Rwanda

Pardeep Gill, MD

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Rwanda Country Report

Figure 1: Flag of Rwanda.[1]

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General Country Profile

Geography and Population

Rwanda, officially the Republic of Rwanda, is a small, landlocked country in Central Africa. It spans a total area of 26,338 km^2, consisting of 24,668 km^2 of land and 1,670 km^2 of water.[1] For comparison, it is slightly smaller than the U.S. state of Maryland. It shares borders with Burundi, the Democratic Republic of the Congo (DRC), Tanzania, and Uganda, with 930 km of land boundaries.[1] Rwanda is part of the East African Community intergovernmental organization along with Burundi, the DRC, Kenya, Somalia, South Sudan, Uganda, and Tanzania.[2]

Figure 2: Locator map of Rwanda .[1]

Figure 3: Rwanda map showing major population centers.[1]

Rwanda is situated on the eastern edge of the Great Rift Valley, contributing to its unique and varied geography. Known as the "Land of a Thousand Hills," Rwanda's landscape is dominated by hilly terrain and mountainous regions. The Virunga Mountain range spans the border regions of Rwanda, Uganda, and the DRC. Rwanda's Volcanoes National Park in the country's northwestern part encompasses five of the eight volcanoes in the Virunga Mountains, including Mount Karisimbi, the highest point in Rwanda. The national park shelters the endangered mountain gorilla and golden monkey. While the western terrain is predominantly mountainous, the central parts feature rolling hills, and the eastern landscape is characterized by a savanna exhibiting a variety of wildlife, including lions, elephants, and giraffes. The country is also home to several lakes, the largest of which by far is Lake Kivu, a large freshwater lake on Rwanda's western border with the DRC. It is one of the African Great Lakes and is an essential resource for local communities.[3]

Though Rwanda is just 2 degrees south of the equator, it has a relatively temperate climate due to its elevation. The mean annual temperature for Rwanda is 19.1℃, with average monthly temperatures ranging from 19.5°C in September to 18.5℃ in July. A long rainy season lasts from March to May, and a short rainy season from September to November. These rainy seasons alternate with dry seasons, with a mean annual precipitation of 1,170.2 mm.[4]

The United Nations Human Development Index (HDI) score, a composite statistic of life expectancy, education, and income indices, is 0.548. This falls in the low human development classification and ranks Rwanda 161st globally. However, since 1995, Rwanda's HDI has increased significantly from 0.279 to 0.548, a change of 96.4%.[5]

Rwanda is one of the most densely populated countries in Africa. The population is estimated to be 13,954,471 (2023) and is ranked 76th globally.[6] The average annual percentage change in the population is 1.62% (2024), ranking Rwanda 58th in the world for population growth rate.[1] 82% of the population lives in rural areas, while 18% lives in urban areas.[7]

Statistic	Numerical Value	World Rank
Total Population[6]	13,954,471	76
Annual Population Growth Rate[1]	1.62%	58
Population in Rural Areas[7]	82%	6
United Nations HDI Score[5]	0.548	161

Table 1: Rwanda Statistics and Corresponding World Rank.

The population pyramid below shows the distribution of the population according to age and sex. 37.2% of the population is in the 0-14 age range, 59.7% is 15-64, and 3.1% is 65 or older.[1] The median age of the population is 20.8 years, placing Rwanda among the countries with the youngest populations globally.[1]

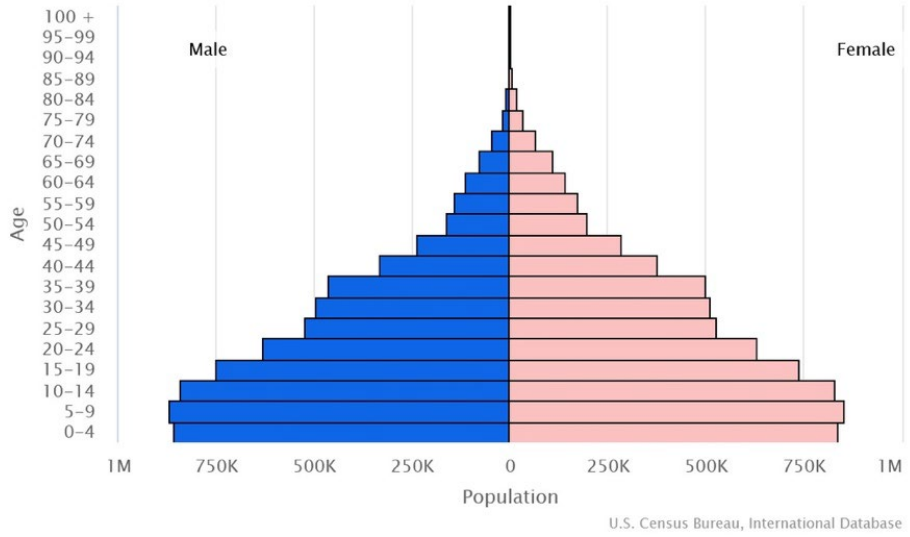

Figure 4: Population distribution pyramid for Rwanda.[A1]

History and Culture

The primary ethnic groups in Rwanda are the Hutu and Tutsi, who account for 85% and 14% of the population, respectively. The Twa constitute less than 1% of the population.[8] About two-fifths of the population is Roman Catholic, one-third is Protestant, and one-tenth is Adventist. Muslims, the nonreligious, and other groups collectively represent less than one-tenth of the population.[3] Rwanda has four official languages: Kinyarwanda, English, French, and Swahili (Kiswahili). Kinyarwanda, a Bantu language, is spoken by most of the population (93.2%), while a small fraction speak English, French, and Swahili.[1]

Rwanda has a rich cultural heritage with strong traditions rooted in the daily life of its people. *Umuganda*, translated from Kinyarwanda as "coming together in common purpose to achieve an outcome," takes place on the last Saturday of every month. Rwandans come together to work for the good of their neighbourhoods through projects such as tree planting, garbage cleanup, and building houses for those in need. *Imigondo* is a Rwandan art form made using cow dung, usually dominated by black, brown, white, and red whirls and other geometric shapes. Weaving, basketry, and pottery remain important traditional crafts. Music and dance play a central role, such as the *Intore* dance, which is performed wearing grass wigs and clutching spears in a celebration of bravery and heroism. Family and community bonds are highly valued, and traditional ceremonies such as weddings and rites of passage are important social events.[9]

Rwanda's colonial and post-colonial history has significantly impacted its social, political, and economic development, shaping much of the nation's modern identity. Before colonial rule, Rwanda was organized as a centralized kingdom with a well-established monarchy led by the Tutsi king, or *Mwami*. The society was structured around a hierarchical system, with Tutsis as cattle herders and the Hutus as agriculturalists. However, social mobility was possible between the groups. The Hutu and Tutsi shared a common language and culture, with intermarriage being widespread. The kingdom persisted until the late 19th century when Germany first colonized Rwanda as part of German East Africa. Under German rule, the existing hierarchy remained intact: German authorities strengthened the Tutsi monarchy, reinforcing social divisions between the Tutsi, Hutu, and Twa groups.[3,8]

After World War I, Belgium was granted a League of Nations mandate to govern the territory of Ruanda-Urundi (present-day Rwanda and Burundi). The Belgians implemented policies that exacerbated ethnic divisions, introducing identity cards that categorized people by ethnicity and favouring the minority Tutsi. This period saw a rise in nationalist movements among the Hutu, pushing for more equitable representation and power. In 1959, a violent incident sparked a Hutu uprising that led to the deaths of hundreds of Tutsis and a large-scale migration of Tutsis to neighbouring countries. This marked the beginning of the 'Hutu Peasant

Revolution' or 'Social Revolution,' which lasted until 1961. The monarchy was abolished by 1962, and a republic was formed with Gregoire Kayibanda as the president.[3,8]

In the following decades, Rwanda's political scene remained volatile, primarily driven by ethnic division and competition for power between the Hutu and Tutsi. Juvenal Habyarimana, the Army Chief of Staff, seized power in a coup in 1973 with increasing discrimination against Tutsis under his rule. In 1990, the Rwandan Patriotic Front (RPF), made up of largely Tutsi exiles, invaded Rwanda, marking the start of the Rwandan Civil War. The shooting down of Habyarimana's private jet in 1994 sparked a horrific state-orchestrated genocide. In a period of about 100 days, nearly 1,000,000 Rwandans, primarily Tutsis but also a significant number of Hutus, were killed. In addition, an estimated 100,000 to 250,000 women were raped during this period. The genocide ended later that same year when the RPF defeated the national army and Hutu militias and established an RPF-led government. Following the genocide, Rwanda remained one of the poorest countries in the world, and until 1997, it had the lowest life expectancy of any country. The aftermath of the genocide was a period of national rebuilding, which included efforts to promote unity and reconciliation among the divided population.[3,8]

Government and Legal System

Rwanda is a multiparty republic. The head of state is President Paul Kagame (since April 2000), and the head of government is Prime Minister Edouard Ngirente (since August 2017). The president is directly elected by a simple majority popular vote for 5-year terms, while the prime minister is appointed by the president. At the time of writing, the next election will be held on 15 July 2029.[1] The major parties include the Rwandan Patriotic Front, the Social Democratic Party, and the Liberal Party.[3]

Under Rwanda's constitution, all citizens 18 years and older are eligible to vote. Women are deeply involved in Rwandan politics, with at least 30 parliament seats being constitutionally reserved for women. Notably, Rwanda had the world's first female-majority legislative body, with 55% of deputies being female following the 2008 elections.[3]

Following independence, the country was divided into 10–12 prefectures, but in 2006, the country was reorganized into four provinces (North, East, South, and West) and one city (Kigali), each headed by a governor. This was done as an effort to improve local governance and create multiethnic regions.[3] As per the Worldwide Governance Indicators, Rwanda ranks highly in categories such as government effectiveness and control of corruption.[10]

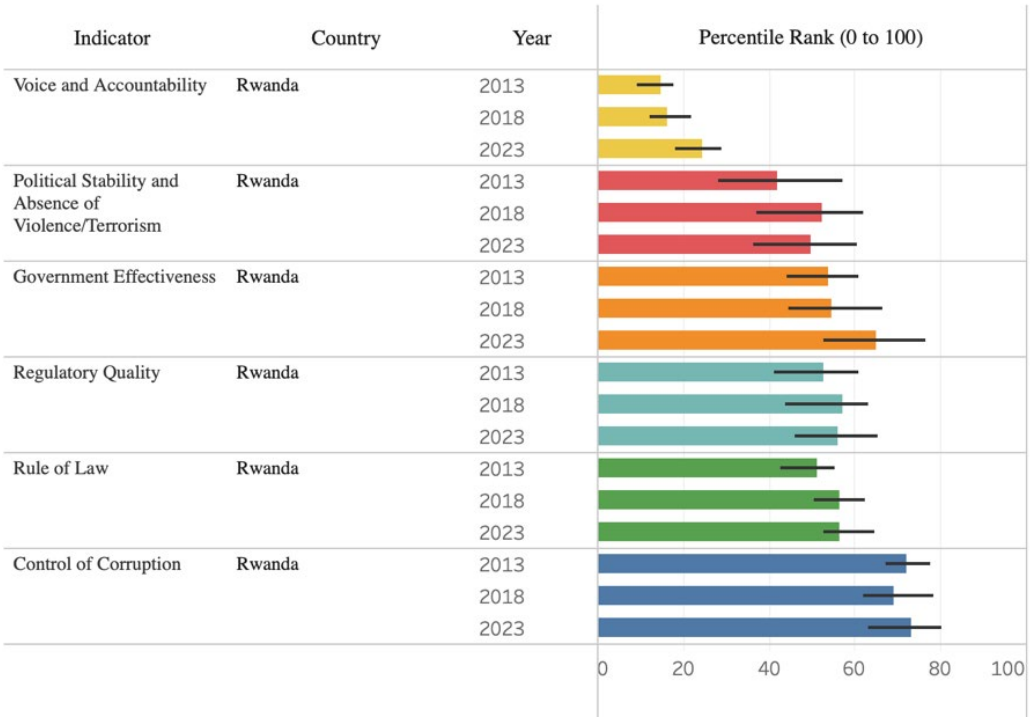

Figure 5: Worldwide Governance Indicators - Rwanda.[10]

The legislative branch is a bicameral parliament composed of two chambers: the Senate (26 seats) and the Chamber of Deputies (80 seats). The Senate is formed through a mix of appointments and elections. Twelve senators are elected by local government bodies, two are elected from among university lecturers and researchers, eight are selected by the president, and four are selected by a regulatory body. Most deputies are elected through direct voting and others through proportional representation, ensuring a diverse political representation.[3]

The judiciary is independent and is based on German and Belgian civil law systems and customary law.[3] The highest courts include the Supreme Court (consisting of the chief and deputy chief justices, and five judges) and the High Court of the Republic (consisting of the court president, vice president, and a minimum of 24 judges). These courts are responsible for interpreting the constitution and overseeing the legal system.[1] Lower courts include provincial courts, district courts, and municipal and town courts.[3]

Economy and Employment

Rwanda's economy has experienced significant growth in recent years. Major industries include cement, agricultural products, beverages, soap, furniture, shoes, plastic goods, textiles, and cigarettes.[1] Currently, Rwanda's Gross National Income (GNI) is $13.8 billion USD, with a GNI per capita of $990. This ranks them 172nd globally and classifies Rwanda as a low-income

country.[7] As of 2023, Rwanda has a labour force of 5.283 million with an unemployment rate of 14.93% and a consumer price-based inflation rate of 19.79%, giving them a global ranking of 189th and 197th, respectively.[1]

Rwanda is highly dependent on foreign aid, receiving $1.33 billion in 2021, accounting for 12.3% of the GNI. Rwanda has one of the highest donor aid per capita in the region at $99 per capita in 2021.[7] Major donors include the International Development Association, the International Monetary Fund, the Global Fund, the African Development Fund, the U.S.A., Germany, Japan, and France.[11]

Physical and Technological Infrastructure

Rwanda has seen significant progress in communication technology, with widespread use of cellular phones and access to the internet. There are approximately 11 million mobile cellular subscriptions, about 80 per 100 inhabitants, and an estimated 3.9 million internet users, equalling 30% of the population.[1]

As of 2023, 61% of the population has electricity access, including 47% via the grid and 14% via off-grid systems.[12] 98% of those living in urban areas and 38% in rural areas have electricity.[1] Most electricity is generated via hydroelectric or fossil fuels (52.5 % and 45.5% of total installed capacity, respectively).[1] 85% of health facilities in Rwanda are connected to the grid, including all secondary and tertiary health centers, all of which have battery backups. 74% of health posts are also connected to the grid. About a third of the off-grid health posts are powered by solar PV systems. 72% of health facilities have basic water services.[12]

Rwanda's road density is steadily improving. There are an estimated 7,797 km of roadways, of which 34% are paved.[1] There are also eight airports as of 2024.[1]

National Health Care Sector Review

National Health Care Profile

Rwanda has made remarkable strides in improving the health and well-being of its population. Life expectancy at birth is 67.5 years (2021), a significant increase from 46.9 years in 2000.[6] This progress has been attributed to various factors, including improvements in health facilities, immunization coverage, drinking water, and housing.

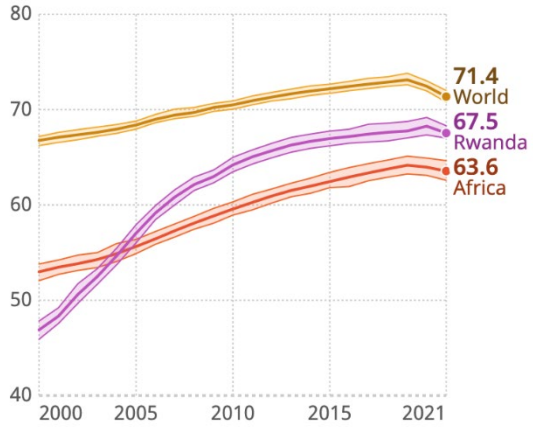

Figure 6: Life expectancy at birth - Rwanda/Africa/World, 2000-2021.[6]

The rate of new HIV infections (per 1000) has decreased significantly, from 4.5 in 1990 to 0.24 in 2023.[6] Rwanda's national antiretroviral therapy (ART) coverage is 92.4%, one of the highest in the region.[13] Current tuberculosis (TB) incidence is 55/100 000 people, a decrease from 96/100 000 people in 2000.[6] Successful treatment of TB has increased from 58% in 2003 to 87% in 2022.[13] Malaria incidence (per 1000 population at risk) has improved from 185.1 in 2000 to 84.8 in 2022.[6] The maternal mortality ratio (deaths per 100 000 live births) has improved from 952 in 1985 to 259 in 2020.[6] The neonatal mortality rate (per 1000 live births) has improved from 47 in 1985 to 17 in 2022.[6] Over 97% of infants are vaccinated against ten different diseases (diphtheria, tetanus, pertussis, hepatitis B, Haemophilus influenzae B, polio, measles, rubella, pneumococcus, and rotavirus).[14]

Despite these various achievements, several health challenges persist in Rwanda. One significant issue is malnutrition, with 29.8% of children under five experiencing growth restriction.[6] Additional challenges include the rising incidence of non-communicable diseases (NCDs) due to an aging population, alongside the financial sustainability of healthcare services. As of 2021, 50.3% of deaths are due to noncommunicable diseases, whereas 38.9% of deaths are due to communicable, maternal, perinatal, and nutritional conditions. 9.3% of deaths are

due to traumatic injuries.[6] Stroke is the leading cause of death (54.5 deaths per 100,000 population), followed by lower respiratory infections, liver cirrhosis, preterm birth complications, malaria, and ischaemic heart disease (see Figure 7).[15]

Disability-adjusted life year (DALY) rates provide a summary measure indicating the burden of disease. One DALY is equivalent to the loss of one year of full health due to premature mortality or disability. In Rwanda, DALYs from communicable diseases like HIV/AIDS and diarrhoeal diseases have decreased by more than 50% since 2000. However, DALYs resulting from non-communicable diseases such as Alzheimer's disease and diabetes have more than doubled in the same timeframe. The leading causes of DALYs remain lower respiratory infections, preterm birth complications, diarrhoeal diseases, and malaria (see Figure 8).[15]

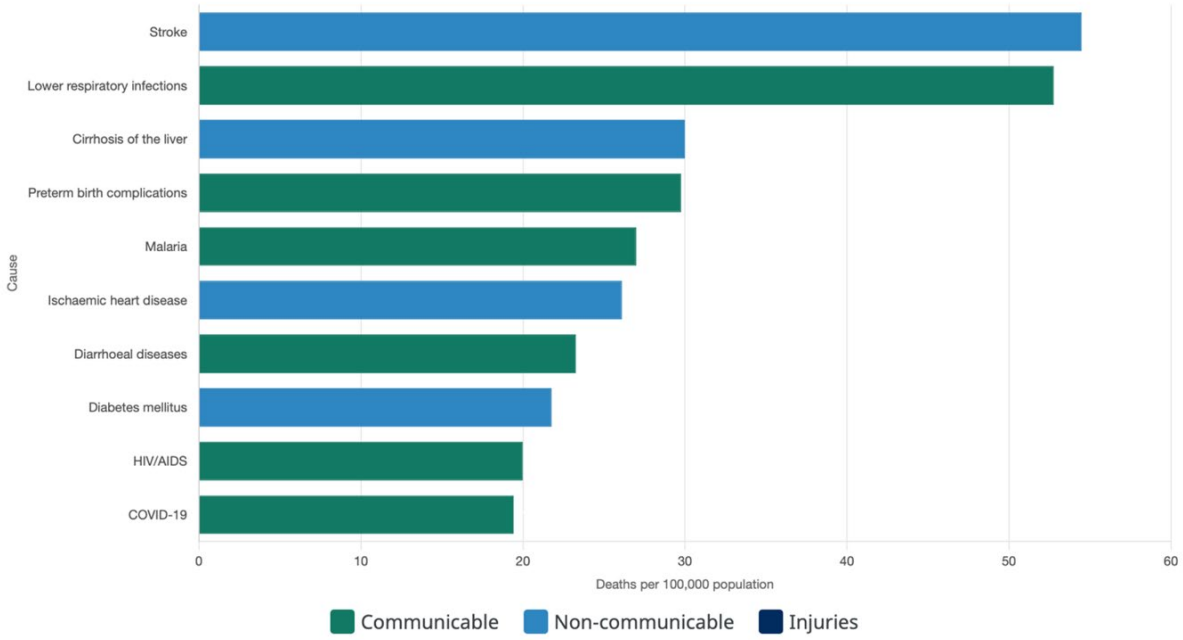

Figure 7: Top 10 Causes of Death, Rwanda, 2021, All ages.[15]

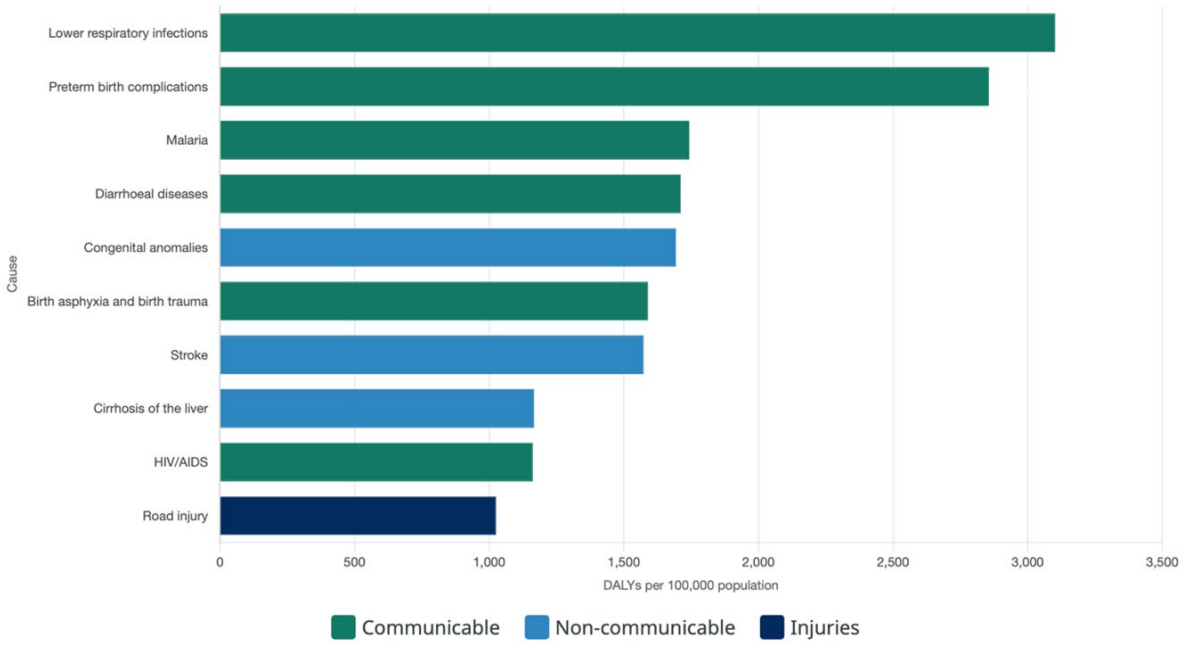

Figure 8: Top 10 Causes of DALYs, Rwanda, 2021, All ages.[15]

National Health Care Structure

The healthcare system of Rwanda was devastated by the 1994 genocide, during which the country suffered both the tragic loss of life and the destruction of infrastructure and supply chains. Since then, Rwanda has been working to rebuild its healthcare system and is now recognized as having one of the best healthcare systems in the region.

In Rwanda, healthcare services are delivered via the public sector, government-assisted health facilities (GAHFs), private health facilities, and traditional healers.[16] The public system is comprised of 1280 health posts, 520 health centers, 57 district hospitals, and five national referral hospitals.[17] The private sector consists of general hospitals, specialized clinics, dental clinics, and dispensaries.[17] District health offices operate autonomously and are responsible for the health facilities and services in that region, including public and private care.[16] As of 2021, domestic health expenditure was 9.5% of general government expenditure, a significant increase from 3.5 % in 2000.[6]

Community-based healthcare has played a vital role in Rwanda's success by enabling the decentralization of services that are more aligned with the needs of the public. This approach has also enhanced access to care in rural areas and contributed to reducing disparities in health outcomes. Thousands of community health workers operate at the village level in clinics equipped with essential supplies and medicines. There is a hospital within each of Rwanda's 30 districts, all with a minimum of 15 doctors and basic surgical services.[18] Those who require more

advanced care are sent to referral hospitals. The referral hospitals are University Teaching Hospital of Butare, University Teaching Hospital of Kigali, King Faisal Hospital, Rwanda Military Hospital, and Ndera Neuropsychiatric Teaching Hospital.[19] As of 2023, there are a total of 21,364 beds in the public health system.[20]

The community-based health insurance (CBHI) policy, also known as mutuelle de santé, pools resources at the district level and has significantly reduced financial barriers to accessing healthcare. Established in 2010, it provides coverage to over 90% of Rwanda's population.[21] By 2030, Rwanda aims to achieve 100% universal health coverage.[22] 55% of the CBHI system is paid through premium payments made by the population, while 21% is covered by the government and 11% by donors.[21] Premiums are based on household income and assets. The government subsidizes 100% of premiums for the poorest households, comprising about 25% of the population. Most households pay an annual premium of 3,000 Rwandan Francs (RWF), equaling $2.68 USD, while the wealthiest households pay RWF 7,000 ($6.24 USD) annually.[22] CBHI has proven to be a success in Rwanda, significantly increasing healthcare usage and encouraging preventative care. For example, as the cost of giving birth at a health center fell from $25 to $0.33, the percentage of women choosing this option rose from 20% to 70%, significantly contributing to the decrease in maternal and infant mortality rates.[18] Referral hospitals in Rwanda accept CBHI, enabling access to specialized treatment for those who need it.[21]

From 2017 WHO data, all ten essential noncommunicable disease medicines (aspirins, statins, angiotensin-converting enzyme inhibitors, thiazide diuretics, long-acting calcium channel blockers, beta-blockers, insulin, metformin, bronchodilators, and steroid inhalants) are reported as "generally available" in Rwanda. In terms of essential noncommunicable disease technologies (blood pressure measurement devices, weighing scales, height measuring equipment, blood sugar and blood cholesterol measurement devices with strips, and urine strips for albumin assay), five out of six are "generally available."[23]

Rwanda's healthcare system faces a number of significant challenges that impact the delivery of quality care, including a significant shortage of healthcare professionals, with just 10.5 doctors, nurses, and midwives per 10,000 population. This includes 1.16 medical doctors per 10,000 population, 9.33 nursing and midwifery personnel per 10,000 population, and 0.71 pharmacists per 10,000 population.[6] This places Rwanda well below the critical minimum of 44.5 doctors, nurses, and midwives per 10,000 people recommended by the WHO.[24]

Health centers are predominately staffed by nurses, where about 85% of the population receives care. District hospitals are primarily staffed by general practitioners who have finished medical school but have not completed post-graduate education. About 80% of general surgery and obstetrical procedures are performed at district hospitals. The Community Health Worker (CHW) Program was established in 1995, and the country expanded from having 12,000 CHWs

to over 45,000. Each village has three CHWs: two general CHWs who offer community health, nutrition, and HIV services and one maternal health worker who specializes in infant and maternity care. CHWs are elected by communities and undergo a minimum of 6 years of training.[24]

In 2012, the 'Human Resources for Health (HRH)' program was established, through which several United States institutions send faculty to Rwanda annually to mentor health professionals and teach medical and nursing students. The HRH Program succeeded in expanding Rwanda's health workforce, particularly excelling in enhancing the qualifications of nurses and increasing the number of physician specialists. From 2011 to 2018, the number of specialist physicians increased from 150 to 567, though the availability of specialists varies considerably from district to district.[24]

National Radiology Profile

Radiology Workforce and Training

Medical imaging in Rwanda faces several challenges, including a significant shortage of radiology professionals. As of 2015, Rwanda had just 11 practicing radiologists and 118 technologists. Outside the capital of Kigali, radiographic interpretation is performed predominantly by general practitioners.[25]

The first radiology residency program in Rwanda was created through a collaboration between multiple U.S. institutions, the Rwandan Ministry of Health, the University of Rwanda, and the Rwandan Radiological Society, with support from the Human Resources for Health (HRH) grant. The curriculum was written by American radiologist Dr. David Rosman in collaboration with local radiologists and emphasizes X-ray and ultrasound imaging, but also covers more advanced imaging. The program is based at the University Teaching Hospital of Kigali or Centre Hospitalier Universitaire de Kigali (CHUK), the largest referral hospital in the country.[26] According to Dr. David Rosman (Deputy Chief of Radiology, Mass General Brigham, MA, U.S.A.; personal communication, 2025 Feb), the residency program began in the fall of 2016 with a training length of four years and an initial class of four residents. Of the four residents from the first class, three graduated and have remained in Rwanda. Since then, a further four residents have graduated from the program and remained in Rwanda. In addition, there are currently 10 residents in training, and an additional five are being recruited for the next class.

Massachusetts General Hospital (MGH), a quaternary-care academic hospital in Boston, Massachusetts, United States, has developed a longitudinal relationship with the radiology department and residency program at CHUK.[27] Through the Rwanda Global Medicine elective, senior radiology trainees from MGH travel to Kigali alongside a faculty member to provide ongoing lectures and read cases with local staff and residents. The Rwandan Resident Externship allows residents from Rwanda to work at MGH for 3-6 months to gain advanced radiology training. The program began in 2019 and, following an interruption due to the COVID-19 pandemic, resumed in 2023.[28]

Equipment Inventory and Distribution

Rwanda has among the lowest access to radiologic services in East Africa. As of 2023, Rwanda has 56 radiologic facilities dispersed across 41 cities. Of these facilities, 88% (49) are publicly funded, and 13 facilities are in the capital of Kigali. Rwanda has 5 MR, 7 CT, 1 radiotherapy, 52 X-ray, 5 mammography, 5 fluoroscopy, and 0 PET machines as of 2023. This is

equivalent to 0.4 MR, 0.5 CT, 0 PET, 0.1 radiotherapy, 3.7 X-ray, 0.4 mammography, and 0.4 fluoroscopy units per one million people. For comparison, the United States has 38 MR units, 43 CT units, 70.7 mammography units, and 11.4 radiotherapy units per one million people. However, progress has been made. In 2015, there were only 5 CT machines, 3 of which were in Kigali, and 2 MR machines, both in Kigali. There are now at least 2 additional CT machines, located in Kibuye and Kibungo, and 3 additional MR units, one of which is in Gisenyi. (See Table 2 for a detailed breakdown of imaging equipment in Rwanda.)

Much of the more advanced imaging equipment, such as MR and CT units, is privately owned. As of 2023, all MR machines in Rwanda, 43% (3 out of 7) of the CT machines and 40% (2 out of 5) of the mammography and fluoroscopy machines were privately owned. This has resulted in limited access to advanced imaging, as high costs and the concentration of equipment in urban centers create significant barriers. While most of the Rwandan population lives within a 25 km radius of a facility with at least one imaging modality, most cannot access CT or MR imaging within the 25 km radius, as shown in Figure 9. Ultrasound imaging is significantly more accessible than other imaging methods and is utilized throughout Rwanda, though estimating the number of ultrasound units is challenging.[29] Regularly performed ultrasound exams include FAST, abdominal, pelvic, vascular, and obstetric and gynecological imaging. Fluoroscopy examinations performed in the country include voiding cystourethrography, cholangiography, hysterosalpingograms, barium swallows, fistulography, IV pyelograms, and contrast enemas.[25]

A key facility for accessing imaging services in Rwanda is King Faisal Hospital in Kigali. Their MRI scanner (1.5 Tesla) serves patients in Rwanda, as well as patients referred from other facilities in the region, including those from Burundi, the DRC, South Sudan, and Tanzania. The hospital possesses the only CT scanner in the county with 128-slice capacity, which they utilize for routine imaging and various advanced procedures, including CT angiographies, colonoscopies, bronchoscopy, fluoroscopy, and dynamic studies. They also offer screening and diagnostic mammography. In addition, King Faisal Hospital is equipped with a catheterization lab and has plans to introduce nuclear medicine, including PET, SPECT, and bone scans.[30]

In 2020, RAD-AID initiated its Rwanda program to support the growth and development of radiology services at King Faisal Hospital, Rwanda Military Hospital, and University Teaching Hospital of Kigali. Areas of focus include radiology education, pediatric and breast imaging, informatics, and PACS implementation. In 2024, RAD-AID began a collaboration with Partners In Health/Inshuti Mu Buzima to support Butaro District Hospital with PACS and radiology.[32]

Hospital	City	X-ray	Mammography	Fluoroscopy	CT	MRI
Gatonde	Busengo	1	0	0	0	0
Kabutare	Butare	1	0	0	0	0
Butaro	Butaro Sector	1	0	0	0	0
Kirinda	Bwakira	1	0	0	0	0
Murunda	Colline Rugoti	1	0	0	0	0
Gihundwe	Cyangugu	1	0	0	0	0
Kibilizi	Cyarwa	1	0	0	0	0
Kinihira	Gako	1	0	0	0	0
Mibilizi	Gashonga	1	0	0	0	0
Gakoma	Gisagara	1	0	0	0	0
Gisenyi District	Gisenyi	0	0	0	0	1
Gisenyi	Gisenyi	1	0	0	0	0
Mugonero	Gishyita	1	0	0	0	0
Bushenge	Gisuma	1	0	0	0	0
Kabgayi	Gitamara	1	0	0	0	0
Kibuye	Gitesi	1	0	0	1	0
Gitwe	Gitwe	1	0	0	0	0
Masaka	Kabuga	1	0	0	0	0
Kaduha	Karambo	1	0	0	0	0
Rwinkwavu	Kayonza	1	0	0	0	0
Byumba	Kibali	1	0	0	0	0
Kibungo	Kibungo	1	0	0	1	0
King Faisal	Kigali	1	1	1	1	1
Medheal Diagnostic & Fertility Centre	Kigali	0	0	0	1	1
Kigali Medical Imaging & Supplies Centre	Kigali	0	0	0	0	1
Legacy	Kigali	0	1	1	1	1
Kanombe Military/Rwanda Military	Kigali	1	1	1	1	0
University Teaching Hospital of Kigali	Kigali	1	1	1	1	0
Hopital la Croix du Sud	Kigali	1	0	0	0	0
Kacyiru Police	Kigali	1	0	0	0	0
Muhima	Kigali	1	0	0	0	0
Kibagabaga	Kigali	1	0	0	0	0
Nyarugenge	Kigali	1	0	0	0	0
WIWO Specialized	Kigali	1	0	0	0	0
University Teaching Hospital of Butare	Kigali	1	1	1	0	0
Kibogora	Kirambo	1	0	0	0	0
Kirehe	Kirehe	1	0	0	0	0
Kigeme	Kirehe	1	0	0	0	0
Rutongo	Mugote	1	0	0	0	0
Kabaya	Mukamira	1	0	0	0	0
Munini	Munini	1	0	0	0	0
Kiziguro	Murambi	1	0	0	0	0
Ruli	Musasa	1	0	0	0	0
Ngarama District	Ngarama	1	0	0	0	0
Muhororo	Ngororero	1	0	0	0	0
Nyabikenke	Nyabikenke	1	0	0	0	0
Nyagatare	Nyagatare	1	0	0	0	0
Nyamata	Nyamata	1	0	0	0	0
Nyanza	Nyanza	1	0	0	0	0
Ruhango	Nyanza	1	0	0	0	0
Nemba	Nyarutovu	1	0	0	0	0
Ruhengeri	Ruhengeri	1	0	0	0	0
Gahini	Rukara	1	0	0	0	0
Rwamagana	Rwamagana	1	0	0	0	0
Remera-Rukoma	Taba	1	0	0	0	0
Shyira	Vunga	1	0	0	0	0
Total		**52**	**5**	**5**	**7**	**5**

Table 2: Hospitals with radiographic capability within Rwanda and breakdown of radiologic modalities per hospital. Adapted from Liu (2024).[29]

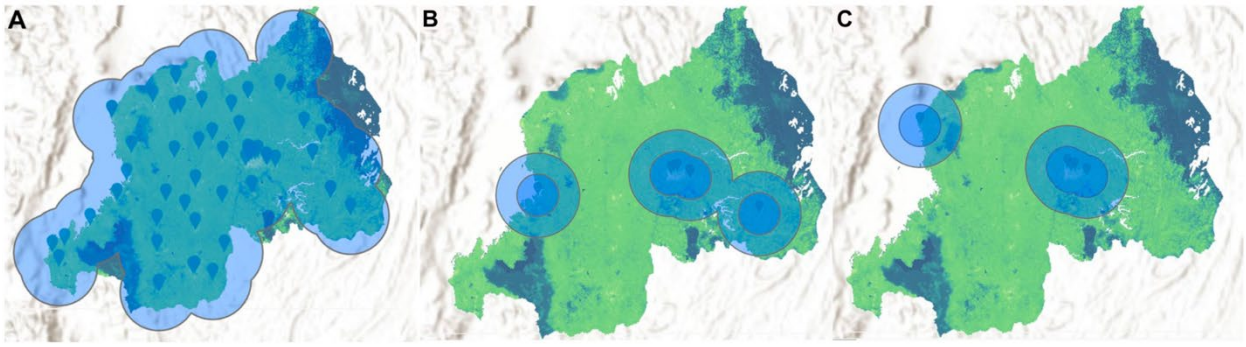

Figure 9: Population coverage map for a 25-km radius to (A) all radiologic facilities, (B) CT units, and (C) MR units. Adapted from Liu (2024).[29]

Interventional Radiology

Rwanda is working to build its interventional radiology (IR) program, which became operational in 2021. As of 2023, the IR team in Rwanda consisted of one doctor, one technologist, and four nurses. Procedures performed include biopsies, drainages, dialysis interventions, local regional therapies for hepatocellular carcinoma, hepatobiliary interventions, and renal interventions. A collaboration between the University Health Network (UHN), a healthcare organization in Toronto, Canada, and the Rwanda Military Hospital and King Faisal Hospital aims to accelerate the development of IR services in Rwanda. Staff from UHN have helped to train radiology residents, IR technologists, and IR nurses, supporting the growth and long-term sustainability of IR services in Rwanda.[31]

Road2IR is a non-profit organization started in 2018 as a collaboration between Muhimbili University of Health and Allied Sciences (MUHAS), Yale Department of Radiology and Biomedical Imaging, Emory Department of Radiology and Imaging Sciences, and other institutions. Through Road2IR, teams of IR physicians, nurses, and technologists travel to East Africa for teaching trips on a frequent basis. The organization aims to establish self-sustaining interventional radiology training programs in East Africa. In 2019, they helped to establish the Master of Science in Interventional Radiology program at MUHAS in Tanzania, the first accredited IR training program in East Africa.[33] A partner training program in Rwanda commenced in 2024, with the first trainees expected to graduate in 2026.[34]

Conclusion

In conclusion, Rwanda has made significant strides in rebuilding following the devastation of the 1994 genocide, with notable progress in medical imaging and overall health outcomes. While the country has seen improvements in access to diagnostic services, challenges such as shortages of trained professionals, limited equipment, and insufficient infrastructure remain. Despite these hurdles, both local and international efforts continue to support the growth and development of medical imaging, which is critical to advancing Rwanda's healthcare system. With ongoing investment and collaboration, Rwanda is steadily working to overcome these challenges and improve the quality of care for its population.

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