



# Adoption of eHealth in Selected African Countries



# Dashboard Slide

## Overview

- This report outlines topline information on eHealth initiatives in selected African countries
- The African continent is experiencing an increasing adoption of eHealth. However, progress can be hampered if the energy, internet and healthcare infrastructures are underdeveloped

## Limitations

- The research for this report is not extensive and only includes noteworthy eHealth initiatives from countries in scope
- Analytical content is based solely on Velametis' analyses, views and forecasting of the eHealth space
- Velametis has the assumption the COVID-19 pandemic will be under control in the selected African countries by 2024 and that these countries will be politically stable for the foreseeable future



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Introduction



African Healthcare and eHealth



Country Profiles



AO



CM



CI



EG



ET



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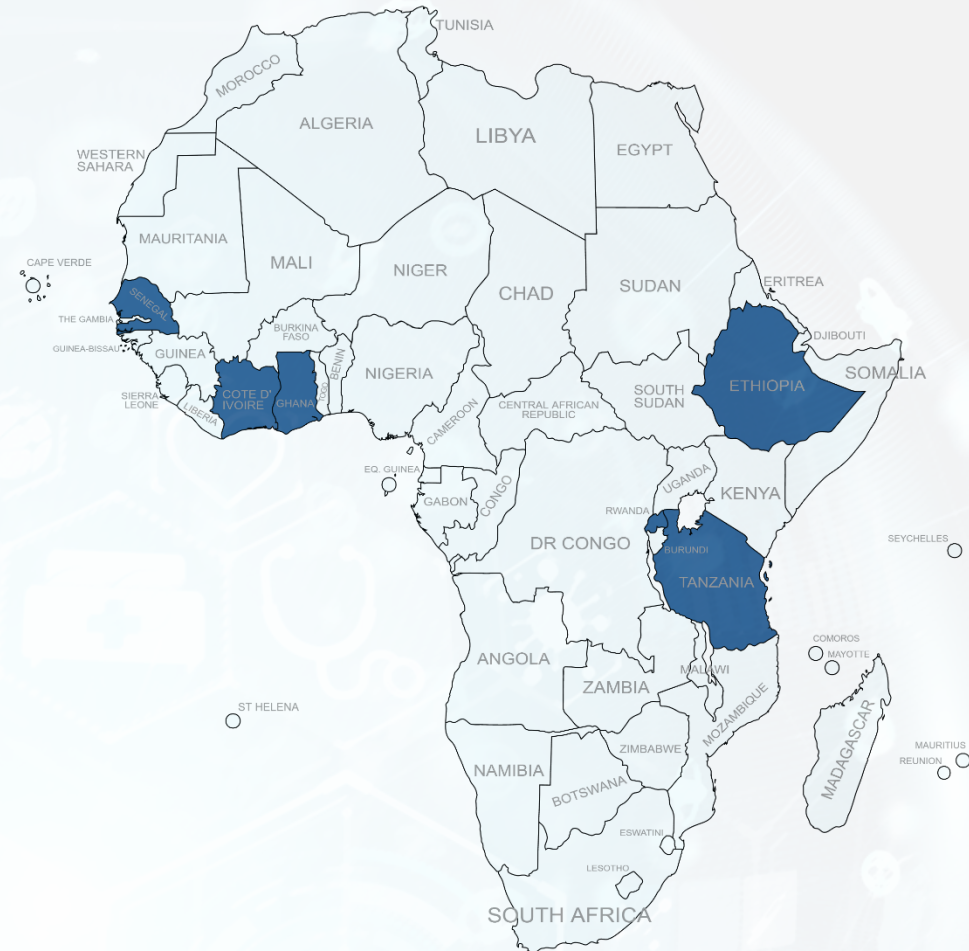
# Introduction

# The African Economy

Six African countries were among the top 15 fastest growing economies before the COVID-19 pandemic

## Fastest Growing Economies (2019)

1. Ethiopia
2. Rwanda
3. Bangladesh
4. India
5. Côte D'Ivoire
6. Cambodia
7. Myanmar
8. Laos
9. Vietnam
10. Tanzania
11. Philippines
12. Senegal
13. China
14. Mongolia
15. Ghana



# 20 years

Median age of Africa's population

# 39.8%

*29.3% in 2016*

Internet penetration in Africa in 2019

# 62.7%

Internet penetration worldwide in 2019

# 46%

*43% in 2016*

Access to electricity in Sub-Saharan Africa in 2019

# 42/54

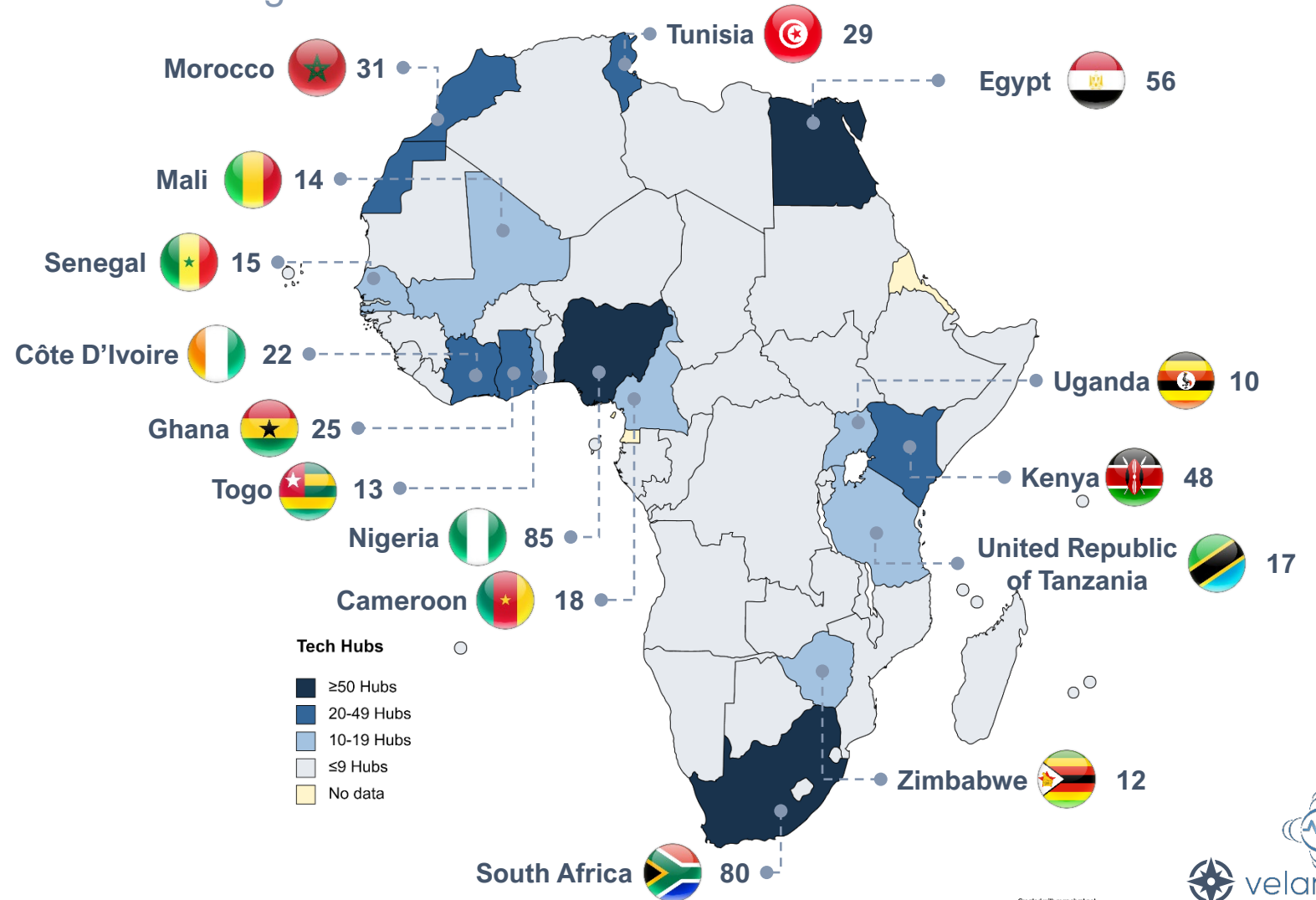
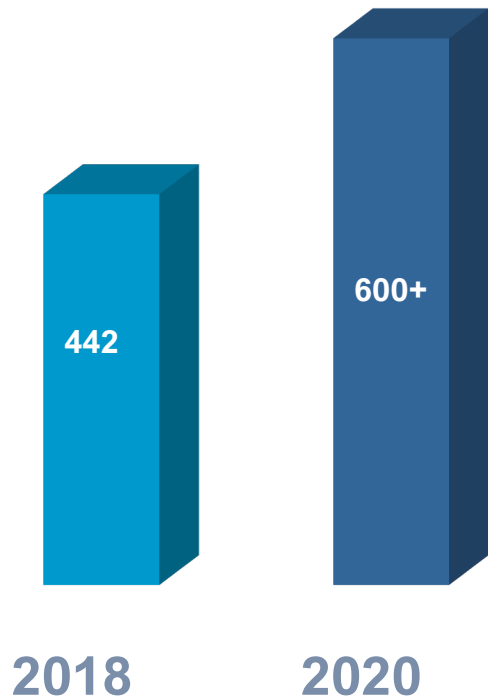
African countries have a national eHealth strategy



# Africa: The Rising Tech Hub Continent

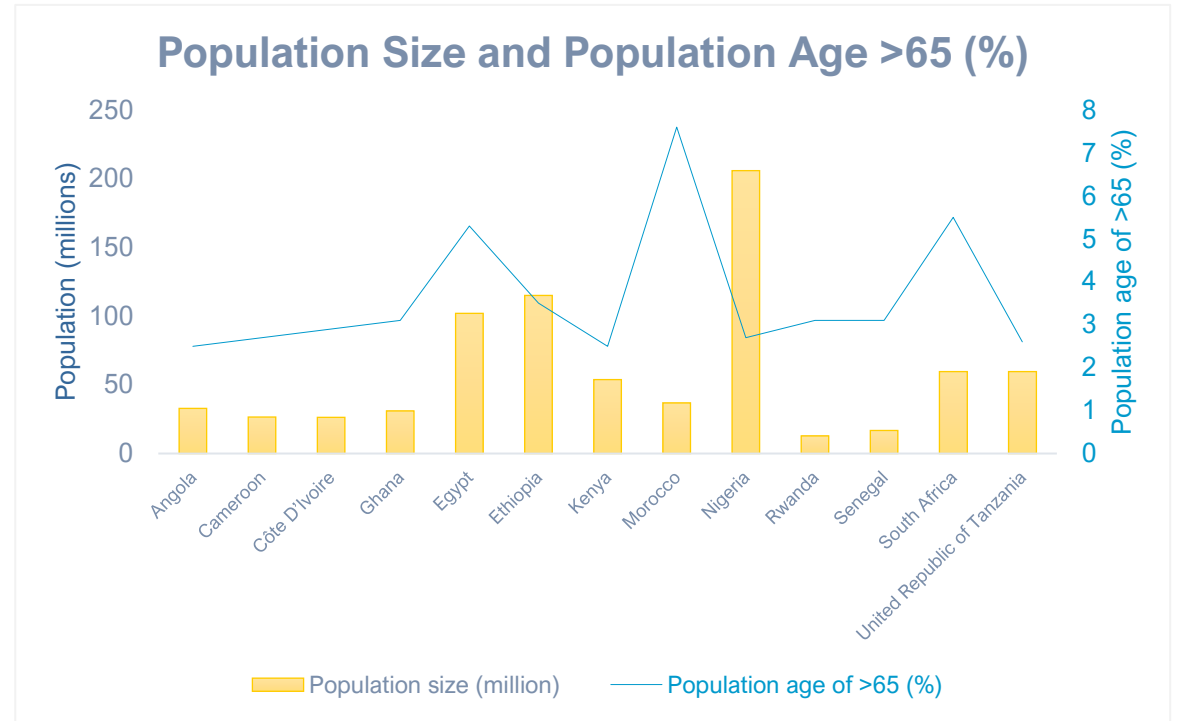
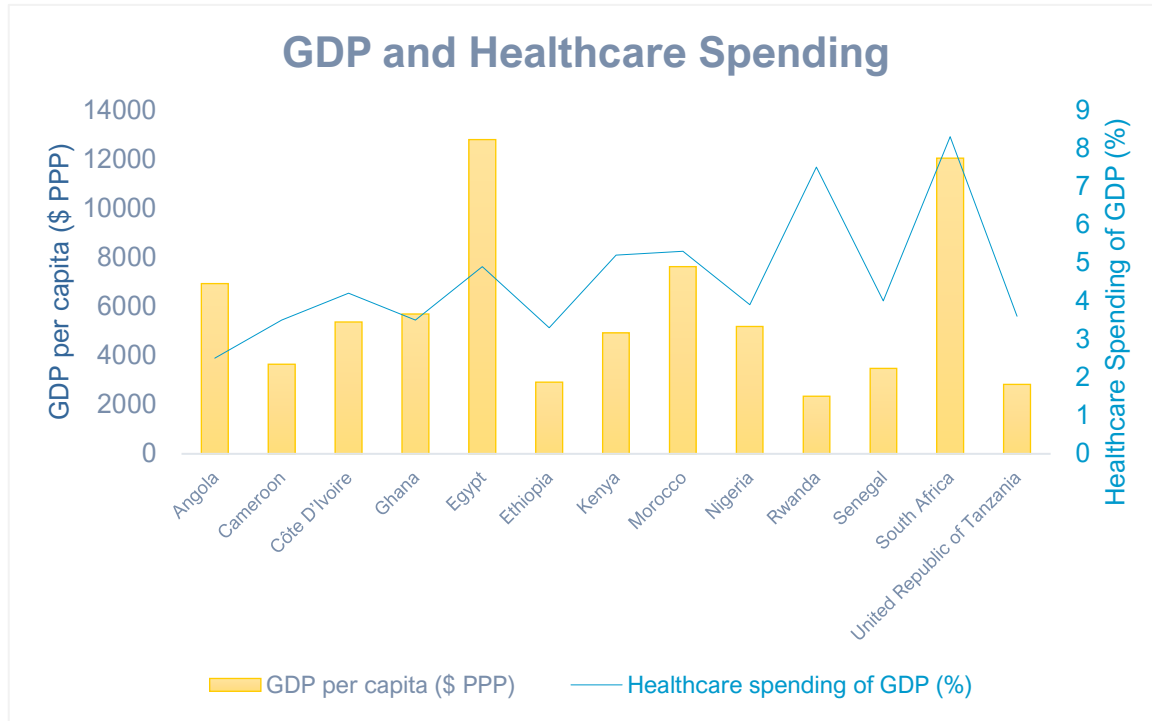
There are 600+ tech hubs across Africa; South Africa, Nigeria and Egypt have the largest number of tech hubs

Number of Tech Hubs in Africa



# African Healthcare and eHealth

# GDP, Healthcare Spending and Demographics in Selected African Countries



- Rwanda and South Africa allocated the highest percentage of GDP to healthcare among the selected countries in 2018

- Egypt, Morocco and South Africa's populations will continue to age at a fast rate; this may result in increased healthcare spending in the coming years

# The African eHealth Situation, Barriers and Potential Solutions


## CURRENT SITUATION OF EHEALTH IN AFRICA

- Several countries are currently in the early stages of development and implementation of an eHealth infrastructure
- Most eHealth initiatives are led by private companies or NGOs, and have a footprint across countries
- A growing number of governments are encouraging and supporting local startups and talent with creating eHealth solutions

## BARRIERS

**1 Underdeveloped eHealth infrastructure** 

**2 Skilled workforce exodus** 

**3 Inconsistent access to internet and electricity** 

## RECOMMENDATIONS

- Create a physical and remote infrastructure to maximise access to healthcare
- Continue to leverage collaborations with private entities to strengthen infrastructure, whilst ensuring government has oversight of the process and retains expertise

- Allocate funds to tech hubs specifically to provide opportunities for undergraduates and young professionals
- Collaborate with HCP (healthcare professional) unions to develop attractive national opportunities that compete with the international appeal

- Leverage international expertise to build an efficient energy infrastructure whilst retaining knowledge
- Create local expertise in the tech and energy industry in order to create an African solution to the African infrastructure crisis

# Country Profiles



# Angola

The country's implementation of eHealth was accelerated by the COVID-19 pandemic through private entities

## Country Profile (2020)



Population size: **32.9 million**



Fertility rate: **5.4**



Population > age of 65 : **2.2%**



GDP per capita (\$ PPP): **6,932**



Healthcare spending: **2.5%** of GDP (2018)

## Noteworthy eHealth initiatives

- Estratégico do Sistema de Informação Sanitária 2010 (Strategic Health Information System 2010) was created in collaboration with the WHO and the EU to develop Angola's Health Information System
- The Angolan Ministry of Health developed the Strategic Health ICT Plan (PESIS) in order to improve services such as, the management of information, epidemiological surveillance, primary healthcare, budget information and private sector performance
- "[Angola 2025](#)" is a long-term strategy designed by the Angolan government to reform many sectors including healthcare. To achieve healthcare system reformation, the National Health Development Plan (PNDS) 2012-2025 was created by MINSA (Ministry of Health of Angola)
- [Appy Saude](#) is a Luanda-based startup, which allows users to source prescription drugs in the Angolan healthcare system stock listing. The purchased drugs can then be picked up from a local store or delivered to the home



# Cameroon

Cameroon is in the process of improving its digital infrastructure to optimise healthcare. International eHealth collaborations are on the rise

## Country Profile (2020)



Population size: **26.5 million**



Fertility rate: **4.4**



Population > age of 65 : **2.7%**



GDP per capita (\$ PPP): **3,646**



Healthcare spending: **3.5%** of GDP (2018)

## Noteworthy eHealth initiatives

- The [National eHealth Strategic Plan 2020-2024](#) (NEHSP) introduces a national framework for the development of digital health services. Its key focus is to increase health promotion, disease prevention, case management, health system strengthening and governance, as well as the strategic management of the health system
- [eHealth-Cameroon](#) is a joint project between various Cameroonian hospitals, BRAIN Global and the University of Virginia. It was created in order to expand medical access to patients with the focus being on neurosurgical pathologies
- Cameroon's eHealth startup [Healthlane](#) raised \$2.4 million in funding for the expansion of its user base, as well as the development of new features for its mobile app. The Healthlane app allows users to book appointments with healthcare providers across Cameroon and Nigeria
- The [E-Sante](#) teleconsultation app was launched in Cameroon in May 2020, with the purpose of improving the national quality of medical care by leveraging digital technologies



# Côte D'Ivoire

The Ivorian Ministry of Health is collaborating with international institutions to optimise delivery of eHealth services

## Country Profile (2020)



Population size: **26.4 million**



Fertility rate: **4.5**



Population > age of 65 : **2.9%**



GDP per capita (\$ PPP): **5,365**



Healthcare spending: **4.2%** of GDP (2018)

## Noteworthy eHealth initiatives

- The [eSanté](#) project integrates ICT into the daily lives of healthcare professionals. This is achieved through the establishment of an infrastructure to improve healthcare centre connectivity, datacentre management, electronic health records and access to the internet
- In September 2020, the Ivorian government launched a [teleconsultation platform](#) with the Alassane Ouattara National Centre for Oncology and Radiotherapy (CNRAO) to support the monitoring of, and engagement with cancer patients
- A digital monitoring platform for acute respiratory infections called [Afya](#) was established in August 2021 to support in controlling the COVID-19 pandemic in Côte D'Ivoire
  - The platform was developed by the National Institute of Public Hygiene (INHP), in collaboration with Pebble analytics and Mitiga Solutions





# Egypt

The Egyptian government is collaborating with private entities to accelerate the implementation of its eHealth infrastructure

## Country Profile (2020)



Population size: **102 million**



Fertility rate: **3.3**



Population > age of 65 : **5.3%**



GDP per capita (\$ PPP): **12,790**



Healthcare spending: **4.9%** of GDP (2018)

## Noteworthy eHealth initiatives

- In 2020, The Egyptian Ministry of Communication and Information Technology began implementing a capacity-building programme for several artificial intelligence projects. Egypt predicts 7.7% of its GDP is to be derived from AI by 2030
- In 2019, the Egyptian government enlisted [British companies](#) to help reform its healthcare system
  - Vodafone was awarded a £100 million project to build Egypt's new Health Insurance IT system
  - Pharma giant GSK will boost local manufacturing hubs in Cairo in order to meet the increasing local demand
- Egypt's [National ICT Strategy 2012-2017](#) aims to support the democratic transition of national services and the sustainable development (including healthcare sector), whilst promoting digital citizenship and strengthening the national economy
- In 2017 "[Your health in a message](#)" was launched in Egypt as a mobile service in collaboration with the WHO. The service was designed to raise awareness about various diseases such as diabetes



# Ethiopia

Ethiopia is implementing eHealth initiatives at the regional level before scaling to national level

## Country Profile (2020)



Population size: **115 million**



Fertility rate: **4.0**



Population > age of 65 : **3.5%**



GDP per capita (\$ PPP): **2,908**



Healthcare spending: **3.3%** of GDP (2018)

## Noteworthy eHealth initiatives

- The [National eHealth strategy of Ethiopia](#) was created to guide and streamline ICT solutions in the healthcare sector. The core of the strategy is the commitment to focus on HCPs, consumers of health and healthcare service managers
- The Federal Ministry of Health and the University of Gondar established the [eHealthLab Ethiopia](#) to develop, evaluate and support implementation of innovative information technologies in the health sector
- [LUCY](#) is a free and anonymous mobile SMS and voice messaging service designed for pregnant women and new mothers, who are interested in receiving useful information about pregnancy and caring for their newborns

The recently declared 6-month state of emergency may impact implementation of short- and long-term eHealth initiatives.



# Ghana

The Ghanaian government is encouraging its private startups to create digital solutions, and is also open to collaborations with Big Pharma

## Country Profile (2020)



Population size: **31 million**



Fertility rate: **3.8**



Population > age of 65 : **3.1%**



GDP per capita (\$ PPP): **5,693**



Healthcare spending: **3.5%** of GDP (2018)

## Noteworthy eHealth initiatives

- Ghana's [eHealth Strategy 2010](#) aims to leverage information, facilitate data exchange and decision-making in the clinical practice in order to improve the health status in Ghana
- In 2020, the COVID-19 pandemic [accelerated Ghana's eHealth adoption](#) of services to increase access to care through the use of tech
  - Private sector MedTech companies such as mPharma, Talamus Health, Redbird and Zipline are leading Ghana's eHealth initiatives
- In 2016, the Ministry of Health, Ghana Health Service and [Novartis Foundation](#) began setting up tele-consultation centres across the country. These were established based on the positive outcomes from a 2011 pilot programme in the Ashanti region
- The [Ghana Digital Health Dashboard](#) contains all of the main eHealth initiatives, case studies and stakeholders being targeted



# Kenya

The Kenyan government seeks to create a healthcare ecosystem by connecting treatment centres via the TIBU programme

## Country Profile (2020)



Population size: **53.7 million**



Fertility rate: **3.4**



Population > age of 65 : **2.5%**



GDP per capita (\$ PPP): **4,926**



Healthcare spending: **5.2%** of GDP (2018)

## Noteworthy eHealth initiatives

- Kenya created its [eHealth Strategy 2011-2017](#) which was updated in 2016 to the Kenya National [eHealth Policy 2016-2030](#). Its focus being, to develop healthcare services enabled by ICT. Strategic areas of implementation included telemedicine, health information systems, information for citizens, mHealth and E-learning
- [TIBU](#) is a National Digital Health System that integrates the ministerial facilities and administrative offices with National Health Information System (DHIS/2) in order to provide real-time data on patients, drug availability and outcomes
- [Kenya Health Informatics Association \(KeHIA\)](#) is a society created to promote the development and practice of biomedical informatics in Kenya
  - KeHIA is comprised of a multidisciplinary team of professionals in healthcare, IT, computer science and public health, which is developed to strengthen health partnerships between the public and private sectors



# Morocco

Morocco's digital infrastructure is in the process of being established, causing a delay in the execution of its strategic eHealth plans

## Country Profile (2020)



Population size: **36.9 million**



Fertility rate: **2.4**



Population > age of 65 : **7.6%**



GDP per capita (\$ PPP): **7,620**



Healthcare spending: **5.3%** of GDP (2018)

## Noteworthy eHealth initiatives

- The [e-Morocco 2010](#) strategy was created in 1997, comprising 180 projects with a budget of €0.22 billion between 2006 and 2010
- The [Digital Morocco 2013](#) strategy was created to support national companies' integration of digital technologies across public and private sectors. The ultimate goal was to improve the economy and health services
- The Moroccan government has had plans to implement [electronic health records](#) in its health system, however it has struggled due to limited infrastructure and access to technical equipment
- The Moroccan Society for Telemedicine and eHealth (MSfTeH) was created in 2011, for the improvement of health outcomes nationwide by encouraging adoption of innovative solutions



# Nigeria

The Nigerian government initially regionalised some eHealth initiatives, and is now in the process of nationalising those with successful outcomes

## Country Profile (2020)



Population size: **206 million**



Fertility rate: **5.2**



Population > age of 65 : **2.7%**



GDP per capita (\$ PPP): **5,187**



Healthcare spending: **3.9%** of GDP (2018)

## Noteworthy eHealth initiatives

- The Nigerian government developed the [National Health ICT Strategic Framework 2015-2020](#), which included several public organisations that supported in its implementation
  - The framework was designed to improve information exchange, develop the health infrastructure, equipment as well as education policies
- The National Primary Health Care Development Agency partnered with [eHealth Africa](#) to improve the decision-making process in health treatment driven by data
- [Kano Connect project](#) was created by eHealth Africa in collaboration with the KSPHCMB, as well as the Gates and Dangote Foundations. Its purpose was to improve information flow within the Kano state's healthcare system via smartphones
- During the COVID-19 pandemic, the Nigerian Institute of Medical Research collaborated with [LifeBank](#), a blood delivery eHealth startup, to develop rapid testing kits and to create a shared database designed to track available medical equipment



# Rwanda

The Rwandan digital strategy is expected to support in the country's economic transition. eHealth initiatives are centred around data gathering and analysis

## Country Profile (2020)



Population size: **12.9 million**



Fertility rate: **3.9**



Population > age of 65 : **3.1%**



GDP per capita (\$ PPP): **2,337**



Healthcare spending: **7.5%** of GDP (2018)

## Noteworthy eHealth initiatives

- The [Rwanda Health Sector Strategic Plan 2012-2018](#) was created to transition Rwanda to a lower-middle-country by 2020, by complementing the [RWANDA VISION 2020](#) initiative
  - The plan aimed to improve accessibility to health services, quality of health provision and healthcare infrastructure
- [Health Management Information System \(Rwanda HMIS\)](#) was created to strengthen and coordinate Rwanda's health information system. The Ministry of Health centralised data gathering and analysis from the country's health services
- [RapidSMS](#) is a UNICEF-sponsored mobile technology tool designed to save lives by tracking pregnant women, newborns and children in 15,000 villages (initiative is already active in Rwanda, Uganda, Malawi and Tanzania)
- [M4Reproductive Health](#), also known as M4RH, is a scheme created to answer teenagers' queries about sexual reproductive health via a mobile application



# Senegal

Several programmes are being implemented to digitise healthcare in Senegal

## Country Profile (2020)



Population size: **16.7 million**



Fertility rate: **4.5**



Population > age of 65 : **3.1%**



GDP per capita (\$ PPP): **3,478**



Healthcare spending: **4.0%** of GDP (2018)

## Noteworthy eHealth initiatives

- [SN2025](#) was created in 2016 to leverage technologies such as IoT, Big Data analysis tools and AI with the intention of improving several sectors including healthcare. The “Action 741: Operationalisation of the digital health strategy” plan was allocated XOF 35,000 million (~\$60 million) for its development
- [Senegal Digital Health Strategy Plan 2018-2023](#) was introduced with the purpose of accelerating the adoption of ICT for the improvement of the national health coverage and governance
- The Ministry of Health and Social Action announced the [DigiSanté](#) programme in 2021. It was created to digitise the practices and processes of care, patient pathways, data collection as well as reporting
- The Ministry of Health and Social Action created the Health and Social Map Unit, Digital Health, as well as the Health Observatory (CSSDOS), in order to address the eHealth implementation in Senegal





# South Africa

South Africa is collaborating with the private sector to achieve the goals outlined in its eHealth strategy plans

## Country Profile (2020)



Population size: **59.6 million**



Fertility rate: **2.4**



Population > age of 65 : **5.5%**



GDP per capita (\$ PPP): **12,032**



Healthcare spending: **8.3%** of GDP (2018)

## Noteworthy eHealth initiatives

- The [South Africa National eHealth Strategy 2012-2016](#) was created as an integral part of the transformation of healthcare services in South Africa, as well as to support the [Negotiated Service Delivery Agreement 2010-2014](#) initiative
- The [South African Health Informatics Association \(SAHIA\)](#) was created to promote the professional application of health informatics in South Africa
- [MomConnect](#) is a mHealth initiative designed to register all pregnant women in the public health system
- [B-wise](#) is a mHealth portal for young South Africans, which provides health information on relevant topics and allows information sharing with the National Department of Health

# United Republic of Tanzania

The Tanzanian government has developed several programmes to address supply of essential pharmaceuticals, and to provide healthcare to rural areas



## Country Profile (2020)



Population size: **59.7 million**



Fertility rate: **4.8**



Population > age of 65 : **2.6%**



GDP per capita (\$ PPP): **2,821**



Healthcare spending: **3.6%** of GDP (2018)

## Noteworthy eHealth initiatives

- [Tanzania National eHealth Strategy 2013-2018](#) was designed to facilitate a high quality health system which would be safe, equitable, efficient and sustainable. This was accomplished by utilising eHealth to enhance planning, management as well as the delivery of health services
- A [District Health Information System](#) was created in Tanzania to support in the treatment of tuberculosis, HIV/AIDS and malaria via national programmes developed to tackle these disease
- The [Human Resource for Health, Health Information Software](#) is used for data collection, reporting, storage and analysis
- The [Electronic Logistics Management Information System \(eLMIS\)](#) was rolled out nationally across all districts, with the purpose of automating data for health logistics management. Doing so ensured adequate quantities of high quality health products would be available
- The [ILSGateway](#) is an eHealth solution introduced in 4,616 health facilities across Tanzania. Its purpose being to track 20 essential medicines to prevent stockout
- [RapidSMS](#) is a UNICEF-sponsored mobile technology tool designed to save lives by tracking pregnant women, newborns and children in 15,000 villages (the initiative is active in Rwanda, Uganda, Malawi and Tanzania)



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