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Exporting degrees and prescriptions: A survey of Rwanda's exports of education and health services

A comprehensive survey estimating the value of Rwanda's health and education export services from 2016-2020.

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Exporting degrees and prescriptions: A survey of Rwanda's exports of education and health services

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- This study is the first comprehensive survey of exports of health and education services in Rwanda. It estimates the value of exports for the 2016-2020 period.
- We find that education (0.4%) and health services (0.1%) accounted for around 0.5% of total exports between 2016 and 2019.
- Looking at services exports alone, education (0.8%) and health (0.2%) accounted for around 1% of exports.
- Between the two sectors, education exports have shown stronger growth with an annual growth rate of 19%. Health exports did not perform as well and showed little to no growth between 2016 and 2019.
- The most attractive programs in education were hospitality management, technology and business Management. And the most sought-after health services were general consultation, internal medicine and ophthalmology.
- For both sectors, the East African Community and the Democratic Republic of Congo (DRC) served as Rwanda's main trade partner.
- Education and health hold a lot of potential for diversifying Rwanda's services exports. Well-designed strategies for both sectors would lay the foundation to boost growth. Investments in infrastructure and skilled labour along with effective marketing to target markets in Africa would also be critical.

Introduction

The COVID-19 pandemic has underscored the importance of diversification as a key component of economic resilienc. Countries with a good mix of economic activities across agriculture, industry and service sectors, and regional and global trade relationships managed to weather the crises much better than less diverse economies (Pitterle and Niermann, 2021; Bas and Fernandes 2022, Sher et al. 2022). In the services sector, tourism and transport took a massive hit while other areas like business process outsourcing suffered less as the globe drastically shifted work online. As countries continue to slowly emerge from the pandemic, governments are thinking seriously about how to diversify their economies in preparation for the next crises.

Rwanda is no different. Conversations on resilience have touched on the importance of boosting regional trade and spreading out supply chains. Emerging sectors like pharmaceuticals and the production of protective equipment have garnered attention, and green and sustainable growth has jumped to the top of the agenda. As a tourism-dependent economy, there have also been discussions around reigniting leisure and business tourism while also recognizing the need to develop other services exports.

Education and health are two sectors that have had some policy attention over the past years, and they both have the potential to drive the diversification of Rwanda's services exports. Over the past two decades, the economic contribution of services has hovered between 45 and 50 percent of GDP, with services making up 49 percent of GDP in 2019.[1] Rwanda's trade with the world has centered heavily on services with exports accounting for over 45 percent of total exports in 2019.[2] The sector has also been a major employer with around 43 percent of the labour force working in the direct service sectors.[3] Tourism, transport and government services have been the main sources foreign exchange.

Before setting out a strategy to diversify services exports through the education and health sectors, the government must first understand how much export revenue is generated from these sectors and which academic and health specialities are driving growth. To address this data gap, we designed and implemented a survey to estimate the value of Rwanda's education and health services exports. We surveyed a total of 38 tertiary institutions and 46 medical service providers in Rwanda. In addition to this, our study looked at the impact of the COVID-19 pandemic on services provision for higher education and healthcare providers. As far as we know, this is the first comprehensive assessment of education and health services exports for Rwanda.

We find that education (0.4 percent) and health services (0.1 percent) accounted for around 0.5 percent of total exports between 2016 and 2019. Looking at services exports alone, education (0.8 percent) and health (0.2 percent) accounted for around 1 percent of exports. Education exports have been growing at about 19 percent per year and have been driven by the export of tertiary education services in hospitality, business management and technology. The growth of health exports, on the other hand, has been less impressive with negligible

[1] Government of Rwanda, Macroeconomic Framework, 2019.

[2] Government of Rwanda, Balance of Payments, 2019.

[3] Government of Rwanda, Labour Force Survey, 2019. Authors' estimations using employment estimates for services sectors.

growth between 2016 and 2018 and a 17 percent year-on-year decline in 2019. General consultations, internal medicine and surgery procedures are the most popular services for foreigners.

This note details broad findings from the data and presents policy recommendations for the government's consideration. Full survey modules can be found in the annex of this note, and the full dataset from the survey is available on request. The goal is to update this dataset periodically to gather data for the coming years allowing the government to closely track export performance across both sectors.

Data and methodology

This study aims to collect information on the consumption of health and education services by non-residents using a survey of all registered tertiary education entities and medical establishments-both private and public. The resulting dataset is a panel from 2016 to 2020 capturing not only the value of services provided but also the demographic characteristics of non-resident consumers. The survey also includes a module to capture the impact of the COVID-19 pandemic on education and health providers. Annex A and Annex C show a list of respondent providers. Overall, 95 percent of the targeted education institutions and 79 percent of health institutions responded to the survey. Annex F and Annex G contain the survey modules for education and health, respectively.[4]

Field visits were conducted between October and December of 2021. A team of five enumerators and two researchers conducted the fieldwork. Before the commencement of the survey, fieldworkers were trained on how to implement the survey: they were trained on concepts and definitions involved in filling the questionnaire. Additionally, at the preliminary stage of the fieldwork, field visits were conducted at selected institutions to assess whether the guidelines of data collection were properly followed. Researchers monitored the progress of data collection during the survey period and provided necessary clarifications on technical survey matters.

Before this survey, two datasets provided some information on exports for the education and health sector-export estimations from Rwanda's annual Tourism Satellite Account and a dataset on travel entries from the Director-General for Immigration and Emigration (DGIE). For Rwanda's national accounts, the measurement and presentation of data on the education and health sector follow guidelines under the 2008 Balance of Payments Manual Six (BPM6) where education and health services are classified under the personal travel category (p.167). In national account presentations, exports for education and health are part of the overall headline number on exports attributed to travel.

An Overview of Rwanda's services exports

The services sector has been a significant contributor to Rwanda's export growth. In 2019, it made up 45 percent of total exports. For the most part, much of Rwanda's services export growth has been driven by travel, transport

[4] A workshop was arranged prior to the start of the survey to get feedback on the proposed questionnaire. Representatives from the Ministry of Trade and Industry, Ministry of Finance and Economic Planning, Ministry of Education, Ministry of Health and the Rwanda Development Board.

and government services.[5] However, the pandemic and global shutdown of air, land and sea travel has highlighted the strategic importance of diversification not just in goods but also in services exports. The education and health sectors have seen growing investments and there is potential for these sectors to drive even stronger growth in services exports, particularly exports from neighbouring countries which have not traditionally been major trade partners.

A growing travel sector built on luxury tourism and an aggressive marketing strategy has seen the number of visitors double over the past five years. The launch of the national airline, RwandAir, opened more accessible routes for visitors from larger markets, and investments into a world-class conference facility have increased the number of business travellers. There has also been progress in the transport sector with Rwanda increasingly providing transport and logistics services to neighbouring countries connecting inland East and Central Africa to major ports in Kenya and Tanzania. The Government has also leveraged its military to provide services towards peacekeeping efforts in the region- military transport services for food aid to surrounding fragile states have allowed for secure and timely delivery of aid. Figure 1 shows a breakdown of exports from Rwanda's major services categories- travel, transport, government services, telecommunication and other services.

Figure 1: Services exports by major sectors (millions of USD)

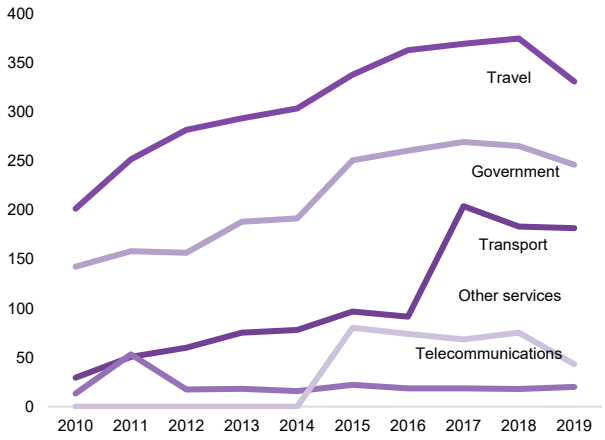
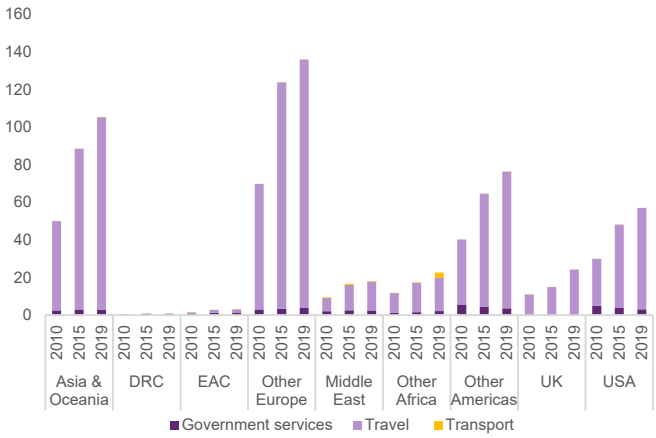


Figure 2: Services exports by trade partners (millions of USD)



Source: Data from the Government of Rwanda.

Unlike merchandise trade, most of Rwanda's services exports are with partners outside the regional and continental market. The major export partners for services are the United States, the United Kingdom and the European Union, mainly Belgium, France and Switzerland (Figure 2). In 2019, the East African market made up only 0.8 percent of total exports, and for exports to the broader African continent, the share was around 7 percent.

[5] Services trade can be described as supplied in one or more of four ways: the service itself travels over a border but the provider and consumer remain in their home countries; the consumer travels across a border to receive a service; the provider establishes a commercial presence in another country to provide the service; and/or, the service provider travels to another country to provide the service.

Education services exports

Exports of education services have been rising over the past two decades as more students seek educational opportunities outside their home countries. Although onshore educational exports dominate, offshore educational exports have increased globally, a trend that is likely to continue as online education has become the norm during the COVID-19 pandemic. A study by the OECD found that global international student mobility increased by an average of 5.5 percent a year over the past two decades, and in 2019, there were an estimated 6 million international tertiary students.[6] These numbers only capture one section of the international education market. They do not include, for example, the movement of students for non-tertiary education and they also do not include data on the number of students receiving their education online with overseas institutions.

The benefits of education exports for provider countries extend beyond tuition fees (Table 1). The ecosystem around international education creates additional jobs within as well as outside of the educational sector as international students consume products and services like housing, food and transport. In countries with work authorization for international students, graduates can be an essential source of skills for domestic labour markets. In the case of the United States, one of the largest exporters of educational services, one million students contributed to $38.96 billion in education exports and supported over 400,000 jobs in 2019 making education the 4th largest services export (ITA). A 2020 study by Du Plessis and Flourie found that international students attending Stellenbosch University in South Africa contributed around $5,800 per semester visit through direct tuition payments and spending in the local economy.

Table 1: Common expenditure categories for students

Direct expenditure items	
Tuition	Visa applications and renewals
Monthly accomodation expenses	Montly food and restaurant expenditures
Return travel to home country	Other living expenses – medical, car and insurance
Visitor expenditures from family and friends	

Source: Categories used by Aloyo and Wentzel (2020) and Snowball and Antrobus (2005).

The scope of education services exports

Educational services can be delivered in a variety of ways which opens up multiple opportunities for countries like Rwanda to build out their export sectors.[7] The most traditional method of exporting education services is to

[6] International education mobility is defined as the movement of students across a border for the purpose of attending an educational institution.

[7] Delivery of education services parallels the modes of services exports outlined by the World Trade Organization (WTO). Mode 1 — Cross border trade — from the territory of one Member into the territory of any other Member. Mode 2 — Consumption abroad — in the territory of one Member to the service consumer of any other Member. Mode 3 — Commercial presence — by a service supplier of one Member, through commercial presence, in the territory of any other Member. Mode 4 — Presence of natural persons — by a service supplier of one Member, through the presence of natural persons of a member in the territory of any other member.

allow international students to enroll as resident students for varying lengths of time: short courses, study abroad programs, part-time or full-time programs. Here students obtain authorization to live in their host country and attend classes in person.

There are three other modes of delivery. The first is through distance learning programs, where students stay in their home countries but enroll and receive a certificate or degree from an institution in a foreign country. Prior to the COVID-19 pandemic, enrolment in this type of study modality had been increasing, albeit modestly. For instance, according to the National Center for Education Statistics, about 35 percent of US college students were enrolled in at least one online course in 2018, compared to around 33 percent in 2017. With the dramatic shift of work and education onto online platforms, more degrees and courses are accessible either fully online or through a hybrid model. The other two modes of delivery are less common: satellite campuses and cross border delivery of education services where an education provider goes to another country (Table 2).

Table 2: Different delivery models for education services exports

Educational services delivery	Options for Rwanda's services exports
The student travels across a border to receive an education service in the host country (most common mode)	International student enrolment in registered and accredited educational institutions in Rwanda. For example, Uganda students studying at the University of Rwanda.
Educational services are offered to students that remain in their home countries	International student enrolment in distance learning courses offered by registered and accredited educational institutions in Rwanda. For example, a Senegalese student signs up for a distance learning marketing course with the University of Kigali.
A foreign educational institution establishes a presence in the host country to provide educational services	Attracting global educational institutions to set up campuses in Rwanda for domestic and international enrolment. The Carnegie Melon University campus in Kigali is an example of a global institution with a satellite campus outside of its main host country.
The educational institution or educator travels to another country to provide educational services	This might take the form of paid workshops by Rwandan educators in other countries.

Source: Authors presentation. These delivery types follow the World Trade Organization's classification of services exports.

Education exports in Africa

Over the past two decades, Africa has been a net importer of international education services. Many African students leave their home countries to pusue an education that is of higher quality or more specialised than is otherwise available to them. In 2019, it was estimated that a little over half a million African students crossed national borders for education reasons (UNESCO, 2019). Almost 50 percent of these students went to the

European and Northern American education markets and about a quarter stayed on the African continent. (Figure 3).

South Africa is the dominant player in Africa's education export market with a yearly average of close to 40,000 international students over the past ten years. In Northern Africa, Morocco is a popular destination for students; in Western Africa, Ghana, Senegal and Benin are at the top; and in East Africa, Kenya and Uganda are attractive destinations for international students. Data on international mobility for the African continent are limited. For instance, Uganda data is not represented in UNESCO's database on international mobility, but some sources estimate that Uganda had around 16,000 foreign students in 2017 (ICEF Monitor, 2017).

Figure 3: Inbound international students from Africa, reported annual average, 2010-2019

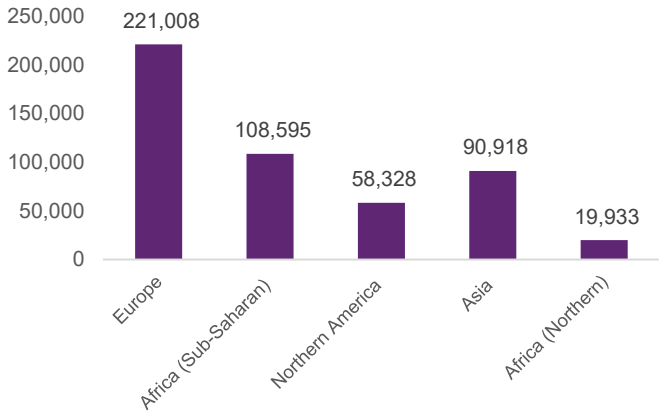


Table 1: Major African Recipients of inbound international Students from Africa

Exporter	Reported annual average, 2010-2019
South Africa	38,146
Morroco	14,519
Senegal	13,893
Ghana	11,240
Benin	9,129
Kenya	5,533

Source: UNESCO's UIS.Stat (http://data.uis.unesco.org).

Box 1: Global University rankings as a snapshot of the quality

As Rwanda thinks of building out its educational sector to attract international students, it will be important for Rwandan institutions to signal quality. One way to achieve this is by placing favourable on global rankings which can sometimes play a significant role in student enrolment choices. Using a compositie index of different variables like affordability, research reputation and job market outcomes, university rankings can serve as a useful comparison tool. They can guide students on selecting institutions that match their interests and are in line with their value for money considerations.

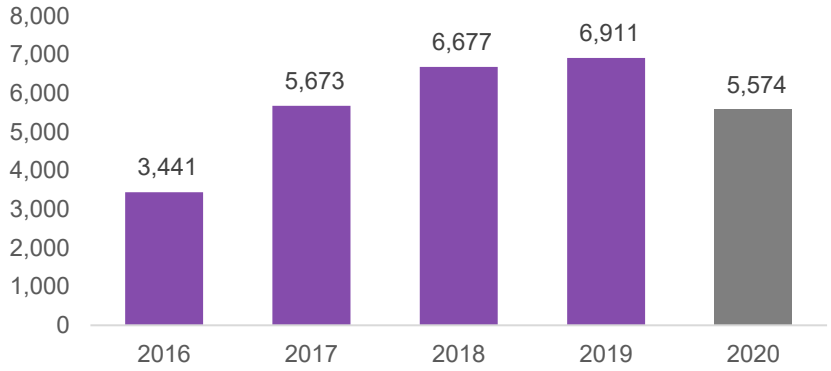
Three influential global rankings are: the Times Higher Education which publishes a yearly ranking of the top universities in Africa; the U.S. News & World Global Ranking which has a special ranking for African Universities and the QS World Univeristy Ranking which features a few African universities in its annual ranking. Across all three lists, South African Universities (University of Capetown, University of Witersand among others) are ranked highest. Makerere University (Uganda), the Kwame Nkrumah University of Science and Technology (Ghana), and the University of Nairobi (Kenya) also rank highly.

Some research has, in fact, found that university ranking ranking systems affect students' decision-making process in selecting a higher education institution (a literature review compiled by Tharkur (2007) highlighted findings from Bhandari (2006) and Vaughn (2002)).

Results of survey on Rwandan exports of education services

Using survey responses from 38 higher education institutions (see Annex A for the list of respondents), we estimate the value of Rwanda's education exports, the demographics of non-resident students and the breakdown of revenue across different departments. Figure 4 shows headline numbers for revenue coming from non-resident students in higher education institutions. Between 2016 and 2019, revenues doubled from 3.4 billion RWF to around 6.9 billion RWF. Revenues declined by almost 20 percent in 2020 due to school closures. Over the pre-pandemic period, revenue grew at around 19 percent per year.

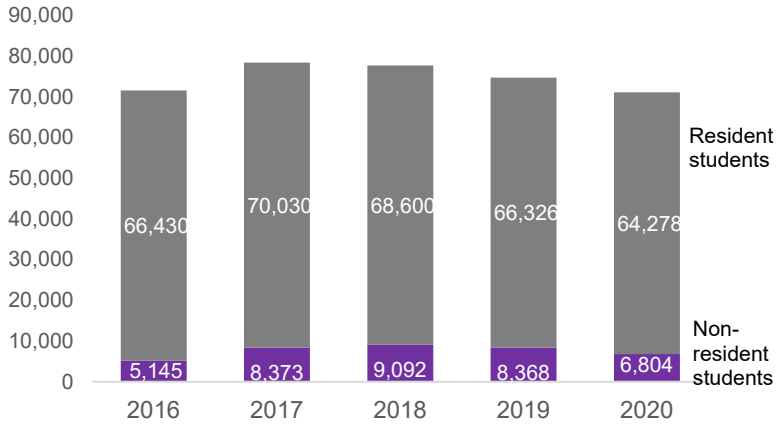
Figure 4: Estimated revenue from non-resident students (millions RWF)



Source: Survey results from 2021 Survey of Rwandan Exports in Education and Health Sectors.

To put these number into context, estimated exports of education services in 2019 was around 0.4 of total formal exports for goods and services. As a share of services exports only, education exports made up around 0.8 percent and were around half the export value of the telecommunication sector.

Figure 5: Estimated number of resident and non-resident students



Source: Survey results from 2021 Survey of Rwandan Exports in Education and Health Sectors.

The number of non-residents students has also increased over the period with a drop-off in 2019 and 2020. The survey estimated a student population of 5,145 in 2016 and 8,368 in 2019, with a 19 percent decline in 2020 to a little over 6,800 students. These numbers are around 10 percent of the total student body in respondent institutions on average (Figure 5).

Hospitality management, technology and business management are the most attractive courses for non-resident students. Combined, these three subject areas make up over 70 percent of the non-resident student population in any given year (Table 2). As a share of total enrolment for non-residents, enrolment in hospitality management has stayed stable at a little over 35 percent on average. The number and share of non-resident students in technology has declined while enrolment for business management degrees has increased in number and importance. Enrolment numbers for law, medicine, economics and data science and agriculture have increased by between two and three-fold, albeit from a low base.

Table 2: Estimated number of non-resident students by faculty

	2016	2017	2018	2019	2020	2016	2017	2018	2019	2020
Hospitality management	1,809	3,235	3,502	3,098	2,151	35%	39%	39%	37%	32%
Technology	2,315	2,460	2,509	2,103	1,612	45%	29%	28%	25%	24%
Business and Management	301	748	818	971	819	6%	9%	9%	12%	12%
Engineering	245	248	259	275	253	5%	3%	3%	3%	4%
Law	142	227	251	188	241	3%	3%	3%	2%	4%
Medicine	55	76	163	144	117	1%	1%	2%	2%	2%
Economics	58	88	85	124	163	1%	1%	1%	1%	2%
Data science	43	50	72	117	136	1%	1%	1%	1%	2%
Agricultural	65	77	95	116	118	1%	1%	1%	1%	2%
Other	112	1,164	1,338	1,232	1,194	2%	14%	15%	15%	18%
Overall	**5,145**	**8,373**	**9,092**	**8,368**	**6,804**	**100%**	**100%**	**100%**	**100 %**	**100%**

Source: Survey results from 2021 Survey of Rwandan Exports in Education and Health Sectors.

In Table 3 below, we highlight the top 20 institutions by the number of non-resident students. Across the period, the University of Tourism and Business Studies has hosted the highest number of non-residents students.The Kigali Independent University (Kigali Campus), the Integrated Polytechnic Regional College (Huye) and the African Leadership University follow with a combined enrolment of close to half of the enrolment of the University

of Tourism and Business Studies. *Annex B contains more analytical tables on the demographic characteristics of non-resident students*

Table 3: Top 20 tertiary institutions by number of non-resident students

Tertiary institution	Province	2016	2017	2018	2019	2020
University of Tourism and Business Studies	Kigali	3,368	4,953	5,112	4,279	3,037
Kigali Independent University (Kigali Campus)	Kigali	-	1,155	983	835	986
Integrated Polytechnic Regional College (Huye)	South	598	603	836	831	716
African Leadership University	Kigali	-	282	570	819	511
Kigali Independent University (Gisenyi Campus)	West	440	544	523	393	245
Adventist University of Central Africa	Kigali	65	76	104	148	204
Institut D'enseignement Superier Ruhengeri	North	97	100	110	136	110
University of Kigali	Kigali	13	22	29	129	94
College of Science and Technology	Kigali	28	36	56	127	171
Mount Kenya University-Rwanda	Kigali	101	62	83	101	106
University of Rwanda College of Medicine and Health Sciences	Kigali	25	14	113	101	88
Institute of Legal Practice and Development	South	116	142	149	74	108
African Institute for Mathematical Sciences	Kigali	26	30	59	73	26
Carnegie Mellon University Africa	Kigali	31	55	63	63	80
University of Rwanda College of Business and Economics	South	41	34	40	46	63
Catholic University	South	30	46	66	40	-
University of Lay Adventists of Kigali	Kigali	61	61	50	39	132
University of Rwanda College of Arts and Social sciences	South	55	53	50	37	34
Protestant Institute of Arts and Social Sciences	South	18	20	20	24	20
Integrated Polytechnic Regional College (Kigali)	Kigali	15	26	29	21	31

Source: Survey results from 2021 Survey of Rwandan Exports in Education and Health Sectors.

Box 2: Carnegie Mellon satellite campus in Rwanda

In 2011, Carnegie Mellon University opened its Africa campus (CMU-Africa) in Kigali, Rwanda, kicking off a partnership between the U.S. university and the Government of Rwanda. Driven by a goal to

increase the number of African engineers by providing a world-class masters-level education, CMU-Africa attracts students from across the African Continent. This model of partnering with an existing university- one that is interested in opening an overseas campus- allows Rwanda to expand its education services offerings beyond domestic institutions. Alongside revenue generation, Rossi and Goglio (2020) point to two additional benefits of satellite campuses i) widening access to quality higher education to residents; (ii) contributing to knowledge exchange and spillovers from research and community engagement.

Policies to drive education exports

In this section, we outline policy recommendations for boosting education exports. These recommendations build on global experiences and present a menu of actionable items that the government can implement in the near and medium-term.

- **Design an export promotion strategy for the education sector**. Rwanda has done a good job of designing overarching export and industrial policy strategies. However, these documents do not provide a detailed plan on how Rwanda can make its education sector more attractive to non-resident students. An education export strategy must be coherent with the government's broader education strategy with the goal of complementing policies to increase access and quality. Such a strategy would require coordination across government with strong collaboration between the Rwanda Development Board, the Ministry of Trade and Industry and the Ministry of Education.
- **Attract more international campuses to Rwanda.** Carnegie Mellon University and the African Leadership University are global institutions with campuses in Rwanda. Collectively both institutions accounted for close to 11 percent of the non-resident student population in 2019. Having global campuses attracts more international students while also providing educational opportunities for domestic students. This model is increasingly popular with Stanford and Webster University opening campuses in Accra and Columbia University opening centres in Nairobi and Tunis. Rwanda should keep track of announced plans for satellite campuses and should position itself as a location of choice for satellite campuses by highlighting its main selling points: central location on the continent, access to an affordable national carrier as well as political and economic stability
- **Capitalize on Rwanda's hospitality industry to bring in more international students interested in hospitality management.** Hospitality management is Rwanda's top education export, and there is an opportunity for Rwanda to make its program even more attractive. Leveraging opportunities for practicums with luxury tourist facilities could be a strong draw for students. Setting up satellite or exchange programs with top global hospitality programs like Cornell University, University of Michigan, University of Nevada or Ecole hotelier de Lausanne, could help boost the reputation of Rwanda's programs. Collaborations with top regional hospitality programs like the International Hotel and Tourism Institute in Kenya would also be beneficial.

Health Sector

Health is another area with a potential for higher exports. Globally, health services exports, most prominently through medical tourism where patients seek medical services outside their home country. Global spending on medical tourism increased from US$2.4 billion to US$11 billion between 2000-17 with an average annual growth of 9 percent (WTC, 2019). With more accessible and affordable travel routes, seeking health services abroad has become less cost prohibitive. Additionally, health providers have an easier time marketing to and communicating with prospective international patients using technology that makes it possible to share detailed medical history securely. Popular medical services for medical tourism include dental care, cosmetic surgery, elective surgery, and fertility treatments (ITC, 2014).

The United States is the largest destination (exporting) market for inbound medical tourists with spending accounting for 36 percent of the global medical tourism market. The United States is also the world's leading outbound (importing) medical tourism market, with U.S. citizens spending around US$2.3 billion in 2017 on medical tourism services abroad. Turkey, Thailand, Jordan, Costa Rica, and Mexico are leading emerging economies in terms of inbound (exports) medical tourism spending. Kuwait is the second largest source market for outbound (imports) medical tourism followed by Nigeria, the largest importer in Africa (WTC, 2019).

Like education exports, medical tourism brings indirect and direct benefits to domestic economies. Table 4 outlines typical expenditure items for non-resident patients.

Table 4: Common expenditure categories for medical tourists

Direct expenditure items	
Medical fees and prescription costs	Visa applications and renewals
Return travel to home country for patient	Food and restaurant expenditures
For longer term care- visitor expenditures from family and friends	Accomodation expenses pre and post treatment

Source: Authors' presentation.

Healthcare services can be exported in four main ways depending on the location of the patient and the modality used to provide the services (Table 2). The most common is through patients travelling to another country to pay for and receive treatment. There are also situations where health services are delivered across borders using telemedicine. Here a healthcare provider treats a patient over the telephone, email or online video for a fee. The number of patients using telemedicine has been on the rise since it reduces the costs of travel of subsistence in another country. However, this mode depends on the availability of facilities and access to drugs in country since some patients receiving telemedicine might still need to go for diagnostic services or treatments domestically.

Table 2: Different delivery models for education services exports

Educational services delivery	**Options for Rwanda's services exports**

The patient travels across a border to receive health services in the host country (most common mode)	Foreigners seeking treatment at registered and accredited medical providers in Rwanda. For example, a Nigerian patient accessing oncology services in Rwanda.
Health services are offered to patients that remain in their home countries (telemedicine)	Foreign patients receiving paid medical care from a provider registered in Rwanda. For example, paid telemedicine for a Nigerian patient that traveled for oncology services but has returned to their host country.
A foreign health facility establishes a presence in the host country to provide medical services	Attracting global health providers to set up facilities in Rwanda for domestic and international patients. For example, an international network of healthcare providers sets up a facility in Rwanda.
The healthcare provider travels to another country to provide healthcare services	Rwandan health providers providing services in person in another country. For example, healthcare services to fragile states.

Source: Authors' presentation. These delivery types follow the World Trade Organization's classification of services exports.

Box 3: Dr. Agarwal Eye Clinic- a public-private partnership for healthcare.

In 2012, Dr. Agarwal's Eye Hospital, a global network of hospitals, set up operations in Kigali in partnership with the Rwanda International Institute of Ophthalmology (RIIO). Prior to this, the Indian Healthcare provider had set up clinics in Ghana, Uganda, Kenya, Madagascar, Tanzania, Zambia, Mozambique, Nigeria, in addition to its inaugural African clinic in Mauritius. The Kigali branch was set up to provide world-class eye care to Rwandans and to provide students and doctors with practical training opportunities. Since then, the clinic has served domestic and foreign patients providing general, paediatric and neuro-ophthalmology services, among other treatments.

Medical tourism in Africa

Although the continent remains a net importer of health services, South Africa, Tunisia, Morocco and Egypt are major destinations for medical tourism with a global portfolio of patients and well-established infrastructure and programs to facilitate foreigners looking to access health services.[8] All three countries have built their health tourism sectors through deliberate government strategies that provide incentives for private healthcare providers. Entire ecosystems are built around medical tourism from airline packages, comfortable hospital

[8] South Africa, Morocco and Tunisia have been the only three African countries included in the Annual World Medical Tourism Index. The index evaluates the destination's environment, its medical and tourism industry and the quality of its facilities and services.

accommodation, and local tourism services. Other emerging providers of medical tourism services are Kenya, Ghana and Nigeria.

The biggest draw for tourists is access to lower-cost procedures relative to those provided by home countries. In many instances, the quality of these services is comparable for a fraction of the price. In addition to these benefits, African countries provide access to favourable climates, exotic international tourist locations for follow-on tourist activities, and highly certified medical practitioners and facilities. With more flight routes to and from the continent, travel costs are lower than in past decades, making medical tourism even more attractive to patients looking to cut their expenses.

Box 3: Ethiopian Airlines medical tourism package

Recognizing the growing market for medical tourism, Ethiopian Airlines set up a medical travel package to support travellers looking to access healthcare services within and outside of Africa. Through a network of partner hospitals, Ethiopian Airlines offers a medical travel management program that works with patients across general medical consultation to more specialized care including support for air travel, and arrangements once patients arrive in the treatment country. A menu of support services includes payment options in local currencies, discount tickets and accommodation, visa support, personalized patient care outside of the treatment facility, post-treatment wellness programs.

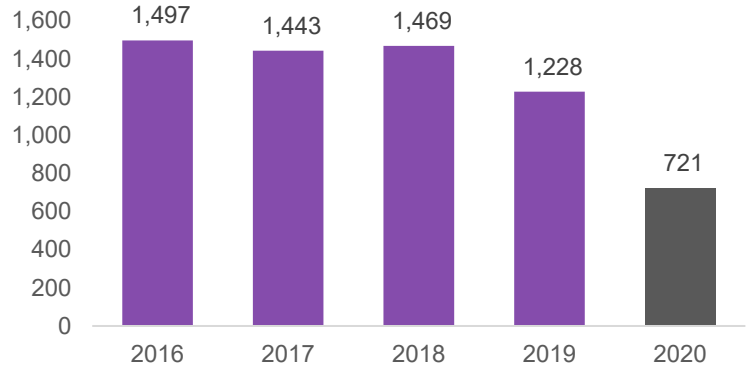
Results of survey on Rwandan export of health services

Rwanda's healthcare system combines community-based health care with more traditional healthcare provision. Residents have access to 1700 health posts in both rural and urban areas. These are complemented by around 500 health centres, 42 district hospitals, and five national referral hospitals. Private healthcare providers also contribute to the national healthcare ecosystem with Rwanda also has a vibrant private health services sector, which comprises of two general hospitals, 50 clinics and polyclinics, eight dental clinics, six eye hospitals and clinics, and 134 registered pharmacies (RDB).

The government has prioritized oncology, cardiology, nephrology for medical tourism and provides incentives to support investors (RDB, 2014). Incentives include VAT exemptions on medical equipment; a seven-year tax holidays for investments exceeding $50 million; and a waiver of the required labor market test for foreign employees. There have been positive developments across all three priorities. In 2019, Rwanda's first oncology opened its doors and operates out of the national military hospital. In 2021, Rwanda kicked off plans to construct a Cardiology Research Centre. Rwanda also has two nephrology centres in Kigali and Gisenyi providing low coast dialysis treatments to domestic patients and as well as patients from the DRC, Uganda and Kenya.

To estimate revenues from medical tourism, we use survey responses from 46 health institutions (see Annex C for the list of respondents). We also use the data to understand the demographics of non-resident patients as well as the distribution of patients across speciality. From 2016 to 2019, Rwandan medical institutions received an estimated average revenue of around 1.4 billion RWF. In 2020, there was a 41 percent year-on-year decline in revenues due to COVID-19 disruptions and border closures (Figure 6).

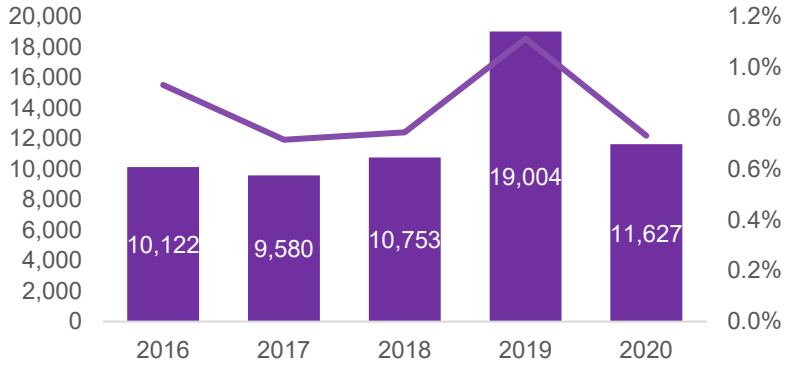
Figure 6: Estimated revenue from non-resident patients (millions of RWF)



Source: Survey results from 2021 Survey of Rwandan Exports in Education and Health Sectors

Trends in the number of patients have been more sporadic, with the number of patients almost doubling in between 2018 and 2019 followed by a decline in 2020. Non-resident patients made up close 1 percent of total patients seen during the period.

Figure 7: Number of non-resident patients and share of non-resident patients to total patients



Source: Survey results from 2021 Survey of Rwandan Exports in Education and Health Sectors

A look at non-resident patient numbers by specialty shows that the three major medical departments are general consultation, internal medicine and surgery. There was a noticeable increase in the share of patients coming in for Ophthalmology services.

Table 4: Estimated number of non-resident patients by medical speciality

Department	2016	2017	2018	2019	2020	2016	2017	2018	2019	2020

General Consultation	6,090	4,127	3,830	11,375	6,501	60%	43%	36%	60%	56%
Internal Medicine	1,372	1,656	1,502	1,332	981	14%	17%	14%	7%	8%
Surgery	628	757	938	400	397	6%	8%	9%	2%	3%
Paediatrics	249	284	308	316	195	2%	3%	3%	2%	2%
Ophthalmology	102	1,104	1,107	2,030	946	1%	12%	10%	11%	8%
Dentistry	148	200	231	365	233	1%	2%	2%	2%	2%
Gynaecology	316	328	833	955	602	3%	3%	8%	5%	5%
Oncology	38	168	207	271	174	0%	2%	2%	1%	1%
Other departments	1,179	956	1,797	1,960	1,598	12%	10%	17%	10%	14%
Total	10,122	9,580	10,753	19,004	11,627	100%	100%	100%	100%	100%

Source: Survey results from 2021 Survey of Rwandan Exports in Education and Health Sectors

In Table 5, we highlight the top healthcare centres by number of non-resident patients. King Faisal Hospital, Ruhengeri Referral Hospital, Polyclinique du Plateau, Dr. Agarwal Eye Hospital received over half of non-resident patients over the period. Of note is the Rwanda Charity Eye Hospital which began receiving patients in 2019 and in 2020 recorded 809 non-resident patients.

Healthcare facility	**Province**	**2016**	**2017**	**2018**	**2019**	**2020**
King Faisal Hospital	Kigali	6,062	5,889	7,007	7,396	4,785
Ruhengeri Referral Hospital	North	-	-	-	6,196	4,340
Polyclinique du Plateau	Kigali	841	1,004	619	1,200	391
Dr Agarwal's Eye Hospital	Kigali	1,836	1,138	1,087	1,102	375
Rwanda Charity Eye Hospital	South	-	-	-	809	492
Iramiro Clinic LTD	Kigali	456	492	504	576	456
Centre Medical Orkide	Kigali	540	547	508	446	88
Mediheal Diagnostic and Fertility Centre	Kigali	-	24	312	442	148
Butaro Hospital	North	85	133	198	198	71
Iranzi Clinic LTD	Kigali	-	52	142	179	74
University of Rwanda Polyclinic	Kigali	31	59	54	115	56

Polylinique Familiale	Kigali	78	89	102	113	65
Ubuzima Polyclinic LTD	Kigali	32	50	43	84	23
Polyclinique Peace	South	51	28	55	76	19
Rwanda Military Hospital	Kigali	105	67	108	56	42
Narada Medical Clinic	East	-	-	-	9	12
Aide Dentaire Afrique LTD	Kigali	5	8	14	7	3
Clinique Bien Naitre	Kigali	-	-	-	-	10
Iramiro Clinic LTD	North	-	-	-	-	168
Kigali Medical Center	Kigali	-	-	-	-	9

Source: Survey results from 2021 Survey of Rwandan Exports in Education and Health Sectors

Policies to drive health services exports

Rwanda is poised to be a hub for medical tourism provided the government continues to facilitate public and private investments in healthcare. Investment incentives are already in place, and ongoing investments have increased the stock of healthcare infrastructure but more needs to be done to strengthen the pipeline of health specialists to support domestic health needs first while also opening up opportunities for medical tourism. Effectively marketing Rwanda as an attractive destination for medical tourism would be central to Rwanda's medical tourism ambitions.

- **Design a stand-alone strategy for medical tourism.** The government has plans to develop a medical tourism industry in Rwanda. However, there is no dedicated strategy to guide the implementation of this strategy. Medical tourism is briefly mentioned in the Rwanda Development Board's strategy as well as in the National Health Sector Strategic plan. Still, there is no central document capturing the government's strategies and goals for the sector. An explicit document that is coherent with national export and health sector goals would set the foundation for strong growth of the sector. The RDB, the Ministry of Trade and Industry and the Ministry of Health are best placed to coordinate and drive the design of such a strategy.
- **Support healthcare providers interested in attaining international accreditation/certification.** Accreditation is a strong signal to international patients looking for high-quality healthcare. It would be important for Rwanda to distinguish itself as a medical tourism destination that prioritizes effective and safe delivery of healthcare services. It would also allow patients to compare Rwanda to similar options to make an informed decision.
- **Design and implement targeted marketing strategies centred around medical tourism packages.** Package deals are an effective way of enticing tourists. They simplify the travel process and can be more affordable. RwandAir, in partnership with the Rwanda Tourism Board, should consider tailored

packages aimed at medical tourists. The Ethiopian Air medical package and the medical tourist programs of other countries would be informative.

Annex

Annex A: List of Education establishments that submitted the filled questionnaire (complete)

1	University of Rwanda - College of Agriculture, Animal Science and Veterinary Medicine (CAVM)	21	Institut Catholique de Kabgayi - ICK

2	University of Rwanda - College of Medicine and Health Sciences (CMHS)	22	Institut d'Enseignement Superieur de Ruhengeri - INES Ruhengeri
3	University of Rwanda - College of Education (CE)	23	Institut Polytechnique de Byumba - IPB
4	University of Rwanda - College of Sciences and Technology (CST)	24	Rwanda Tourism University College - RTUC
5	University of Rwanda - College of Arts and Social sciences (CASS)	25	Institut Superieur Pedagogique de Gitwe - ISPG
6	College of Business and Economics (CBE)	26	Mount Kenya University-Kigali Campus - MKU-R
7	University of Rwanda - Rwamagana School of Nursing and Midwife	27	Kibogora Polytechnic - KP
8	Integrated Polytechnic Regional College (IPRC) Gishali	28	Carnegie Mellon University Africa - CMUA
9	Integrated Polytechnic Regional College (IPRC) Karongi	29	University of Kigali - UoK
10	Integrated Polytechnic Regional College (IPRC) Kigali	30	Ruli Higher Institute of Health Sainte Rose De Lima - RHIH
11	Integrated Polytechnic Regional College (IPRC) Kitabi	31	VATEL School Rwanda
12	Integrated Polytechnic Regional College (IPRC) Huye	32	Oklahoma Christian University - OCU
13	Integrated Polytechnic Regional College (IPRC) Musanze	33	Rwanda Institute of Conservation Agriculture - RICA
14	Integrated Polytechnic Regional College (IPRC) Ngoma	34	African Institute of Mathematical Sciences - AIMS - Rwanda
15	Integrated Polytechnic Regional College (IPRC) Tumba	35	East African University (EAU)
16	Institute of Legal Practice and Development - ILPD	36	Protestant Institute of Arts and Social Sciences (PIASS)
17	Independent University of Kigali - ULK	37	African Leadership University (ALU)
18	Institute of Lay Adventists of Kigali - INILAK	38	University of Global Health Equity (UGHE)
19	Catholic University of Rwanda-CUR		
20	Adventist University of Central Africa - AUCA		

Annex B

Table A1 shows that the total number of students in tertiary education institutions in Rwanda was 71,082 in 2020 from 71,575 in 2016, according to the survey findings. Furthermore, the highest number of higher learning students was recorded in 2017 with 78,403 students in total.

Table A1: Number of total students' population in Rwanda by gender per year

Gender/Year	2016	2017	2018	2019	2020

Male	43,357	45,808	44,555	42,395	40,031
Female	28,218	32,595	33,137	32,299	31,051
Total	**71,575**	**78,403**	**77,692**	**74,694**	**71,082**

Source: Survey results from 2021 Survey of Rwandan Exports in Education and Health Sectors

The distribution of the number of international student's population in Rwanda by gender and per year is highlighted in Table A2. According to the survey findings, on average for all five years under consideration, 10.1 percent of students are non-residents. Table 2b displays the percentage shares by gender for five years, where the highest share was recorded in 2018 (11.7 percent).

Table A2: Number of international student's population in Rwanda by gender per year

Gender/Year	2016	2017	2018	2019	2020
Male	3,199	4,326	4,941	4,384	3,641
female	1,946	4,047	4,151	3,984	3,163
Total	**5,145**	**8,373**	**9,092**	**8,368**	**6,804**

Source: Survey results from 2021 Survey of Rwandan Exports in Education and Health Sectors

The distribution of all non-resident students by education faculties and over five years shows that most of them come to study Hospitality management followed by Technology, Business management and Engineering (See Annex Table 5.1.22). Table 2b contains the ratios of non-resident students over the total number of all students. That is Table 2a contains the numerators while Table 1 contains the denominators.

Table A3: Shares of international students in total students' population in Rwanda by gender per year

Gender/Year	2016	2017	2018	2019	2020
Male	7.4%	9.4%	11.1%	10.3%	9.1%
Female	6.9%	12.4%	12.5%	12.3%	10.2%
Total	**7.2%**	**10.7%**	**11.7%**	**11.2%**	**9.6%**

Source: Survey results from 2021 Survey of Rwandan Exports in Education and Health Sectors

Table A4: Number of total students' population in Rwanda by age group per year

Age group/Year	2016	2017	2018	2019	2020
18-25	47,339	57,575	51,138	50,774	47,997

26-30	16,981	12,609	17,271	15,988	13,979
31-35	4,277	5,928	5,329	4,532	4,986
36 and above	2,978	2,291	3,954	3,400	4,120
Total	**71,575**	**78,403**	**77,692**	**74,694**	**71,082**

Source: Survey results from 2021 Survey of Rwandan Exports in Education and Health Sectors

Table A5: Number of international students' population in Rwanda by age group per year

Age group/Year	2016	2017	2018	2019	2020
18-25	2,816	3,869	5,532	5,632	2,847
26-30	1,476	2,289	1,663	1,696	1,628
31-35	475	2,000	1,166	692	1,488
36 and above	378	215	731	348	841
Total	**5,145**	**8,373**	**9,092**	**8,368**	**6,804**

Source: Survey results from 2021 Survey of Rwandan Exports in Education and Health Sectors

Annex C: List of Medical establishments that submitted the filled questionnaire (complete)

1	King Faycal Hospital	26	Jubilee Dental Clinic
2	Kigali University Teaching Hospital (CHUK)	27	Salus polyclinic
3	Rwanda Military Hospital (RMH)	28	Clinic mpore liberte
4	Butare University Teaching Hospital (CHUB)	20	Rwanda Charity Eye Clinic (Bishenyi)
5	Ruhengeri Referral Hospital	30	Narada clinic
6	Butaro Cancer Center	31	Peace Polyclinic
7	Gisenyi Hospital	32	Iranzi Clinic
8	Clinique Dentaire ADA	33	Clinique Don de Dieu
9	Kigali Health Institute (KHI) Physical Therapy	34	BWIZA Medical clinic & Diagnosis center

10	Legacy clinic	35	Clinique Bien Naitre
11	Plateau polyclinic	36	Polyclinique de l'Etoile
12	BMC hospital	37	Benefactors David Clinic
13	Dr. Agarwal's Eye Hospital	38	La medicale polyclinic
14	Hospital La croix du sud	39	Centre Medical Orkide
15	Ubuzima polyclinic	40	Iramiro Branch
16	Polyfam polyclinic	41	Saint Jean Polyclinic
17	Kigali Citizen Polyclinic	42	Centre Medicale Kibungo
18	Polyclinic medical sociale	43	Clinic du mont Nyamagumba
19	MediHeal	44	Polyclinic la Providence de Muhanga
20	Iramiro clinic	45	La Medicale Huye
21	Horebu clinic	46	Proominibus Clinic
22	KMC Polyclinic		
23	Kigali Dermatology clinic		
24	Dream hospital		
25	Carrefour polyclinic		

Annex D

Table D1: Number of patients in Rwanda by gender per year

Gender	2016	2017	2018	2019	2020
Male	480,166	676,028	658,160	768,672	732,604
Female	608,000	664,064	787,240	939,938	858,755
Total	1,088,166	1,340,092	1,445,400	1,708,610	1,591,359

Source: Survey results from 2021 Survey of Rwandan Exports in Education and Health Sectors

Table D2: Number of non-resident patients in Rwanda by gender

Gender	2016	2017	2018	2019	2020
Male	5,552	4,861	5,815	9,455	5,879
Female	4,570	4,719	4,938	9,549	5,748
Total	10,122	9,580	10,753	19,004	11,627

Source: Survey results from 2021 Survey of Rwandan Exports in Education and Health Sectors

Table D3: Number of total patients population in Rwanda by age group

Age group	2016	2017	2018	2019	2020
Under 18	276,780	343,811	366,089	439,674	370,428
18-34	370,546	425,322	458,813	525,149	508,784
35 - 54	297,553	394,940	425,177	489,004	470,978
55 and above	143,287	176,019	195,321	254,783	241,169
Total	1,088,166	1,340,092	1,445,400	1,708,610	1,591,359

Source: Survey results from 2021 Survey of Rwandan Exports in Education and Health Sectors

Table D4: Number of total non-resident patients in Rwanda by age group

Age group	2016	2017	2018	2019	2020
Under 18	2,522	904	992	1,926	1,145
18-34	1,658	2,108	2,947	5,243	3,558
35 - 54	3,838	4,383	4,295	7,732	4,496
55 and above	2,104	2,185	2,519	4,103	2,428
Total	10,122	9,580	10,753	19,004	11,627

Source: Survey results from 2021 Survey of Rwandan Exports in Education and Health Sectors

Annex E

Data from the Rwanda Director General of Immigration and Emigration (DGIE)

Legal movements across Rwanda's border posts as well as legal immigration into Rwanda fall under the jurisdiction of the Directorate General of Immigration and Emigration (DGIE), who is responsible for managing border posts and applications for travel documents, visas and residence permits. DGIE data provides the best national coverage (both in terms of space and time) of the population movements of Rwandan residents and non-resident travellers.

The DGIE collects administrative data on the numbers of non-resident visitors, Rwandan resident travellers, permanent and long-term migrants entering or leaving Rwanda, based on final counts of arrivals to and departures from Rwanda's airport and land borders. The counts or number of visits relate to the number of completed visits, rather than to the number of visitors or travellers. Hence, the multiple international movements of an individual during the calendar month/year are each counted separately.

DGIE data are collected by a team of immigration officials who are trained specifically to work on the Migration Database. Interviews are carried out on all days of the year and mostly take place on a face-to-face basis. Great emphasis is placed upon DGIE officials to ensure they are able to capture data efficiently and accurately.

Traditionally, responses were recorded on paper forms, particularly on the departure and entry cards. Since early 2014, paper forms were removed in favour of an electronic system. Data are currently collected directly from travel documents either by scanning or capturing onto the ports' electronic database. Forms or cards are no longer in use, except in rare occasions when the capturing system is not working (e.g. due to a power cut).

The data are entered to a computer system per individual border. Following a set of electronic checks, the data is then sent regularly to the national database at DGIE headquarters, where a series of further quality and accuracy checks are made on the data before processing and analysis.

Table E1: Total (air + land) non-resident entries with education as purpose of travel

	2016	2017	2018	2019	2020
Asia	38	73	104	95	27
DRC	1,336	25,340	28,391	8,883	2,179
EAC	2,122	2,044	3,165	1,941	1,329
Europe	155	236	294	268	141
North America	158	297	285	284	93
Rest of Africa	103	511	658	798	712
Rest of the world	13	32	39	21	6
TOTAL	**3,925**	**28,533**	**32,936**	**12,290**	**4,487**

Source: DGIE, 2021

Table E2: Total (air + land) non-resident entries with health as purpose of travel

	2016	2017	2018	2019	2020
Asia	44	20	45	27	7
DRC	631	2,259	5,825	5,338	1,124
EAC	1,782	1,698	2,426	2.301	590
Europe	46	102	124	99	41
North America	40	99	83	81	47
Rest of Africa	23	46	76	51	19
Rest of the world	5	3	24	13	2
TOTAL	**2,571**	**4,227**	**8,603**	**7,910**	**1,830**

Source: DGIE, 2021

Annex E

The Impact of COVID-19 on health and education institutions

The COVID-19 pandemic led to disruptions in operations for providers of education and health exports. For both sectors, close to 90 percent if respondent institutions faced disruptions to their operations and in turn saw a decrease in the number of non-resident consumers- around 42 percent and 60 percent for the education and health sector respectively. These results come from a second module on the impact of COVID-19. The goal of this module was to understand how the pandemic has affected the delivery of education and health services. Below we summarize the main findings of this module. Annex F and G contain the survey questions and details on responses are available in the accompanying survey dataset.

Education sector

Figure 8: Have you faced disruption of service delivery at the institution due to COVID-19 pandemic?

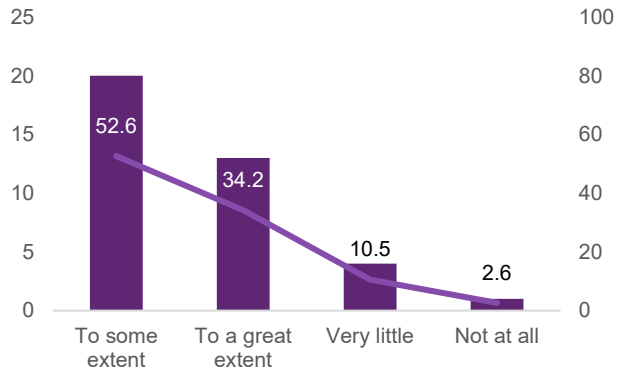
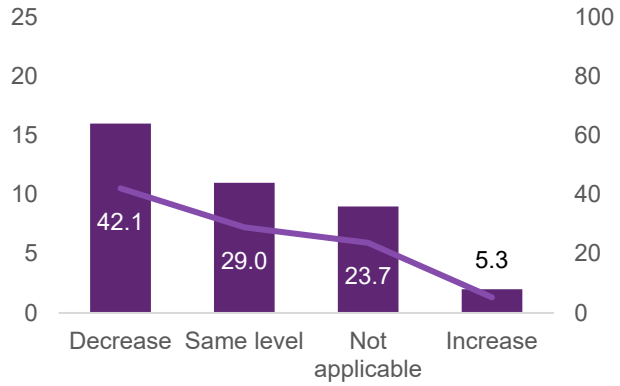


Figure 9: How has the pandemic impacted the number of international students compared to the prior year



Source: Survey results from 2021 Survey of Rwandan Exports in Education and Health Sectors

Health Sector

Figure 10: Have you faced disruption of service delivery at the institution due to COVID-19 pandemic?

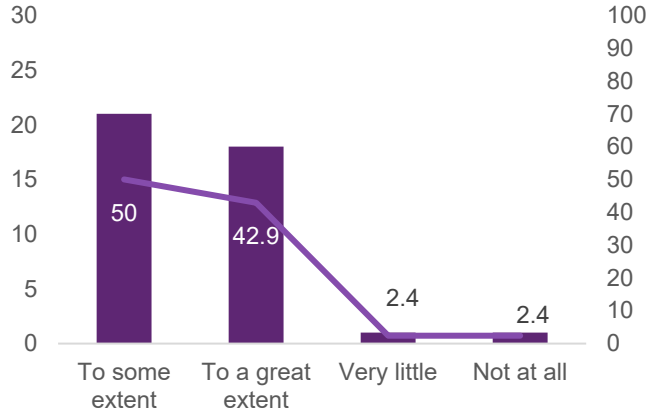
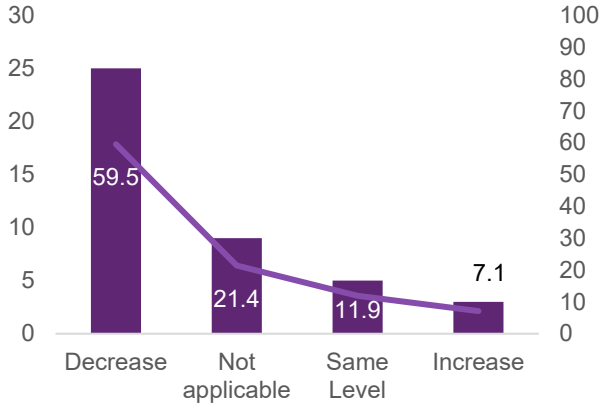


Figure 11: How has the pandemic impacted the number of international patients compared to the prior year



Source: Survey results from 2021 Survey of Rwandan Exports in Education and Health Sectors

Annex F

INTERNATIONAL TRADE IN SERVICES SURVEY (ITSS)

EDUCATION SERVICES MODULE

Education services include correspondence courses and on-line courses, as well as by teachers and so forth who supply services directly in host economies.

Enterprise code (for official use only) |__|__|__|

SECTION 1: GENERAL INFORMATION*/INFORMATIONS GENERALES*

Enterprise identification / *Identification de l'entreprise*

1.1 Full name/Nom complet	
1.2 Abbreviation/ Abréviation of the name of the hospital	
1.3 TIN Number (If registered with RRA) Numéro TIN (Si vous êtes inscrits au RRA)	
Address	
1.4 Province	
1.5 District	
1.6 Sector	
1.7 Cell	
1.8 Village	
1.9 Website	
1.10 Telephone no of institution:	
1.11 Telefax no:	
1.12 E-mail:	
Contact person/ Personne de contact	
1.13 Name /noms	
1.14 Position /Poste	
1.15 Telephone no:	
1.16 E-mail:	

Enumerator's Information (For Official Use Only)

Interviewer / Enquêteur	Supervisor	Researcher

1.17.1 Name /noms ……	1.18.1 Name /noms ……	1.19.1 Name /noms ……
1.17.2 Date of interview / Date d'interview -------/--------/----------	1.18.1 Date of checking / Date de vérification ------/--------/----------	1.19.1 Date of codification / Date de codification ------/--------/----------
1.17.3 Signature	1.18.1 Signature	1.19.1 Signature

SECTION II. SCHOOL/UNIVERSITY INFORMATION

2.1 Year of creation of the establishment					
2.2 Total number of students (residents + non-residents) by gender					
Gender	2.2 Number of students (resident + non-resident) per academic year				
	2016	2017	2018	2019	2020
Male					
Female					
2.3 Number of non-resident students by gender					
Gender	2.3 Number of non-resident students per calendar year				
	2016	2017	2018	2019	2020
Male					
Female					
2.4 Age group of all students (residents + non-residents) by age group					
Age group	2.4 Number of students (resident + non-resident) per academic year				
	2016	2017	2018	2019	2020
18-25					
36 - 30					
31-35					
36 and above					
2.5 Age group of all students (non-residents)					
	2.5 Number of non-resident students per calendar year				
Age group/Calendar year	2016	2017	2018	2019	2020

18-25					
36 - 30					
31-35					
36 and above					
Number of total students by faculty (residents + non-residents)					
Faculty (list all faculties of your institution here below)	2.6 Number of students (Resident + non-resident) per academic year				
	2016	2017	2018	2019	2020
Number of non-resident students by faculty					
Faculty (list all faculties of your institution here below)	2.7 Number of students (non-resident) per academic year				
	2016	2017	2018	2019	2020

Tuition fees earned from non-resident students

Academic Year	2.8 Tuition fees earned in RWF (for non-resident students)
2016	
2017	
2018	
2019	
2020	

SECTION III. The impact of COVID - 19 on Higher Education in Rwanda

3.1 Has the COVID-19 pandemic disrupted service delivery at your institution? (Please select only one) *1=To a great extent* *2=To some extent* *3=Very little* *4=Not at all*	
3.2 Will the service delivery strategy of the institution be modified taking into account the effect of the pandemic? (Please select only one) *1=To a great extent*	

2=To some extent *3=Very little* *4=Not at all*	
3.3.1 Has the pandemic caused an impact on domestic students enrolment compared to the academic year before the Covid-19 pandemic? (Please select only one per row) *1=Increase* *2=Same level* *3=Decrease* *4=Not applicable*	
3.3.2 Has the pandemic caused an impact on the number of international students enrolment compared to the academic year before the Covid-19 pandemic? (Please select only one per row) *1=Increase* *2=Same level* *3=Decrease* *4=Not applicable*	
3.4.1 Has the pandemic caused an impact on the number of domestic student dropout compared to the academic year before the Covid-19 pandemic? (Please select only one per row) *1=Increase* *2=Same level* *3=Decrease* *4=Not applicable*	
3.4.1 Has the pandemic caused an impact on international student dropout compared to the academic year before the Covid-19 pandemic? (Please select only one per row) *1=Increase* *2=Same level* *3=Decrease* *4=Not applicable*	

3.5 To what extent has the pandemic impacted your institution financially? (Income) (Please select only one per row using X symbol)

3.5. **Income**	Increase	Same Level	Decrease	Not applicable
3.5.1 Public Funding				
3.5.2 Tuition fees				
3.5.3 Private Sector Funding				

3.5.4 Other Income				

3.6 To what extent has the pandemic impacted your institution financially? (Expenditures) (Please select only one per row using X symbol)

Expenditure	Increase	Same Level	Decrease	Not applicable
3.6.1 Education/ Teaching				
3.6.2 Research				
3.6.3 Community engagement				
3.6.4 International collaboration				
3.6.5 Staff costs				
3.6.6 Infrastructure				
3.6.7 Health related costs				
3.6.8 Other operating costs				

3.7 Is there a governmental scheme providing emergency/special funding for higher education in the context of the COVID-19 pandemic 1=Yes 2=No	
3.8 Has your institution benefited from this scheme? 1=Yes 2=No	
3.9 Is the impact of the pandemic jeopardising the financial sustainability of the institution? (Please select only one) *1=Yes, we are very concerned about the future of the institution* *2=Yes, we are somewhat concerned about the future of the institution* *3=No, we are not really concerned for the future of the institution* *4=Not at all, we are very confident for the future of the institution.*	
3.10 Has your institution benefitted from any external governmental funding to address COVID-19 pandemic related issues? 1=Yes 2=No	
3.11 Has your institution benefitted from any external non-governmental funding to address COVID-19 pandemic related issues? 1=Yes 2=No	
3.12 Does your institution support the local community in times of COVID-19 crisis? 1=Yes 2=No	

3.13 Has the pandemic promoted a re-definition/rethinking of your institution's values? 1=Yes 2=No	
3.14 Does your institution offer remote teaching and learning? 1=Yes 2=No	
3.15 If Yes Which percentage of students are able to follow remote teaching and learning. (Scale question respondents choose the percentage)	
3.16 How does your institution support students without the necessary access to remote teaching and learning? (Please select only one) 1= The institution provides devices (computers/tablets/phones) to students in need (funded by the institution 2= The institution provides devices (computers/tablets/phones) to students in need (funded through partnerships and sponsorship) 3= The institution has developed partnerships with telecommunication companies regarding internet connection, data packages etc. for students in need 4= Students without necessary access to remote teaching and learning have access to campus as a priority group 5= Nothing	
3.17 Has the pandemic promoted a re-definition/rethinking of your institution's academic values? 1=Yes 2=No	

3.20 Please describe the HR situation following the pandemic. (Please select only one per row using X symbol)

	Increase	**Same Level**	**Decrease**	**Not applicable**
Salaries (including benefits) of academic staff				
Salaries (including benefits) of administrative staff				
Temporary layoff for academic staff				
Temporary layoff for administrative staff				
Redundancies (layoff) of academic staff				
Redundancies (layoff) of administrative staff				
Recruitment of academic staff				

Recruitment of administrative staff				

INTERNATIONAL TRADE IN SERVICES SURVEY (ITSS)

HEALTH SERVICES MODULE

Health services consist of services provided by hospitals, doctors, nurses, and paramedical and similar, whether rendered remotely or on-site.

Enterprise code (for official use only) |__|__|__|

SECTION 1: GENERAL INFORMATION/*INFORMATIONS GENERALES*

Enterprise identification / *Identification de l'entreprise*

1.2 Full name/Nom complet	
1.2 Abbreviation/ Abréviation of the name of the hospital	
1.3 TIN Number (If registered with RRA) Numéro TIN (Si vous êtes inscrits au RRA)	
Address	
1.4 Province	
1.5 District	
1.6 Sector	
1.7 Cell	
1.8 Village	
1.9 Website	
1.10 Telephone no of institution:	
1.11 Telefax no:	
1.12 E-mail:	
Contact person/ Personne de contact	
1.13 Name /noms	
1.14 Position /Poste	
1.15 Telephone no:	
1.16 E-mail:	

Enumerator's Information (For Official Use Only)

Interviewer / Enquêteur	**Supervisor**	**Researcher**
1.17.1 Name /noms ……	1.18.1 Name /noms ……	1.19.1 Name /noms ……
1.17.2 Date of interview / Date d'interview -------/--------/----------	1.18.1 Date of checking / Date de vérification ------/--------/----------	1.19.1 Date of codification / Date de codification ------/--------/----------
1.17.3 Signature	1.18.1 Signature	1.19.1 Signature

SECTION II. HOSPITAL INFORMATION

2.1 Year of creation of the establishment |__|__|__|__|

Total number of patients (residents + non-residents) by gender

Gender	2.2 Number of patients (Resident + non-resident) per calendar year				
	2016	2017	2018	2019	2020
Male					
Female					

Number of non-resident patients treated by gender

2.2 Gender	2.3 Number of non-resident patients per calendar year				
	2016	2017	2018	2019	2020
Male					
Female					

Age group of all patients (residents + non-residents) by age goup

Age group	2.4 Number of patients (Resident + non-resident) per calendar year				
	2016	2017	2018	2019	2020
Under 18					
18-35					
35 - 55					
55 and above					
Age group of all patients (non-residents)					
	2.5 Number of non-resident patients per calendar year				
Age group/Calendar year	2016	2017	2018	2019	2020
Under 18					
18-35					
35 - 55					
55 and above					

Number of total patients by medical department (residents + non-residents)

Department	2.6 Number of patients (Resident + non-resident) per calendar year				
	2016	2017	2018	2019	2020
General Consultation					
Internal Medecine					
Surgery					
Pediatrics					
Ophtalmology					
Dentistry					
Gynecology					
Oncology					
Other departments					

Number of non-resident patients by medical department

2.5 Department	2.7 Number of patients (Resident + non-resident) per calendar year				
	2016	2017	2018	2019	2020
General Consultation					
Internal Medicine					
Surgery					
Pediatrics					
Ophthalmology					
Dentistry					
Gynecology					
Oncology					
Another department					

Medical fees charged to non-resident patients

Year	2.8 Amounts charged in RWF (for non-resident patients)
2016	
2017	
2018	
2019	
2020	

SECTION III. The impact of COVID-19 on Hospitals and Clinics in in Rwanda

3.1 Has the COVID-19 pandemic disrupted the implementation of the strategic plan at your institution? (Please select only one) *1=To a great extent* *2=To some extent* *3=Very little* *4=Not at all* *5=Our institution does not have a strategic plan*	
3.2 Will the strategy of the institution be modified taking into account the effect of the pandemic? (Please select only one) *1=To a great extent* *2=To some extent* *3=Very little* *4=Not at all*	
3.3 Has the pandemic caused an impact on the number of domestic patients compared to the year before the Covid-19 pandemic? (Please select only one per row) *1=Increase* *2=Same Level* *3=Decrease* *4=Not applicable*	
3.3 Has the pandemic caused an impact on the number of international patients compared to the year before the Covid-19 pandemic? (Please select only one per row) *1=Increase* *2=Same Level* *3=Decrease* *4=Not applicable*	

3.4 To what extent has the pandemic impacted your institution financially? (Income) (Please select only one per row using X symbol)

3.4. **Income**	Increase	Same Level	Decrease	Not applicable
3.4.1 Public Funding				
3.4.2 Receipts from patients				
3.4.3 Private Sector Funding				
3.4.4 Other Income				

3.5 To what extent has the pandemic impacted your institution financially? (Expenditures) (Please select only one per row)

Expenditure	Increase	Same Level	Decrease	Not applicable
3.5.1 Medical inputs				
3.5.2 International collaboration				
3.5.3 Staff costs				
3.5.4 Infrastructure				
3.5.5 Health related costs				
3.5.6 Other operating costs				

3.6 Is there a governmental scheme providing emergency/special funding for medical institutions in the context of the COVID-19 pandemic? 1=Yes 2=No	
3.7 Has your institution benefited from this scheme? 1=Yes 2=No	
3.8 Is the impact of the pandemic jeopardizing the financial sustainability of the institution? (Please select only one) 1=Yes, we are very concerned about the future of the institution 2=Yes, we are somewhat concerned about the future of the institution 3=No, we are not really concerned for the future of the institution 4=Not at all, we are very confident for the future of the institution.	
3.9 Has your institution benefitted from any external governmental funding to address COVID-19 pandemic related issues? 1=Yes 2=No	
3.10 Has your institution benefitted from any external non-governmental funding to address COVID-19 pandemic related issues? 1=Yes 2=No	
3.11 Does your institution support the local community in times of COVID-19 crisis? 1=Yes 2=No	
3.12 Has the pandemic promoted a re-definition/rethinking of your institution’s values? 1=Yes 2=No	

3.13 Please describe the HR situation following the pandemic. (Please select only one per row using X symbol)

	Increase	Same Level	Decrease	Not applicable
Salaries (including benefits) of academic staff				
Salaries (including benefits) of administrative staff				
Temporary layoff for academic staff				
Temporary layoff for administrative staff				
Redundancies (layoff) of academic staff				
Redundancies (layoff) of administrative staff				
Recruitment of academic staff				
Recruitment of administrative staff				

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