Monda, J. et al. Digital health Systems in Kenyan Public Hospitals: a mixed-methods survey. BMC Med Inform Decis Mak 20, 2 (2020). <https://doi.org/10.1186/s12911-019-1005-7>

¹⁴County Government of Laikipia "Why Health Ministry Impressed By Laikipias UHC Model" available at <https://www.laikipia.go.ke/1094/health-ministry-impressed-by-laikipias-uhc-model/>



1.3 The Kenyan Healthcare System

The Kenyan healthcare system is divided into three sub-systems: the public sector, the private for-profit sector, and the private not-for-profit sector which includes faith-based organisations. In the formal sector, the public sector is the largest operator in terms of the number of healthcare facilities, accounting for 51% of all healthcare facilities. Kenyan citizens receive a significant proportion of their care from private facilities, with up to 60 percent of the population seeking care from the private sector. A 2019 assessment reported that private facilities had little incentive to participate in national digital health and interoperability initiatives, leaving the health data landscape incomplete.¹⁵ Further, these facilities had limited involvement in interoperability processes in Kenya. The assessment recommended that the Ministry of Health encourages inclusion of existing private sector facilities into the national eHealth strategy, aiding in data sharing between the public and private sector, and fostering the overall strengthening of interoperability in Kenya.¹⁶

The health system in Kenya is organised around six levels of care based on the scope and complexity of services offered. The first level comprises community units that are a collection of households staffed by volunteer community health workers. Activities at the community unit level focus mainly on promotive health through health education, treatment of minor ailments, and identification of cases for referral to health facilities. Levels 2 (dispensaries) and 3 (health centres) offer primary health care services. These levels of care form the interface

¹⁵MEASURE Evaluation. (2019). East African Community Regional Digital Health and Interoperability Assessments: Kenya. Chapel Hill, NC, USA: MEASURE Evaluation, University of North Carolina.

¹⁶Ministry of Health Kenya Health Sector Referral Strategy 2014 – 2018.

between the community and the higher-level facilities. These facilities offer basic outpatient care, minor surgical services, basic laboratory services, maternity care, and limited inpatient facilities. They also coordinate the community units under their jurisdiction. Levels 4 and 5, the secondary referral facilities, form the county referral facilities. They offer a broad spectrum of curative services, and some are also health training centres. Level 6 constitutes the tertiary referral facilities that offer specialised care and specialised training to health workers. The national government only manages the level 6 facilities, but they are semi-autonomous organisations.¹⁷

Recommendation:

To ensure better cooperation in the delivery of services between county governments, and across the national and county governments, there exists a Council of Governors (COG). The COG was established under Section 19 of the Intergovernmental Relations Act (IGRA 2012). It is a non-partisan organisation comprising 47 Governors, representing all the counties in Kenya. Some of their key functions include offering a collective voice on policy issues and promoting inter – county consultations. Based on this background, the COG becomes an essential tool in the administration of health services in Kenya. Recently, through a press release, the COG pronounced itself on its commitment to streamline healthcare services in Kenya and promote accountability by proposing reform in the Kenya Medical Supplies Authority (KEMSA), which is a key agent in the delivery of public health services in Kenya. The COG proposed comprehensive amendments to the KEMSA Act to ensure greater oversight over procurement and the management of public resources. The COG has also been involved and committed to incorporating digital technology to address challenges such as youth unemployment, and through the Health technical committee and ICT technical committee. The leadership demonstrated by the COG in ensuring digital transformation of the healthcare system at the county level will be critical if Kenya is to achieve UHC by 2030.

¹⁷The County of Governors, (2021) Press Statement on the Kenya Medical Supplies Authority (KEMSA) Reforms. Available from [https://cog.go.ke/images/Statements/news/PRESS%20STATEMENT%20ON%20THE%20KENYA%20MEDICAL%20SUPPLIES%20AUTHORITY%20\(KEMSA\)%20REFORMS.pdf](https://cog.go.ke/images/Statements/news/PRESS%20STATEMENT%20ON%20THE%20KENYA%20MEDICAL%20SUPPLIES%20AUTHORITY%20(KEMSA)%20REFORMS.pdf)

| Current levels of care | Desired levels of care | Facilities | Description |
|--|--------------------------------------|---|---|
| Level 1: Community | Level 1: Community | The village, households, families, individuals | <ul style="list-style-type: none"> Community-based health services |
| Level 2: Dispensaries and clinics Level 3: Health centres | Level 2: Primary care facilities | Dispensaries, clinics and Health centres, maternity homes | <ul style="list-style-type: none"> Disease prevention and health promotion services Inpatient services for emergency clients awaiting referral, clients for observation, and normal delivery services |
| Level 4: Primary care hospitals Level 5: Secondary care hospitals | Level 3: County hospitals | Primary care hospitals Secondary care hospitals | <ul style="list-style-type: none"> Comprehensive inpatient diagnostic, medical, surgical and rehabilitative care, including reproductive health services Specialised outpatient services Hospitals managed by a county |
| Level 6: Tertiary care hospitals | Level 4: National referral hospitals | Tertiary care hospitals | <ul style="list-style-type: none"> Tertiary/highly specialised services, including high-level specialist medical care, reference laboratory support, blood transfusion services, and research have defined level of self-autonomy |

*Organisation of Kenyan Health System*¹⁸

1.4 Disease Burden and Health Financing

Kenya is a country with a high burden of both communicable and non-communicable diseases. Between 2012 and 2016, 95 percent of deaths were due to preventable diseases, with HIV, lower respiratory-tract infections and malaria causing 12, 9 and 5 per cent, of all deaths respectively.

Kenya's healthcare system is significantly donor-dependent. External financing makes up more than half of all funding for immunizations, tuberculosis (TB) and HIV.¹⁹ The HIV programme is particularly donor-dependent, and in 2021 the country witnessed the negative effects of this, with an antiretroviral drug shortage crisis due to USAID, the largest HIV donor, halting supply.²⁰ In 2018, the Trump administration restored the Mexico City Policy or the 'Global Gag rule', which cut aid to family planning programs and prohibited the provision of pregnancy by choice initiatives, leaving many women in Kenya without affordable access to contraceptives and resulting to an increase in unsafe abortions.²¹

¹⁸Adapted from: <https://bmcmmedinformdecismak.biomedcentral.com/articles/10.1186/s12911-019-1005-7/tables/1>

¹⁹Kaci Kennedy McDade. (2021) Reducing Kenya's health system dependence on donors. Available from: <https://www.brookings.edu/blog/future-development/2021/03/02/reducing-kenyas-health-system-dependence-on-donors/>

²⁰Aljazeera. (2021) People in Kenya say lives at risk as HIV drugs run short. Available from: <https://www.aljazeera.com/news/2021/4/24/people-in-kenya-say-lives-at-risk-as-hiv-drugs-run-short>

²¹Finden, A.E. (2017) The law, trials and imprisonment for abortion in Kenya, International Campaign for Women's Right to Safe Abortion. [Online] Available from: <https://www.safeabortionwomensright.org/the-law-trials-and-imprisonment-for-abortion-in-kenya/> [Accessed 20th May 2021]; Omari, A. (2017) The Impact of the Global Gag Rule on Women in Kenya and Across Africa, APHRC. Available from: <https://aphrc.org/blogarticle/the-impact-of-the-global-gag-rule-on-women-in-kenya-and-across-africa/>

The government acknowledges that the following are some of the major challenges facing the health sector in Kenya: health programmes remain heavily donor dependent; increased incidence of Non-Communicable Diseases (NCDs) such as hypertension, heart disease, diabetes and cancer; inadequate emergency services for delivery and under-utilisation of existing antenatal services; inadequate capacity for emergency and disaster preparedness; inadequate skills and competences of health workers and skewed distribution of the health workers across counties; inadequate funding for the sector; low health insurance coverage in the country and high cost of health services; inadequate infrastructure and skewed distribution of available infrastructure with a strong bias towards the urban areas as well as existence of obsolete equipment; weak multi-sectoral coordination of programmes and projects in the sector; poor surveillance systems for NCDs; and high new HIV/AIDS infections among adolescents and the youth.²²

Given that health is devolved each of the 47 county governments seem to have their own priorities. Comparative data across the county governments is also limited.

A review of the national government medium term expenditure framework (MTEF) 2017-2021 does not indicate the resources allocated for digital health. As such, it is recommended that the Health Sector Working Group ensures specific allocation to digital health subsequent framework(s).

Research reports indicate that in 2020, out of the 47 county governments only five counties managed to consistently publish all the budgetary documents and made such information available to the public. These budget documents frequently lack the specific detailed information needed to monitor service delivery. A review of approved budgets of two counties (Kisumu and Makueni) shows explicit mention of UHC with funds allocated for UHC programme (though a majority is from donors - World Bank and DANIDA). However, neither county mentioned digital health or eHealth in their budgets.

Transform Health Kenya therefore recommends that county governments need to prioritise digital health programmes, through specific budgetary allocations, as avenues to accelerate achievement of UHC in counties.

²²Third Medium Term Plan 2018 – 2022, *ibid.*



1.5 Universal Health Coverage pilot

Between 2018 and 2020, the national government implemented policies and programmes under the Universal Health Coverage Pillar. The primary goal of these initiatives was to increase access to quality health care and reduce medical costs incurred by Kenyans. Currently, only around 18.2% of Kenyans are covered under NHIF with out-of-pockets expenditure at 26.1% of the total household income for uninsured Kenyans. This can be contrasted with jurisdictions such as Rwanda which has seen up to 90% of its population registered under the community-based health insurance program commonly referred to as, *Mutuelles de Sante* (Mutual Health). The Rwandese system's success is attributable to emphasising on primary care at the community level and its willingness to adopt and integrate digital technologies in its universal care service programme.

To deal with the challenges facing the Kenyan healthcare system, in late 2018, the national government launched the *Afya Care* Universal Health Coverage (UHC) pilot program in four counties in Kenya. Under the initiative, county governments discontinued all user fees at secondary public hospitals and, in return, were to receive commodities and additional funds from the national government. The four pilot counties – Isiolo, Kisumu, Machakos, and Nyeri – were selected because they were characterized by high incidence of both communicable and non-communicable diseases, maternal mortality, and road traffic injuries. The national government stated the intent to scale up the program to the rest of the country following the review of the pilot, with the final goal of reaching 100% population coverage by 2022.

The government has acknowledged that universal health coverage has not been achieved due to unequal access to the different health care services as a result of poor distribution and use of resources; geographical and sociocultural barriers that prevent many interventions from reaching the people that most need it; and the high costs associated with accessing and using the available services.²³

A review²⁴ of the UHC pilot by, among others, civil society organisations and researchers, revealed some the following challenges:

- concerns that the government did not ensure meaningful engagement of CSOs and communities in the pilot implementation phase and in existing UHC structures. For instance, UHC steering committees that were supposed to be formed at county-level, were not constituted. Further, some technical working groups for the UHC pilot program were formed but never met;
- concerns that UHC strategies in place were not gender and disability responsive and did not take in to consideration the various vulnerable communities including adolescent girls and young women, people living with HIV, key populations, youth, women among others;
- transparency and accountability concerns with the government failing to ensure stakeholder engagement in policy development, public communication plans, developing review mechanisms and ensuring marginalized and vulnerable populations are not left behind;
- funds from the national government to counties were not received in a timely manner – resulting in partial implementation of activities under UHC pilot program;
- delay in distribution of commodities from Kenya Medical Supplies Authority (KEMSA);
- only a few new staff were hired at the facility-level, which resulted in increased workload of existing staff;
- there were issues around the correctness of the card holders' information and not all health facilities had a verification system in place.

During the pilot phase, registration agents used smartphones and digital apps to register households for UHC. Through this process the residents would receive a UHC card, which would give them access to a (*unspecified*) package of free healthcare services in government facilities. In three of the four pilot UHC counties, the digital registration process was through a public-private partnership with PharmAccess and its digital platform, M-TIBA, a 'mobile health wallet' and health finance platform. Community health workers were engaged by PharmAccess and empowered to register residents using a smartphone with the M-TIBA application. M-TIBA is linked to NHIF, meaning that registration is automatic and real-time, which also allows for immediate issuance of registration numbers. In the fourth county, another digital platform was chosen in collaboration with another private organisation, Living Goods. Community Health Workers (CHWs) used smartphones to register households and Living Goods provided the digital platform to collect registration information, which was processed by the NHIF.

²³Ministry of Health (2018) Kenya Health Sector Strategic Plan 2018 – 2022 available at <https://www.health.go.ke/wp-content/uploads/2020/11/Kenya-Health-Sector-Strategic-Plan-2018-231.pdf> (accessed 19.06.2022)

²⁴See for instance, Shano, Guyo, and Ileana Vilcu. 2020, "A review of Afya Care – the Universal Health Coverage pilot program – in Isiolo county. Kenya Brief 5" Washington, DC: ThinkWell.

Health facilities in the pilot counties were connected to the digital registration system and hospital clerks only needed to punch in the person's name to find out if they were in the system.²⁵ Concerns reported included the accuracy of the data collected, especially noting the pressure on registration agents to meet targets.

For the *Linda Mama* programme, an earlier Free Maternity Care programme, registration was by walking to a *Huduma* Centre or NHIF office. Relatedly, one could register using their mobile phones by dialing *263# and provide details requested. It is however not clear why such a simpler registration system was not adopted during the pilot phase (which came much later).

Transform Health Kenya recommends that both national and county governments adopt people-centered digital health technologies in UHC pilot and implementation schemes. Such technologies should facilitate access to health services, for all, including youth, women, and vulnerable and marginalised populations. Use of the digital health systems need to go beyond the registration phase and into subsequent service delivery phase.

Transform Health Kenya further recommends that results of a comprehensive audit of the UHC pilot be made public, and corrective measures be undertaken before expansion or further roll out of the UHC programme in other counties.

1.6 Adoption and use of digital technologies and digital health

In Kenya, use of mobile communication devices to deliver healthcare has gained traction due to high penetration and network coverage. Kenya, a country with an estimated population of 54.38 million, has approximately 21.75 million internet users with internet penetration at approximately 40.0% as of January 2021. Further, there were an estimated 59.24 million mobile connections in Kenya as of January 2021.²⁶ According to the 2020 GSMA Report, despite this rise, there is a persistent gender gap in phone ownership and internet usage. Of the total mobile connections in Kenya, there was a 5% gender gap, with 91% of men owning phones, against 86% of women. Equally, while 49% of Kenyan men were accessing and using the internet, only 32% of the total population of women owning phones were accessing and using the internet.²⁷ Despite this gender disparity the higher penetration of mobile networks and mobile phones in Kenya provides an avenue for the implementation of mHealth applications.

In terms of adoption and use of digital health technologies, studies indicate that public hospitals have increasingly adopted the use of digital technologies for patient administration and hospital billing functions. The same systems have

²⁵Ruth J. Prince (2020) "A Politics of numbers? Digital registration in Kenya's experiments with universal health coverage," available at <http://somatosphere.net/2020/digital-registration-kenya-universal-health-coverage.html/>

²⁶Data Digital Reports, Kenya <https://datareportal.com/reports/digital-2020-kenya>

²⁷The GSMA report 2020. Available at <https://www.gsma.com/mobilefordevelopment/wp-content/uploads/2020/05/GSMA-The-Mobile-Gender-Gap-Report-2020.pdf>

also been used to manage the provision of clinical services in the outpatient department.²⁸ Studies report some level of success with several health informatics initiatives including the adoption of DHIS2 for centralised population data collection and OpenMRS for managing TB and HIV programmes in smaller clinics.²⁹ Kenya enters its patients' data daily on the District Health Information System (DHIS2), although varying information indicates that this only applies to inpatient data using the tracker and it is not yet well utilised. Most of the data in DHIS2 is aggregate (summarised) data entered monthly or quarterly. Besides recording, DHIS2 also validates, analyses and aggregates the data. It is basically the national 'hive' for data management and analysis, from monitoring health programmes to facility registries and logistics management. The data can be captured on desktops, laptops and smartphones, in addition to being available offline, hence ideal for rural areas. Being digital, DHIS2 allows the collection and integration of data from various sources, which can be used in real time, from people in different locations. Health workers, the government and NGO users can gain access to the system by signing up online with a username and password.³⁰

There is also the Kenya Master Health Facility List (KMHFL) which is an application that covers all health facilities and community units in Kenya. Each health facility and community unit is identified with unique code and their details describing the geographical location, administrative location, ownership, type and the services offered.³¹ The government needs to implement national plans to expand and adopt digital health technologies beyond routine administrative tasks, so that the technologies are utilised across the service delivery spectrum.

Despite Kenya having numerous policies which support digital health governance and interoperability, the country faces challenges in institutionalising these policies evenly across the nation in the wake of decentralising governance from the national to county level.³²

According to a research on the Digital Health Systems in Kenyan Public Hospitals the challenge of interoperability results from the fact that there is a lack of defined systems connecting the public healthcare facilities under the county government (level 1 to level 5) to those under the national government (level 6 healthcare institutions).³³ One of the main challenges that arise from this predicament relates to inefficiencies resulting from the use of paper-based referral systems from Level 5 to Level 6 healthcare institutions. Additionally, there is no integration of healthcare data with other digital systems, even within hospitals. This means that sometimes, healthcare practitioners have to access two digital systems to retrieve data.

²⁸Muinga, N., Magare, S., Monda, J. et al. Digital health Systems in Kenyan Public Hospitals: a mixed-methods survey. *BMC Med Inform Decis Mak* 20, 2 (2020). <https://doi.org/10.1186/s12911-019-1005-7>

²⁹Muinga, N., Magare, S., Monda, J. et al. *ibid.*

³⁰Kenya Yearbook Editorial Board (2020) Road to Universal Health Coverage: Universal Health Coverage Implementation in Kenya available at <https://aphrc.org/wp-content/uploads/2020/10/Towards-Universal-Health-PRESS.pdf>

³¹Kenya Master Health Facility List, available at <http://kmhfl.health.go.ke/#/home>

³²MEASURE Evaluation. (2019). East African Community Regional Digital Health and Interoperability Assessments: Kenya. Chapel Hill, NC, USA: MEASURE Evaluation, University of North Carolina.

³³Muinga, N., Magare, S., Monda, J. et al. Digital health Systems in Kenyan Public Hospitals: a mixed-methods survey. *BMC Med Inform Decis Mak* 20, 2 (2020). <https://doi.org/10.1186/s12911-019-1005-7>

Kenya currently uses two parallel digital health systems in public facilities. There is the top-down approach fostered by the Ministry of Health in collaboration with development organisations. This system primarily uses open source systems such as OpenMRS. Good examples of “top-down” systems in Kenya include the Afya-EHMS project, Banda Health and IQCare. These were primarily intended to be used in HIV care, but have been customised over the years to extend their functionality.³⁴ These systems are highly consistent with Kenya’s and the global EMR requirements and recommendations. They might be used in a variety of therapeutic settings and could even be used to diagnose patients. If well-funded these systems can successfully address the interoperability challenges in Kenya. Secondly, there is the bottom-up approach implemented by several smaller hospitals. These are locally developed commercial systems. Like the top down models, these systems can also be modified and adapted to serve different functions. However, given that they are privately sourced, once they break down or when support ends, they tend to stop operating. Despite these challenges, the country has the capacity to address the issue of interoperability.³⁵

Besides funding, other major challenges relating to interoperability relate to the insufficiency of human resources and technological infrastructure to support digital health across the country. There are also varying levels of understanding and knowledge on how to use the system, leading to minimal use by relevant healthcare staff, and limited buy-in to national policies.³⁶

Reviews have identified that many eHealth solutions remain at pilot phase, mostly because of the financial constraints and technical issues surrounding interoperability and infrastructure requirements. The government does not maintain a centralised registry of all eHealth projects under implementation in Kenya, making it difficult to monitor and align progress. Solutions that managed to reach significant scale include mTiba (health wallet), myDawa (online pharmacy), and Maisha Meds (supply chain network provider). A large number of current eHealth solutions are delivered through mHealth due to the high geographical coverage of mobile networks. These solutions are mostly short message service (SMS) based due to infrastructure limitations.³⁷ They also only target specific challenges in the healthcare facilities, meaning that they are not inclusive and this can undermine their initial purpose and reduce the uptake in the healthcare sector. Most of the time these applications do not integrate/interoperate with the main system DHIS2 and therefore staff have to manually compile and enter data into the national system. Further, the applications are also not government owned and managed so once support runs out they tend not to continue operating.

³⁴Muinga, N., Magare, S., Monda, J. et al. (2020) Ibid.

³⁵Muinga, N., Magare, S., Monda, J. et al. (2020), *ibid.*

³⁶MEASURE Evaluation. (2019). East African Community Regional Digital Health and Interoperability Assessments: Kenya. Chapel Hill, NC, USA: MEASURE Evaluation, University of North Carolina.

³⁷See “2021 Kenya Medical Devices eHealth” <https://www.rvo.nl/sites/default/files/2021/05/2021-Kenya-Medical-Devices-eHealth.pdf>

The government needs to take deliberate steps to ensure the success of eHealth solutions in a properly regulated environment and to ensure the longer term sustainability of effective solutions by funding initiatives beyond the period of donor support. This will require greater engagement and ownership of the government of all digital health projects.

The Kenyan digital ecosystem boasts a range of technological innovations across various sectors.³⁸ The most important is the establishment of M-PESA (Pesa is Swahili for “money”), the country’s first mobile money service, which was developed by Kenya’s largest mobile network provider, Safaricom.³⁹ Launched in 2007, M-PESA completely revolutionised the financial sector and made financial inclusion a reality for many who had little to no access to the more traditional means of banking. Now woven into Kenya’s entire economic landscape, M-PESA has inspired 42 million people to become active users.⁴⁰

Digital government is a prerequisite for any digital economy.⁴¹ In 2014, the government launched ‘e-citizen’, a government-to-citizen platform, which allows citizens to apply for government services from driving licences to business registration certificates.⁴² E-citizen pioneered the concept of providing cross-agency, citizen-centric information and services, to help Kenyan citizens complete transactions expeditiously.

Despite the success of M-PESA and e-citizen in facilitating access to financial services and government services, there has been no attempt (especially from government) to replicate the same and offer digital health solutions that would facilitate access to health services on such a scale.

Over the last three years, the government also launched the National Integrated Identity Management System (NIIMS), dubbed ‘Huduma Namba’, a single source of personal information through a unique identification number for all Kenyans and foreign residents.⁴³ About 5 million people registered for this unique identifier, but the government was concerned with low uptake and collection of the cards. As of June 2021, only around 3 million people had collected their cards and more people continued to resist calls for registering through NIIMS expressing concerns around privacy and the security of their data, among other issues. In addition to NIIMS, Kenya has promoted biometric registration of indigents into the Universal Health Coverage Scheme; and established ‘*Ardhisasa*’, a digital land resource management platform.⁴⁴ In response to the

³⁸Lena Nitsche (January 2019), ‘Exploring initiatives and projects from Kenya’s digital ecosystem’ Available from: <https://www.dw.com/en/exploring-initiatives-and-projects-from-kenyas-digital-ecosystem/a-47135019>

³⁹Safaricom Website, Available from: <https://www.safaricom.co.ke/m-pesa>

⁴⁰Kelsey Piper, ‘What Kenya can teach its neighbours-and the US- about improving the lives of the unbanked’, September 2020 Available from: <https://www.vox.com/future-perfect/21420357/kenya-mobile-banking-unbanked-cellphone-money>

⁴¹Digital Economy Blueprint 2019 Available from: <https://www.ict.go.ke/wp-content/uploads/2019/05/Kenya-Digital-Economy-2019.pdf>

⁴²e-Citizen website, Available from: <https://www.ecitizen.go.ke>⁴²Muinga, N., Magare, S., Monda, J. et al. (2020) Ibid.

⁴³Huduma Namba Website, Available from: <https://www.hudumanamba.go.ke>

⁴⁴Gilbert Koech, Kevin Cheruiyot, ‘Nairobi land transactions go digital as Uhuru launches online platform’, Available from: <https://www.the-star.co.ke/news/2021-04-27-photos-nairobi-land-transactions-go-digital-as-uhuru-launches-online-platform/>

COVID-19 pandemic, points of entry adapted digitisation of surveillance in a bid to strengthen information systems and reporting leading to the introduction of *Jitenge* for contact tracing for airport travellers, Regional Electronic Cargo and Driver Tracking System (RECDTS) for timely communication of COVID-19 test results to truck drivers and *panaBIOS* for validation of COVID-19 PCR test certificates at both ground crossing and airports.⁴⁵

Kenya has undeniably made strides towards an e-government, though this transition has previously been met with opposition from civil society due to the absence of laws and regulations aimed at protecting privacy rights and deficient public participation practices. In 2020, the High Court had suspended the “Huduma Numba” system pending development of a legislative and regulatory framework,⁴⁶ with the process later continuing with low update of the “*Huduma Cards*”

⁴⁵<https://www.treasury.go.ke/wp-content/uploads/2021/10/HEALTH-SECTOR-REPORT.pdf>

⁴⁶Cullen, D (2020). “High Court of Kenya suspends implementation of biometric ID system”. Oxford Human Rights Hub. Retrieved from: <https://ohrh.law.ox.ac.uk/high-court-of-kenya-suspends-implementation-of-biometric-id-system/> (Accessed 5 June 2021).



PART 2

Universal Health Coverage and Digital Health: Legal & Policy Framework

2.1. Analysis of laws and policies governing digital health and universal health coverage in Kenya

1. LAWS

Constitution of Kenya, 2010

Summary of provisions relevant to digital health and universal health in Kenya

- The Constitution is the supreme law binding to all persons and all government organs. All other laws must be consistent with the Constitution.
- As per Article 2(5) and 2(6), general rules of international law as well as treaties or conventions ratified by Kenya form part of the law of Kenya.
- Article 43(1)(a) of the Constitution of Kenya guarantees every Kenyan the right to the highest attainable standard of health, which includes the right to health care services, including reproductive health care;
- The Bill of Rights guarantees other rights related to the right to health including: right to life, equality and freedom from discrimination, human dignity, right to privacy, right to access to information, among others.
- The Constitution introduced two levels of governance: national government and county governments. In terms of health, the national government develops national health policies and manages national referral health facilities; while county governments undertake the bulk of functions.

Recommendations

Health is a fundamental right under the Constitution.⁴⁷ The government has an obligation to take legislative, policy and other measures, including the setting of standards, to achieve the progressive realisation of the right to health.⁴⁸ The government has been slow in adopting legislations to implement Article 43(1) (a) of the Constitution. The Health Act, 2017 is one of the main legislation to this effect.

Transform Health recommends that both national and county governments undertake measures to put in place legislative frameworks on digital health to promote the realisation of the right to health.

⁴⁷Article 43(1)(a) Constitution of Kenya.

⁴⁸See Article 21(2) Constitution

Health Act 2017

Summary of provisions relevant to digital health and universal health in Kenya

- The Health Act 2017 is an Act of parliament that establishes a unified health system, coordinates the inter-relationship between the national government and county government health systems, provides for regulation of health care service and health care service providers, health products and health technologies.
- The Act outlines government obligations in ensuring realisation of the constitutional right to health. As such, the government is required to observe, respect, protect, promote and fulfil the right to the highest attainable standard of health including reproductive health care and emergency medical treatment by (among others) - developing policies, laws and other measures necessary to protect, promote, improve and maintain the health and well-being of every person; and also by ensuring the prioritization and adequate investment in research for health to promote technology and innovation in health care delivery;
- The Act makes provision in relation to e-health and health technologies. It defines e-health and health technology as follows:
 - “e-Health” means the combined use of electronic communication and information technology in the health Sector including telemedicine;
 - “health technology” refers to the application of organized knowledge and skills in the form of devices, medicine, vaccines, procedures and systems developed to solve a health problem and improve the quality of life;
- Under the Act, the national government has a duty to promote the use of appropriate health technologies for improving the quality of health care.⁴⁹
- The Act further assigns to the national government the function of being responsible for regulation of health products and health technologies including assessment, licensing and control of commercial and industrial activities;⁵⁰
- Part VII of the Health Act makes provisions relating to regulation of health products and health technologies. The Act requires the establishment of a single regulatory body for regulation of health products and health technologies.⁵¹
- Further, the Act gives powers to the Cabinet Secretary to make regulations on health technology.⁵²
- Part XV of the Act has provisions on e-health noting that e-health shall be recognised as a mode of health service,⁵³ and requires the enactment of a e-health legislation.⁵⁴
- Section 105 of requires the Ministry of health to facilitate the establishment and maintenance of a comprehensive integrated health information system.

Recommendations

This is an important legislation that clearly outlines the obligations, duties and

⁴⁹Section 15(u)

⁵⁰Section 34(d)

⁵¹Section 62

⁵²Section 112(m)

⁵³Section 103

⁵⁴Section 104

functions of all levels of government to ensure realisation of the right to health. Transform Health Kenya recommends that the Cabinet Secretary Health complies with section 104 of the Health Act and ensures enactment of a e-health legislation. This legislation was supposed to be enacted within three years of operation of the Health Act.

Transform Health Kenya that the Cabinet Secretary in consultation with the Director General make regulations on health technology in compliance with section 112 of the Act.

Data Protection Act 2019

Summary of provisions relevant to digital health and universal health in Kenya

- The Data Protection Act makes provision for the regulation of the processing of personal data and provides for the rights of data subjects and obligations of data controllers and processors.
- The Act defines “health data” to mean “data related to the state of physical or mental health of the data subject and includes records regarding the past, present or future state of the health, data collected in the course of registration for, or provision of health services, or data which associates the data subject to the provision of specific health services.”
- The Act establishes an office of the data commissioner⁵⁵ who is responsible for overseeing the implementation of and is responsible for enforcement of the Act.
- The Act is also important in regulation of digital health as it outlines principles to be adhered to in data protection.⁵⁶ Some of the principles include: that data controllers or data processors must ensure personal data is— processed in accordance with the right to privacy of the data subject; processed lawfully, fairly and in a transparent manner in relation to any data subject; collected for explicit, specified and legitimate purposes and not further processed in a manner incompatible with those purposes; among others.
- Section 46 of the Act has specific provisions on personal data relating to health. Under the section, personal data relating to the health of a data subject may only be processed— by or under the responsibility of a health care provider; or by a person subject to the obligation of professional secrecy under any law.

Recommendations

Transform Health Kenya recommends that the Office of the Data Commissioner fast tracks development of regulations under the Act relating to health data.

Transform Health further recommends that the Data Commissioner fast-tracks full enforcement of provisions of the Act on health data.

⁵⁵Section 5

⁵⁶Section 25

2. POLICIES AND STRATEGIES

Third Medium Term Plan 2018 - 2022

Summary of provisions relevant to digital health and universal health in Kenya

- The plan prioritizes policies, programmes and projects which will support the implementation of the “Big Four” initiatives namely: raise the share of manufacturing sector to 15 per cent of GDP; ensure that all citizens enjoy food security and improved nutrition by 2022; Achieve Universal Health Coverage; and deliver at least five hundred thousand (500,000) affordable housing unit.
- The government commits under the plan to expedite the development of the healthcare industry, by digitizing services and adopting technologies such as e-health, m-health, telemedicine and space technologies by leveraging on the improved ICT infrastructure and mobile penetration rates, which stands at over 80 per cent. The government would achieve this through:
 - Digitization of health facilities including instalment of the Electronic Health Information System to capture patients’ data at the health facilities level and enhance digital communication between facilities (Healthcare ICT);
 - Enhancement of Mobile health (m-Health) services technology;
 - Enhancement of District Health Information System (DHIS2) and Kenya Master Health Facility List (KMHFL) as the national reporting systems; and
 - Installation of Enterprise-wide Resource Planning System at KMTC

Recommendations

Noting that the plan is coming to an end, Transform Health Kenya recommends that unrealised commitments with regards to digital health are incorporated in the subsequent plan and a clear implementation strategy collaboratively adopted.

Kenya National ehealth Policy 2016 - 2030

Summary of provisions relevant to digital health and universal health in Kenya

- The vision of Kenya eHealth is to create an enabling environment for the sustainable adoption, implementation and efficient use of eHealth products and services at all levels of healthcare delivery in Kenya.
- As per the policy, the strategic objectives to achieve the vision include:
 - Enhance interaction between client and health service provider;
 - Accelerate achievement of universal health coverage
 - Enhance electronic exchange of health data and information
- To realize the three policy objectives, the government plans to focus on 10 policy

orientations that include: networked care and professional practice; infrastructure and resources; interoperability and standards; equitable access to healthcare; compliance to legislations and ethics; management of health data and information; among others.

Recommendations

Transform Health Kenya recommends that civil society organisations monitor implementation of this policy, and undertake measures to hold the government to account on commitments contained in this policy.

Kenya Universal Health Policy 2020-2030

The goal of the Kenya UHC Policy 2020 - 2030 is “to ensure all Kenyans have access to essential quality health services without suffering financial hardship. Its policy objectives are to:

- Strengthen access to health services;
- Ensure quality of health services;
- Protection from financial risks of ill health; and
- Strengthen the responsiveness of the health system.

The policy lists the following as the strategies to realise the above objectives:

- Develop a progressive and explicit health benefits package;
- Realign the health system to focus on primary healthcare;
- Ensure Kenya’s health systems resiliency to detect, prevent and respond to public health threats;
- Adopt the ‘Health in all Policies’ to address social determinants of health;
- Align health financing risk sharing mechanisms by creation of a single national pool through the UHC Fund;
- Institute mandatory pre-payment revenue generation mechanisms from the population;
- Strengthen strategic purchasing;
- Ensure continuous quality improvement and better health outcomes;
- Improve the efficiency of use and equity in the availability of the health system resources;
- Strengthen leadership to improve stewardship, partnership, coordination and governance of the health system;
- Empower Kenyans to actively participate in the design and delivery of health services;
- Accelerate the review of the legal frameworks in support of UHC; and
- Entrenchment of evidence-based policy and decision making.

Recommendations

Transform Health Kenya recommends that civil society organisations monitor implementation of this policy, and hold the government to account on commitments made in the policy.

Other relevant laws include:

- The HIV AIDS Prevention and Control Act
- Kenya Information and Communications Act, 1998
- The Science, Technology and Innovation Act, 2013
- Computer Misuse and Cybercrimes Act, 2018

Other relevant policies and strategies include:

- Kenya Health Policy 2014 - 2030
- Kenya National e-Health Strategy (2011 - 2017)
- Health Information System Policy 2010 - 2030
- National Community Health Digitization Strategy 2020-2025



PART 3

Barriers to Equitable Access to Digital Health





3.1 Background

Digital technologies have the potential to support health systems in health promotion and disease prevention, and by improving the accessibility, quality and affordability of health services.⁵⁷ WHO's *Global Strategy on Digital Health 2020-2025* acknowledges that there is a growing consensus in the global health community that the strategic and innovative use of digital and cutting-edge information and communications technologies will be an essential enabling factor towards ensuring that one billion more people benefit from universal health coverage, that one billion more people are better protected from health emergencies, and that one billion more people enjoy better health and well-being.⁵⁸

However, reports indicate that digital technologies are not being effectively harnessed to improve health outcomes, particularly in some of the least developed countries and for marginalized communities.

Generally, lack of resources, weak capacity, and lack of training and development for health professionals are leading to low adoption and sustainability of digital technology.⁵⁹ Further, inadequate consultation and engagement of local communities and marginalized groups in the planning and implementation of digital health programs are undermining local relevance and buy-in.⁶⁰ There is also an aspect of general fear among health workers that artificial intelligence, AI, machine learning, bots, robots, eHealth, telemedicine will take away jobs. Most of these healthcare workers are already at constant conflict with governments for improved working conditions and remuneration – hence a perception that governments could easily jump at digital solution to replace them.

WHO's *Global Strategy* identifies the following other impediments faced by least-developed countries implementing digital health technologies: inappropriate

⁵⁷https://apps.who.int/gb/ebwha/pdf_files/WHA71/A71_R7-en.pdf

⁵⁸WHO (2021) Global strategy on digital health 2020-2025 available at https://cdn.who.int/media/docs/default-source/documents/gs-4dhdaa2a9f352b0445bafbc79ca799dce4d.pdf?sfvrsn=f112ede5_75

⁵⁹https://transformhealthcoalition.org/wp-content/uploads/2020/09/UNGA_Positioning-paper_140920.pdf

⁶⁰https://transformhealthcoalition.org/wp-content/uploads/2020/09/UNGA_Positioning-paper_140920.pdf

enabling environment, insufficient resources, lack of infrastructure to support the digital transformation, education, weak or inexistent human capacity, lack of financial investment and internet connectivity, as well as issues related to legacy infrastructure, technology ownership, privacy, security, and adapting and implementing global standards and technology flows. Reports have also documented potential human rights-related concerns that may arise out of the use of digital technologies for health, for instance, lack of access (the “digital divide”), privatisation of health information and services, data breach, bias, and function creep.⁶¹

3.2 Barriers to equitable access to digital health in Kenya

The following are some of the documented barriers to equitable access to digital health in Kenya:

3.2.1 Privacy and confidentiality concerns

The Kenya National eHealth Policy 2016 – 2030 notes that privacy is a legal and ethical barrier to the adoption of e-health applications because “health providers hesitate using ICTs that may result in litigations or violations of patient’s rights.” This demonstrates that there is a gap in terms of guidelines and regulations on e-health to health care providers. In order to address this, the government needs to develop clear guidelines and regulations for health care providers.

Breaches of privacy and confidentiality may not only affect a person’s dignity, but can also cause other harms. Key populations in Kenya [Female and Male Sex workers (SW); People who Inject Drugs (PWIDs); and Men who have Sex with Men (MSM)] have previously opposed the use of biometrics in health data collection – expressing concern that data gathered for health purposes could be used by the police to target and further criminalise key populations. Key populations expressed concerns that gathering biometric data creates the risk of security breaches, mass data leaks, identity theft, as well as forgery (“spoofing”) or data errors. The growing and under-regulated role of private companies has also been noted as a privacy concern.

Transform Health Kenya recommends that adoption and use of digital health technologies considers issues of concern to vulnerable, marginalised and criminalised populations, to ensure access to health services for all.

The right to privacy is a constitutional right and an important component in realisation of the right to health. In the context of health, this right is further protected by the Health Act, 2017 and Data Protection Act 2019. As such, it is important that adoption and use of digital health technologies ensure the protection people’s right to privacy, while allowing health planners, product developers and researchers to access anonymized health data for public good purposes.

⁶¹<https://www.hhrjournal.org/2020/12/human-rights-and-digital-health-technologies/>

3.2.2 Gaps in legal and policy framework

Kenya lacks a comprehensive legal framework conducive for the adoption and utilization of eHealth in Kenya, relying instead on diverse standards, laws and policies which apply to eHealth but do not specifically discuss it, thus creating gaps in the regulatory and enforcement system.⁶²

Transform Health Kenya recommends the need for the government to fast-track the development and enactment of a conducive legal framework through the e-Health Bill 2020

New digital tools and products are entering the market all the time, but regulatory systems have not kept up with the influx of technologies. The country needs a more comprehensive legal framework and more enabling infrastructure.

While there are several policies and guidelines available on e-health, electronic medical records, and health information systems, they are often at a relatively general level. The absence of clear, enforceable regulations and laws creates a gap that the government and legislators need to address with the full participation of civil society and other sectors.

3.2.3 Lack of government involvement in most eHealth projects

Most e-health projects are being implemented in urban centres rather than marginalised areas where geographical inequalities and inequities in access to health care exist in Kenya. Further, lack of government stewardship and leadership, with most e-health initiatives not aligned to the Ministry of Health priorities hence projects location is often determined by donors and implementers. This creates inequality in access to digital healthcare, and creates further marginalisation for people in rural settings. Lack of government ownership and stewardship is a gap that could potentially turn digital health programmes into “private for profit enterprises” thereby disenfranchising millions of urban and rural poor populations from benefiting from such initiatives.

Nationally, progress in e-health implementation is slow though mhealth interventions appear to be proliferating. In 2013, Kenyan researchers mapped 70 e-health projects across Nairobi, Kisumu and Mombasa counties.⁶³ The e-health solutions mapped in the study shared common aims: enhancing data management, training healthcare workers, improving diagnosis and promoting healthy behaviour particularly with regards to primary care, HIV/AIDS and maternal, newborn and child health. However, researchers found that the lack of government buy-in and funding meant that several donor-funded innovations were not aligned to national priorities and were abandoned in their infancy. In most instances, the projects were implemented in isolation and without Ministry of Health approval. This points to a gap with regards to regulatory and enforcement capacity of the Ministry of Health.

⁶²Report of Technical Working Group to Develop Guidelines and Checklists for Report on the Regulation of Electronic Health Practice in the Country, 2019, <https://kmpdc.go.ke/resources/4.%20Draft%200%20-%20Electronic%20Health%20Regulation.pdf>

⁶³International Development Research Centre (IDRC), January 2018, 'Developing eHealth policies for greater equity in Kenya,' Available from: <https://www.idrc.ca/en/research-in-action/developing-ehealth-policies-greater-equity-kenya>

Both national and county governments need to take greater ownership and leadership through initiation, financing and provision of technical support for digital health programmes and steer them towards national priorities.

National and county governments need to commit fiscal resources to the implementation of digital health solutions in order to gain better control on development priorities in digital health. Resources that are allocated for specific purposes need to be ring-fenced so that they cannot be repurposed.

Telemedicine, for example, is at an early stage of development. Although it is partly regulated by existing laws, Kenya lacks uniform standards to regulate such issues as informed consent in telemedicine.⁶⁴ This exposes users to potential breaches in privacy, while providers would be at an increased risk of legal liability. Non uniformity in practice means parameters for both users and providers are undefined, safety of data is a concern, and the element of trustworthiness is lost.

There is very little mention of digital health solutions in key government documents like the Health Sector Strategic Plan. This could be attributed to limited knowledge among leadership and technical personnel on what exactly digital health solutions could do to improve service delivery. For instance, when county government took over they concentrated on applications that only managed revenue collection, the only area they most likely understood the need and saw results. During the first term of devolution, 33 county governments made attempts to automate revenue collection, but we did not witness similar attempts in relation to digital health solutions.

3.2.4 Limited information

Digital health appears to be booming in Kenya, but overall awareness of the new Data Protection Act is low. This is an important piece of legislation guiding the handling and processing of data, including health data. Both the national government and county government need to popularise this important piece of legislation among communities to ensure people are aware of their rights, and to ensure those collecting data are protecting people's privacy.

Overall, knowledge of data rights is poor. An opinion poll by Amnesty International Kenya and the Open Institute, surveying 1,521 respondents from across 30 counties found that only 54% of Kenyans were aware of the right to privacy, 67% did not know the Data Protection Act, 2019 existed and 82% were unaware of the Office of the Data Protection Commissioner.⁶⁵ Awareness of the right to privacy was found to be higher in urban areas (56%) than rural areas (41%).

Both the national government and county government need to do more to drive up awareness of among the general population and to ensure the protection of data collected from vulnerable population such as people living with and affected by HIV and TB as well as key populations. Greater awareness of the

⁶⁴Margaret Zalo (August 2020), 'The Emerging Practice of Telemedicine and the Law: Kenya's Stance' Available from: <https://cipit.strathmore.edu/the-emerging-practice-of-telemedicine-and-the-law-kenyas-stance/>

⁶⁵Still Unaware: The State of Awareness on Data Protection in Kenya, Available from: <https://www.amnestykenya.org/wp-content/uploads/2021/05/State-of-Awareness-Opinion-Poll.pdf>

Act and related reporting mechanisms would ensure greater protection and increased accountability.

3.2.5 Digital Divide

A report by the International Center for Research on Women (ICRW) indicated that with the onset of the COVID pandemic, the digital gender divide had far-reaching ramifications for women in need of health services. That many girls and women in Kenya were unable to utilise the existing digital space for access to tele-counselling and tele-medicine when they most needed them. The lack of access to mobile phones meant difficulty in reporting cases of abuse. For girls and women with access to and use of digital tools, online intimidation and violence presented a real possibility of mental distress, physical harm, and safety concerns.⁶⁶

For many digital health products, the awareness of their existence is limited among professionals and consumers. Professional training, media, and word-of-mouth promotion all play an important role towards achieving an increase in awareness of technology solutions.

Health seeking behaviours are poor especially among young people. This was further exacerbated by COVID and the challenges accessing youth friendly services in some health facilities. There is no evidence that digital health technologies have been used to bridge this gap.

CONCLUSION

In conclusion, it is important to note that:

- a. The overarching legal environment in Kenya creates opportunities to advocate for adoption and utilisation of digital health technologies to achieve universal health coverage. Under the Constitution, health is a fundamental right and as such the government has an obligation to take legislative, policy and other measures, including the setting of standards, to achieve the progressive realisation of the right to health.
- b. Political commitment for use of digital health technologies and for universal health coverage exists. This is evidenced through strategic documents and initiatives, for instance Third Medium Term Plan, UHC pilot, respectively. However, there are documented gaps in implementation which should be an area of concern for all partners.
- c. There is need to further interrogation of the barriers to equitable access to digital health technologies. These include privacy and confidentiality concerns, digital divide, lack of government involvement, lack of information and fragmented laws and policies. Better understanding of these barriers, as well as generation of evidence as to their impact, is critical to designing and adoption of people-centred and responsible systems.

⁶⁶<https://www.icrw.org/technology-digital-transformation-during-covid-19-the-missing-link-in-advancing-gender-equality-in-kenya/>

SUMMARY OF RECOMMENDATIONS

National Government

1. The national government fully implements commitments made under the *Third Medium Term Plan (MTP III) 2018 – 2022*. Noting that *MTP III* ends in 2022, Transform Health Kenya recommends that the unfulfilled commitments are included in the subsequent plan, with clear commitments on implementation, including allocation of resources in order to achieve the goal of UHC.
2. The national government provides information on steps and measures that it has taken to implement digital health commitment contained in MTP III, the total amount of resources allocated and spent, implementation across the two levels of government, institutional and legal reforms undertaken as well as measures taken to ensure implementation in a transparent, accountable and inclusive manner.
3. The National Executive expedites public consultations on the e-Health Bill 2020, and introduce it to Parliament.
4. The Cabinet Secretary Health in consultation with the Director General makes regulations on health technology in compliance with section 112 of the Health Act 2017.
5. The Office of the Data Commissioner fast tracks development of regulations under the Data Protection Act relating to health data, and fast-tracks full enforcement of provisions of the Data Protection Act in relation to health data.
6. The Ministry of Health conducts comprehensive audits of its digital health platforms and programmes on whether they are facilitating realisation of right to health.
7. Both the national and county governments should ensure allocation of sufficient resources to implement digital health programmes contained in policy documents, as well as ensure proper intergovernmental coordination in implementation.
8. Findings of audit(s) of the UHC pilot be made public, and corrective measures be undertaken before expansion or further roll out of the UHC in other counties.

County Governments

1. County governments make deliberate efforts to introduce frameworks for digital health programmes to enhance access to healthcare services.
2. Both national and county governments ensure specific budgetary allocations for digital health in their respective budgets. County governments should particularly prioritise digital health programmes, through specific budgetary allocations, as avenues to accelerate achievement of UHC in counties.
3. Both national and county governments government take deliberate steps to ensure the success of e-health solutions in a properly regulated environment and to ensure the longer term sustainability of effective solutions.
4. Both national and county governments take greater ownership and leadership through initiation, financing and provision of technical support for digital health programmes and steer them towards national and county priorities.

Civil society organisations

1. Civil society organisations monitor implementation of policy commitments on digital health, and undertake measures to hold the government to account.
2. Civil society organisations monitor both government and private sector actions to ensure adoption and use of digital health technologies considers issues of concern to vulnerable, marginalised and criminalised populations, to ensure access to health services for all.



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