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

SUMMARY REPORT: ZAMBIA

MARCH 2020

JAPAN INTERNATIONAL COOPERATION AGENCY

INTERNATIONAL DEVELOPMENT CENTER OF JAPAN INC.

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Abbreviations and Acronyms

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ICT	Information and Communication Technology
MoH	Ministry of Health
NCD	Non-Communicable Disease
NHSP	National Health Strategic Plan
NGO	Non-Government organization
OOP	Out of Pocket
STAREPS	Science and Technology research Partnership for Sustainable Development
UHC	Universal Health Coverage
ZAMRA	Zambia Medicines Regulatory Authority
ZDHS	Zambia Demographic and Health Survey

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 7th 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 4th to 16th November, in Ghana from 18th to 29th November, and in Tanzania from 2nd to 13th 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

Zambia had a maternal mortality ratio of 224/100,000 LB in 2015 and is making steady progress among the Eastern and Southern African countries (409 on average). On the other hand, children's health indicators are almost in the same position as the other countries (61.0 on average). At the same time, improvements in infant mortality and neonatal mortality have been slower than the improvement in under-five mortality.

Table 1: Basic health indicators

No	Indicator	Data
1	Population（2018）	17,351,822
2	Total Fertility rate（2017）	4.718
3	Life Expectancy（2017）	63.0
4	Maternal Mortality Ratio（per 100,000 LB） （2015）	224
5	Under 5 Mortality Rate （per 1,000 LB） （2017）	60.0
6	Children aged under 5 years underweight（%） （2016）	14.9
7	Anaemia in children under 5 years（%） （2016）	54.2
8	Anaemia in women of reproductive age（%） （2016）	33.7

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

3.1.2 Disease burden

In terms of the disease burden in Zambia, malaria is still the number one for both mortality and morbidity. Other types of communicable diseases are also predominant, while the proportion has declined significantly. Instead, NCDs such as hypertension and heart disease are increasing significantly. Trauma, sickle cell anaemia, skin disease, eye disease, and dentistry are also prevalent, which are not fatal, but chronic illness or long-term disability impose a significant psychological and financial burden on patients, families and society.

Table 2: Top 10 causes of death

	Diseases	2011	2012	2013	2014	2015	%
1	Malaria	4,593	4,029	3,564	3,225	2,360	-48.6
2	ARI/Pneumonia	2,999	2,520	2,239	2,012	1,890	-37.0
3	Trauma	911	1,012	682	859	969	6.4
4	Diarrhoea（Non-Bloody）	1,770	1,954	1,428	1,467	1,281	-27.6
5	Anaemia	2,760	2,152	1,805	1,754	1,493	-45.9
6	Non-infectious digestive system	634	595	509	604	640	0.9
7	Hypertension	632	680	811	692	739	16.9
8	TB	2,175	1,992	1,646	1,677	1,576	-27.5
9	Cardiovascular	1,012	1,195	1,217	1,296	1,268	25.3
10	Severe malnutrition new case	1,763	1,314	996	886	792	-55.1

Source：Zambia National Health Strategic Plan 2017-202

Meanwhile, HIV/AIDS is not included in the above-mentioned government statistics on direct causes of death, but HIV/AIDS 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. The HIV prevalence rate in Zambia is estimated to be 12.0% in 2016[1], making Zambia one of the most affected countries in the world with a significant financial and public health burden.

3.1.3 Main disease trends[2]

- Maternal and child health: According to the ZDHS2013-14 statistics, 96% of pregnant women receive at least one antenatal care (ANC) check, but only 25% have four visits, and 67% conduct institutional deliveries. Only 18% of the designated Emergency Obstetric and Newborn Care (EmONC) facilities are fully functional with a cesarean section rate of 3.6%, which is below the globally acceptable rate of 5.5%. According to the 2014 Maternal Death Surveillance Reviews (MDSR), 84% of maternal deaths occur in health care facilities. They mostly occur in primary and tertiary hospitals. Factors behind child mortality have been pointed out to be a lack of adequate health services for preventable diseases such as complications during pregnancy and delivery, diarrhea and malaria in infancy, and mother-to-child transmission of HIV.
- Communicable disease: Eradication of malaria is a national priority. The HIV prevalence in Zambia is 12.0% for adults (15-49 years) and 1.1% for children (0-14 years) in 2016[3]. The number of deaths by AIDS has decreased from the estimated 65,000 in adults in 2000, to 20,000 in 2015. On the other hand, the number of people infected with HIV in 2015 was 1.2 million and is expected to increase to 1.3 million by 2020. Zambia is one of the 30 countries with the highest burden of tuberculosis and HIV[4]. The prevalence of all types of TB is 455 cases per 100,000 people (Zambia TB prevalence survey 2014). Zambia is working to end the TB epidemic by 2035 in accordance with the Global TB Strategy and the NHSP.
- NCDs: NCDs are on the rise in Zambia with 23% of all deaths in the country in 2016.

3.1.4 Demographic Change

The demographic transition significantly influences the epidemiological transition. According to the World Population Prospects 2019[5], the proportion of elderly people aged over 65 years old in Zambia is estimated to be 2.1% in 2020, which is lower than the average of Sub-Saharan Africa at 3%. The aging speed in the future is also expected to be slower than that of Sub-Saharan Africa.

[1] Zambia Population-Based HIV Impact Assessment (ZAMPHIA) 2016, 2019
[2] Zambia National Health Strategic Plan2017-2021
[3] ZAMPHIA 2016
[4] Zambia Demographic and Health Survey 2013-14
[5] https://population.un.org/wpp/

3.2 Health Policy

Zambia announced Vision 2030, a long-term development policy, in January 2007. It identifies the vision for the health sector as “everyone has equal access to quality health services” with the achievement of UHC. The National Health Strategic Plan (NHSP) 2017-2021 aims “To provide equitable access to cost effective, quality health services as close to the family as possible” and prioritizes the following areas.

＜Public Health Priorities＞

1. Primary health care
2. Maternal, neonatal and child health, youth and adolescent health
3. Communicable diseases, especially malaria, HIV and AIDS, STIs and TB
4. NCDs
5. Diseases outbreaks and epidemic control, public health surveillance
6. Environmental health and food safety
7. Health service referral systems
8. Health promotion and education
9. Community health
10. Social determinants of health

Regarding public-private partnerships, the National Health Policy revised in 2012 regards the private sector as an important stakeholder. It prioritizes the objective to publicize public and government official statements saying that solving health problems can only be achieved through collaboration with the multisector and the private sector (profit and non-profit) and to promote and stabilize public-private partnerships in the provision of health care services.

3.3 Health Governance

The Ministry of Health (MoH) is responsible for overall health administration. There are four administrative divisions, which are central, province, district and community. The health office in each province and district has jurisdiction over health facilities. At the community level, the neighborhood health committee functions as a link between the community and health facilities.

NHSP is implemented based on the annual plan jointly prepared by MoH and the cooperation partners under the interim expenditure framework. With decentralization, each provincial health office, secondary and tertiary level hospitals, district health office, and educational facilities make their own annual plans and the budget is allocated by the Ministry of Finance[6].

3.4 Health Financing

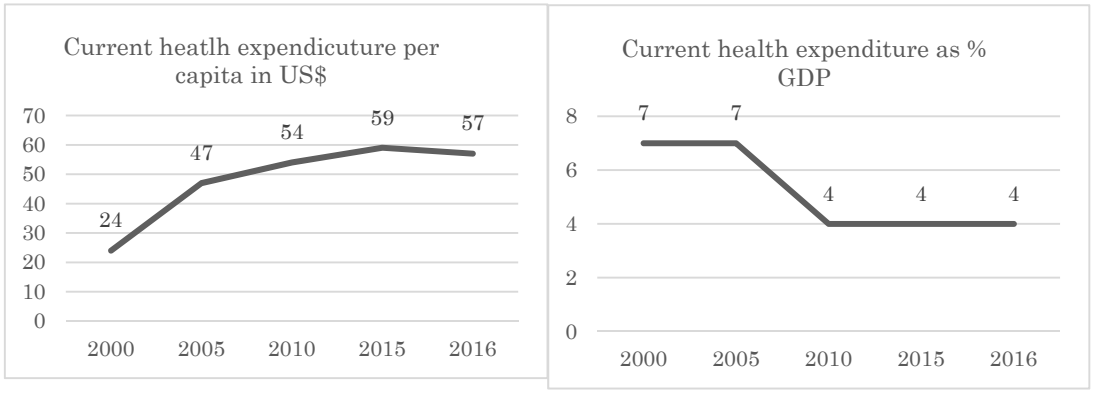
Zambia’s GNI per capita is US$1,430 (World Bank 2018) and it ranks as a low to middle income country. The high economic growth was supported by the rise in copper production and recovery in international prices. But domestic economic conditions have deteriorated since the autumn of 2014 due to the slump in the mining sector accompanying the decline in production

[6] Zambia National Health Strategic Plan 2017-2021

due to rainfall/power shortages and falling international prices. The economic growth rate in 2015 was less than 4% for the first time since 1988.

3.4.1 Health expenditure

Per capita health expenditure increased from 24 USD in 2000 to 57 USD in 2016 (shown in Figure 1 below). This is much lower than the estimated required amount of 86.3 USD, which the WHO has indicated. Health expenditure as a percentage of GDP decreased from 7% in 2000 to 4% in 2016.

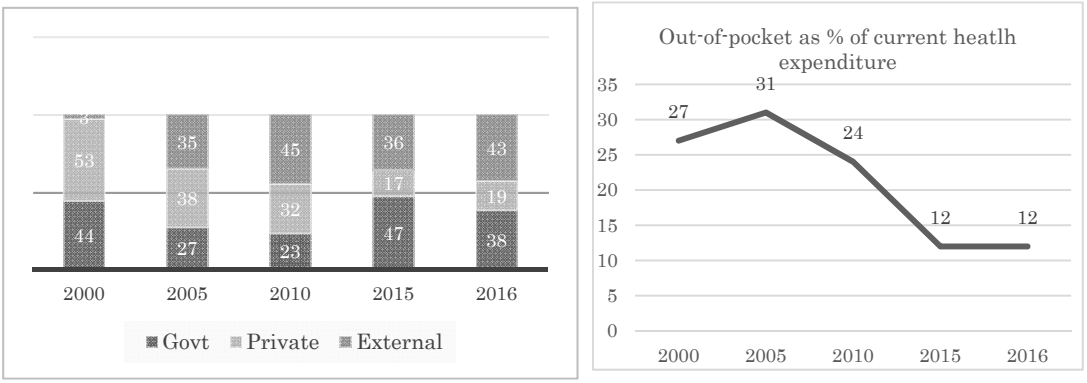


Source：WHO Global Health Expenditure Database

Figure 1：Health expenditure per capita (left) and health expenditure % of GDP (right)（Current Health Expenditure)[7]

The distribution of health expenditure (Figure 2) shows that government funding accounts for about 40% and foreign funding accounts for just over 40%. As for the change trend, the ratio of foreign funding and government funding has increased, and private funding has decreased significantly.

Out-of pocket (OOP) expenditure has also decreased from 24% in 2010 to 12% in 2016.



Source：WHO Global Health Expenditure Database

Figure 2：Distribution of Current Health Expenditure (left) and trend of OOP (right)

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

3.4.2 Health budget

The budget for the health sector in FY2020 is 9,366.6 million ZMW, which is an increase from the budget for FY2019 that was 8,069.1 million ZMW. On the other hand, the ratio of health budget to the government budget has decreased from 9.3% to 8.8%[8], which is far below the Abuja Declaration target of 15%.

The breakdown in the MoH budget excluding labor costs is shown below. Though each item in 2019 increased slightly compared to the previous year, the total and hospital operating expenses decreased slightly in 2020. Labor costs for each health facility in Zambia are paid directly from MoH.

Table 3：Breakdown of MoH budget Unit：ZMW

	2018	2019		2020	
	Approved	Projections	%	Projections	%
Total	2,349,006,198	2,556,284,622	109%	2,536,098,130	99%
Drugs and Medical Supplies	1,200,805,237	1,284,861,604	107%	1,284,861,604	100%
Infrastructure Development	267,514,828	270,189,976	101%	297,208,974	110%
Operations for Hospitals	627,980,284	722,177,327	115%	665,650,101	92%
Grants	137,911,204	137,911,204	100%	137,911,204	100%

Source：A Manual for Preparing the 2018-2020, Medium Term Expenditure Framework and 2018 Budget

The budget for expensive medical equipment such as X-ray and ultrasonic diagnostic equipment is procured by MoH. Maintenance is performed by a designated company under the maintenance contract with MoH. Meanwhile, the procurement and maintenance of a small amount of medical equipment such as sphygmomanometers are budgeted by the district health office.

3.4.3 Health insurance

Health services in Zambia have been provided almost free of cost. However, with the aim of improving the quality of health services and providing sustainable health services, the health insurance scheme has been created and passed legislation in April 2018. The specific schedule for realization has not been determined at this time of the survey[9].

3.4.4 Donor funding

According to Cooperating Partners' Commitments 2019-2020, the amount of donor funding in 2020 will be 353,168,370 USD, which decreased by about 15% compared to the previous year. A total of 78% will be covered by the US government and the Global Fund. Donor funding is mostly allocated to HIV, nutrition, RMNCHN (reproductive, maternal, newborn and child health and nutrition) and family planning, and are concentrated in the capital, except in some districts.

[8] 2020 Budget Highlights Zambia, KPMG, 2019
[9] National Health Insurance Act 2018

Table 4：Donor funding　　Unit：US dollar

Donor	2019	2020
DFID	18,979,660	14,912,590
ELMA	3,050,000	3,000,000
EU	3,997,650	3,307,557
Global Fund	61,686,650	52,833,361
Japan/JICA	13,152,800	11,650,000
Joint Funding (USG, DFID)	16,300,704	12,750,000
UNFPA	4,494,000	4,494,000
BMGF	222,000	-
SIDA	15,796,305	8,197,340
USG	263,738,922	233,671,937
WB	15,122,644	8,351,586
Total	416,541,335	353,168,370

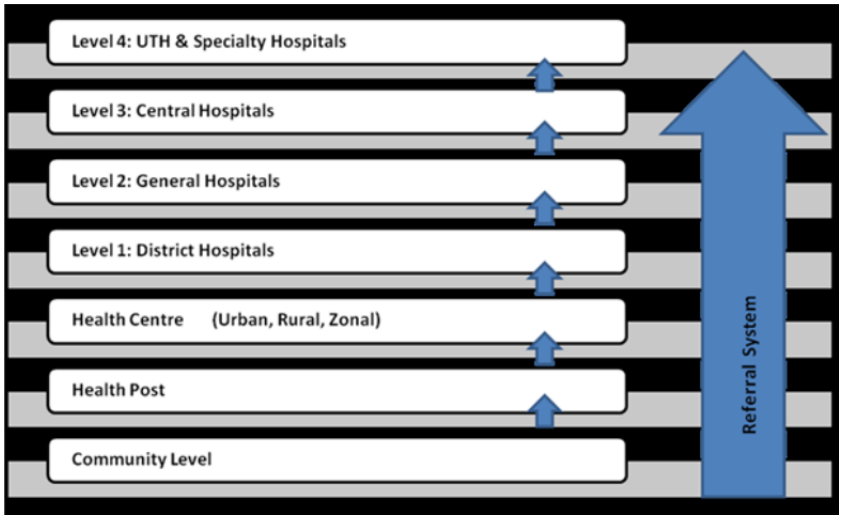
Note: Budgets of GAVI, China, India, Saudi Arabia, NGO, CSO are not included.

Source：Cooperating partners' Commitment (MTEF Planning Meeting July 31,2018)

3.5 Health Service Delivery

3.5.1 Public Service Delivery System

The health service referral system in Zambia is shown in Figure 3.



Source：National Health Care Package, Zambia

Figure 3：Referral System

3.5.2 Private health service

The health care service in Zambia is provided by governments, religious (non-profit) organizations, mining and private (profit) organizations. It is reported that approximately 90% of people use public facilities[10]. The private sector in health is relatively small but has grown since

[10] Zambia National Health Strategic Plan 2017-2021

deregulation in the 1990s[11]. The main organizations are summarized below. It is also reported that 80% of Zambian people use services provided by traditional healers on a daily basis[12].

Table 5：Main type and function of private health facilities

Type		Major functions
Non-for-profit	Religion	The largest organization is Churches Health Association of Zambia（CHAZ）. It has a MOU with the government and all activities are funded by the government. There are health posts and hospitals in nationwide, but the coverage is particularly high in rural areas.
	NGOs	There are organizations that provide health promotion, health service, and capacity enhancement and organizations that conduct health awareness activities. All NGOs work with the government through SWAp.
For-profit	The scale is relatively small. Most of the hospitals offering advanced medical care are located in Lusaka and Cooperbelt. Corporate managed clinics in the mining sector is one of major health service providers.	

Source：Zambia National Health Strategic Plan 2017-2021, Financing and Business Development needs of Private Health Care Providers in Zambia, USAID, 2009

3.5.3 Health Infrastructure and human resources

In Zambia, due to the shortage of primary and secondary hospitals, patients are concentrated in tertiary and quaternary hospitals. Public facilities are dominant in terms of number as shown in Table 7.

Table 6：Number of public health service facilities (2017)

Facility	Target population per facility: Standard	Number of facilities
Level 4 hospitals	All nations	4
Level 3 hospitals	800,000	6
Level 2 hospitals	200,000-800,000	34
Level 1 hospitals	80,000-200,000	97
Clinic	—	17
Health Centre	Urban ：30,000 -50,000 Rural ：10,000	1,820
Health Post	Urban ：7,000 Rural ：3,500	953
Total		2,931

Source：National Health Care Package 2012, National Human Resources For Health Strategic Plan 2018-2024

Table 7：Number and percentage of facilities by ownership

Public		Religion		Private		Total	
2,319	79.1%	68	2.3%	544	18.6%	2,931	100%

Source：National Human Resources For Health Strategic Plan 2018-2024

[11] Financing and Business Development needs of Private Health Care Providers in Zambia, USAID, 2009
[12] Report on the Healthcare Sector and Business Opportunities in Zambia, Swecare Foundation, 2013

The number of doctors, nurses and midwives per 10,000 people is far from the WHO standard of 44.5. There is a shortage of qualified nurses and health professionals, especially doctors, at all levels of healthcare facilities. In the 7th National Development Plan (2017-2021), addressing the chronic shortage of health personnel was identified as a priority issue and it is planned to increase the workforce by about 20% by 2025 from 2018.

Table 8：Health workers per 10,000 population

	2008	2010	2016
Doctors	1.11	0.949	1.283
Nurses and Midwives	6.949	7.171	8.925

Source：WHO Global Health Observatory Data Repository

3.6 ICT/eHealth

In Zambia, the Fifth National Development Plan 2006-2010 included ICT as one of the priority sectors and the E-Health Strategy has been formulated for four areas: information systems, health promotion, mHealth, eLearning and capacity building[13]. As a case of ICT, development and training of an HIV-related health information system has been supported mainly by USAID.

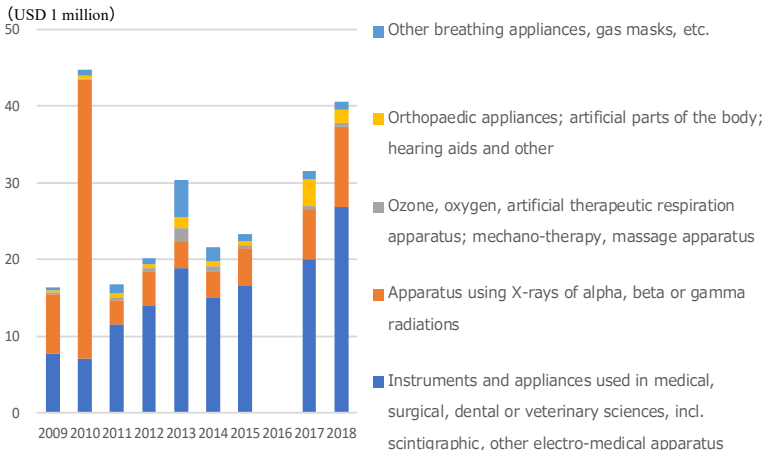
3.7 Investment Climate

3.7.1 Market Trend

(1) Medical Devices and Pharmaceuticals

Medical Devices

Zambia's imports have significantly increased over the last decade except 2010, reaching 40 million USD in 2018. Unlike the other studied countries, it is characterized by a relatively high proportion of radiology-related equipment, orthopedic equipment and respiratory equipment. The largest exporter is South Africa, followed by China, India, Japan and Germany.



Note: Data in 2016 not available

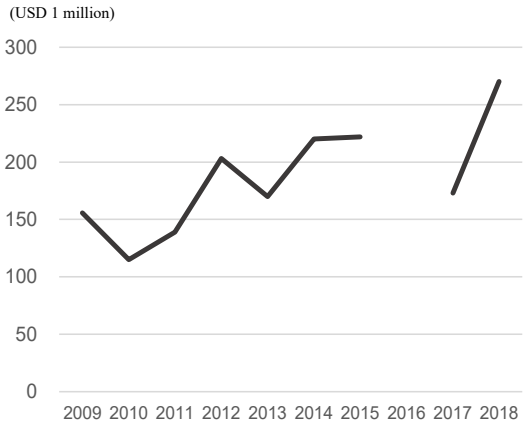
Source：Global Trade Atlas

Figure 4：Zambia's Imports of Medical Devices

[13] Ministry of Health E-Health Strategy 2013-2016

Pharmaceuticals

Zambia's pharmaceutical imports have been increasing over the past decade, reaching 270 million USD in 2018, in spite of a drop in 2017. India supplies over 50% of the imports, followed by South Africa and Denmark.



Note: Data in 2016 not available
Source：Global Trade Atlas

Figure 5：Zambia's Imports of Pharmaceuticals

Due to the limited technological capacity of Zambia's local pharmaceutical manufacturers, the country will remain reliant on the import of medicines. According to Fitch Solutions[14], the government has been promoting domestic pharmaceutical manufacturing, and commissioned Kingpharm Zambia Limited's 30-million-USD pharmaceutical plant, in March 2018. Local media also reported that the government has placed import controls on 23 pharmaceutical medicines[15].

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 Zambia are regulated under "Medicines and Allied Substances Act (2013)". Pharmaceuticals are also regulated by "Medicines and Allied Substances (Importation and Exportation) Regulations 2017."

The regulating authority is the Zambia Medicines Regulatory Authority (ZAMRA).

(2) Registration

Medical Devices

The ZAMRA developed "Guidelines on application for grant of marketing authorization of in-vitro diagnostic devices for human use (2018)," publicly available on the ZAMRA website. While a guideline on registration or marketing authorization of the other medical devices is not available on the website, guidelines related to essential principles of safety and performance of medical devices, the principles of medical devices classifications, label and instructions for use for medical devices are available on the website.

[14] Fitch Solutions (23Jan2019) "Zambia To Remain Dependent on Pharmaceuticals Imports Over The Long-Term"
[15] https://www.herald.co.zw/govt-puts-import-controls-on-medicines/

The application for marketing authorization of in-vitro diagnostic devices uses the Common Submission Dossier Template (CSDT), which contains elements of the GHTF (Global Harmonization Task Force) guidance document titled "Summary Technical Documentation for Demonstrating Conformity to the Essential Principles of Safety and Performance of Medical Devices (STED)". A non-resident applicant (a marketing authorization holder) shall nominate a local responsible person.

Pharmaceuticals

The ZAMRA developed "Application for Marketing Authorisation of A Medicine for Human Use : Guidance for Preparation and Submission of Dossiers in Common Technical Document Format," publicly available on the ZAMRA website, in addition to the guidelines related to clinical trials and Good Distribution Practices.

The application format is consistent with "Common Technical Document (CTD)" of "International Council for Harmonization of Technical Requirements for Pharmaceuticals for Human Use (IHC)." A non-resident applicant (a marketing authorization holder) shall nominate a local responsible person.

(3) Import Regulations

The Zambia Bureau of Standards implemented the Pre-export Verification of Conformity (PVOC) program in 2011, aiming to establish a quality import inspection regime that is in harmony with EAC member states[16].

Among drugs and medical devices, "products operating on direct current supply only (i.e., battery operated) (HS code: 901890)" and "massage appliances up to a maximum wattage of 500W (HS code: 901910)" are subject to the PVOC program.

(4) Public Procurement

Medical Stores Limited (MSL) is an autonomous government agency established under the companies act. The MSL is responsible for procurement and supply services provided direct to health facilities, rather than to district stores, in line with the National Supply Chain Strategic Plan (2015-2017)[17]. The MSL is also responsible for in-house and outsourced quality control on medicines performed in coordination with the ZAMRA and the Zambia Bureau of Standards (ZABS) [18].

[16] https://www.cma-cgm.com/static/eCommerce/Attachments/Zambia%20111115.pdf
[17] https://www.medstore.co.zm/
[18] https://www.medstore.co.zm/

3.8 Opportunities for Japanese Health Technologies

Communicable diseases particularly HIV, malaria and TB remain a major health threat in Zambia. One of the major sources of funding is perceived to be the Global Fund.

There is a possibility for Japanese products to be procured through Global Fund-supported programmes if they meet the requirements of the Global Fund[19]. Another opportunity is collaboration with private principal recipients (PR). In the current round of the Global Fund (2018-2020, 270 million USD)[20], the Churches Health Association of Zambia (CHAZ) is a private PR implementing the HIV/TB Programmes and the Malaria Control Programmes for about 81 million USD[21]. Further study is required for the activities of CHAZ, but it would be possible for Japanese companies to consider collaboration with them.

Meanwhile, strengthening outbreak and public health surveillance systems is one of the priorities in Zambia in response to the outbreak of cholera and Ebola in neighboring countries. Zambia has been selected as a base of JICA's infectious disease control initiative in Southern Africa. JICA has been continuously supporting Zambia through STAREPS[22] projects in this area. Thus, further contributions are expected by Japanese medical technologies and services in cooperation with ODA and academic institutions.

[19] https://www.theglobalfund.org/en/sourcing-management/quality-assurance/diagnostic-products/
[20] https://www.moh.gov.zm/?p=6315
[21] https://www.chaz.org.zm/zambia-received-usd-270m-from-the-global-fund/
[22] SATREPS (Science and Technology Research Partnership for Sustainable Development) is a JST (Japan Science and Technology Agency) and JICA program for research projects targeting global issues and involving partnerships between researchers in Japan and developing countries.