# DATA COLLECTION SURVEY ON THE ROLES OF THE PRIVATE SECTOR FOR IMPROVING HEALTH FOR SIX AFRICAN COUNTRIES

**SUMMARY REPORT: UGANDA** 

### **MARCH 2020**

JAPAN INTERNATIONAL COOPERATION AGENCY

INTERNATIONAL DEVELOPMENT CENTER OF JAPAN INC.



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# **Abbreviation and Acronyms**

CBO Community Based Organization

FBO Faith Based Organization
GNI Gross National Income

ICT Information and Communication Technology

MDGs Millennium Development Goals

MoH Ministry of Health

NDA National Drug Authority

NCDs Non-Communicable Diseases
NGO Non-Government organization

NPO Non-Profit Organization

OOP Out of Pocket

### **Chapter 1 Introduction**

### 1.1 Background

Health status in Africa has improved over the years. Life expectancy has been extended from 47 in 2005 to 61 in 2016, and the maternal mortality ratio and under five mortality rate have been improved from 910/100,000 live births (LB) and 171/1,000 LB in 2005, to 542/100,000 LB and 76.5/1,000 LB in 2016, respectively (WHO). However, the situation is still lagging compared with other regions.

The Government of Japan launched the "Africa Health and Wellbeing Initiative" at the 7<sup>th</sup> Tokyo International Conference on African Development (TICAD 7) in August 2019. This initiative aims to promote self-sustaining industries in the fields of health and medical services and long-term care in Africa. To realize this purpose, it seeks to develop a virtuous cycle of creating and fostering private-sector business that could improve health in Africa through the efforts of the public sector and the invigoration of the private sector that can support the public sector.

Under this initiative, JICA has commissioned a team of consultants to conduct a data collection survey on the roles of the private sector in improving health in six African countries, namely Kenya, Ghana, Senegal, Tanzania, Uganda and Zambia.

### 1.2 Survey Purpose

The objective of the survey is to collect information on the health sector in order to identify opportunities and challenges for Japanese private health technologies and services to be utilized to improve health in six African countries.

### 1.3 Survey Methods

A literature review and data collection survey are conducted in Japan as well as in Kenya, Ghana and Tanzania on the relevant contents, namely health status, health policy and governance, health financing, health service delivery, and marketing and investment climate on medical supplies in each country. During the field survey in Kenya, Ghana and Tanzania, the survey team collected the necessary information from the Government and executive agencies, health care facilities, private health sector associations, development partners, private companies, distributers, JICA, JETRO, embassy of Japan and other relevant parties through interviews and site visits.

### 1.4 Survey Period

The survey was conducted from the end of August 2019 to the end of March 2020. The field survey was conducted in Kenya from 4<sup>th</sup> to 16<sup>th</sup> November, in Ghana from 18<sup>th</sup> to 29<sup>th</sup> November, and in Tanzania from 2<sup>nd</sup> to 13<sup>th</sup> December 2019.

# Chapter 2 Experience of Japanese Companies with Medical Technologies Operating in the Six Targeted Countries

Japanese companies doing healthcare business used to be concentrated in South Africa and northern African countries. In recent years, the number of Japanese companies doing healthcare business in the six targeted countries has increased, primarily attributable to rapidly expanding middle class demands owing to the growing economy and the governments' strong commitment to achieve Universal Health Coverage (UHC). Leading Japanese companies in healthcare started to establish an office in the six countries. For instance, NIPRO Corporation, Takeda Pharmaceutical Company Limited, Nihon Kohden Corporation, and Terumo Corporation set up bases in Kenya, while NIPRO Corporation set up a base in Senegal and Sysmex Corporation one in Ghana.

Business fields of these companies are also expanding from maternal/child health and communicable diseases, which are given relatively high priority in the six countries, to Non-Communicable Diseases (NCDs) including diabetes testing and treatment, which has been increasing in demand in recent years. Medical technologies of the companies introduced in the six countries are characterized by competitive advantages of Japanese technologies, such as quality imaging diagnostics/optical diagnosis, high efficiency, high degree of accuracy and less burden on patients. In addition, many of the companies have developed products utilizing technologies including uninterruptible power source, power saving, dry chemistry, point of care testing (POCT), high durability, small in size, lightweight, portable, small footprint, and ease of handling and maintenance, which can be adaptable to insufficiencies in infrastructure, facilities and human resources in African countries. As for new technologies, one of the JICA Public Private Partnership Projects is currently demonstrating the effectiveness of "drone" technology for medical supplies delivery.

### **Chapter 3 Health Sector Profile and Discussion**

### 3.1 Health Status

### 3.1.1 Basic health indicator

Uganda achieved an MDGs target of 56 for the under-five mortality rate with a rate of 55.3 in 2015, and an infant mortality rate of 39, which is improving and approaching a value close to the MDGs target of 31. On the other hand, the maternal mortality ratio is 343, far above the target value of 131.

Table 1: Basic health indicators

No	Indicator	Data
1	Population (2018)	42,723,139
2	Total Fertility rate (2017)	5.095
3	Life Expectancy (2017)	62.5
4	Maternal Mortality Ratio (per 100,000 LB) (2015)	343
5	Under 5 Mortality Rate (per 1,000 LB) (2017)	49
6	Children aged under 5 years underweight (%) (2016)	10.4
7	Anaemia in children under 5 years (%) (2016)	51.1
8	Anaemia in women of reproductive age (%) (2016)	28.5

Source: 1~3:World Bank Open Data, 4~8:WHO Global Health Observatory Data Repository

### 3.1.2 Disease burden

Infectious diseases account for more than 30% of the top 10 deaths in Uganda in 2017/18. Although malaria is on the decline, it still ranks first followed by pneumonia. Anaemia ranks third, probably due to the high prevalence of severe malaria and sickle cell diseases, which are common in Uganda. Table 2 indicates that the epidemiological transition from infectious diseases to NCDs has not yet been realized.

Table 2: Top 10 causes of death

	D 1: (2012/12)					0.7
	Ranking (2012/13)	Cases	%	Ranking (2017/18)	Cases	%
1	Malaria	5,079	20.6	Malaria	3,540	11.0
2	Pneumonia	2,849	11.6	Pneumonia	2,927	9.1
3	Anaemia	2,614	10.6	Anaemia	2,230	6.9
4	Perinatal disease	1,474	6.0	Other Neonatal Conditions	1,704	5.3
5	Pepticemia	669	2.7	Premature baby	1,591	5.0
6	Injures: Trauma due to other	651	2.6	Injuries: Road Traffic	1,160	3.6
	causes					
7	Other meningitis	628	2.5	Injures:	1,084	3.4
8	Other tuberculosis	571	2.3	New TB cases	1,073	3.3
				diagnosed		
9	Injuries: Road Traffic	557	2.3	Septicemia	1,045	3.3
10	New TB cases diagnosed	464	1.9	Hypertension	965	3.0
	Others	9,095	36.9	Others	14,815	46.1
	Total	24,651	100.0	Total	32,134	100.0

Source: AHSPR2012-2013, AHSPR2017-2018

On the other hand, HIV/AIDS is not included in the above-mentioned government statistics on direct causes of death, but it is top of the ten major causes of death listed by the Institute for Health Metrics and Evaluation (IHME), which uses the WHO International Cause of Death Statistics.

### 3.1.3 Main disease trends

- Maternal and child health<sup>1</sup>: Main factors of maternal mortality are obstetric bleeding (39%), postpartum sepsis (20%) and eclampsia (9%). With the goal for the Safe Birth Initiative to reduce the maternal mortality ratio to around 100 by bringing deliveries by skilled birth attendants closer to 100%, the Ministry of Health (MoH) has established normal delivery facilities at Health Centres III and IV to encourage institutional delivery. Health Centre IV also set a goal to establish Comprehensive Emergency Obstetric Care (CEmOC) for caesarean sections at 55%, but the actual value was only 36%. Under five mortality is caused mostly by malaria accounting for 20% to 40% with large fluctuations depending on the year.
- Communicable disease: The prevalence rate for adults with HIV is 5.9% (UNAIDS, 2017)<sup>2</sup>. The number of new infections peaked at 170,000 in 2011 and started to decline. Although the MDGs target 6A "By 2015, the number of newly infected people is on a downward trend" was achieved, there are still 1.5 million HIV-infected people in 2014<sup>3</sup>. According to hospital statistics, malaria is at the top of both death and outpatient diagnosis, while it is on a declining trend<sup>4</sup>. It was also reported that the annual number of malaria deaths (14,000/year) is almost unchanged from 2013<sup>5</sup>. The number of reported infections with tuberculosis is decreasing from 60% (2013) to 53% (2017), and the cure rate is 77%, which is almost unchanged from 2012. Mortality has risen from 20/100,000 (1990) to 26/100,000 (2017)<sup>6</sup>.

### 3.1.4 Demographic Change

Demographic transition significantly influences the epidemiological transition. According to the World Population Prospects 2019<sup>7</sup>, the proportion of the elderly population aged over 65 years old in Uganda is estimated to be 2.0% in 2020, which is lower than the average of Sub-Saharan Africa at 3%. However, it is estimated that the aging rate will increase at the same level as the regional average in the future.

<sup>&</sup>lt;sup>1</sup> AHSPR2015-2016

<sup>&</sup>lt;sup>2</sup> Audit Report - Global Fund Grants in Republic of Uganda, The Global Fund, 2019

<sup>3</sup> AHSPR2017-2018

<sup>&</sup>lt;sup>4</sup> AHSPR2017-2018

<sup>&</sup>lt;sup>5</sup> Audit Report - Global Fund Grants in Republic of Uganda, The Global Fund, 2019

<sup>&</sup>lt;sup>6</sup> Audit Report - Global Fund Grants in Republic of Uganda, The Global Fund, 2019

<sup>&</sup>lt;sup>7</sup> https://population.un.org/wpp/

### 3.2 Health Policy

In April 2015, the Government of Uganda announced the Second National Development Plan 2015/16-2019/20: NDPII, which consists of Article 571. Uganda published the Health Sector Development Plan (HSDP) 2015/16-2019/20 based on NDP II. The goal of the HSDP is to "promote the achievement of UHC," which is consistent with international health trends following the MDGs. There are four goals and seven priority areas for achieving the goals.

Objectives	1.	To contribute towards the production of a healthy human capital for wealth creation through provision of equitable and sustainable health services.
	2.	To increase financial risk protection of households against impoverishment due to ill health.
	3.	To address the key determinants of health through strengthening intersectoral
	4.	collaboration and partnerships, by adopting a health in all policies approach.  To enhance health sector competitiveness in the region, including establishing
		centres of excellence.
Priorities	1.	Strengthening the national health system including governance
THOTHES	2.	Disease prevention, mitigation and control
	3.	Health education, promotion and control
	4.	Curative services
	5.	Rehabilitation
	6.	Palliative care services
	7.	Health infrastructure development

Source: HSDP

Regarding public-private partnership policies, in the second phase of the National Health Policy, the private sector has been identified as a key factor in increasing the quality and access of health services. It is one of its basic principles to strengthen partnerships with private and public sector.

In 2012, the "National Policy on Public-Private Partnerships in Health" was formulated, aiming to strengthen the health system through the private sector's capacity and participation to achieve the national health goals. Priority areas include (1) policy formulation and monitoring, (2) coordination and planning, (3) mobilization of financial resources, (4) human resource development, (5) capacity building, (6) community empowerment, and (7) service provision.

### 3.3 Health Governance

The MoH is responsible for policy formulation, budgeting, regulatory and quality control, capacity building, and policy consultation and coordination with other ministries and stakeholders. On the other hand, based on the decentralization policy, management of health care service provision in districts including the private sector, has been transferred to the district health office<sup>8</sup>. Regarding the health budget, the MoH allocates the budget to hospitals directly under the control of the central government, and the health facilities below the district level (district hospitals, health centres, etc) are managed by the budget allocated from the central

<sup>&</sup>lt;sup>8</sup> The Second National Health Policy, 2010

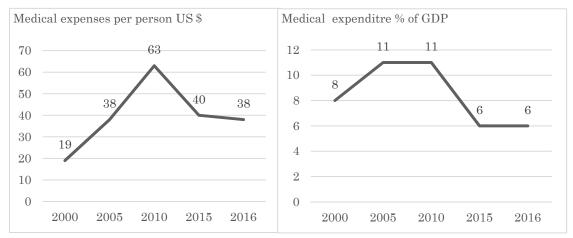
government to each local government<sup>9</sup>.

### 3.4 Health Financing

Uganda's GNI per capita is 620 USD (2018, World Bank), making it one of the poorest countries. The economic growth rate exceeded 10% from the 1990s to around 2010, but in recent years it has been around 5% (World Bank).

### 3.4.1 Health expenditure

Uganda's per capita medical expenses increased from 19 USD in 2000 to 63 USD in 2010, but it declined to 38 USD in 2016. This is much lower than the WHO estimation of 86.3 USD, which is the cost required to provide health services in developing countries. Health expenditure as a percentage of GDP increased from 2000 and reached 11% in 2010, but has shown a declining trend, reaching 6% in 2016.



Source: WHO Global Health Expenditure Database

Figure 1: Trend of per capital health expenditure and health expenditure as a percentage of GDP (Current Health Expenditure<sup>10</sup>)

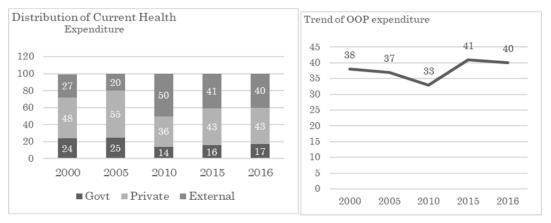
The distribution of health expenditures by the source shows that private and donor funding are higher than government funding. Government funding has been around 15% since 2010. On the other hand, private and donors account for about 40% each. Out-of-pocket (OOP) rates are high at around 40%. In 2011/12, about 70% was paid for private health facilities (including non-profit facilities) and about 25% was paid for public facilities. This is a significant figure, given that public health services abolished the user fee in 2001. A total of 60% of the OOP is used for pharmaceuticals<sup>11</sup>.

6

<sup>&</sup>lt;sup>9</sup> The detailed survey of the Project for Strengthening Health Services through Health Infrastructure Management in the Republic of Uganda, JICA, 2010

Current Health Expenditure (CHE) is the expenditure on health services exclusive of capital formation.

<sup>11</sup> Exploring partnership opportunities to achieve universal health access, USAID, 2017



Source: WHO Global Health Expenditure Database

Figure 2: Distribution of health expenditure and ratio of out-of-pocket expenses

### 3.4.2 Health budget

The health budget as a percentage of the government budget has fluctuated from 7-9% in the last decade<sup>12</sup>. The budget for FY2018/19 was 9.2% and that for FY2019/20 is 8.9%, which is higher than past years, but less than the Abuja Declaration<sup>13</sup>. The health sector budget for FY2019/20 was 2.6 trillion UGX, which is higher than the previous year's budget of 2.3 trillion UGX<sup>14</sup>.

### 3.4.3 Health insurance

Uganda's public health insurance system was approved by the Cabinet in June 2019 and is waiting for parliamentary approval. Private health insurance has not been well established, and its penetration rate is less than 1% of the total population<sup>15</sup>.

### 3.4.4 Donor funding

According to the Ministry of Finance, Planning and Economic Development, foreign development assistance in the total government budget has decreased for the past five years from 26% in FY2010/11 to 15% in FY2014/15. On the other hand, donor assistance has increased drastically for health, largely due to the contribution of the Global Health Initiative, with USAID being the largest donor, accounting for 49% of total donor funding for Uganda. The major donor projects focus on health service provision, HIV/AIDS and TB.

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<sup>&</sup>lt;sup>12</sup> Exploring partnership opportunities to achieve universal health access, USAID, 2017

<sup>&</sup>lt;sup>13</sup> National Budget Framework Paper FY 2019/20-FY2023/24, Uganda, 2018

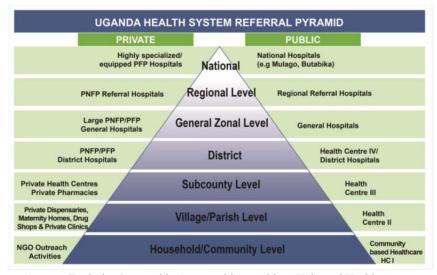
<sup>&</sup>lt;sup>14</sup> Uganda Budget Highlights 2019/20, Deloitte, 2019

<sup>&</sup>lt;sup>15</sup> JICA Human Development Department

### 3.5 Health Service Delivery

### 3.5.1 Public Service Delivery System

Figure 3 shows the health service delivery system in Uganda. All levels have public and private facilities.



Source: Exploring Partnership Opportunitis to Achieve Universal Health Access Figure 3: Health service delivery system

### 3.5.2 Private health service

In the public-private partnership health policy, the private sector is defined as (1) Facility-based private not-for-profit and Non-Facility-based Private not-for-Profit, (2) Private-for-Profit, and (3) Traditional Complementary Medicine Practitioner. Uganda Healthcare Federation has also been set up to represent private sector workers.

Table 3: Main type and function of private health facilities

Туре		Major functions		
Non-for-profit	Religion (FBO)	Four main governing bodies with a long history;		
		Uganda Catholic Medical Bureau, Uganda Protestant		
		Medical Bureau, Uganda Muslim Medical Bureau,		
		Uganda Orthodox Medical Bureau。		
	Non-institutional	NGOs are mainly engaged in prevention and health		
		education, and CBOs are engaged in activities such as		
		community development, environmental conservation,		
		and awareness raising.		
For-profit	Provide a wide range of services from small clinics to hospitals for			
	advanced medical care. Over 90% are small clinics, and 70% are			
	concentrated in urban area (central areas).			
Traditional	Non-licensed traditional health workers, including Chinese medicine,			
healthcare workers	Ayurvedic, Chinese herbal medicine, traditional reduction teacher, and			
	traditional midwives.			

Source: Exploring partnership opportunities to achieve universal health access, USAID, 2017

### 3.5.3 Health Infrastructure and human resources

In 2012, there were 5,229 government and private health facilities, with more than half (55%) of government facilities and 28% and 17% of private and non-profit health facilities, respectively.

Table 4: Number of facility by owner (2012)

Facility level	MOH	Non-profit private	For-profit private	Total
Hospital	64	65	23	152
Health Centre IV	170	15	8	193
Health Centre III	937	272	70	1,279
Health Centre II	1,696	522	1,387	3,605
Total	2,867	874	1,488	5,229
Percentage (%)	55	17	28	100

Source: Exploring partnership opportunities to achieve universal health access

In terms of the human resources for health, the occupation rate of public healthcare facilities across the country is insufficient for all occupations, especially anesthesiologists and pharmacists. It has also been pointed out that occupations with a shortage of personnel are mainly concentrated in large hospitals in Kampala.

Table 5: Number and ratio of major health professionals (2015)

Occupation	Capacity	Actual number	Satisfaction rate %
Doctors	2,156	1,047	49
Public Health Dental Officers	365	276	76
Anesthetic Officers	878	238	27
Clinical Officer (including ophthalmology/orthopedics)	3,457	2,929	85
Nursing Staff (Registered and Enrolled)	21,328	16,490	77
Midwives (Registered and Enrolled)	11,706	8,815	75
Pharmacist (including assistance)	535	214	40
Radiographers and Imaging Staff	248	121	49
Physical therapist	253	114	45
Lab Technologists/Technicians/ Assistants	3,020	2,447	81
Other medical staff	4,576	2,392	52

Source: AHSPR2015/16

### 3.6 ICT/eHealth

The Government of Uganda recognizes that ICT is one of the major growth areas. National Development Plan II states that it has become a tool for economic and social change. The Uganda National eHealth Policy was developed in 2016 to address the challenges unique to the utilization of ICTs for health. It aims to create an enabling environment for the development/deployment and utilization of sustainable, ethically sound and harmonized eHealth approaches/initiatives at all levels of the health systems to promote health and improve health services delivery.

Examples of eHealth interventions are highlighted in the box<sup>16</sup>. Uganda has an information exchange and matching hub for young entrepreneurs such as ICT startups called "Innovation Village," which is backed by Microsoft. Local startups can expect external funding, but, while their technical level is high, the scale tends to be small. There are a few multiple hubs similar to "Innovation Village" in Uganda<sup>17</sup>.

<Example of eHealth intervention>

1. Startup from "Innovation Village"

One of the companies in "Innovation Village" has introduced electronic medical records to private hospitals as a startup. Since the medical equipment for the public facilities is procured by NMS and the entry hurdle for the startups is high, the company targeted private hospitals.

2. NPO (Living Goods) supports Community Health Workers (CHWs) using smartphones to conduct maternal and child check-ups. Resident data management enables continuous support. CHWs are able to undertake injections and dispense medication. It is supported by UNICEF and the TAKEDA Pharmaceutical Foundation.

### 3.7 Investment Climate

### 3.7.1 Market Trend

### (1) Medical Devices and Pharmaceuticals

### **Medical Devices**

Uganda's imports have expanded from 30 million USD in 2009 to 50 million USD in 2018. Imports of radiology-related devices surged in 2018, particularly imports from China, Germany and India. In view of Uganda's population, imports of radiology-related devices remain small. Major exporters are China and India, followed by Germany, South Africa, the US and Japan.

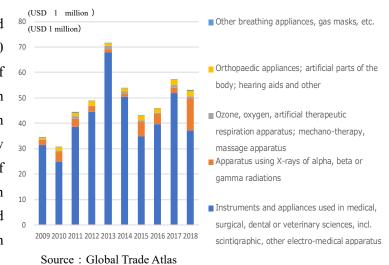


Figure 4: Uganda's Imports of Medical Devices

According to the local media, the

government has undertaken a commitment to work with Philips to equip 14 regional hospitals<sup>18</sup>.

<sup>&</sup>lt;sup>16</sup> Information from JICA official, JICA Africa study tour report 2019

<sup>&</sup>lt;sup>17</sup> JICA Human Development Department

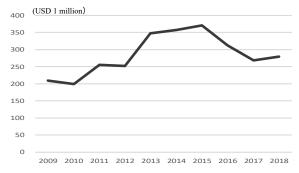
<sup>&</sup>lt;sup>18</sup> Uganda Medical Centre "President Museveni, GE Officials meet over Hospitals" <a href="https://www.mediacentre.go.ug/media/president-museveni-ge-officials-meet-over-hospitals">https://www.mediacentre.go.ug/media/president-museveni-ge-officials-meet-over-hospitals</a>

### **Pharmaceuticals**

In Uganda, imports supply 90% of the pharmaceutical market. Uganda's pharmaceutical imports have increased significantly over the past decade, reaching 370 million USD in 2015. India supplies over 50% of the imports, followed by Kenya, Denmark and China.

Uganda's pharmaceutical market has been dominated by generic medicines. Self-medication is prevalent in Uganda, like Tanzania, making the OTC medicine market an attractive prospect<sup>19</sup>.

The government is promoting domestic production of pharmaceuticals by offering tax incentives for manufacturing facilities in Uganda. In September 2019, an Indian firm announced an investment of 10



Source: Global Trade Atlas

Figure 5: Uganda's Imports of Pharmaceuticals

million USD in a manufacturing factory. In view of a combination of low per capita spending in a youth-dominated highly ruralized population, Uganda will remain a generic-dominated pharmaceutical market.

3.7.2 Relevant legislation, regulating authorities, registration, import regulations (medical devices and pharmaceuticals)

### 1) Relevant legislation and regulating authorities

Medical devices and pharmaceuticals used in Uganda are regulated under "Drug Policy and Authority Act 2000 Cap. 206" (amended in 2002). While the Act stipulates pharmaceuticals in detail, it provides few provisions for medical devices. The regulating authority is the National Drug Authority (NDA).

### (2) Registration

**Medical Devices** 

Medical devices need to be registered with the NDA prior to being manufactured, imported and placed on Uganda's market. The NDA developed "Guideline for Registration of Medical Devices for Human Use in Uganda," publicly available on the NDA website. The registration application uses the Common Submission Dossier Template (CSDT), which contains elements of the GHTF (Global Harmonization Task Force) guidance document titled "Summary of

<sup>&</sup>lt;sup>19</sup> Pharmaceuticals Export Promotion Council of India "Regulatory & Market Profile of Uganda"

Technical Documentation for Demonstrating Conformity to the Essential Principles of Safety and Performance of Medical Devices (STED)".

A non-resident applicant must appoint an authorized local agent of the license holder or manufacturer, also known as Local Technical Representative (LTR), who may be a body corporate licensed to deal in medicines and/or medical devices, a diagnostic laboratory, hospital, health centre or clinic. A medical device that has obtained certificates from the regulatory agencies of the five GHTF founding member countries and regions (Australia, Canada, the EU, Japan and the US) shall be qualified for faster evaluation routes.

### **Pharmaceuticals**

The NDA developed "Guidelines on Submission of Documentation for Marketing Authorisation of a Pharmaceutical Product for Human Use," publicly available on the NDA website, in addition to the guidelines related to registration of vaccines, clinical trials, advertisements, Good Manufacturing Practices (GMP), introducing a new formulation pharmaceutical product on the Uganda market, Good Distribution Practices.

Every applicant who is not resident in Uganda shall appoint a person in Uganda who is authorized by the NDA to deal in medicinal products to be a Local Technical Representative (LTR), dully notarized in their country of origin, and registered with a registrar of companies in Uganda.

The application format is consistent with a "Common Technical Document (CTD)" of the "International Council for Harmonization of Technical Requirements for Pharmaceuticals for Human Use (IHC)."

### (3) Import Regulations

Uganda National Bureau of Standards implemented Pre-export Verification of Conformity (PVoC) program, in accordance with Inspection and Clearance of Import Regulations. Drugs and medical devices are not listed in the "Categories of Goods Covered under PVoC," which suggests they should not be subject to the PVoC program<sup>20</sup>.

### (4) Public Procurement

Public procurement of medical supplies is regulated under the "National Medical Stores Act of 1993" and the "Public Procurement and Disposal of Public Assets Authority Act of 2003." National Medical Stores is one of the government parastatals whose mandate is to procure, warehouse and distribute medical commodities to public health facilities.

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UNBS "Categories Of Goods Covered Under PVoC" https://unbs.go.ug/attachments/menus/16/Categories%20Of%20Goods%20Covered%20Under%20PVoC.pdf

### 3.8 Opportunities for Japanese Health Technologies

### (1) Communicable diseases

Uganda still has a high burden of infectious diseases such as malaria and HIV/AIDS. One of the major sources of funding for HIV is perceived to be the Global Fund.

There is a possibility for Japanese products to be procured through the Global Fund-supported programmes if they meet the requirements of the Global Fund<sup>21</sup>. Another opportunity is the collaboration with the private principal recipients (PR). The current round of the Global Fund (2018-2020) totaled 478 million USD, with the Ministry of Finance (HIV, TB, malaria) providing about 442 million USD, and The AIDS Support Organization Uganda Limited (malaria and others) responsible for private funding of about 36 million USD<sup>22</sup>. Further detailed study is needed on the activities of The AIDS Support Organization Uganda Limited, but it might be possible to consider collaboration with them in their programme.

### (2) Health infrastructure

It is presumed that the number of medical equipment such as diagnostic imaging in public health facilities is insufficient. Therefore, the demand for equipping health facilities is considered high. At the same time, given the low per capita GDP and health budget among the six countries, the need for ODA would still be expected to be high.

### (3) eHealth/ICT

It is expected to identify unique business opportunities in the region in collaboration with platforms such as "Innovation Village" supported by Microsoft.

https://www.theglobalfund.org/en/sourcing-management/quality-assurance/diagnostic-products/
 Audit Report - Global Fund Grants in the Republic of Uganda, The Global Fund, 2019