



Ministry of Foreign Affairs

Market Entry Plan

Life, Science and Public Health

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Market Entry Plan

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We hereby certify that I am the author of this document/paper. All the sources that we have used have been fully acknowledged and disclosed. Any data, ideas or words from other authors have been fully referenced.

Alarcon Diana
BILA- IB 3C

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Introduction

Colombia's economy has been growing in the last years. Proof of this is the rise in domestic demand, inflation decrease, consumer confidence is high, and investor confidence is rising. Colombia with a population of 49.3 million in the year 2017 is a big opportunity for Dutch companies, this will be further explained in this report. Furthermore, Colombia is an attractive business environment. The Colombian GDP per capita has considerably grown it went from \$6789, - in the year 2012 to around \$7600, - in 2017. Colombia is perceived as a very low-risk country as is second in the region. Colombia has easy access to global markets because of its geographical location and developed logistics infrastructure, Colombia could be used as a hub for Dutch companies to further expand in Latin America. Colombia can also provide skilled labor, it has one of the largest annual increase in the availability of human resources according to the 2012 IMD Workforce Growth Rate. Lastly, the Colombian government is committed to providing incentives for investment and stability for investors.

Colombia has just recently signed a peace agreement with the guerrilla group FARC. This means that the government can move deeper into rural zones and invest and improve the living standards for the rural population.

The main research question in this report is: What are the opportunities for Dutch companies in the Life, Science and Public Health sectors in Colombia in the next 5 years?

In this report we will explain with the help of a PESTEL Analysis, SWOT analysis, CAGE analysis of Colombia and the Colombian Health sector, these will help to understand how the Colombian market works and the opportunities and threats in the country. We will also explore further on 3 sub-sectors, these are Public Health, Design and Equipment and Academic Cooperation between Colombia and the Netherlands.

Executive Summary

This report is a market research plan on Colombia's health sector, which it contains secondary data and analysis regarding this market.

At the beginning of the report, a market profile is going to present general market conditions of the healthcare sector. It is aiming to help Dutch companies to know the latest data on Colombian healthcare services/product provider at this moment.

The pestle analysis will give an overview of what's going on in the Colombia healthcare sector at this moment. The major healthcare plan and policies, latest technology, relative social and political factors which are influencing the health sector will be explained in this report.

The SWOT analysis is going to tell what's the strength and threats for the Dutch companies, what's the weakness and opportunities of the Colombian market. In this report, we listed a number of goals that the Dutch government want to achieve, as well as some improvements to the Colombian market.

The sub-sectors: public health, design and equipment, and academic cooperation are going to give an analysis of what's fall under these criteria. The business model canvas is going to provide a complete picture of all three sub-sector regarding the key services or product that Dutch companies could offer. The forecast will show how the Colombian Health Sector will change in the upcoming 5 years, the amount of investment by the government and more.

On the SDGs (Sustainable development goals) chapter we will give a vision of the future goals to be achieved. By looking at the analysis, Dutch companies will understand the different types and quality of services or product they want to sell to the Colombia market.

Conclusion and recommendations will explain in short what Dutch companies should do and know before investing in Colombia.

Market Profile

Colombia has in total 3620 hospitals and clinics. Most of them are located in Bogota, Medellin, and Cali. Many of the rural communities do not have access to basic health needs this is why the government has set a budget for the construction and equipment of new hospitals and clinics, in addition, the Colombian government wants to be more efficient in all aspects of the health sector. This is a great opportunity and time for Dutch companies to enter the Colombian market. The total value of imports in the health sector was \$43.2 Billion in 2016.

Colombia in 2016 imported a value over 1.52 billion dollars in equipment's. The biggest import of instruments were.

1. Medical Instruments : 27% Value of \$406 Million
2. Orthopedic Appliances : 17% Value of \$259 Million
3. Chemical Analysis Instruments: 6.8% Value of \$103 Million
4. Thermostats : 4.8% Value of 73.4 Million
5. X-ray Equipment : 4.4% Value of \$67.1 M

Colombia in 2016 imported a value of \$6.79 Billion in Chemical Products.

1. Packaged Medicaments : 18% Value of \$1.25 Billion
2. Human or Animal Blood : 7.5% Value of \$509 Million
3. Pesticides : 4.6% Value of \$311 Million
4. Nitrogen Heterocyclic Compounds : 4.1% Value of \$278 Million
5. Halogenated Hydrocarbons : 3.8% Value of \$257 Million

This is relevant for Dutch Companies because it shows that Colombia already imports many products from other countries. The most important for the health sector are all of the instruments and from the Chemical products are the packaged medicaments, blood and more. Of course, this is not a detailed summary of the imports of the sector. There are many more opportunities.

The government issued a budget available for the "Institute of health in Colombia" (INS) that was more than 54 billion dollars which 23.8 billion was used in general expenses, personal expenses. Around 12 billion dollars was invested in many different sectors and departments. Some examples of these investments are 1.8 billion dollars in the construction and remodeling of laboratories. Renovation of the technology in the laboratories of the INS which was around 2 billion dollars. Preventive control and vigilance in public health which they invested 2.4 billion dollars which is one with the biggest investment. This is relevant for Dutch companies because it shows that the Colombian government is also investing in the Public Health Sector.

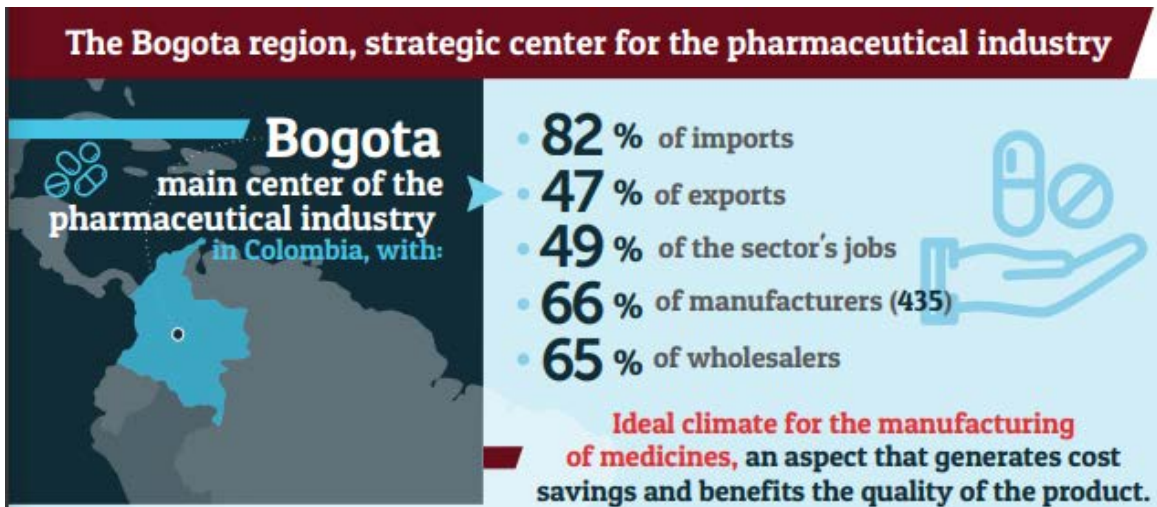
Some of best clinics and hospitals in Latin America are located in Colombia. A ranking was made in 2017 by the magazine “America Economia”. The best hospitals and clinics in Colombia are shown below in order of the rank.

Ranking in Latin America	Name	City
3	Fundación Valle del Lili	Cali
6	Fundación Cardioinfantil	Bogotá
8	Fundación Cardiovascular de Colombia	Bucaramanga
9	Hospital Pablo Tobón Uribe	Medellín
11	Centro Médico Imbanaco	Cali
16	Hospital San Vicente Fundación	Medellín
18	Clínica Las Américas	Medellín
23	Clínica Universidad de la Sabana	Chía
25	Mederi	Bogotá
26	Hospital General de Medellín ESE	Medellín

This list is relevant for Dutch research companies and/or universities that would like to make contact with a respectable and biggest Hospitals and Clinics in Colombia.

In the year 2017, there was a list made with rankings about the companies that have the best reputation in Colombia in every sector. This list is the 10th edition and it's called “Monitor Empresarial de Reputacion Corporativa” in short they call it MERCO. In the insurance sector, the companies that have the best reputation are Grupo Sura and Seguros Bolivar. The biggest pharmaceutical companies are in ranking order from best to 5th are Bayer, Pfizer, Tecnoquimicas, Novartis and lastly GlaxoSmithKline with the best reputation in Colombia. From the health sector are Hospital Pablo Tobon Uribe, Hospital Universitario de San Vicente Fundacion, Organizacion Sanitas, Fundacion Cardiovascular de Colombia. This information relevant for the companies to know which companies in Colombia are seen as trustworthy to work with.

The pharmaceutical laboratories in Colombia have invested over 450 million dollars. Of the 450 million 374 million was mostly in Bogota which was divided into over 20 projects. This means Bogota alone is the most productive region of this sector.



Source: 1 Investinbogota.co

In this part of an infographic provided by Investinbogota.com, we see how big the market is in Bogota alone. Bogota is seen as a hub for further research and development of chemical synthesis medicines. This means that Bogota is relevant for Dutch companies as being the capital of Colombia and from the numbers above there are a lot of imports and wholesalers that Dutch companies can work with. Also, there are many manufacturers in Bogota which Dutch companies could have a partnership or work with them for the production of medicines.

PESTLE Analysis of Colombia

In the PESTLE analysis, we are going to give relevant information about health care market and as well about three sub-sectors (academic cooperation, design, and equipment, public health) from the viewpoint of legal, environmental, technological, social, financial, and political sides.

Legal Aspects:

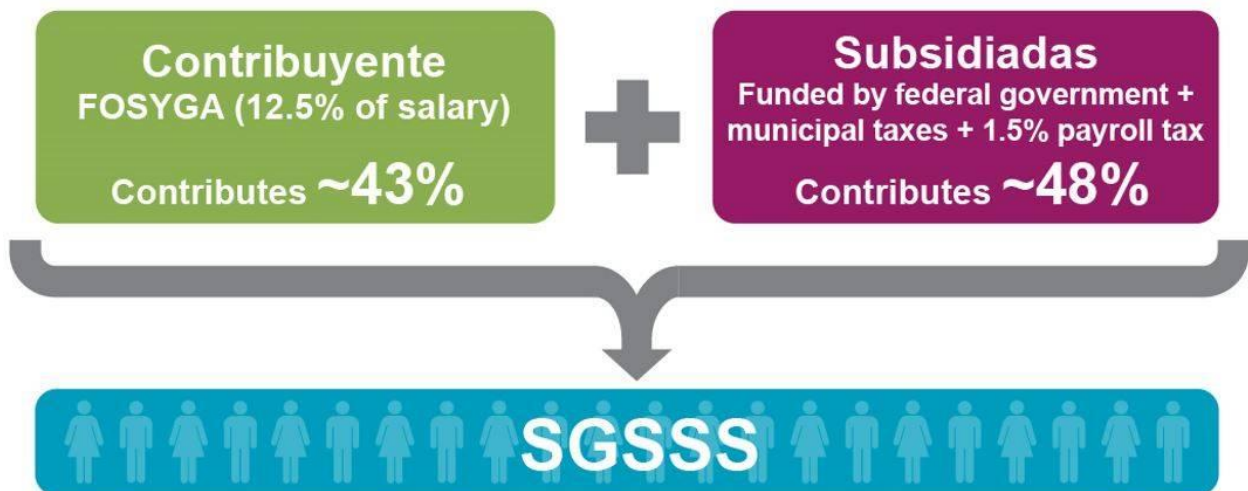
Reform of the healthcare system

According to the stipulated in Law 100 (1993), the health care system in Colombia has to follow the basic principle: universality, equality, solidarity, efficiency, quality, and sustainability. This stipulates established two parallel plans for the health care system in Colombia, which they are:

- A Contributory Health Plan for those citizen who are able to pay
- A Subsidized Health Plan for those unable to pay

In order to put these two plans into practice, the government divides the population into 6 strata according to their earnings.

“ Those placed in the Contributory Plan (strata three to six) must contribute monthly a certain amount from their salaries to finance the system, while the State covers the costs corresponding to those within the Subsidized Plan (strata one and two).” According to a report made by reliefweb.int.



Source: 2 Reliefweb.int

Theoretically, people will be placed in one of the plans, however, the truth is that at this moment there are 5% of people who do not have access because they have not been surveyed or affiliated. These uninsured poor population lack of fund to pay for the insurance, nor they have the awareness to pay for it.

On the other hand, though the reform significantly changes the social presence in the last 25 years, “there remains a substantial number of citizens classified as the Uninsured Poor Population” and “even

those who have official access to universal healthcare often lack actual access to health care services. More detail of this deficiency will be discussed in the SWOT analysis of the report.

Technological

According to the ministry of health of Colombia, the definition of technology in health care is “a group of technical means and procedures that are made available by science, research and the operators of the health sector for their choices of prevention, diagnosis, treatment, and rehabilitation.”

In Colombia, the regulated competition of the health sector has opened a space for the adaptation of technology in the system and for each one of the agents. In the last 10 years, this has meant an acceleration in the rhythm of the implementation of technology and an increase in the operational costs of the health system.

Environmental

The market line stated, the environmental performance of Colombia has low rankings. Among 180 countries, Colombia ranked as 99th in safe drinking water. The low standards of water could cause many diseases, according to marketline. The mortality due to unsafe water, sanitation, and hygiene in Colombia is high. The indicator “mortality rate attributed to unsafe water, unsafe sanitation and lack of hygiene (exposure to unsafe Water, Sanitation and Hygiene for All (WASH) services)” in Colombia is 0.8, and in the Netherlands, this indicator is only 0.2, according to the WHO statistics.

Another indicator worth to mention is the “mortality rate attribute to unintentional poisoning”. Colombia has 0.4 and the Netherlands has 0.1 of this indicator. What’s more, according to WHO Colombia cooperation strategy report, the population using improved drinking water sources is 96.8 percent in the urban area, but only 73.8 in the rural area.

Social

Some basic statistics according to the World Health Organization are the following. The numbers of the document were updated in January 2015.

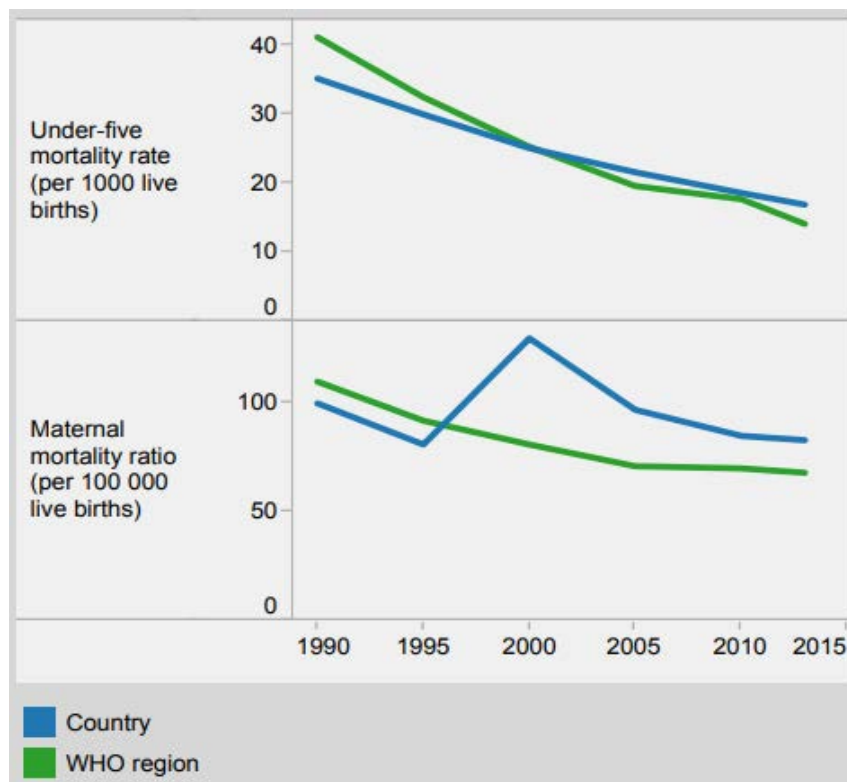
Basic statistics		
Indicators	Statistics	Year
Population (thousands)	48321	2013
Population aged under 15 (%)	28	2013
Population aged over 60 (%)	10	2013
Median age (years)	28	2013
Population living in urban areas (%)	76	2013
Total fertility rate (per woman)	2.3	2013
Number of live births (thousands)	907.4	2013
Number of deaths (thousands)	201.0	2013
Birth registration coverage (%)	97	2010
Cause-of-death registration coverage (%)	98	2009-2011
Gross national income per capita (PPP int \$)	11890	2013
WHO region	Americas	2013
World Bank income classification	Upper middle	2013

Source:
Country statistics and global health estimates

Indicators that are relevant to the health sector are the population living in urban areas which were 76% in 2013, the number of live births and the number of deaths. The life expectancy in Colombia has increased by 4 years in the period of 2000-2012 according to the WHO.

Some indicators of the Millennium Development Goals are the under-five mortality rate, maternal mortality ratio. The graph below is the rates of Colombia in comparison with the WHO region.

In Colombia according to calculations made by the National Planning Department of Colombia. In Colombia 49% of its homes are poor. The poverty index is 1.05 times bigger in rural areas than in urban areas. The departments with the biggest poverty index that are higher than 80% are Choco, Vichada, La Guajira and Cordoba. Bogota and San Andres, Santa Catalina have the lowest. Bogota with an index of 24.3%. This means that because of the inequality the inhabitants that live in the highest poverty index are more vulnerable to sickness and viruses and will not be able to afford medicines or insurances.



Source: 3 under Five and Maternal Mortality Rate. WHO

From the numbers, we can see that while decreasing the maternal mortality ratio in Colombia is still higher than the average ratio of the region. The under-five mortality rate is also higher but slightly. Some causes of death in children younger than 5 years was in Colombia in the year 2013. The following: Congenital anomalies with 23%, Prematurity with 23% and other causes with 20%. According to healthdata.org the deaths in children under 5 is decreasing.

Furthermore, in WHO Colombia corporation strategy report states “18% of maternal deaths occurred in the population aged between 10 and 19; 24% of maternal deaths occurred in the indigenous and Afro-Colombian populations; and 30% of cases occurred in mothers with a primary or sub-primary level of education (MDG report, UNDP, 2015).

Population Using Improved Drinking Water Sources (%)

Total	Urban	Rural
91.4	96.8	73.8

(Source: WHO Colombia Cooperation Strategy)

Population Using Improved Sanitation Facilities (%)

Total	Urban	Rural
81.1	85.2	67.9

(Source: WHO Colombia Cooperation Strategy)

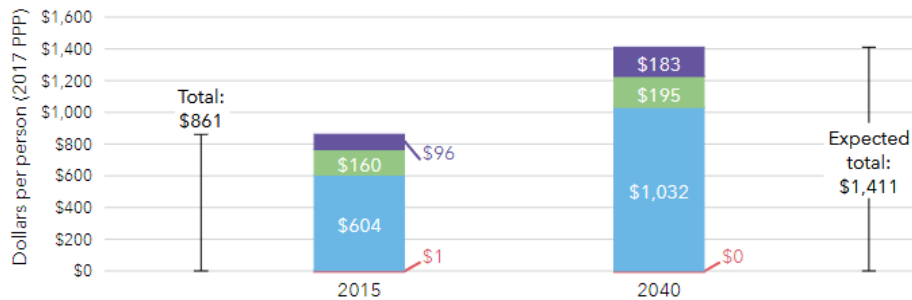
The examples that are given above are the environmental problems which threaten the life quality of people.

Economic

The government spends in the health sector during the year 2015 around 604 dollars per person and this is expected to rise to 1032 dollars per person by the year 2040. Some more information is provided in the graph below as the private spending and out of pocket spending.

How much is spent on health -- now, and in the future -- and from which sources?

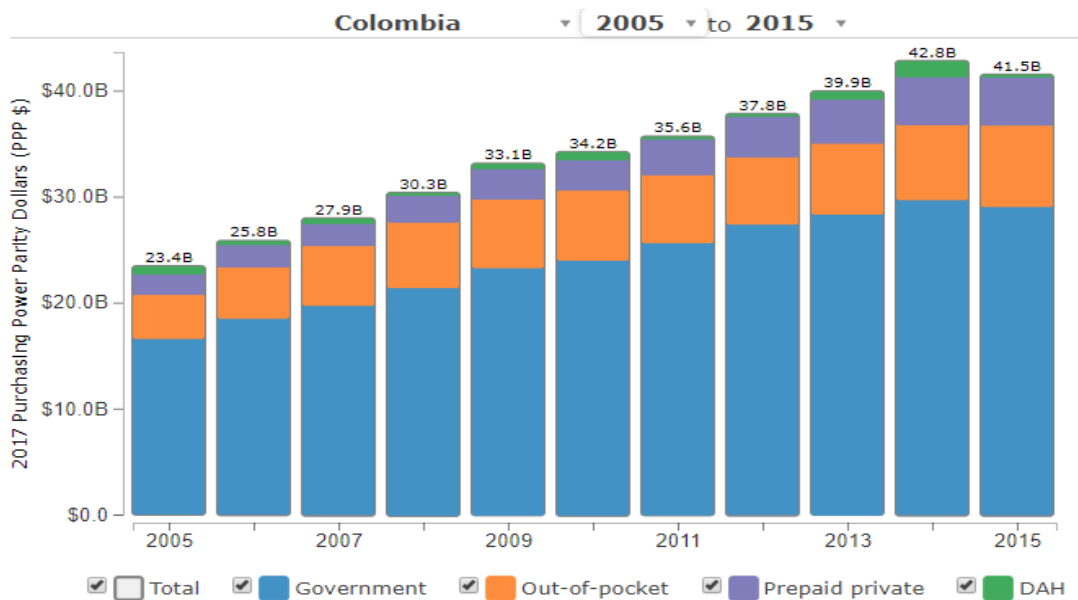
- Prepaid private spending
- Out-of-pocket spending
- Government health spending
- Development assistance for health



Source: Financing Global Health Database 2017

PPP = purchasing power parity

"Expected" is the future growth trajectory based on past growth.

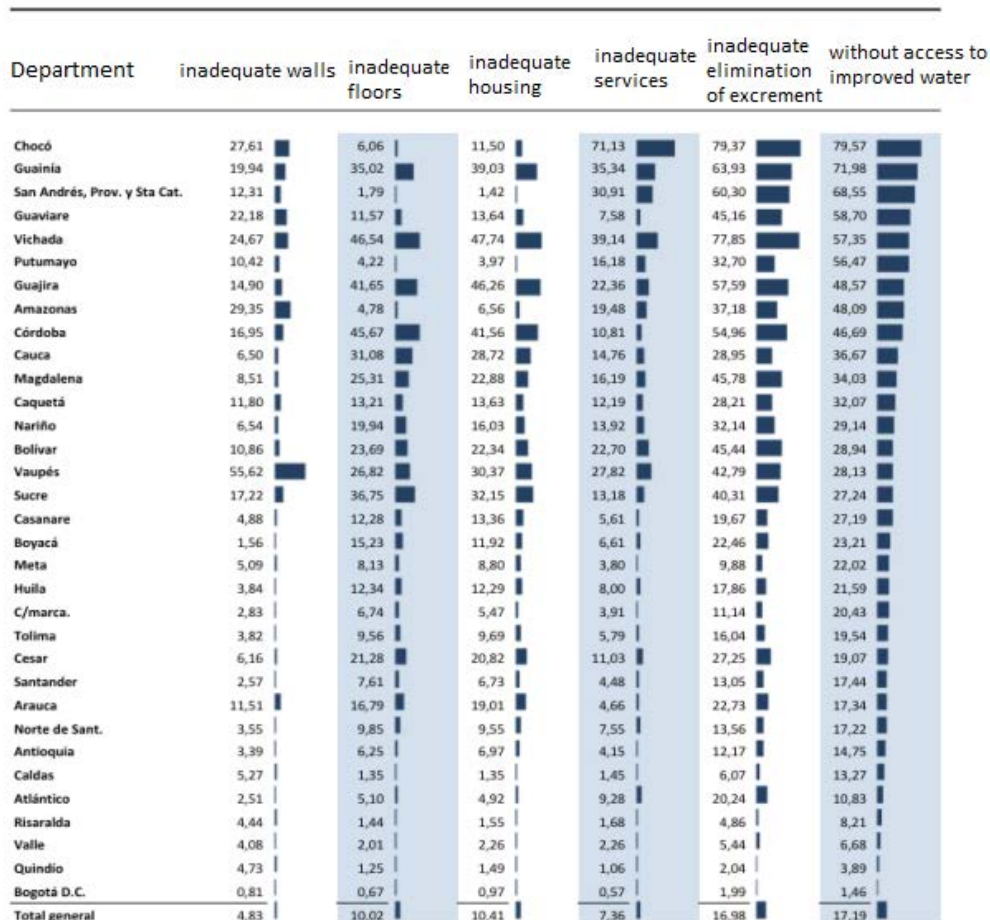


Source: 4 PPP on Health Healthdata.org

Education in Colombia:

The National Ministry of Colombia has reported that between the year 2002 and 2013 the illiteracy rate had a small decrease. To be more exact with 0.83% in the population between 15 and 24 years. In the National Development Plan that is named “Todos por un nuevo país” established that education is mandatory till the 11th grade. The departments with the lowest gross education coverage rate in children between the age of 5 and 16 are the following departments: Guaviare, San Andres, Vaupes, Arauca, Caqueta, La Guajira, Vichada and Narino. Most of these departments are as well the poorest in the country.

This is also a reason why the population of these departments is vulnerable to sickness and infections, they are the least educated and don't have access to public services. According to the National Planning Department, 17.2% of homes in Colombia don't have access to potable water. In departments like Choco, Guainia, San Andres, Guavire, Vichada the percentages of home without water are above 50%. These departments also have improperly practiced the elimination of excrement. Which could lead to infections.



Fuente: DANE, Censo 2005, NBI, por Total, Cabecera y Resto, según Departamento y Nacional a 30 de Junio de 2012.

The index of risk of the quality of water consumed for human consumption has decreased in Colombia from 27.6% in 2012 to 23.4% in 2015.

Political

Since the Colombian government made a reduction of supervision and coordination in public health issues, the role of the government became less important in the Colombia healthcare system. This means private companies are counted more importantly in the healthcare system. The Colombian government even trying to promote private healthcare development by introducing economic free zones. This policy will reduce the tax from 25% to 15%. This policy will let the number of private healthcare providers increase significantly.

SWOT Analysis

Strengths	Weaknesses
Privatized healthcare system experience Innovative technology and design Patient-centered healthcare services Affordability of Dutch healthcare services Accessibility of Dutch healthcare service	Healthcare service coverage is unequal Situations of inequity persist Transparency of healthcare system is low Bad administration system
Opportunities	Threats
Peace Agreement with FARC The need of innovation Healthier lifestyles In need of assist in the regulation of prices of medicines	Strong competitors from US, German, and China.

Strengths of the Dutch Health care system

Privatized healthcare system experience

Colombia is the only country in Latin America that has a Managed Competition healthcare system. The definition of a managed competition is a purchasing strategy to obtain maximum value for consumers and employers. The purpose of evolving managed competition is to foster competition among different healthcare organizations on the basis of quality and cost. The Netherlands and Switzerland are the only countries in Europe that have a similar system. This means that a Dutch company has more experience in this type of system and can adapt easily to the Colombian market.

Innovative technology and design

The Dutch can offer also sustainable, modern and innovative solutions that the Colombia health sector is looking for. In recent years, there are more and more projects developed by private entities that offered hospital care, housing and shopping under one roof. This is because 90% of Colombia's hospitals and clinics are private. The Dutch have the knowledge and ability in the technology and design sector with many R&D companies available in the Netherlands. Dutch advanced technology such as diagnostic imaging technologies, ophthalmological equipment, and ultrasound diagnostic technology can be brought to Colombia.

Patient-centered healthcare services

The Dutch government has prioritized three goals in the healthcare sector: they are quality of care, affordability, and accessibility of Dutch healthcare services. The healthcare sector emphasizes effectiveness, safe and patient-centered customer experience. Dutch general public “has high expectations in terms of quality of health care services.” (Health System Review)

Affordability of Dutch healthcare services

The financial compensation enables Dutch citizens to avoid heavy spending, so out-of-pocket spending is considered to be low. In 2012, an agreement has been reached between the minister of the Dutch health sector and the mental health sector, which was aiming to safeguard the finance affordability regarding mental health care services.

Accessibility of Dutch healthcare service

Accessibility refers to the reasonable costs to individuals travel distance and waiting time. (Health System Review) The services are easy to reach in the Netherlands no matter where you live, the waiting time is considered to be reasonable. Consultation and diagnose normally takes 4 weeks waiting time, and treatment takes 7 weeks waiting time.

Weaknesses

Healthcare service coverage is unequal

In an urban area the coverage of healthcare system services is 92% and in the rural area only 15%. “A total of 2.1 million people in Colombia have no access to health services.” Most of these people come from remote areas, or they are indigenous population/Africa descent. (WHO Colombia cooperation strategy) This phenomenon was due to uneven universal health coverage. The level of universal health coverage can be detected in two aspects, the first one is the coverage of essential health services, and the second aspect is on the proportion of a country’s population with large household expenditures on health relative to their total household expenditure. These two aspects mentioned above must be reviewed together to have a complete picture of those who are facing financial difficulties due to expensive healthcare services cost, and people who have the hardship to access healthcare services.

The “proportion of the population with large household expenditures on health as a share of total household expenditure or income” in Colombia is 16.9 percent on average. In contrast, the Netherlands have less than 1 percent in this figure. This figure shows that the Colombian family has a heavier burden on health expenditure than Dutch family.

The “proportion of total government spending on essential services (education, health and social protection” in Colombia is 12.2 percent, ranked as 14th place in America regions, the highest proportion of spending on essential services is 25.2% of Switzerland, the Netherlands index in this part is 19%, ranked as 3rd place in Europe. (World health statistics 2018)

The inequity situation is also shown in the spread ability of healthcare organizations. Approximately 30 % of the total number of hospitals are private. And 70% of these private hospital located in Cali, Medellin, and Bogota.

Transparency of healthcare system is low

Transparency is also one of the most severe problems in Colombia healthcare system. The transparency is required because it could reduce corruption. And also transparency could improve the customer experience of those who have difficulties to pay for the healthcare services. There are many different health policies which are difficult to understand. Colombian citizens can only make decisions when they have access to clear and straightaway information.

Bad administration system

A study made by Clínica de la Universidad de La Sabana has stated that problems that have to do with healthcare are in larger part due to the bad administration of medicines. The lack of information, prescription errors, the abuse of medicines and self-medication. The bad administration is the 6 cause of deaths in Colombia and costs the health sector around 1000 million of pesos each year.

Opportunities

Peace Agreement with FARC

With the peace agreement comes with new needs and opportunities, The Colombian ministry of health has set a budget specifically for the expansion of healthcare amenities and services and this is an opportunity for Dutch companies to offer their services in building or making plans to further expand in rural areas.

The need of innovation

Colombia has 20 of the 43 best hospitals in all Latin America, this means that the government is keen for this to stay that way. The new government has plans to expand the number of hospitals in the upcoming future. This means they want to have the latest innovations available and help to apply these to their system.

Healthier lifestyles

Having a healthier lifestyle is becoming more mainstream each year. Customers want to be more aware of what they are consuming. So more and more people are interested in consuming healthier products this can be dairy products or “biologic” products. Many of the biggest dairy companies in Colombia like for example Cooperativa Lechera Colanta and Alpina Productos Alimenticios are already trying to be innovative and to keep up with this trend. Dutch Companies have experience in offering a healthier lifestyle.

In need of assist in the regulation of prices of medicines

In Colombia, the regulation of prices is still a problem. An example of this is Ramipril is used for the treatment of high blood pressure. In Colombia, it cost around 9000 Colombian pesos per 5mg pill which is 2.59 euros in comparison to the Netherlands that it cost around 0.02 for the same pill. Recently in 2015 a price regulation plan was initiated by the Minister of Health, Alejandro Gaviria.

Threats

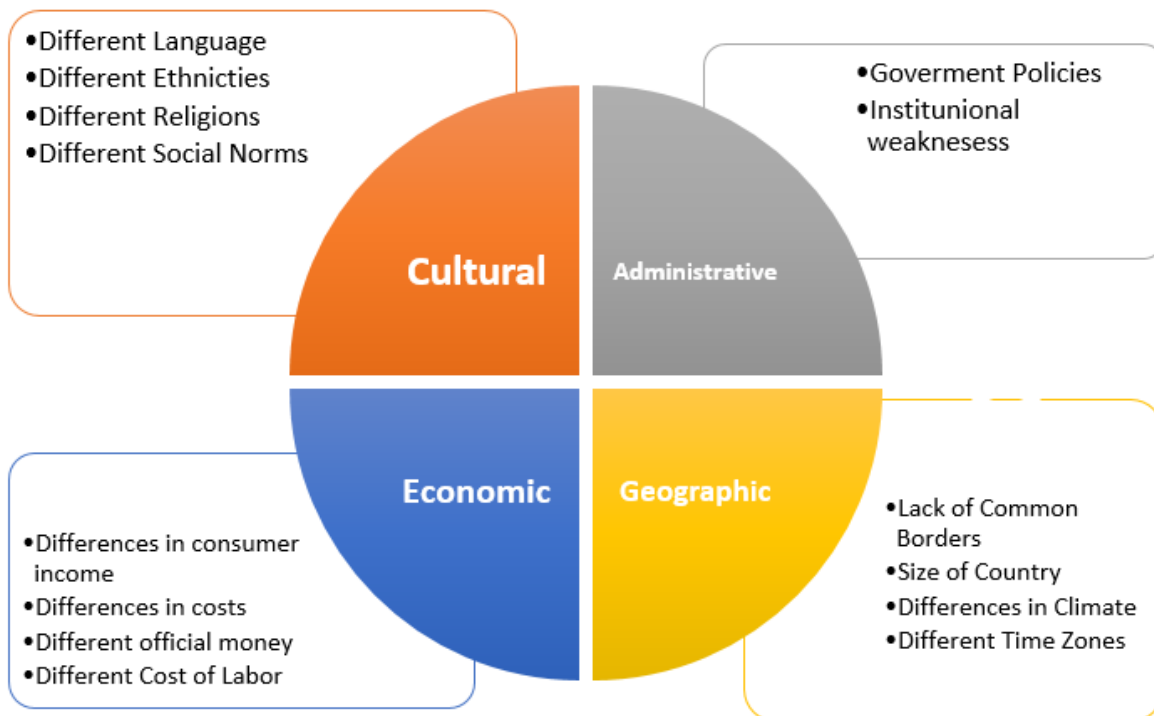
US, and Brazil have greater market share in healthcare provider sector

For example, the medical goods market is approximately \$4.8 billion. The markets of medical equipment and healthcare facilities are occupied by US, Brazil, Mexico and the rest of the Americas. The US takes 86.6% of the market. The greater the impact of US in the market, the less chance for Dutch companies to compete with. What’s more, Colombian hospitals are used to looking directly at countries such as the United States, Germany, and China in the field of medical equipment. They generally know little about Dutch products, although several hospitals do work with Philips equipment. The reason that Colombian hospitals are accustomed to paying attention to the United States, Germany, and China in the field of

medical equipment is that the products from these countries usually have more reputation or cheaper. (Marktverkenning Life Science and Health Sector Colombia)

CAGE Analysis and Hofstede

These frameworks are important for Dutch companies to see the differences between countries and their lifestyle. With this information provided, Dutch companies can adapt easier on how to work with and approach Colombian companies.



Cultural

Colombia and the Netherlands have many cultural differences. The biggest differences are the official languages. In Colombia, they speak Spanish and in the Netherlands, they speak Dutch. But both countries are able and do business with other countries in English. In the Netherlands power is decentralized and managers count on the experience of their team members in Colombia they care more about relationships than attending to the task at hand. They also differ in ethnicities, for example, Colombia has 58% Mestizos and 20% are white while the Netherlands are mostly white, 83% of the population is Dutch and 9% from the non-western origin, for example, Turkey, Morocco. These two countries also have a big difference in beliefs. Colombia's population is around 90% Roman Catholics and in the Netherlands only 30%, while the second biggest being Dutch reformed with 11%. The Dutch are known

for being independent, for being direct and are expected to take for themselves, but they do value equality and quality in their working lives. Dutch like having rules and like to be busy and work also they like punctuality as is a sign of respect, because for the time is money. On the other hand, Colombians are a society that believes inequalities is a fact of life and should deal with it, they are emotional and show these, they don't necessarily follow every rule. They enjoy having time off and to spend money on what they want.

Administrative

The Netherlands is a constitutional monarchy. In Colombia the main political forces and the 2 parties, the Liberal Party and the Conservative party, due to the fact that they are the majority in the Colombian Congress. The Dutch don't like corruption and to do the business in this is not an issue. Colombia was the 90th place from 180 countries in the corruption perception index in 2018. In the Netherlands: extortion, abuse of office and fraud are penalized. Public administration is transparent and efficient in the eye of the Dutch population. The Netherlands has very high taxes but they are some taxes breaks for expats companies. Colombia has many Free Trade Agreements with various countries. They just recently achieved peace accord with the FARC.

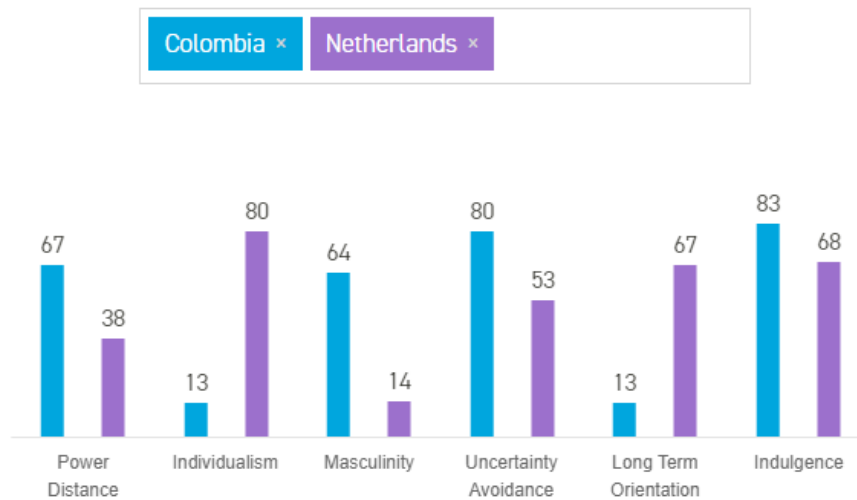
Economic

The GDP per capita in the Netherlands in 2017 was \$53,600 while in Colombia it was \$14,500. The Netherlands is the 6th largest economy in the EU while Colombia is the 4th largest oil producer in Latin America. Colombia is the 3rd largest coffee exporter and 2nd largest cut flowers exporter. Colombia's biggest struggle to further develop is their inadequate infrastructure, poverty, and uncertain security. The Netherlands is a key member of the European Union and Colombia is a founding member of the Pacific Alliance.

Geographic

The Netherlands is located in Western Europe and its coast borders the North Sea and has Belgium and Germany as their border countries. Colombia is located in Northern South America and it borders many countries like Panama, Venezuela, Ecuador, Peru and Brazil and its coast borders the Caribbean Sea and the Pacific Ocean. The Netherlands has a total area of 41,542 km² and Colombia has a total area of 1,138,910 km². Both countries differ in climate while the Netherlands has cool summers and mild winters, Colombia has a tropical climate along its coast and a cooler climate in the highlands. The environmental problems in the Netherlands are air and water pollution. In Colombia, the biggest environmental problems are results of deforestation of the Amazon and the illicit drug crops grown by local informal farmers in the national parks of the country.

Hofstede measures and scores 6 dimensions to see what the score of a country is. As you can see Colombia and the Netherlands has big differences in some of the dimensions. Below we will further explain these dimensions some of these have some of the same information or explanations as to the CAGE.



Source: 5 Hofstede-Insights.com

Power Distance:

According to Hofstede-insights, this is defined as “the extent to which the less powerful members of institutions and organizations with a country expect and accept that power is distributed unequally.” The Netherlands has a low score of 38, this means Dutch people are independent, like equal rights, management facilitates and empowers. Control is dislike and attitude towards higher authorities in their work environment is informal. Communication style is direct. Colombia has a score of 67, which is high, the means that they believe inequality is accepted and is seen as just a fact of life.

Individualism:

This dimension is “the degree of interdependence a society maintains among its members.” The Netherlands has a score of 80 this means the Netherlands is an Individualist society. Each person is expected to take care of themselves and their family. The employer/employee relationships are just on contract so just a mutual advantage and hiring and promotion are based on merit and not relationships. Colombia has a score of 13, this means they are a collectivistic culture. They like being in a group and have loyalty towards their bosses or companies if they are treated well. Relationships are very important

for them and they like to help others. But those seen as outsiders from their group are easily excluded. The like communicating in a context-rich style.

Masculinity:

This dimension indicates if a society sees being competitive or achievement and success are seen as a good value system or if the society sees standing out and care for others quality of life as bad and not admirable. The Netherlands has a score of 14, this means that the life and work in balance. Managers are supportive and decision making is achieved through involvement. Conflicts are resolved by compromising and negotiating. Colombia has a score of 64, they are success oriented and drive. They are competitive but still collectivistic. They compete with other classes or groups not really in their own group.

Uncertainty Avoidance:

This dimension deals with the way society deals with the fact that the future can be never known according to Hofstede-insights. The Netherlands score is 53, this means that they have a slight preference for avoiding uncertainty. The need rules to follow and they like to be busy and security is an important element for them. Colombia has a score of 80, it is a nation where emotions are openly expressed and some rules are ok to be broken.

Long Term Orientation:

This dimension is to see how a society maintains their norms and traditions or are open to new things. The Netherlands has a score of 67. They have a pragmatic nature this means they believe that the truth depends on many things like situation and context. They can adapt to change and like to save and invest money. Colombia has a score of 13. Colombia is a normative society. They respect their traditions and are proud of them. They don't like to save for the future and prefer to enjoy their earnings.

Indulgence:

This dimension is defined as “the extent to which people try to control their desires and impulses”. The Netherlands has a score of 68. The Dutch have a high willingness to realize their impulses and desires. Colombia has a score of 83. So they are almost the same as the Netherlands in this dimension.

Business Model Canvas

Business Model Canvas				
Key Partners <ul style="list-style-type: none"> • Universities • NGO organizations • Companies in health sector • Hospitals 	Key Activities <ul style="list-style-type: none"> • Consultation services • Collaborate medical research • Supply of Products 	Value Proposition <ul style="list-style-type: none"> • Reliability • Quality Products • Good Customer Relationship 	Customer Relationships <ul style="list-style-type: none"> • Upgrade current hospital design • Selling medical equipment to organizations 	Customer Segments <ul style="list-style-type: none"> • Private clinics • Public hospitals • Private health institution • Research labs • Universities
	Key Resources <ul style="list-style-type: none"> • Healthcare facilities • Medical equipment • Knowledge • Experience • Latest Technology 		Channels <ul style="list-style-type: none"> • Distributors • Agent 	
Cost Structure <ul style="list-style-type: none"> • The most expensive key resource is knowledge • Research and Development Expense • Transportation and Logistics Expense 			Revenue Streams <ul style="list-style-type: none"> • Private companies is going to receive money from Colombia government <ul style="list-style-type: none"> -Health Insurance companies -Medical Equipment companies -Healthcare facilities companies 	

Sub-Sectors Analysis

Public Health

In the Netherlands the “Public Health Act” indicates that there are several topics are involved in this sector: preventive youth health care, environmental health, socio-medical advice, periodic sanitary inspections, public health for asylum seekers, preventive screening, epidemiology, health education, vaccinations, and preventive community mental health. Among all these tasks, two of them play very important roles, which they are youth health care and preventive screenings and vaccinations. The government requires local municipalities to organize an event to address these tasks. In the “Public Health Act”, it regulates all teens from 0 - 19 years should take necessary preventive care and vaccinations. Some vaccinations are mandatory for kids which under age 4. Kids should be taken by their parents to the hospital to check if they have any risk to get a disease. And the hospital will provide diagnoses to any health issue, or mental health issue.

In contrast, according to the WHO Colombia cooperation strategy report, the population using improved sanitation facilities in total is 81.1 percent, 67.9 percent in the rural area, and 85.2 in urban area there into.

The opportunity is the public health subsector also goes together with academic cooperation and design and equipment. This can be possible via a University-Company Collaboration, this would mean that universities would become an integral part of the skills and innovation supply chain of a company. The needs of a company would align with a university and they would work together.

Design and Equipment in the Netherlands

The design and equipment in the healthcare sector include a wide range of products, in this report, we classify them into three categories, which they are medical equipment and hospital design.

Hospital design: In the Netherlands, there are companies provide consultation on all three categories, for example, AMPC is one of them. AMPC has experienced and dedicated international health consultant’s teams that are focusing on giving solutions to developing countries on buying medical equipment, healthcare facilities, and healthcare architecture design. AMPC headquarters in the Netherlands, but they develop projects worldwide. They have been developed 20 projects in Latin America, there is one of them developed in Colombia, and it is the “Feasibility study for the upgrading of the public hospital in the Department of Antioquia, Colombia”. This project is about to find possible solutions to expand and adjust the public hospital of Antioquia in hand.



Source: www.ampc.nl/projects-category/colombia/

In the field of Interior Design for hospitals. Vescom has a local representative in Bogotá who, on behalf of Vescom and other brands they represent, participates in assignments for new hospitals and clinics, mainly in the private sector.

Medical equipment: According to recent news, there are other innovations and development made by the Dutch scientists in the equipment sector as well. For example, a Dutch application on equipment for making 3D-echoes, and cutting equipment for surgery are indeed occupied a leading position.

Operational diagnostic imaging technologies (MRI units, CT scanners, PET scanners) per million population (2005 and 2013) and usage (2013)

Item	Number of devices		Per million population		Number of scans per device
	2005	2013	2005	2013	2013
MRI units	107	193	6.6	11.5	4 145
CT scanners	134	194	8.2	11.5	6 735
PET scanners	24	54	1.5	3.2	955

Sources: OECD, 2015; Dutch Hospitals Association, 2012; National Institute for Public Health and the Environment, 2014b; Bijwaard, 2011.

What's more, there are companies in the Netherlands which sell medical equipment to Colombia. Some of the companies are not found by Dutch but operate subsidiaries in the Netherlands. The last column is the distributor name, some of them are the local branch of the company. The Colombian hospitals normally purchase medical equipment and healthcare facilities through distributors. The Dutch companies which sell medical equipment can reach these distributors to sell their product or services.

Company Name	Medical Equipment	Company Website	Distributor Name
D.O.R.C International	ophthalmological equipment	http://www.dorc.eu/	Opimed
Curamed Ophthalmics	ophthalmological equipment	http://www.curamed.nl	Suma Medical
BAUSCH & LOMB	ophthalmological equipment	http://www.bausch.nl	LEN TECH
Esaote	diagnostic equipment for ultrasound	http://www.esaote.com/	Esaote de Colombia
Pie Medical Imaging	diagnostic equipment for ultrasound	www.piemedicalimaging.com	Esaote de Colombia
Finapres	Electro Diagnostic Equipment	http://www.finapres.com/	G. BARCO
Medtronic	electro diagnostic equipment and catheters, cannula	http://www.medtronic.nl/	Medtronic Latin America Inc. Sucursal Colombia (local branch)
Intervet	tubular metal needles and suture needles	http://www.msd-animal-health.nl/	Intervet Colombia Ltda (local branch)
Abbot Vascular Netherlands	catheters, cannulae	http://www.abbott.com/contact.Netherlands.html	Abbot Laboratories de Colombia (local subsidiary)
Boston Scientific Corporation B.v	catheters, cannulas	http://www.bostonscientific.com/en-EU/home.html	Boston Scientific Colombia (local branch)
Dermatude	catheters, cannulae	http://www.dermatude.com/en/	BioCare S.A.S.
Ophtec	catheters, cannulas	http://www.ophtec.com	LENTECH
Stryker Emea B.V	catheters, cannulas	http://www.stryker.com/	Stryker Colombia site

Design and Equipment in Colombia

Hospital Design:

Health care institutions and hospitals in Colombia are built on territory in accordance with the existing regulations that are published by the municipality. In addition, new construction, expansion, and renovation of all public, private and mixed health institutions must comply with the Colombian standard for earthquake resistant buildings, the Colombian Electrical Code and other current national regulations.

According to Dane (Departamento Administrativo Nacional de Estadística), the construction of hospitals and clinics in Colombia has increased considerably in recent years, although in 2015 there was a small decrease in the area of public construction for health care. This is because the public sector has mainly invested in adjustments and expansion of the existing infrastructure. In contrast, private investments in new healthcare infrastructure have increased significantly, with a total amount of USD 1 billion in investments in ongoing projects registered in August 2015. In 2014 there were 850,000 square meters cropped healthcare infrastructure in Colombia. In general, it concerns institutions of high complexity (specialist care) and the projects are concentrated in big cities.

Colombia's Medical Device Market,
by Category (2016)

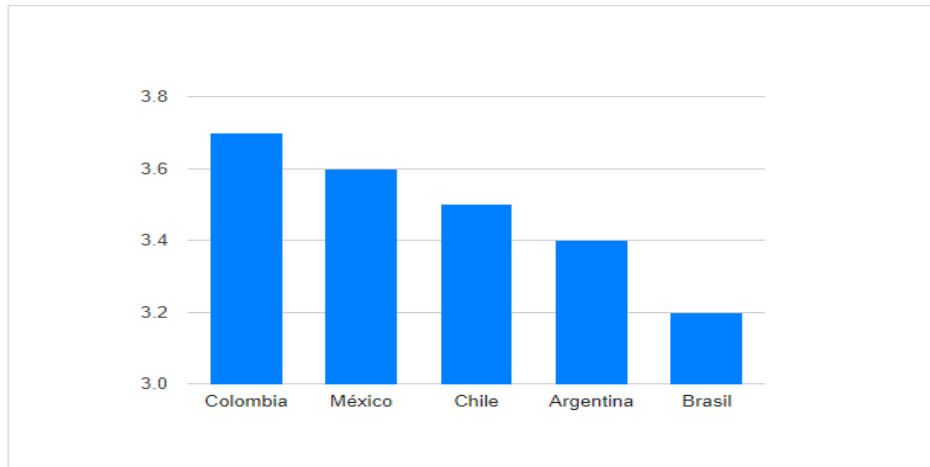
Category	USD Mn	%
Consumables	274	23%
Orthopedics and prosthetics	211	18%
Diagnostic imaging	181	15%
Patient aids	139	12%
Dental products	64	5%
Others	328	27%

Source: Business Monitor International.

Source: 7 Business Monitor International

Academic Cooperation

In comparison to other countries in Latin America, Colombia is in the first place and open to University-company collaboration in Research and Development. A university-company collaboration means that a university would become a part of the skills and innovation supply chain of a company. Their needs would align to meet their needs together. This can be an opportunity for Dutch as Colombian universities/companies. I will further explain this. Both Dutch and Colombian university could cooperate with each other further cooperate together as one with a Colombian or even Dutch company. Another way to see this is that because companies are open for collaboration with universities in Colombia it can be easier for Dutch universities to offer their services to them.



Fuente: *1= Do not collaborate at all; 7= Collaborate extensively. This ranking uses as a reference the information from the largest city in each country.

Source: World Economic Forum, The Global Competitiveness Report 2016-2017.

Academic Cooperation that is needed in Colombia is the further research of biotechnology. A city that has this as a potential sector for investors is Cundinamarca-Bogotá. Its population is around 2.7 million and Bogota is 7.87 million inhabitants in the year 2015. There are many reasons to invest in these locations one of them is an economic strength which they had an economic growth of 4.7% in the last 10 years. Bogota is the capital of Colombia and it comprises 24.7% of Colombia's GDP. The city can offer the necessary workforce and/or universities to make this possible. Bogota has 5 of the 100 best universities in Latin America according to QS Intelligence Unit. Some companies or universities that are or could be business opportunities or open for academic cooperation are:

- Universidad el Bosque
- Universidad Javeriana
- Universidad de los Andes
- Universidad de La Sabana
- Instituto de Bio-technologie-Universidad Nacional
- Corpon: Research center for molecular genetics

Another city that has potential sectors for investment in the Health sector is Antioquia-Medellin. They have a total of more than 10 million inhabitants and the department GDP is of around 51 million dollars. As Bogota, Medellin is also growing and competitive in an economical way. Medellin accounted in 2014 for 7.9% of Colombia's GDP. Medellin is also projected to be in 2021 as the capital of innovation in Latin America. Medellin is the only city in Colombia to have a budget of 240 million dollars to be used in a Plan for science, and innovation. Medellin offers a unique district that will be used for technology development and is called MEDELLINNOVATION. In here national and international companies are allowed to set up there. Medellin has created a city brand that identifies medical services and dental services in the city, the name is Medellin Health City. The group consists of clinics and hospitals that have in total of 2300 beds, 88 operating room, and 1035 medical specialist. The most important universities in the city have created an alliance in the year 2008 for biotechnology. The group's name is Biointropic

alliance their goal is to “identify, develop, integrate, implement and accelerate innovation that adds value and provide a commercial application to biodiversity and biotechnology in the region.” Some opportunities for Dutch universities or companies are in:

- Biontropics: This is the alliance of 3 universities and 3 businesses to promote innovation.
- CECIF: Research center y technology development for the pharmaceutical sector.

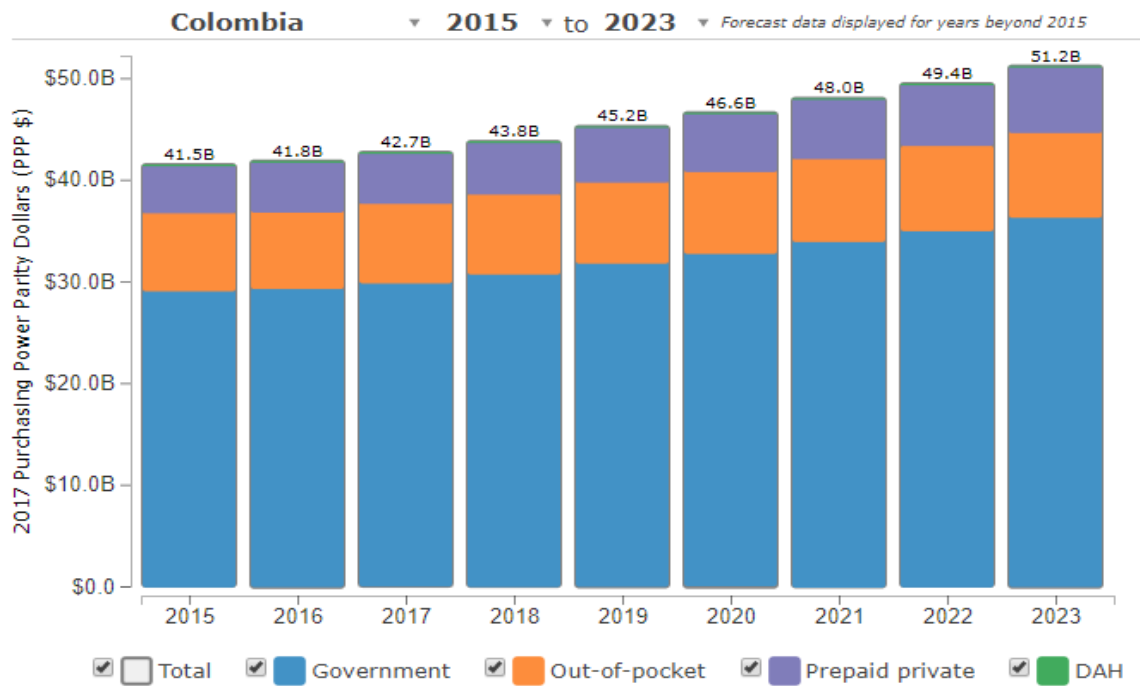
Below is a list of research and development institutes in Colombia with who Dutch companies or universities could contact and work with.

Research and Development institutes

- Instituto Nacional de Salud en Colombia
- Instituto de investigación de Recursos Biológicos Alexander Von Humboldt
- Instituto Amazónico de Investigaciones Científicas Sinchi
- Instituto Colombiano para el Desarrollo de la Ciencia y la Tecnología
- Francisco José de Caldas Colciencias
- Fundación Cardiovascular de Colombia
- Instituto geográfico Agustín Codazzi
- Centro Internacional de Entrenamiento e Investigaciones Médicas
- Centro Nacional de Investigaciones del Café
- Instituto de investigaciones Marinas y Costeras José Benito Vives de Andreis

Source: Research.Webometric.info

Five-year Forecast



Source: 8 Healthdata.org

This chart shows the purchasing power parity dollar in Colombia, the blue area is the expenditure on healthcare services made by the government, the orange area is the out-of-pocket expenditure that is made by citizens, and the purple area is prepaid private expenditure.

Table 5: Colombia healthcare providers sector value forecast: \$ billion, 2017–22

Year	\$ billion	COP billion	€ billion	% Growth
2017	19.3	56,652.6	17.0	8.0%
2018	20.7	60,954.9	18.3	7.6%
2019	22.2	65,397.3	19.7	7.3%
2020	23.9	70,331.1	21.2	7.5%
2021	25.5	75,028.0	22.6	6.7%
2022	27.4	80,566.9	24.2	7.4%
CAGR: 2017–22				7.3%

SOURCE: MARKETLINE

MARKETLINE

The demand for healthcare services is determined by a variety of factors. Therefore it is hard to predict the irregular trend globally. It might be determined in some other reports, but for this report which is a specific focus on Colombia healthcare services. In the graph above, the market growth rate is 7.3 % on average.

In Colombia, “the actual epidemiologic profile has changed, nowadays health sector is faced by an older population with chronic illnesses: hypertension, obesity, diabetes, cancer, mental illnesses, and others.” Dutch companies could make some efforts in this area, for example, academic cooperation regarding mental illness, cancer, obesity could be derived in the future. In the graph above,

Sustainable Development Goals that Dutch companies could contribute

According to The United Nations “The Sustainable Development Goals are the blueprint to achieve a better and more sustainable future for all”. It's a model to address the global challenges the world faces in a way they include problems related to poverty, inequality, climate, environmental, peace, and justice. The target year to achieve these goals is 2030.

In this part of the report we will see and explain how Dutch companies could contribute for Colombia to reach these goals.



The health related SDG's are:

1. No Poverty
2. Zero Hunger
3. Good Health and Well-Being
4. -
5. Gender Equality
6. Clean Water and Sanitation
10. Reduced Inequalities

1. No Poverty

For the No Poverty SDG in Colombia in the year 2016 they took in account Disaster Mortality and they had the target 1.5.1: By the year 2030, to reduce the exposure of the poor to climate-related extreme events and other economic, social and environmental shocks and disasters. This has greatly reduced in Colombia between the years 1990-1995 it was at a score of 7 death rate due to exposure to forces of

nature per 100.000 inhabitants and in 2016 this was reduced to 0.3 deaths per 100.000. So this is an issue where Dutch companies should not focus in Colombia.

2. Zero hunger

For the Zero Hunger SDG related to health its goal is to end hunger, achieve food security and improve nutrition. Colombia is focusing in 3 subcategories these are:

1. Child Stunting
2. Child Wasting
3. Child Overweight

Stunting means to stop or to slow down child growth or development. Since 2005 this had a percentage of 15.3% of all Colombian children under 5 years and in 2016 this was 11.0%. Child wasting is almost the same as stunting. This was 1.6% in 2005 and 1.4% in 2016, this is already low and has a high index of 96 which is great. The third is over the prevalence of overweight among children between the ages of 2 and 4 years old. In 2005 this was 10.5% and in 2016 it went to 12.5%. This is a significant growth. Dutch companies could help Colombia to further reduce child stunting and child overweight. This could be possible by having more Dutch organizations going to Colombia to seek a way to help poor children or work together with Colombian public and private companies/ organizations.

3. Good Health and Well-Being

This SDG's goal is to ensure healthy lives and promote well-being for all ages. Colombia has a high index rate in many sub targets some examples of these are. Index from 0-100, higher is good.

1. Skill birth attended by skilled personnel with an index of 97.0
2. Age-standardized death rate due to cardiovascular diseases, cancer, diabetes among populations aged 30-70 years with an index of 88.2
3. Women of reproductive age who have their need for family planning met with modern contraception methods with an index of 96.5.
4. Coverage of eight vaccines in target populations with an index of 94.5

So these are SDG's that are already have a high index and Dutch Companies could help but would be difficult to reach an index of 100.

Colombia has still has low index in this SDG which are the following in 2016.

1. Number of Live births per 1000 women aged 10-14 years and woman aged 15-19 years with an index rate of 32.1
2. Neonatal Mortality Rate with an index rate of 44.4
3. Death rate due to road injuries per 100.000 index rate is 46.4

These 3 are SDG's that Dutch companies could focus on by trying to prevent or inform more teenagers about sex or help institutions in Colombia with psychologists or expert to help the teens that have been

abused. There are many more sub targets that Dutch Companies could help Colombia to achieve a higher index rate.

5. Gender Equality

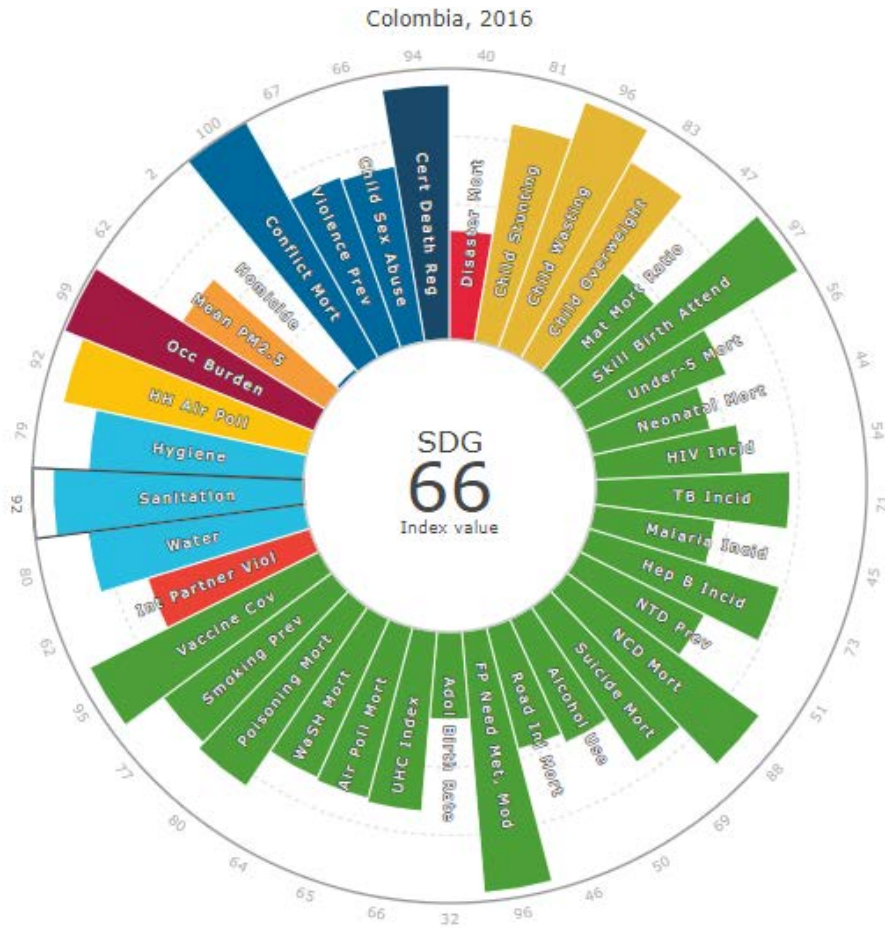
This goal is to achieve gender equality and empower all women and girls Colombia has a target related to health to eliminate all forms of violence against all women and girls, including sexual and other types of exploitation. The index for the prevalence of women aged 15 years and older who experienced intimate partner violence in the last 12 months is 62.4. Dutch companies in this sector wouldn't be able to do much but only have organizations to promote women's rights and help them with the trauma of violence.

6. Clean Water and Sanitation

This goal in to ensure availability and sustainable management of water and sanitation for all. Some indicator that have relationship with health are the following indicators.

1. Populations using unsafe or unimproved water sources with an index of 80.4 in 2016
2. Population using unsafe sanitation with an index of 92.1
3. Population without access to handwashing facility with an index of 79.2

While having already high index rates, Dutch companies could introduce products or equipment to further expand the availability of clean water for the Colombian populations. This would reduce the sickness of not having clean water like infections or viruses.



Source: [9 Vizhub.healthdata.org/sdg/](https://vizhub.healthdata.org/sdg/)

Here you can see the index rate of Colombia and all the related health SDG's.

Conclusion

This report gives concrete information about the health care system in Colombia. The healthcare system has been in transition since 1993. Law 100 is a reform for the healthcare system. The Colombia healthcare market is a universal healthcare model. Theoretically, every Colombian can enjoy corresponding healthcare treatment.

In the year 2006, there was the signing of a MoU, 2015 Colombia and the Netherlands signed a bilateral cooperation document. As commissioned by RVO, the Holland House Colombia and Task Force Health Care has executed a study with reasons and/or opportunities for the Dutch Health sector to invest or enter the Colombian Health market.

The environmental issues and SDG target are discussed in this report as well. Generally speaking, Colombia has to improve their sanitation facilities and control the quality of drinking water. The challenges of SDG was proposed by WHO. And Colombian government also have to improve their performance that is corresponded with SDG target.

The public health has a broad scope of which it includes preventive youth health care, environmental health, socio-medical advice, periodic sanitary inspections, public health for asylum seekers, preventive screening, epidemiology, health education, vaccinations, and preventive community mental health. Within this range, two out of them are most important: the youth health care and vaccinations.

The demand for design and equipment market is huge in Colombia. The medical goods market heavily depends on importation. Medical devices and supplies for healthcare services are essential for prevention, supervision, treatment and therapeutic intervention, it is important for Dutch companies to aware the needs and wants in the Colombia market.

In the academic cooperation sector, Colombia has two major cities that have more opportunities: Bogota and Medellin. Medellin is the only city in Colombia that has 240 million dollars to invest in science and innovation research, compare to Bogota, Medellin has better funds basis.

Recommendation

We suggest Dutch companies introduce their knowledge and experience through academic cooperation. By working with education institution, Dutch companies can have some relationships with local healthcare market. In Colombia, biotechnology is one of the needed direction in academic cooperation. So we recommend biotechnology companies to contact research and development institutes.

Furthermore, the Colombian hospitals normally purchase medical equipment and healthcare facilities through distributors. We suggest the Dutch companies which sell medical goods reach the local distributors to sell their product or services. By adopting the indirect exporting model, Dutch companies will not undertake too much risk in Colombia sector but might earn less money.

As mentioned in the conclusion both governments have commissioned agencies that have executed a study with reasons and/or opportunities for the Dutch Health sector to invest or enter the Colombian Health market. We suggest Dutch companies to approach them for more detailed information.

We don't suggest Dutch insurance companies in public health sector pay attention to this plan since the Colombian insurance market is saturation. Since 95% of the population has registered under the Sistema General de Seguridad Social en Salud, which provide good health support for their citizens. The remaining 5% are people who do not have the ability to pay. Therefore insurance companies in public healthcare sector are not supposed to pay too much attention to the Colombia market. Maybe some complimentary services to this market could do.

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Netherlands Enterprise Agency
Prinses Beatrixlaan 2
PO Box 93144 | 2509 AC The Hague
T +31 (0) 88 042 42 42
E klantcontact@rvo.nl
www.rvo.nl

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