



UNIVERSITAT DE  
BARCELONA

# Healthcare spending and wellbeing in the world

A comparative analysis by regions and countries between 2000 and 2018

Autora: Berta Pla i Casamitjana

Tutora: Paloma Fernández Pérez

Curs 2020-2021

Treball Final de Grau

Grau d'Empresa Internacional

Facultat d'Economia i Empresa



## **ABSTRACT**

This is a study about the complexities of the relationship between healthcare spending and wellbeing in the world. With data for the years 2000 and 2018 by the World Health Organization the thesis reveals that countries with the best life expectancy levels are not always the countries with higher healthcare spending, and that wellbeing as defined by high levels of life expectancy is not therefore just a question of healthcare spending. Due to the COVID-19 outbreak, there is an ongoing debate on which healthcare models are better performing. This thesis aims to help the international community by analysing the effects of funding in healthcare and wellbeing. Through the comparison of data for the year 2000 and 2018, the author shows the importance of the government's involvement in the citizens' health and of increasing the accessibility to quality health services for the entire population. The presentation of the results begins with a concise introduction to the topic followed by a review of literature published by institutions and academia. The results of the work are shown by years- first in a global way and then by regions, comparing the proportion of private expenditure over total health spending with the citizens' wellbeing.

**Key words:** Healthcare, spending, wellbeing, life expectancy, health model.

## **RESUM**

Aquest és un estudi sobre les complexitats de la relació entre la despesa sanitària i el benestar en el món. Amb dades dels anys 2000 i 2018 de l'Organització Mundial de la Salut, el treball revela que els països amb millors esperances de vida no sempre són els que tenen més despesa en salut, i que el benestar definit com a una bona d'esperança de vida no és doncs una qüestió únicament de despesa sanitària. Degut al brot de COVID-19, hi ha un debat en curs sobre quins models sanitaris rendeixen millor. Aquest treball pretén ajudar la comunitat internacional analitzant els efectes del finançament en la sanitat i el benestar. Mitjançant la comparació de dades dels anys 2000 i 2018, l'autora mostra la importància d'un govern involucrat en la salut dels ciutadans i en millorar l'accessibilitat a serveis sanitaris de qualitat per a tota la població. La presentació dels resultats comença amb una introducció concisa del tema, seguida per un estudi de la bibliografia publicada per institucions i el món acadèmic. Els resultats de la recerca es mostren per anys: primer de manera global i seguidament per regions, comparant la proporció de despesa privada sobre el total de la despesa en salut amb el benestar dels ciutadans.

**Paraules clau:** Sanitat, despesa, benestar, esperança de vida, model sanitari.

**TABLE OF CONTENTS**

- I. INTRODUCTION.....4**
  - 1. Justification.....4
  - 2. Research question.....5
  - 3. Hypothesis.....5
- II. LITERATURE REVIEW.....6**
  - 1. Definitions and background of wellbeing and funding models.....6
  - 2. What have institutions said about the topic?.....8
  - 3. What has academia said about the topic?.....15
  - 4. Preliminary conclusions.....18
- III. SOURCES AND METHODOLOGY.....20**
- IV. THE WORLD HEALTH ORGANIZATION.....22**
- V. FINDINGS.....23**
  - 1. 2000: Health inequalities and economic growth.....23**
    - 1.1. World.....23
    - 1.2. Regions.....24
      - African Region (AFRO).....24
      - Region of the Americas (PAHO).....25
      - South-East Asia Region (SEARO).....27
      - European Region (EURO).....27
      - Eastern Mediterranean Region (EMRO).....29
      - Western Pacific Region (WPRO).....30
  - 2. 2018: Change after the UN Sustainable Development Goals.....31**
    - 2.1. World.....31
    - 2.2. Regions.....32
      - African Region (AFRO).....32
      - Region of the Americas (PAHO).....33
      - South-East Asia Region (SEARO).....34
      - European Region (EURO).....35
      - Eastern Mediterranean Region (EMRO).....35
      - Western Pacific Region (WPRO).....36
  - 3. Key changes in health care spending in the world (2000-2018).....38**
- VI. CONCLUSIONS..... 43**
- VII. BIBLIOGRAPHY .....44**
- VIII. ANNEX..... 48**
  - 1. Figure 4: CHE as % of GDP and life expectancy (2000) ..... 48**
  - 2. Figure 5: PVT-D and life expectancy. PAHO Region (2000).....49**
  - 3. Figure 6: PVT-D and life expectancy. EURO Region (2000) ..... 50**

<b>4. Figure 7: PVT-D and life expectancy. WPRO Region (2000).....</b>	<b>51</b>
<b>5. Figure 8: CHE as % of GDP and life expectancy (2018).....</b>	<b>52</b>
<b>6. Figure 9: PVT-D and life expectancy. WPRO Region (2018).....</b>	<b>53</b>

# I. INTRODUCTION

## 1. Justification

Millions of people have been infected with Covid-19 since last year. Unfortunately, some of them have suffered deeply from its effects and, as of January 2021, more than two million individuals have lost their lives to the pandemic.<sup>1</sup> The health crisis we are currently living through has sparked an international debate on the health systems globally. Some groups demand higher investments in healthcare, others may not agree. This thesis aims to shed light on this topic and help the international community by analysing the effects of funding in healthcare and wellbeing.

In the year 2015, the United Nations General Assembly met to develop the Sustainable Development Goals. These sought to motivate the international community (governments and other organizations) to provide universal health coverage for the population.<sup>2</sup> As health is becoming increasingly important in the world economies, countries globally aim to increase the performance of the sector. This is not only related to the wellbeing of the population, but also to the economic growth of states and the development of new technologies. In the year 2016, there were, in round numbers, 59 million workers in healthcare systems worldwide.<sup>3</sup> This is a relevant job market and the capital invested in it is worth the analysis. In terms of technology, the medical industry moves large amounts of capital for development and patenting of new tools and processes, which is of large interest for national economies. Overall, according to a report from the World Health Organization published in 2019, countries spend on average 10% of their GDP in healthcare and health related activities.<sup>4</sup> Comparing data from before the Sustainable Development Goals were established and after these were set, the research results will help evaluate the effects of the UN mission and to see whether an important transformation has taken place thus far.

Firstly, literature from organizations and academia will be presented so as to find what relevant sources have said about the topic of healthcare spending and wellbeing. After the preliminary conclusions from the literature review, the main sources of data and publications will be presented.

Then, the methodology used for the analysis will be shown before diving into the results of the analysis from different healthcare systems around the world. The results will show the

---

<sup>1</sup> John Hopkins University & Medicine. Coronavirus Resource Center. Retrieved January 8, 2021, from <https://coronavirus.jhu.edu/>

<sup>2</sup> United Nations. The 17 Sustainable Development Goals: History. Retrieved January 8, 2021, from <https://sdgs.un.org/goals>

<sup>3</sup> Joseph, B., Joseph, M. (2016). The health of the healthcare workers. Indian Journal of Occupational & Environmental Medicine. Retrieved January 17, 2021. DOI 10.4103/0019-5278.197518

<sup>4</sup> WHO. (2019). Global spending on health: A world in transition. Global Report. Retrieved January 19, 2021, from [https://www.who.int/health\\_financing/documents/health-expenditure-report-2019.pdf?ua=1](https://www.who.int/health_financing/documents/health-expenditure-report-2019.pdf?ua=1)

relationship between the source of funding and wellbeing globally and explain the particular cases of some countries.

In order to improve the effectiveness of health systems and its impact on wellbeing, it is necessary to compare data from different areas in the world and different times. Contrasting the past and existing healthcare funding models, we may find patterns that can help in developing better health schemes. This research project aims to find these tendencies and draw conclusions with respect to the results.

## **2. Research Question**

Healthcare spending is a vast topic. Therefore, a lot of questions may arise when analysing the different health funding models. This thesis aims to answer the following questions:

Does more healthcare spending always mean higher wellbeing of the population in a country? Does the source of the funding impact the lives of the citizens? If so, what is the health spending scheme that is most likely to optimise the health outcomes?

## **3. Hypothesis**

As a result from the questions that were asked before the development of the work, a main hypothesis was formed:

“A healthcare model with funding from mixed sources (public and private) is the most beneficial for the population’s wellbeing”.

This hypothesis is based on the observation that the countries with higher life expectancies globally have mixed health models. With the results of this thesis, the hypothesis will be either confirmed or rejected. In the next section, literature about the subject will be reviewed keeping the research questions and hypothesis in mind.

## II. LITERATURE REVIEW AND OVERALL PICTURE OF HEALTH SYSTEMS

### 1. Definitions and background of well being and funding models

As defined by the World Health Organization: “Health systems are defined as comprising all the organizations, institutions and resources that are devoted to producing health actions”.<sup>5</sup> What exactly are health actions? They are all the steps taken by anyone (individual, public organization, private hospital, etc.) that seeks to improve their or other’s health.

We could add the following aspect to that definition: we can explain health systems as schemes that try to maximise the quantity and quality of health of the society and, simultaneously, try to minimize differences among individuals. To illustrate this idea, we can picture a situation in which there is a country with very developed health services and an enormous spending on its improvement. This system, in a simple definition, would be perceived as good, since it has many good health actions. But what happens if we analyse the country’s system further? Perhaps these services have a very high cost for the people and they have to sacrifice other needs in order to receive the care, or perhaps not everyone can access these services and only a limited number of people can benefit from its remarkable features.

This report has the objective to analyse the situation in the world in a comparative way in order to bring some clarity to the complex question of what seems to be the optimal system for healthcare spending.

Throughout the world, we can find three dominant models of healthcare systems: private, public and mixed. There are also some areas in the world that are funded largely by foreign donations. Although these donations are very beneficial for some countries, they do not represent a large part of the total health expenditure globally (Figure 1).

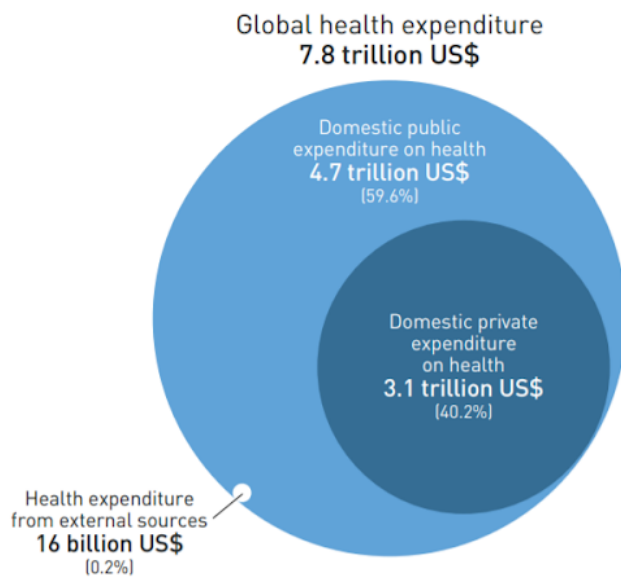
Private healthcare can consist of individuals getting access to medical care through out-of-pocket payments when they require the services or through private insurances. Nevertheless, these fees are not the only shape in which systems present private expenditure. We may also find employers that offer insurance to their workers, voluntary insurances or additional payments when requiring a treatment. Private spending includes in some occasions those services delivered by unlicensed health providers (Basu, Andrews, Kishore, Panjabi and Stuckler, 2012). Examples of unlicensed providers would be workers such as birth assistants, at-home nurses and traditional healers.

---

<sup>5</sup> World Health Organization. (2003). Health Systems: principled integrated care. Retrieved November 11, 2020, from <https://www.who.int/whr/2003/en/Chapter7.pdf>



**Figure 1: Main sources of health care funding globally in 2017**



Source: Global spending on health: a world in transition. Global report, 2019, WHO. Retrieved from [https://www.who.int/health\\_financing/documents/health-expenditure-report-2019.pdf?ua=1](https://www.who.int/health_financing/documents/health-expenditure-report-2019.pdf?ua=1)

A public healthcare system, as its name implies, receives funds that are mostly coming from general tax revenues by the State's Government (Mossialos & Djordjevic, 2017). In this case, the entire contributing population has a right to receiving assistance, care and treatments that are fully (or for the most part) covered by the State's funds.

A mixed system contains characteristics from both private and public models. Depending on how private and public funding are organised we may find different mixed frameworks. According to a study carried out by professors from the University of Toronto<sup>6</sup>, there are four main models of mixed healthcare systems in the world. (Flood, Stabile & Tuohy, 2002)

In the first model of a mixed healthcare system, we can observe parallel public and private systems. In the countries where this applies, we find two independent sectors. Those citizens who can afford the prices of the private healthcare services, get private care. Whereas those who cannot, seek assistance in the public sector. Normally, the privately-funded hospitals and clinics receive those patients that are not looking for emergency treatments or care.

The second type of mixed healthcare systems is a co-payment model. In these cases, the State partially funds clinics and hospitals and the other part is funded by private insurances or out-of-pocket payments made by the users.

The third model for a mixed healthcare system that the group of researchers from the University of Toronto distinguished is the group-based model. With this model, the State

<sup>6</sup> Carolyn H. Tuohy, Colleen M. Flood & Mark Stabile, (June 1, 2001). How Does Private Finance Affect Public Health Care Systems?: Marshalling the Evidence from OECD Nations 1-2. Retrieved November 9, 2020. DOI 10.1215/03616878-29-3-359

offers to cover healthcare costs for certain groups that are more vulnerable, such as the older population or those that receive other social assistance. The rest of the population usually pays for their healthcare through private insurance.

Lastly, we can find countries that have a sectoral mixed model. In these countries, some areas of health are public whereas other fields of medicine are private. Marchildon (2004) explained how this is the case for the Canadian healthcare system<sup>7</sup>. The Canada Health Act establishes that the State will cover hospital and basic physician medical care. On the other hand, prescription drugs, home care, continued recovery programs are only partially covered by the Canadian government. As completely private sectors we may find dental and vision care and products, over-the-counter medicine and alternative treatments.

## **2. What have institutions said about the topic?**

Not too many years ago, when children were born, it was not shocking if they did not make it past a few hours, days or months. In fact, data from 100 years ago has shown how 9 out of 100 children would not survive their first year.<sup>8</sup> Also in 1920, life expectancy for an individual at birth was on average 53.6 years for men and 54.6 for women.<sup>9</sup> For comparison, life expectancy in the United States was 78.54 years old for a child born in 2018, and the infant mortality rate was 5.7 out of 1,000 births.<sup>10</sup> The situation back then was different from what we find nowadays. Families were large, and most did not have many resources. Working class families could not afford to take their children to the hospital or receive care at home. In fact, when it was time for a mother to give birth, it was common to do so in their own house, without proper assistance from a doctor and not the optimal hygiene conditions.

International institutions first started to exist to obtain information about some health care problems like epidemics and infant mortality, and to start efforts of standardization in the compilation of health care statistics and prevention methods in the early 1920s. Starting in the 1920s, there were relevant demographic changes. As cities were becoming more populated and wars were arising, the number of infections and diseases was making mortality increase. The first of these international organisations was the League of Nations,

---

<sup>7</sup>Marchildon, G. P. (2004). The public/private debate in the funding, administration and delivery of healthcare in Canada. *Healthcare Quarterly* in collaboration with the University Health Network, Vol. 4(4) 61-68. Retrieved November 13, 2020. 10.12927/hcpap.2004.16855

<sup>8</sup>Centers for Disease Control and Prevention (1999). Achievements in Public Health, 1900-1999: Healthier Mothers and Babies. *Morbidity and Mortality Weekly Report*, 48(38);849-858. Retrieved November 14, 2020, from <https://www.cdc.gov/mmwr/preview/mmwrhtml/mm4838a2.htm>

<sup>9</sup>National Center for Health Statistics. CDC, Department of Health and Human Services (USA). Life Expectancy. Retrieved November 14, 2020, from <https://www.cdc.gov/nchs/fastats/life-expectancy.htm>

<sup>10</sup>Centers for Disease Control and Prevention. Infant Mortality. Retrieved February 11, 2021, from <https://www.cdc.gov/reproductivehealth/maternalinfanthealth/infantmortality.htm>

and one of its goals was debating on global health issues.<sup>11</sup> International institutions directly involved the states in the ongoing issues and took on the role that philanthropic and caritative associations such as the Rockefeller Foundation previously carried out.

All of these intragovernmental efforts were the foundations for the World Health Organisation, which was created because countries needed an institution to discuss topics related only to health.

The World Health Organization published in the year 2000 their first extensive report analysing the history and evolution of health systems<sup>12</sup>. Through this report, we can see how society went from such a precarious state to creating a very extensive system that seeks to provide the population healthcare services in order to improve their wellbeing. In the last decades, institutions like the World Health Organisation have been promoting the idea of a healthcare system that covers the primary needs for everyone. This should be accomplished through public policies implemented by the governments.

As a result of these efforts, public spending on health has been growing and it is related to lower financial difficulties. According to a report from 2019 published by the WHO<sup>13</sup>, more countries are creating legal frameworks that try to ensure access to healthcare for all the population. The institution also defends that increasing the spending of public resources toward healthcare can mean considerable improvements for the wellbeing of society.

Figure 2 shows the evolution of healthcare spending around the world from 2000 to 2017, distinguishing four categories in terms of the income levels of the States. The graphs published by the WHO show the increase in public health spending and illustrates the relevance of funds coming from donations in the countries with lower incomes.

According to that same publication, global spending on healthcare was US \$1,080 per capita in 2017. To break this figure down, US \$41 per capita was the average spending in low-income countries and US \$2,937 in higher income countries. In the middle-income group, the amount of spending has been increasing. In fact, the percentage of the GDP spent on health has grown faster than the economy itself. However, GDP is not an indicator on how much a country spends on healthcare, as territories with close levels of income may spend very different amounts. For instance, in the mid 2010s, Brazil spent more than twice the expenditure of Turkey, where income levels are similar.

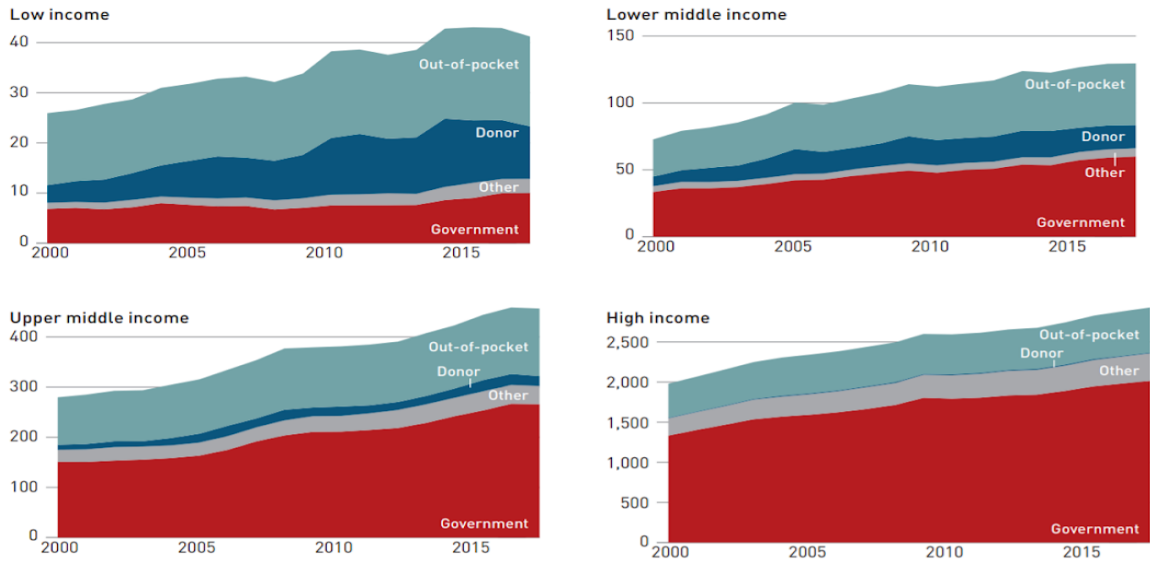
---

<sup>11</sup> The Archive of the League of Nations health care studies and correspondence is currently in the United Nations Organization archive in Geneva, Switzerland, available for research and study, as indicated in Paloma Fernández Pérez (2021), *The emergence of modern hospital organization and management in the world 1880s-1930s*. Emerald Publishers.

<sup>12</sup> World Health Organization. (2000). *The world health report 2000 - Health systems: improving performance*. Retrieved November 11, 2020, from [https://www.who.int/whr/2000/en/whr00\\_en.pdf?ua=1](https://www.who.int/whr/2000/en/whr00_en.pdf?ua=1)

<sup>13</sup> World Health Organization. (2019). *Global report 2019 Global Spending on Health: A World in Transition*. Retrieved November 14, 2020, from [https://www.who.int/health\\_financing/documents/health-expenditure-report-2019.pdf?ua=1](https://www.who.int/health_financing/documents/health-expenditure-report-2019.pdf?ua=1)

**Figure 2: Health spending per capita by source and income group, 2000–2017 (constant 2017 US\$)**



Source: Global spending on health: a world in transition. Global report, 2019, WHO. Retrieved from [https://www.who.int/health\\_financing/documents/health-expenditure-report-2019.pdf?ua=1](https://www.who.int/health_financing/documents/health-expenditure-report-2019.pdf?ua=1)

In 2017, approximately 60% of the total spending was directed to the public sector, and 40% toward the private one. In spite of being only 16% of the total population on Earth, higher-income states spent around 81% of the total amount in healthcare. Nevertheless, this fraction of the global spending was lowered from the 87% that the figures showed in the early 2000s due to middle income countries catching up.

Since the year 2000 up to 2017, GDP per capita globally grew 160%. With the economic growth of the countries, health care demand increased. As a result, society expected and demanded a higher investment from the government in order to increase the quality of health standards. The growth in health spending can also be attributed to the development and introduction of new technologies. These technologies are more expensive and require more funds from both the public and the private sector.

In some countries facing fast economic growth, government expenditure grew, but the expenditure in health did not grow proportionally to the total. For instance, in Mongolia, the general government expenditure grew by 4.8 times but the proportion allocated to health expenditure fell by a total of -3.5 times. Other countries such as the Russian Federation, Bangladesh and Pakistan saw the same effect in their economies.

According to the World Health Organization<sup>14</sup>, in countries where the average household is poorer, the proportion of out-of-pocket payments is higher than in the rest of countries. One of the reports of the organization<sup>15</sup>, concludes that the reason is not directly that high-income countries have any specific policy, but that when a country has more resources, the government has the possibility to protect its citizens from catastrophic spending.

As defined by a publication by the WHO, catastrophic spending occurs when a household has to pay such large amounts for healthcare that it translates into financial hardship. Whenever families are facing these difficulties, they must make a choice between healthcare and other basic needs such as food, housing or education. In more quantitative terms and to allow comparison between the different regions or states, we can define catastrophic spending as the case of a household spending more than 10-25% of its total income in healthcare.<sup>16</sup>

In a large number of low and lower middle income countries, access to health care is achievable for its population through the help of donor funding. The distribution of donor funding through the different groups in 2017 is as follows: 40% was allocated towards low income countries, a total of 44% was received by middle income countries and upper middle income countries were provided with approximately 9.8% of the external help.<sup>17</sup> In theory, once a country begins to experience fast economic growth, we should see how external aid reduces and they become self-sufficient. Nevertheless, this has not been observed in recent years and the reasoning behind why middle income countries are not developing good financing strategies is undetermined.

In 2017, the World Health Organisation's branch in Africa published a report about the situation of public expenditure and future plans for it in the continent<sup>18</sup>. The report defends the position on how investing in public health and accessibility for all individuals to the needed health services is profitable for everyone. Controlling issues such as child mortality, spread of epidemics and other diseases will bring future benefits. For instance, if the rate of deaths during the first years of life and fertility issues are decreased through the funds injected into the public health system, the population will grow. Thus, bringing quicker economic growth.<sup>19</sup> As mentioned by the WHO, during the early 2010s, there was an overall

---

<sup>14</sup> World Health Organization. (2019, February 20). Countries are spending more on health, but people are still paying too much out of their own pockets. Retrieved November 15, 2020, from [www.who.int/countries-are-spending-more-on-health-but-people-are-still-paying-too-much-out-of-their-own-pockets](http://www.who.int/countries-are-spending-more-on-health-but-people-are-still-paying-too-much-out-of-their-own-pockets)

<sup>15</sup> World Health Organization. (2019). Global report 2019 Global Spending on Health: A World in Transition. Retrieved November 14, 2021, from [https://www.who.int/health\\_financing/documents/health-expenditure-report-2019.pdf?ua=1](https://www.who.int/health_financing/documents/health-expenditure-report-2019.pdf?ua=1)

<sup>16</sup>World Health Organization. (2005). Designing health financing systems to reduce catastrophic health expenditure. Technical Briefs for Policy-Makers, N°2. Retrieved November 19, 2020, from [https://www.who.int/health\\_financing/pb\\_2.pdf](https://www.who.int/health_financing/pb_2.pdf)

<sup>17</sup> WHO. (2019). Global spending on health: A world in transition. Global Report. Retrieved January 19, 2021, from [https://www.who.int/health\\_financing/documents/health-expenditure-report-2019.pdf?ua=1](https://www.who.int/health_financing/documents/health-expenditure-report-2019.pdf?ua=1)

<sup>18</sup> World Health Organization (Africa). (2017). Universal health coverage in Africa: a framework for action. Retrieved November 19, 2020, from <https://www.afro.who.int/sites/default/files/2017-06/uhc-in-africa-a-framework-for-action.pdf>

<sup>19</sup> For instance, if better health systems in Africa decrease the spread of epidemics, the economy in the continent will not be forced to stop as abruptly, making growth smoother.

growth of health expenditure in the African continent. Nevertheless, it was not due to an increase in public spending, but due to increased out-of-pocket payments and donor funding.

A report from the WHO about the analysis of healthcare spending in post-soviet countries shows how, in difficult times in which the government decreased its funding to healthcare services, the population had to pay for it through out-of-pocket payments.<sup>20</sup> In addition to the troubled times for former Soviet Union countries in the last years of the USSR, after the disintegration, the population's health was not covered by the public health system. The consequences of families having to pay for medicine, surgery or other treatments with their own money puts them in a more compromised situation. Citizens from low-income countries such as former USSR members are impoverished more and may even have to sacrifice their health in order to be able to afford other basic needs (Kutzin, Cashin and Jakab, 2010). These catastrophic circumstances can have a huge impact in their longevity and well being.

In the last years, the WHO has not been only focusing on trying to decrease inequality and offer universal access to health care, but their role has also been to increase the literacy of society towards health. Clearly, the European Union has been trying to inform its citizens about health topics through the most recent reports. An example in the European continent would be the rising reluctancy concerning vaccination. The organization has been battling against misinformation and wrong perceptions of the population in this aspect and making clear that vaccination is useful and the most cost effective way of dealing with diseases.

Such ideas are also defended in the 2019 report published by the European Union.<sup>21</sup> In particular, the organization formed the State of Health in the EU, which is a series of facts and figures offered by the European Commission together with the OECD and the European Observatory on Health Systems and Policies. The report offered insight in aspects such as how different countries may invest resources in disease prevention. Disease prevention can be divided in three actions. Firstly, informing the population about healthy lifestyles or other prevention methods to avoid facing the disease. Secondly, scanning the citizen's health in order to detect the illnesses or any disorder before it reaches an advanced stage. And lastly, treating the disease or illness to avoid its spread. The EU only spends around 3% of the total health spending in actions oriented toward disease prevention.

In that same 2019 report, insight about the health situation in the different EU Member States is presented. In the case of Spain, there is evidence shown on how the system is working properly. Besides showing a higher life expectancy than the average of the EU, death

---

<sup>20</sup> World Health Organization (Europe). (2012). Behind the estimates of out-of-pocket spending on health in the former Soviet Union. Retrieved November 28, 2020, from [www.euro.who.int/behind-the-estimates-of-out-of-pocket-spending-on-health-in-the-former-soviet-union-2012](http://www.euro.who.int/behind-the-estimates-of-out-of-pocket-spending-on-health-in-the-former-soviet-union-2012)

<sup>21</sup> Directorate-General for Health and Food Safety (European Commission). (2019, 11 21). State of health in the EU. Companion report 2019. Retrieved November 11, 2020, from [op.europa.eu/38894d8e-0cf3-11ea-8c1f-01aa75ed71a1](http://op.europa.eu/38894d8e-0cf3-11ea-8c1f-01aa75ed71a1)

causes that can be avoided are lower than in the majority of EU states. Preventable deaths are those that can be tackled or treated.<sup>22</sup> That being said, data shows how Spain has allocated a lower proportion of its GDP to health funding since the economic crisis. According to the EU Commission's report, in 2017, 8.9% of Spain's GDP was assigned to health spending, whereas the average in the EU was 9.8%. As the Spanish population is growing older, doctors are getting close to their retiring age as well. Therefore, the Spanish government has been investing more in education of health professionals. Whether these investments are enough or not is a largely discussed topic by Spanish citizens, who demand higher involvement by the government and higher funding for public healthcare.

The last report by the Commonwealth Fund<sup>23</sup> analyses the state of the health system in the United States of America. As of 2020, due to the COVID-19 pandemic, the system is suffering from a lack of resources and capability to assist all patients. The country has seen the most infections in its territory and the virus has claimed the most lives there thus far. The US healthcare system has demonstrated that it is not effective during economic crises. The main reason being that most citizens' healthcare is covered by their employers. In a time when a large part of the population has lost their position and is facing unemployment, they are left unprotected and exposed to factors that could affect their wellbeing even more.<sup>24</sup> In September 2020, the US National Center for Health Statistics published an estimation about the amount of people in the country that is not covered by insurance, which totaled around 35 million people.<sup>25</sup> Moreover, in contrast to the low rate of preventable deaths in Spain, the US has seen an increase in these being the causes of shorter life expectancy.

Centers that offer out-of-pocket health services to the US population (which is a large part of the system) have been severely affected, seeing a vertiginous decrease of its revenue and, in many cases, they are being menaced by a high risk of closure. On the other hand, publicly funded primary health services have seen a decrease in resources in 2020 and years prior to the pandemic, as explained by the Commonwealth Fund. States have been spending a lesser amount of tax revenues towards healthcare.

Conversely, spending and life expectancy in Catalonia have been growing steadily during the last years.<sup>26</sup> According to the Statistical Institute of Catalonia,<sup>27</sup> the last available data shows

---

<sup>22</sup> Examples of these are suicides, lung cancer, obesity, etc.

<sup>23</sup> The Commonwealth Fund (USA). (2020, September 11). 2020 Scorecard on State Health System Performance. Retrieved November 21, 2020, from [www.commonwealthfund.org/2020-scorecard-state-health-system-performance](http://www.commonwealthfund.org/2020-scorecard-state-health-system-performance)

<sup>24</sup> The Commonwealth Fund report also questions how suicide rates, alcoholism and health expectancy will be affected as side effects of the pandemic.

<sup>25</sup> National Center for Health Statistics. Centers for Disease Control and Prevention, Department of Health and Human Services (USA). (2020, September). Health Insurance Coverage: Early Release of Estimates From the National Health Interview Survey, 2019. Retrieved November 18, 2020, from <https://www.cdc.gov/nchs/fastats/health-insurance.htm>

<sup>26</sup> An exception is the year 2015. In 2014, life expectancy was 83.35 years at birth, but it decreased to 83.20 years.

<sup>27</sup> IDESCAT (Statistical Institute of Catalonia). (2020, August 27). Annual indicators: Life expectancy at different ages. Retrieved November 14, 2020, from <https://www.idescat.cat/indicadors/?id=anuals&n=10380&col=3&lang=en>



that the life expectancy at-birth in the region was 83.58 years (80.48 years for men and up to 86.03 years for women). Comparing this data to the results of the United States, we observe how, in the same year, an US citizen's life expectancy was 78.7 years.<sup>28</sup> That is, a total of 4.88 years less than a person from the Catalan territory. The reasons behind these differences may lay in many areas. For instance, it could be due to geographical advantages of the Iberian region, or perhaps due to the benefits of the Mediterranean diet. In the same way, we can also suppose that one of the reasons is the model for the Catalan healthcare system.

A large number of existing studies have examined the case of the Catalan system. One of the last reports published by the Directorate General for Health Planning pointed out the main goals of the complex scheme<sup>29</sup>. These goals are primarily giving access to the largest number of people possible to health services as well as improving the outcomes (i.e. the wellbeing and health condition of its citizens).

The Catalan health model consists of a mix that incorporates facilities and services which are public to every citizen but that can be publicly funded or not. The Government (through the Catalan Health Service) hires the services of hospitals in order for the entire population to use. These centers can have legal ownership different from public. This system covers prevention, health and socio-health care, rehabilitation and end-of-life care and support and it has historically been very keen on medical research. Because of this, many innovative techniques and specialized procedures can be found within the services offered. In addition to this, the Catalan population may also choose to be treated in private facilities. In 2015, a report by the WHO about the Catalan medical system claimed that around 20% of its population chooses to access private healthcare or uses a mix of both public and private services.<sup>30</sup> The private sector is compatible with the public one but it is the preferred one for some in order to avoid waiting lists that can become very lengthy.

A recent study conducted by the Center of Sociological Research (Catalan Health Service, CatSalut) claims that Spanish citizens are pleased with the results they receive from public care and states that "In Catalonia, public activity is almost four times private activity"<sup>31</sup>. In addition, the outcomes of public and privately owned centers are not much different when compared. This suggests that privatizing public health centers would not necessarily mean an increase of efficiency.

---

<sup>28</sup> National Center for Health Statistics. CDC, Department of Health and Human Services (USA). Life Expectancy. Retrieved November 14, 2020, from <https://www.cdc.gov/nchs/fastats/life-expectancy.htm>

<sup>29</sup> Directorate General for Health Planning, Catalan Ministry of Health, Government of Catalonia. (2016). Health Plan for Catalonia 2016-2020. A person-centered system: public, universal and fair. Retrieved November 19, 2020, from [https://salutweb.gencat.cat/ca/el\\_departament/Pla\\_salut/pla-de-salut-2016-2020/](https://salutweb.gencat.cat/ca/el_departament/Pla_salut/pla-de-salut-2016-2020/)

<sup>30</sup> World Health Organization. (2018). Catalonia, Spain. Regions for Health Network. Retrieved November 22, 2020, from [https://www.euro.who.int/\\_\\_data/assets/pdf\\_file/0004/373387/rhn-catalonia-eng.pdf](https://www.euro.who.int/__data/assets/pdf_file/0004/373387/rhn-catalonia-eng.pdf)

<sup>31</sup> CatSalut, Departament de Salut, Generalitat de Catalunya. (2019, March). Eficiència hospitalària segons la titularitat, Catalunya 2005-2017. Informes Breus, nº 30. Retrieved December 01, 2020, from <http://scientiasalut.gencat.cat/handle/11351/4017>



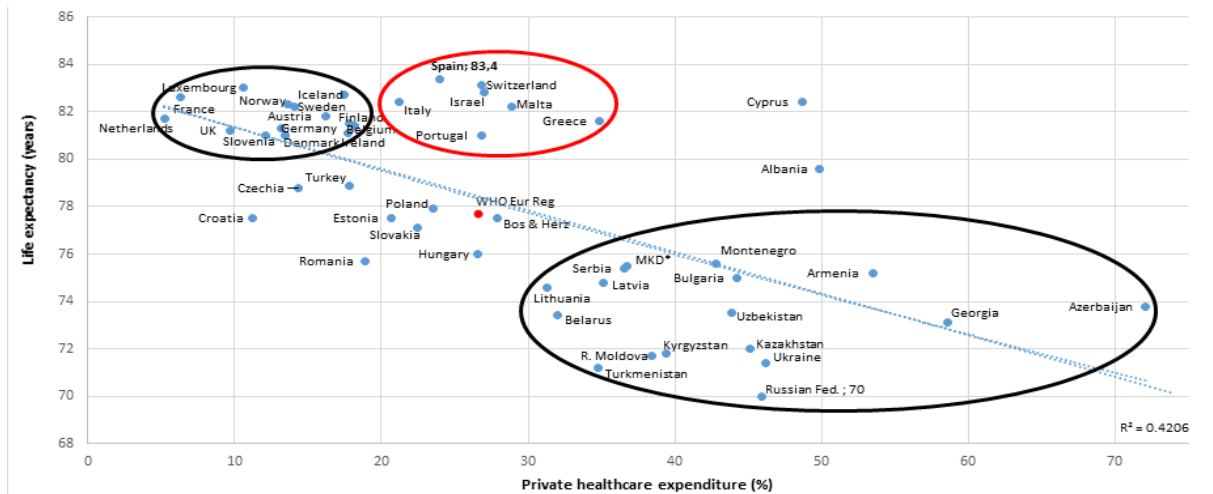
### 3. What has academia said about the topic?

Healthcare models and health spending are a very broad topic and there are hundreds of millions of research papers, journals and other publications that are available on this subject in the Web of Science databases. For this reason, this study is not exhaustive and only focuses on some of these publications which are the most relevant for the topic in hand.

There have been several studies in the academic world in the field of health spending and its effects on wellbeing. Some of these reports have compared the performance of public and private systems in countries with lower income (Fernández, Zarzoso et al., 2021; Basu, Andrews et al., 2012; Bamfo and Dogbe, 2017; Batouli, Jahanshahi, Makarov et al., 2019).

In figure 3, we can observe how life expectancy at birth relates to the private payments of households in European countries, according to data from the World Health Organization from 2014. The graph shows how more spending does not necessarily mean a higher life expectancy. The best results in terms of longevity are found in those countries that have some spending in both public and private sectors. This could be due to the fact that life expectancy is related to public spending, diet, hygiene, environmental conditions, etc.).

**Figure 3: Life expectancy at birth (in years) for both sexes, and private households' out-of-pocket expenditure (World Health Organization/WHO estimates) as % of health expenditure, 2014**



Source: Paloma Fernández Pérez (2021). How to evaluate the capacity of hospital systems in a very long term international comparative perspective? Hospital beds per inhabitant in Catalonia 1900s-2010s. Journal of Evolutionary Studies in Business, vol. 6, nº 1, 182-226. DOI doi.org/10.1344/jesb2021.1.j087<sup>32</sup>

These previously mentioned academic reports have had the goal of analysing whether public or private spending is more effective in low-income and low-middle income areas. The main

<sup>32</sup> Fernández Pérez, Paloma (2021). How to evaluate the capacity of hospital systems in a very long term international comparative perspective? Hospital beds per inhabitant in Catalonia 1900s-2010s. Journal of Evolutionary Studies in Business, vol. 6, nº 1, 182-226. DOI doi.org/10.1344/jesb2021.1.j087

idea that motivates these studies is that private spending is often perceived as more effective but, simultaneously, public spending is seen as more fair and non-discriminatory, thus giving more access to all members of the different communities.

The first one of these studies concluded that the private sector is not always the best and most efficient, as a public system allows more people to be assisted.<sup>33</sup> But critics argue that in times of financial instability, relying more on private organizations could heave a sigh of relief for the government. In favor of the private health sector, the study claims that in countries with impoverished and corrupt governments, private clinics are the ones that the population will go to seeking a more competitive and reliable solution to deal with their wellbeing since they are going to pay more attention to the demands of the users. Nevertheless, its efficiency is compromised by higher medicine prices and an observed likelihood of private clinics in low-income countries taking advantage of its customers by recommending unnecessary treatments, screenings and other services.

An analysis carried out by professors from the International Journal of Pharmaceutical and Healthcare Marketing sought to answer the question on which sector do the patients prefer in lower-income countries. In this case, they studied the matter in Ghana.<sup>34</sup> The results showed how patients are not primarily affected by the cost of the private or public sector, but rather they tend to go to private healthcare centers if they value the quality of the service and to public hospitals if their illness is more complicated and requires better facilities and evidenced treatment.

The poorest families in low-income countries tend to suffer from illnesses more. However, private healthcare represents half or more of the care given in poor countries and it includes patients from disadvantaged groups as well (Montagu, Suchman and Seefeld, 2020). It is important to find the reasons why these groups would prefer to attend private centers instead of public ones in order to improve the quality of the second-mentioned system. For instance, research done in Kenya showed how patients prefer private healthcare because they do not trust the public system to take care of their wellbeing.<sup>35</sup>

Some authors have analysed the case for the European healthcare. With their studies, they analyse the relationship between health expenditure and health outcomes. The European

---

<sup>33</sup> Basu, S., Andrews, J., Kishore, S., Panjabi, R., & Stuckler, D. (2012, June). Comparative Performance of Private and Public Healthcare Systems in Low- and Middle-Income Countries: A Systematic Review. Retrieved November 12, 2020. DOI 10.1371/journal.pmed.1001244

<sup>34</sup> Bamfo, B., Dogbe, C. (2017). Factors influencing the choice of private and public hospitals: empirical evidence from Ghana. International Journal of Pharmaceutical and Healthcare Marketing. Retrieved November 25 from <https://www.emerald.com/insight/content/doi/10.1108/IJPHM-11-2015-0054/full/html>

<sup>35</sup> Keesara, S. R., Juma, P. A., & Harper, C. C. (2015, August 20). Why do women choose private over public facilities for family planning services? A qualitative study of post-partum women in an informal urban settlement in Kenya. Retrieved November 26, 2020, from <https://doi.org/10.1186/s12913-015-0997-7>

countries follow the 2030 Social Development Goals established by the World Health Organization, in which health is the main indicator of wellbeing.

Drastichova and Filzmoser published a report in which health performance was analysed in terms of the expenditure.<sup>36</sup> They interpreted a better performance as a country having better health outcomes than another one with the same financial resources or as a country having the same health outcomes using less resources. The results showed how the best performing countries had higher levels of spending in facilities (hospitals, long-term care areas, etc.) and in those in charge of giving the service (healthcare workers) and of administering the resources. On the other hand, the research indicated that the lower-performance countries spent a higher proportion of the total healthcare expenditure on complementary care providers, which can be laboratories for diagnoses, x-ray scans, etc. In these countries, ambulatory healthcare spending was significantly lower.

In 2014, a study used a different variable for measuring the performance of health systems.<sup>37</sup> In this case, the effects of expenditure are analysed through changes in stomach cancer mortality and economic changes in the European Union. The findings conclude that in rough economic periods when unemployment increases the number of cases of stomach cancer increases as well. In particular, the analysis shows how 1% increase in unemployment would mean 544 more deaths for men and 246 excess deaths for women in the EU. Mortality due to this type of cancer also increases whenever public financing decreases. In both comparisons, aspects that could affect the results (such as alcohol consumption and different calorie intakes) were controlled for. The authors claimed that in order to decrease the mortality rates of the ailment in times of economic downturn, policy makers should aim to control unemployment, carry out preventive campaigns and maintain or increase the amount of public funding towards healthcare.

Another example of a similar comparison is the study carried out by researchers from the Journal of the Royal Society of Medicine.<sup>38</sup> The authors calculated the impact of a change in healthcare spending on mortality rates. They proved that a decrease in healthcare funding brings higher mortality rates in all age groups around 3 years after the changes and can extend further, which can be due to direct decrease in the ability to fund treatments, surgeries and other care services that affect the life of the patient directly and also a

---

<sup>36</sup> Drastichová, M., Filzmoser, P., (February, 2020). The relationship between health outcomes and health expenditure in Europe by using compositional data analysis. *Problemy Ekorozwoju/ Problems of Sustainable Development*, Vol. 15(2) 99-110. Retrieved November 24, 2020, from [https://ekorozwoj.pollub.pl/no30/13.Drastichova\\_et\\_al.pdf](https://ekorozwoj.pollub.pl/no30/13.Drastichova_et_al.pdf)

<sup>37</sup> Maruthappu, M., Painter, A., Watkins, J., Williams, C., Ali, R., Zeltner, T., et al. (2014). Unemployment, public-sector healthcare spending and stomach cancer mortality in the European Union, 1981-2009. *European Journal of Gastroenterology & Hepatology*, 26, 1222-1227. Retrieved November 24, 2020 from <https://doi.org/10.1097/MEG.000000000000201>

<sup>38</sup> Budheo, S., Watkins, J., Williams, C., Maruthappu, M. (2015). Changes in government spending on healthcare and population mortality in the European union, 1995–2010: a cross-sectional ecological study. *Journal of the Royal Society of Medicine*, 108 (12), 490-498. Retrieved December 1, 2020 from <https://doi.org/10.1177/0141076815600907>

decrease in funding preventive campaigns. Therefore, changes in spending do not only have an effect in the short-term wellbeing of the society, but also in the long run.

Josep Vidal i Alaball, a doctor at the Catalan Health Institute, published an article in which he explained the different health systems that we may find in Europe.<sup>39</sup> He drew a distinction between the following models: Beveridge Model, Bismarck Model and Free Market.

The Beveridge system is publicly funded through taxes and gives universal access to the population, usually for free, and the provision of services is mostly public. This model is state-run. In this category, we may find the Shemasko model, which consists of a completely public model that gives access to health services to everyone and in which workers are salaried. However, this is a very inefficient model which does not give any incentive to health care providers. In those countries in which the Shemasko model is applied, the funding falls short, thus creating inefficiencies.<sup>40</sup>

Secondly, the Bismarck model consists of mandatory insurance at the workplace which covers the health of the employees and their families. This model is financed through the contributions of the employees in the social security system (a portion of their salaries is withheld). The provision of services in this case is a mix between public and private.

Thirdly, a free market model consists of voluntary health insurance. It is funded privately by those citizens who would like to access the services given also by private institutions.

All of these models have advantages and disadvantages, and we may find them in different countries in the European continent. The public Beveridge system is found in the northern part of Europe, throughout the Scandinavian countries, whereas the mandatory insurance model (Bismarck) is found in central European countries. In the southern area of Europe, the health systems are a mix between both Beveridge and Bismarck models. Finally, in the post-soviet countries we observe the Shemasko model, but this model has evolved adopting few characteristics of the voluntary health insurance configuration.

#### **4. Preliminary conclusions**

Although the amount of research done in healthcare systems is very large and broad, publications regarding aspects such as the effects of catastrophic spending remain limited. An interesting question in this context would be analysing whether those countries in which the households have good state of health and high per-capita spending, catastrophic spending could be a reason preventing the increase of wellbeing. A number of questions

---

<sup>39</sup> Vidal Alaball, J. (2014) El Sistema Sanitari Català (un model sanitari?). Retrieved November 27, 2020 from <https://bit.ly/37ynUJ>

<sup>40</sup> Shishkin, S., Sheiman, I., Shevsky, V. (November, 2018) The evolving Semashko model of primary health care: the case of the Russian Federation. Risk Management and Healthcare Policy N° 11 (209-220). Retrieved November 27, 2020. DOI: 10.2147/RMHP.S168399

regarding the effects of healthcare expenditure on the population's wellbeing remain unsolved and should be further analysed.

Throughout the world we can observe different models for healthcare systems, which can be classified in three main categories: public, private and mixed. Within these categories, different countries can have their own complex schemes. In addition to that, many low-income and middle-income economies rely on funding from external agents in order to finance their healthcare services and facilities. Institutions and academia have analysed the different models without bringing any clear conclusions on which one is the most effective.

Deeper research could look into whether as low income countries grow they have been spending more in public health or in private health. That is, relate changes in GDP per capita to changes in private spending and public spending per capita. In the literature, an issue that has not been clearly reviewed is why certain countries facing economic growth that have moved from low-income to a lower-middle or middle-income level still receive external funding and have not developed their own system in order to maintain a sustainable healthcare model.

Previous research has provided insight in the effect that a rise in healthcare spending has on outcomes such as stomach cancer mortality or life expectancy, but there has not been a deep global analysis on whether this increase should be on public fundings, private or if there is an alternative that could optimize the wellbeing of the population. By analysing the different healthcare systems in the world we could have an idea on which models are the most efficient and cost-effective. From the studied literature, we can confirm that death, certain illnesses, misery and financial hardship are good indicators to assess the health and wellbeing of the society.

No matter what aspect we observe in order to evaluate performance, it is clear that some countries have health systems that are better functioning than others. We have also observed through an analysis of the literature available that these differences are not solely due to the fact that some countries spend more or less on health. We may find two countries with similar GDP per capita and close levels of health expenditure with very different outcomes. This shows that the configuration of the healthcare model, who oversees it and how it is financed plays an important role and has an impact in the population's wellbeing.

One of the keys in order to design and manage an efficient healthcare model is having reliable and truthful information that is evidence-based and that has been compared through different regions in the world. In the next section, the sources of information and methodology for the research carried out will be presented.

### III. SOURCES AND METHODOLOGY

The methodology implemented during the practical section of the research consists in its majority in the comparison of data provided by the World Health Organization regarding health expenditure and wellbeing.<sup>41</sup>

The main indicators used for the comparison during the research are: healthcare spending as a percentage of the total GDP by country, domestic private health expenditure over the total health spending by country and life expectancy at birth by country. These indicators are presented as proportions of total expenditure and GDP in order to control for inflation and other currency changes that may have arisen during the studied period. Moreover, by analysing the data in the form of percentage over the aggregates, differences in purchasing power are also reduced. As an indicator for wellbeing, life expectancy at birth has been utilized. Having a high life expectancy is a very positive indicator for a country's health system as it indicates that the performance of the overall system is positive. Good health in turn is a positive indicator for the population's wellbeing, since it is an objective and measurable piece of data that is essential for a good life.

However, we must take into account that increased life expectancy may bring concerns as it means that there is a larger number of people (and an increasing older generation) to which attention has to be turned to and which may imply more complicated health conditions. In addition, another challenge of these indicators is that each country may measure its health expenditure in a different manner and therefore the results may vary in some extent from the actual health spending if it had been quantified in a standardized way for all countries.

Additional variables have been checked during the process of the analysis, such as out-of-pocket payments per capita and out-of-pocket expenditure over total healthcare spending, but they have not been added explicitly into the results.

The data retrieved from the WHO database is for the year 2000 and the latest data available, from 2018. These have been the chosen years because it will provide detail into how the healthcare systems have changed since the end of the 20th century (when especially Western economies were performing very well) to 2018 (after the financial crisis and before the Covid-19 pandemic).

The analysis has been divided in two sections, one for the year 2000 and the other for the year 2018. Each of these sections follows the same base structure for presenting the results.

Before all else, an overview of the global situation in each of the studied years will be shown as an introduction to the healthcare spending analysis.

---

<sup>41</sup> World Health Organization. Global Health Expenditure Database. Data retrieved November, 2021, from <https://apps.who.int/nha/database>

Then, the resulting graph of the relationship between healthcare spending over the total GDP of each country and life expectancy is shown in order to seek tendencies that may indicate whether more expenditure does or does not improve the wellbeing of individuals.

After the initial aggregated view of the health spending situation in each year, the results of a regional analysis will be described. The different regions that have been identified are the ones indicated by the World Health Organization. In total, 189 countries have been taken into account in the analysis and they are divided into: the African Region (AFRO), the Region of the Americas (PAHO), the South-East Asia Region (SEARO), the European Region (EURO), the Eastern Mediterranean Region (EMRO) and the Western Pacific Region (WPRO).

In all graphs displayed in the thesis, clusters have been identified with the goal of facilitating the analysis. These are groups with similar figures for the indicators used (health expenditure and life expectancy). The position of countries mentioned in the findings section have also been emphasized in the graphs.

The results are expressed in a visual way in the form of graphs in order to facilitate the comprehension of the study and for it to reach the maximum number of people possible. For the same reason, the research findings have been formulated in a carefully worded manner.

By analysing the data available for different aggregates, regions and countries, the research project seeks to encourage discussion that is backed with data from relevant sources and aid in making data-driven decisions.

#### IV. THE WORLD HEALTH ORGANIZATION

The World Health Organization (WHO) is the division of the United Nations responsible for coordinating international public health matters. Its Constitution was approved on 7 April 1948, but its origins date from years before.

In 1851, the first of the fourteen International Sanitary Conferences took place in France. Its objective was addressing the spread of cholera, which arrived to the European continent firstly through the Russian trade routes and later made its way into the rest of the world. In the first conference, twelve States were represented. During the following conferences, around 50 States took part in the discussions. By 1903, the participants agreed that a stable organization in charge of guiding in international health issues was needed. Thus, in 1907 the *Office International d'Hygiène Publique* (OIHP) was created. This organization had a permanent committee of experienced health officials from the member States.<sup>42</sup>

After the First World War, the League of Nations was created in 1919. The goal of this intragovernmental organization was to ensure world peace. In the beginning, the objective was integrating the OIHP into the League of Nations, but it was not possible due to the opposition of the USA, who was a participant in the OIHP but not in the latter. Therefore, both the *Office International d'Hygiène Publique* and the Health Organization of the League of Nations coexisted until the Second World War.<sup>43</sup> In 1945, during a conference involving the creation of the United Nations (UN), Chinese and Brazilian agents proposed the creation of an international health organization. From this moment, the WHO Constitution began forming and it was finally signed and approved as a part of the UN in 1948.

Nowadays, 194 States are members of the World Health Organization. Its offices are located in Geneva, Switzerland, although there are six regional offices that are semi-autonomous from the central organization.<sup>44</sup>

The main role of the WHO is to guide international health. This is done through discussing and recommending policies that are based on the data collected by the organization. Some of the goals of the World Health Organization include to improve universal access to health care, train health workers around the world and improve the availability of relevant information. This information provided by the WHO has been the main source for the research, following the methodology that will be explained in the next section.

---

<sup>42</sup> Howard-Jones, N. (1975). The scientific background of the International Sanitary Conferences, 1851-1938. World Health Organization. Retrieved January 26, 2021, from <https://apps.who.int/iris/handle/10665/62873>

<sup>43</sup> World Health Organization. Global Health Histories: Origin and development of health cooperation. Retrieved January 26, 2021, from [https://www.who.int/global\\_health\\_histories/background/en/](https://www.who.int/global_health_histories/background/en/)

<sup>44</sup> Kaiser Family Foundation. (2021). The U.S. Government and the World Health Organization. Retrieved January 26, 2021, from <https://www.kff.org/global-health-policy/fact-sheet/the-u-s-government-and-the-world-health-organization/>



## V. FINDINGS

In this chapter, the results of the analysis of data from the World Health Organization are presented. Firstly, a global overview of the total healthcare expenditure by countries is shown. In order to have a better understanding of the different healthcare models in the world, a regional analysis is then displayed, relating the wellbeing of the population to the financing sources of their countries' health systems.

### 1. 2000: Health inequalities and economic growth

#### 1.1. World

In the Western countries, the 1990s had been a decade of growth, maintaining low rates of inflation and unemployment. Similarly, after the post-soviet crisis in Eastern Europe and the Commonwealth of Independent States (CIS), economic growth was also a characteristic for these countries in the end of the millennium. As pointed out by the United Nations, however, countries in South-East Europe and other regions in the world suffered from structural problems which in many cases resulted in armed conflicts and tense periods.<sup>45</sup> In terms of health, inequalities in the access to health services were still present in many countries around the world, although discussion about health topics was becoming more extended.<sup>46</sup>

Figure 4 portrays the relationship between the amount of health expenditure that countries around the world had in the year 2000 as a percentage of their Gross Domestic Product (GDP) per capita. We can observe how, up to a certain point, as the percentage of health expenditure increases, the countries' population wellbeing (using life expectancy as an indicator of their health) increases as well. Nevertheless, the results have revealed that those countries that spend more than approximately 7.6% of their GDP in health do not necessarily show a higher life expectancy at birth.

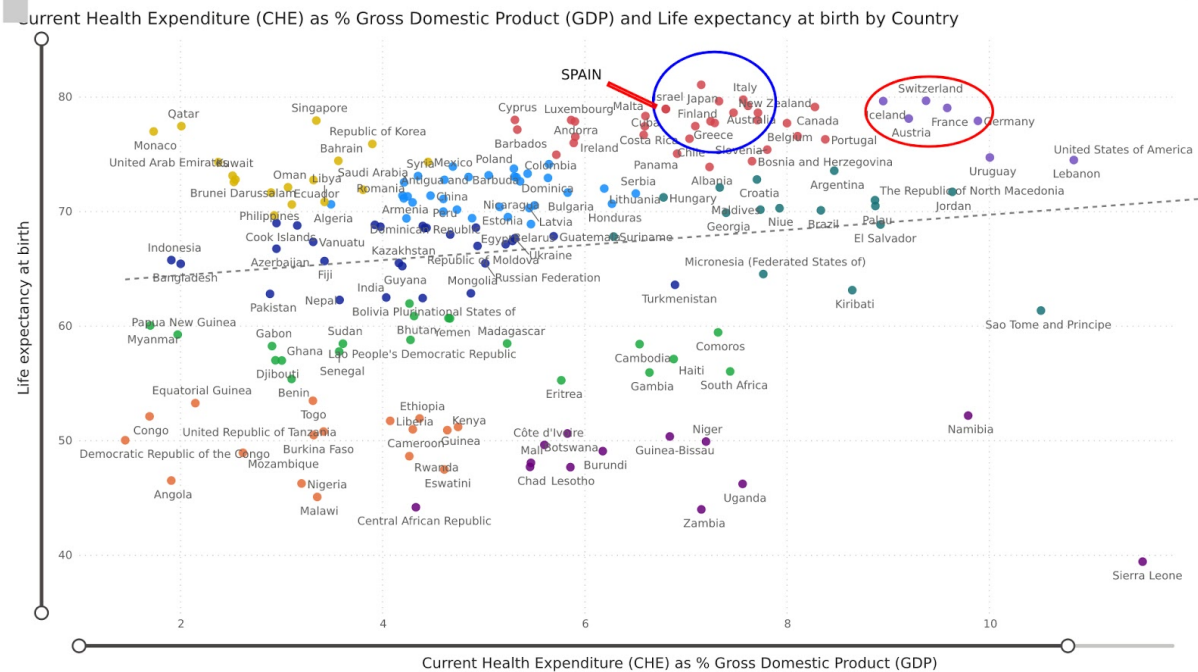
During the study of the data published by the World Health Organization globally, several clusters have been identified. Not surprisingly, at a first glance, it seems that countries that are close geographically and culturally have similar positions when comparing the relationship between life expectancy at birth and the amount of resources they spend in healthcare. For instance, Austria, France, Switzerland and Germany show similar results in both indicators. The countries with higher life expectancy also spend similar portions of their GDP in healthcare and have geographical relationships as well. For instance, Spain, Italy and Greece are all part of the cluster with higher wellbeing of their population.

---

<sup>45</sup>UN. (2000). 2000: Economic growth all over. Press Release REC/89. Retrieved January 25, 2021, from <https://www.un.org/press/en/2000/20000504.rec89.doc.html>

<sup>46</sup> World Health Organization. (2000). The world health report 2000 - Health systems: improving performance. Retrieved November 11, 2020, from [https://www.who.int/whr/2000/en/whr00\\_en.pdf?ua=1](https://www.who.int/whr/2000/en/whr00_en.pdf?ua=1)

**Figure 4 Health expenditure as a percentage of GDP and life expectancy at birth (2000)**



Source: Prepared by the author on the basis of data supplied by WHO.

As these regional trends have been identified, the analysis is followed by a division by world regions, which will allow us to identify further clusters. With the objective of giving insight into which healthcare scheme improves the well-being of the population, in the regional analysis, the amount of private health spending has been utilized.

**1.1. Regions**

The World Health organization identifies 6 regions: African Region (AFRO), Region of the Americas (PAHO), South-East Asia Region (SEARO), European Region (EURO), Eastern Mediterranean Region (EMRO) and Western Pacific Region (WPRO).

**1. African Region (AFRO)**

The life expectancy by country related to the percentage of health expenditure that comes from private sources in the AFRO region for the year 2000 was analysed. As the results have unveiled, in the year 2000, a number of countries from the African region financed their healthcare systems through more than 80% of private funding. This means that only 20% of the health services offered in those countries were funded by resources coming from the government.

Among the countries with higher percentages of private spending in the year 2000, we find the case of Sierra Leone, whose population’s life expectancy was exceptionally low compared to the rest of states. In fact, the life expectancy at birth in Sierra Leone is 13.67 years below the regional average of 53.08 years old. Between the year 1991 and 2002, there was an ongoing conflict: the Sierra Leone Civil War, which caused the death of thousands of people.

The country from the AFRO region that had a higher life expectancy in the year 2000 was the Seychelles. 17.89% of the health spending came from private sources, which makes it the second country with the highest government investment of the group. In the year 2000, 80% of the incoming tourism came from European countries (mostly France, Germany and the United Kingdom) and represented the main engine of the Seychellois economy. The African country, for the reasons explained, is very attractive to foreign investors who see lucrative potential in the territory. As a result, the Seychelles are amongst the AFRO region countries with the highest GDP per capita, together with countries with similar life expectancies such as Mauritius and Algeria, which also provide universal healthcare.<sup>47</sup>

In some countries in which there is free healthcare, the results have revealed that there is still a large amount of private spending. This is the case of Ghana, where 61.65% of the medical sector was financed by private funds. Although being free, the Ghanaian health care system does not have a good reputation among its citizens, as the literature reviewed previously also indicated.<sup>48</sup> Therefore, the citizens who can afford to, prefer accessing private care providers in order to receive higher quality services.

Wellbeing in the countries from the AFRO region is, as shown in Figure 5, well under the global tendency. Many of the countries from the African continent force out thousands of citizens yearly due to wars, natural disasters and hunger. This is the case of states such as Cameroon, Chad, Liberia, Mali, Niger, Senegal and Sierra Leone. Migrants from these countries that travel intercontinentally are likely to seek a better life in Europe.<sup>49</sup>

Only 9 out of the 45 states that have been studied for the African region presented private funding lower than 40% of their total health expenditure. The low investment of the Governments in healthcare and the pressure of a low life expectancy are the main factors that drive inhabitants to leave their countries in an attempt to improve their wellbeing. The tendency for the African region is that the higher the public spending on healthcare is, the greater the wellbeing of citizens.

## **2. Region of the Americas (PAHO)**

Figure 5 is the result of the analysis for the region of the Americas (PAHO). It shows the relationship between the percentage of private health expenditure over the total spending and the wellbeing (measured by life expectancy at birth) by country.

---

<sup>47</sup> World Bank. GDP per capita (current US\$) - Sub-Saharan Africa. Retrieved December 23, 2020, from [https://data.worldbank.org/indicator/NY.GDP.PCAP.CD?locations=ZG&most\\_recent\\_value\\_desc=true](https://data.worldbank.org/indicator/NY.GDP.PCAP.CD?locations=ZG&most_recent_value_desc=true)

<sup>48</sup> Bamfo, B., Dogbe, C. (2017). Factors influencing the choice of private and public hospitals: empirical evidence from Ghana. *International Journal of Pharmaceutical and Healthcare Marketing*. Retrieved November 25 from <https://www.emerald.com/insight/content/doi/10.1108/IJPHM-11-2015-0054/full/html>

<sup>49</sup> Lucas R. E. (2006). Migration and Economic Development in Africa: A Review of Evidence. *Journal of African Economies*, vol. 15, n°2, p. 337-395 Retrieved December 23,2020. DOI <https://doi.org/10.1093/jafeco/ejl032>



and a higher degree of financial pressure for the families accessing the health services through private payments.

Preventable diseases and illnesses that could be avoided by health literacy and hygiene habits were present in the region (for instance, in Haiti and Bolivia).<sup>51</sup> The tendency for the region of the Americas is that the lower the public spending on healthcare is, the lower the wellbeing of citizens.

### **3. South-East Asia Region (SEARO)**

In South-East Asia, the average life expectancy was 65.45 years in the year 2000. This was over the world's average of 65.20 years old.

Through the analysis of this region, a cluster of countries with a large amount of private spending has been identified. These are Bangladesh, Indonesia, Nepal, India and Myanmar. The wellbeing in these countries is not satisfactory taking into account the expenses households have to incur. Myanmar was, in the year 2000, the country in the world with the largest private spending. Focusing on the health situation of the state, the results show that Myanmar only spent around 1.7% of its GDP in healthcare, taking into account both private and public spending. Thus, the outcome on the population's wellbeing is poor.

Contrary to the other countries in the region, the Maldives spent in the year 2000 a significant amount of their GDP (7.4%). The government offers universal rights to public healthcare to its population, but due to the geographical traits of the country, it is very difficult to give access to a public hospital in all 1,190 islands. Consequently, many citizens and visitors have to access private facilities that are closer and more available to them.

In most countries of the SEARO region, a larger part of healthcare is funded privately and the total expenditure is very low compared to other countries around the world. The systems are very ineffective and therefore the wellbeing of the population is not up to par.

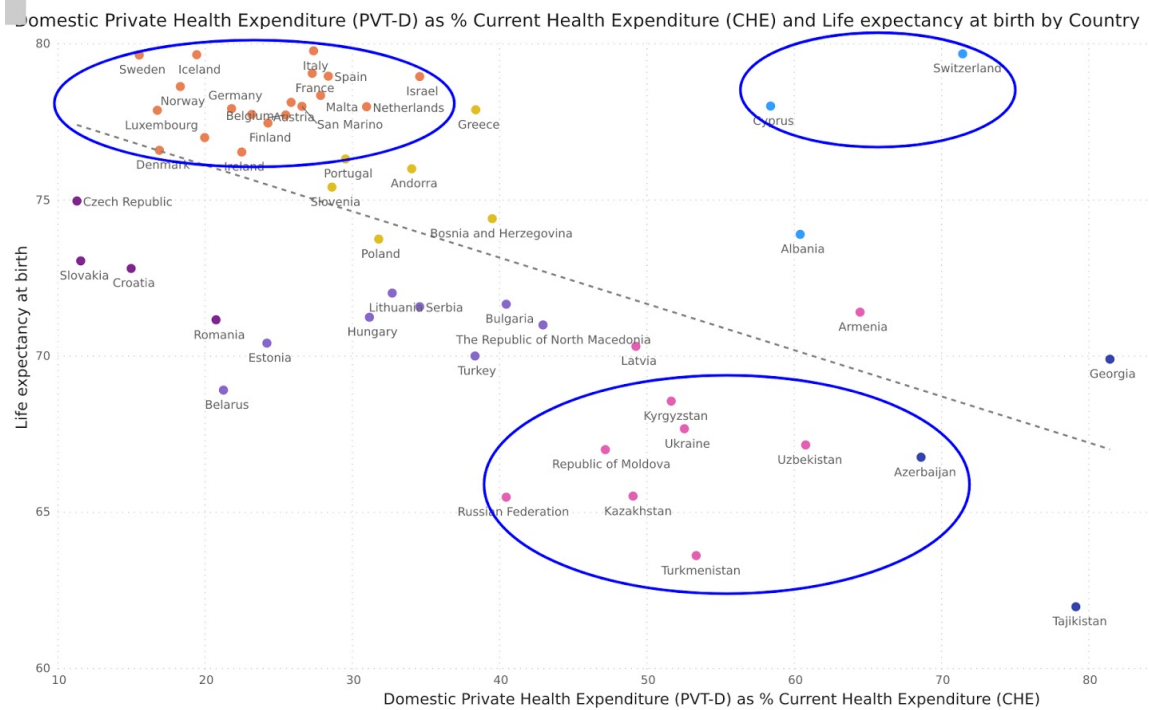
### **4. European Region (EURO)**

The EURO region countries had an average life expectancy of 73.44 years in the year 2000. It was the region with the highest life expectancy, as the global average was 65.20 years old. Figure 6 illustrates the relationship between private health spending and the life expectancy for each country of the EURO region.

---

<sup>51</sup> WHO, Pan American Health Organization (2003). Country profiles - Bolivia. Epidemiological Bulletin, Vol. 24 No. 1. Retrieved December, 27 from [https://www.paho.org/english/dd/ais/be\\_v24n1-Bolivia.htm](https://www.paho.org/english/dd/ais/be_v24n1-Bolivia.htm)

**Figure 6 Private health spending and life expectancy. EURO Region (2000)**



Source: Prepared by the author on the basis of data supplied by WHO.

In the left sector of the graph, we find that the countries with the highest life expectancies are those from the Nordic, Western and Southern European regions. These states showed in the beginning of the century that the life expectancy of their population was very high in comparison to the low levels of private expenditure. The cause of the high levels of wellbeing is that countries from these regions have very strong public health systems, in which governments focus many of their efforts and investments. In the case of countries from the EU, each country has the power to manage its own healthcare and execute its own policies. For instance, in the case of Spain, the country has a mixed model by which the population may choose to access a public or a private hospital or clinic and in all cases high quality public healthcare is guaranteed for everyone, thus decreasing socioeconomic inequalities.

On the opposite side, we find countries like Cyprus and Switzerland, in which private payments accounted for 58.39% and 71.43% of the total health expenditure respectively. In the case of Switzerland, private insurance is compulsory for all residents in order to access the health services.<sup>52</sup> Despite the low public expenditure on healthcare, wellbeing for Swiss citizens has always been one of the world’s highest.<sup>53</sup> Nevertheless, the World Health Organization and the OECD have both agreed on the fact that the Swiss healthcare system

<sup>52</sup> Swiss Confederation, Federal Department of Home Affairs. Requirement to take out insurance. Retrieved December 31, 2020, from [www.bag.admin.ch/krankenversicherung/faq--versicherungspflicht/faq-versicherungspflicht-2016-2017.pdf](http://www.bag.admin.ch/krankenversicherung/faq--versicherungspflicht/faq-versicherungspflicht-2016-2017.pdf)

<sup>53</sup> OECD. OECD Better Life Index: Switzerland. Retrieved December 31, 2020 from [www.oecdbetterlifeindex.org/countries/switzerland/](http://www.oecdbetterlifeindex.org/countries/switzerland/)

needs to adapt to the changes in costs and illnesses.<sup>54</sup> The increase of illnesses such as cancer in Switzerland would require families to pay extra costs for long and expensive treatments not covered by the basic insurance plans.

Overall, the life expectancy tendency for the EURO region in the year 2000 shows that the higher the public investment in healthcare, the higher the outcomes. After an analysis of the different countries, it has been shown that there are clear political reasons behind the differences in healthcare models between the states. The majority of the Western EURO region countries have very strong public sectors, and therefore wellbeing of the population is high as well while avoiding the financial pressure to households that private services may create.

### **5. Eastern Mediterranean Region (EMRO)**

In the Eastern Mediterranean region, the average life expectancy was 69.13 years old, making it the third region with the highest life expectancy in the world after EURO and PAHO regions.

The healthcare models in the EMRO states are for the most part privately funded. The countries in the region are characterized by large levels of social and economic inequality, which makes it difficult for the poorest groups to access the health services. Other causes of low well being relative to the amount of private spending may be conflicts, natural disasters or migration of the population. For instance, in the year 2000, there were active armed conflicts in the countries with lower life expectancies: Djibouti and Sudan.

The EMRO region invests a very small amount of their GDP towards healthcare. Data from the WHO for the year 2000 has shown that Eastern Mediterranean countries spent approximately 2 to 3% of their GDP in health. However, the results have shown that countries with low levels of investment in healthcare (over the GDP) and levels of private funding of 30 to 40% over the total health expenditure can have high life expectancies, similar to the ones in the EURO region. This is the case of the UAE, Bahrain and Qatar.

In general, the EMRO region states suffer from high inequality between the different socioeconomic groups within them.<sup>55</sup> This fact combined in the low investment in healthcare (and especially public health services) prevents the wellbeing of the population from being higher than what the figures have shown.

---

<sup>54</sup> OECD (2011). Health: Switzerland's health system is high-performing but must prepare for the future. Retrieved December 31, 2020, from [www.oecd.org/healthsystemishigh-performingbutmustprepareforthefuture.htm](http://www.oecd.org/healthsystemishigh-performingbutmustprepareforthefuture.htm)

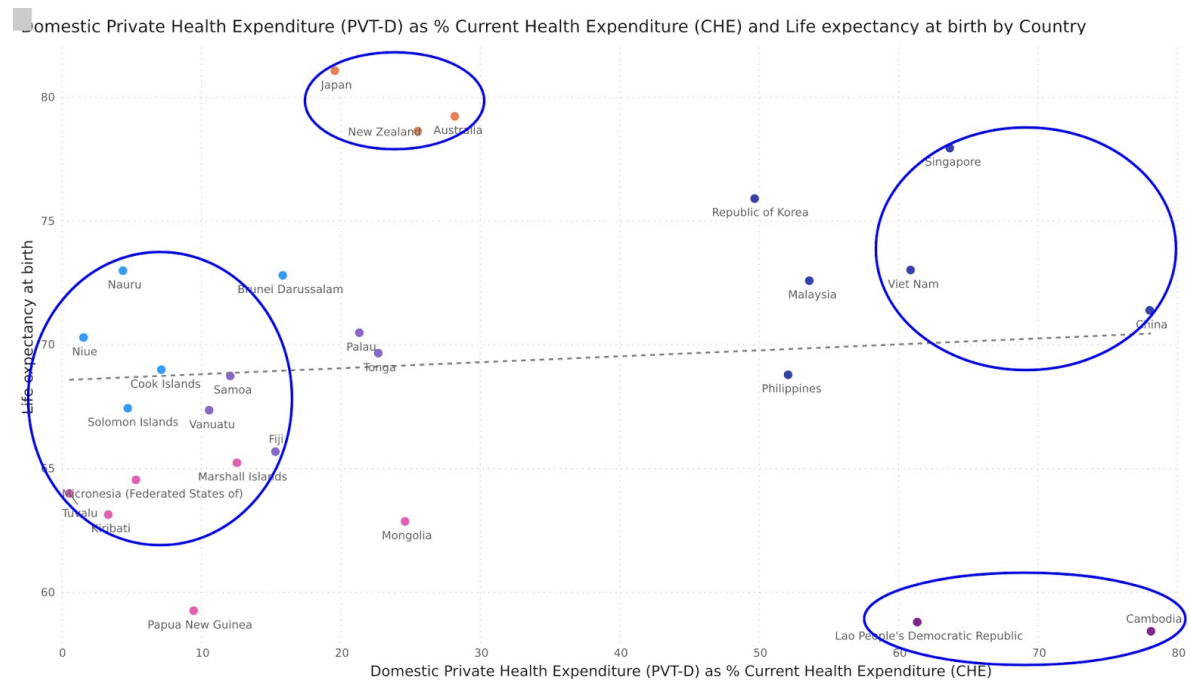
<sup>55</sup> European Commission. (2018). Human Capital, Inequality and Migration in Southern and Eastern Mediterranean Countries. Towards a coherent policy agenda. Mediterranean Prospects, nº 8. Retrieved January 3, 2021, from <https://www.medpro-foresight.eu/system/files/MEDPRO%20PP%20No%208%20WP7%20Ayadi.pdf>



## 6. Western Pacific Region (WPRO)

The Western Pacific states had an average life expectancy in the beginning of the century of 68.70 years. Figure 7 shows the relationship between the amount of private funding and the wellbeing of the population in the different countries for the year 2000.

**Figure 7 Private health spending and life expectancy. WPRO Region (2000)**



Source: Prepared by the author on the basis of data supplied by WHO.

The countries in the WPRO region have relatively high life expectancies. From the results illustrated in the graph, we may draw some conclusions.

Firstly, in the left area of the graph there are countries with low private spending and life expectancies higher than the world's average, such as the Cook Islands, Fiji, Marshall Islands, Samoa, Solomon Islands, etc. These countries attract large amounts of foreign direct investment from the United Kingdom and the United States, mainly for military reasons. Therefore, there are powerful military hospitals and the countries have developed good healthcare services that improve the wellbeing of its population. Despite that, these countries suffer from high rates of preventable diseases, which are mostly caused by unhealthy lifestyles. For instance, diabetes is one of the main health issues in the Marshall Islands.<sup>56</sup>

Contrastingly, the WPRO region has countries with very high private expenditure such as Laos, China, Vietnam and Singapore, that show more than 60% of the total health expenditure coming from private funds in 2000. The average life expectancy for these

<sup>56</sup> WHO. Country Profiles: Marshall Islands. Retrieved January 4, 2021 from [www.who.int/diabetes/country-profiles/mhl](http://www.who.int/diabetes/country-profiles/mhl)



countries is unsatisfactory and they face high levels of inequality between its citizens, which affect the accessibility to the health services by the poorest groups of the population.<sup>57</sup>

Australia, New Zealand and Japan are the three countries that show better wellbeing for their population in the WPRO region. In the year 2000, they invested approximately 7.5% of their GDP towards healthcare.

In the Western Pacific region we may find some countries with large public investment (especially from foreign countries) and average life expectancies as well as countries with a larger private expenditure but backed by very strong public systems which receive a big portion of the countries' GDP.

## **2. 2018: Change after the UN Sustainable Development Goals**

### **2.1. World**

The financial crisis of 2007 had a large impact on the economies worldwide. It took many years to go back to pre-crisis levels of unemployment and production. By studying the situation in the year 2018, we will see how this could have impacted the health systems before the outbreak of Covid-19. Moreover, we will see whether the UN Sustainable Development Goals set in 2015 have improved the population's health. In Figure 8, the relationship between health expenditure as a proportion of GDP and the life expectancy of the different countries is shown and we observe a tendency that indicates that the higher the amount of GDP allocated to health, the higher the wellbeing of the population.

---

<sup>57</sup> WHO, Western Pacific Regional Office. Health Equity in the Western Pacific. Retrieved January 5, 2021, from <https://www.who.int/westernpacific/health-topics/equity>



child mortality rates.<sup>58</sup> In the case of Equatorial Guinea, it was ranked the least prepared country in the world for a pandemic such as the Covid-19 outbreak.<sup>59</sup> These problems are mostly preventable and are the result of the poorness of the health systems in the region.

On the other hand, there is the case of countries that fund their health systems with a more equal mix of public and private capital. However, the importance given to healthcare (measured as the percentage of the GDP spent on health) is very low, especially compared to the global scale. As a result of this, the life expectancy of these states was around 63 years old, below the world average of 72.4 years old.

Over the world's average life expectancy in 2018 we find the case of Algeria. Algeria's government provides its citizens with universal healthcare.<sup>60</sup> The funding of the Algerian model works in the following way: the population is covered by a medical insurance which is free for the poorest citizens and must be paid for by the wealthier households (the amount varies depending on the income). The increase in the investment by the government has clearly increased the wellbeing of the population in terms of health, as the life expectancy rose from 70.6 years old in the year 2000 to 76.6 years in 2018.<sup>61</sup>

In its majority, the AFRO region does not have very strong and stable economies that ensure their citizens access to quality healthcare. This impacts greatly the wellbeing of the population as the analysis has confirmed.

## **2. Region of the Americas (PAHO)**

Relating the percentage of private health expenditure over the total spending and the life expectancy at birth by country of the PAHO region in 2018, and similarly to the case of the AFRO region, the tendency is that the lower the public expenditure the lower the life expectancy.

The results of the analysis in the PAHO region show that the countries that invest a larger amount of their GDP in healthcare are also those whose indicators for wellbeing are higher. That is the case of Canada, Cuba, the USA and Chile, who spent more than 10% of their GDP in healthcare. The extreme case is that of the United States, whose expenditure was 17% of the GDP of 2018. However, on a global scale, the performance of these countries does not appear to be better (in fact, it is worse) than that of other countries who spent not so large amounts on health.

---

<sup>58</sup> US President's Malaria Initiative. (2018). Fighting malaria and saving lives: Guinea. Retrieved January 8, 2021, from [https://www.pmi.gov/docs/default-source/default-document-library/country-profiles/guinea\\_profile.pdf?sfvrsn=22](https://www.pmi.gov/docs/default-source/default-document-library/country-profiles/guinea_profile.pdf?sfvrsn=22)

<sup>59</sup> Hoff, M. (2020). Countries least prepared for a pandemic. Business Insider. Retrieved January 8, 2021, from [www.businessinsider.com/countries-least-prepared-for-pandemic-coronavirus-outbreak-2020](https://www.businessinsider.com/countries-least-prepared-for-pandemic-coronavirus-outbreak-2020)

<sup>60</sup> World Health Organization. Global health expenditure database: Algeria, OOP as % CHE, 2018. Retrieved January 13, 2021 from <https://apps.who.int/nha/database>

<sup>61</sup> Oxford Business Group. Investment in expanding clinics and hospitals improving Algeria's health indicators. Retrieved January 13, 2021, from <https://oxfordbusinessgroup.com>

Another country with high life expectancy is Costa Rica. In 2018, it spent on healthcare approximately 8% of its GDP, which was funded in 72.40% through public resources. The healthcare model of Costa Rica is accessible for all citizens and residents and it is financed by the government and contributions of workers and employers. Both the public and private sector are being continually upgraded and institutions such as the World Health Organization recognise the high performance of the Costa Rican health system, which was ranked 36th in the world.<sup>62</sup>

In the PAHO region, the countries are very diverse in terms of income and health expenditure. In the majority of the region, public healthcare is not very developed and therefore the wellbeing of the population is below the average of first-world countries.

### **3. South-East Asia Region (SEARO)**

The results of the analysis for the South-East Asian Region for the year 2018 show the relationship between private health expenditure and life expectancy and how the tendency is that the higher the private expenditure the lower the wellbeing.

When explaining the situation in 2018 in the SEARO region, we must not overlook the very important differences in wellbeing and funding models. For instance, we find that the Maldives, Thailand and Sri Lanka had average life expectancies, while other countries such as India, Nepal and Bhutan were below the average.

In the SEARO region, countries such as India have a healthcare system funded mostly through private spending, which is based mostly on out-of-pocket payments that can cause catastrophic costs for the households.<sup>63</sup> In the case of India, the cost of private health services is relatively low and the quality is high. However, as we have seen for other regions, there are very important differences in the access to healthcare in rural and urban areas, and the poorest households must remain with low quality public services.

Sri Lanka is one of the region's countries with large private spending. However, as opposed to countries with similar proportions of private expenditure, its life expectancy is relatively high for the region. The country offers universal healthcare for its citizens, which is of good quality but underfunded. Due to this, many Sri Lankans turn to private facilities in order to avoid long waiting lists and receive more specialised treatments.<sup>64</sup>

---

<sup>62</sup>Tandon, A., Murray, C., Lauer, J., Evans, D. Measuring overall health system performance for 191 countries. World Health Organization, GPE Discussion Series: No. 30. Retrieved January 15, 2021, from <https://www.who.int/healthinfo/paper30.pdf>

<sup>63</sup>Balarajan, Y., Selvaraj, S., Subramanian, S. (2011). Health care and equity in India. *Lancet* . Retrieved January, 20, 2021. DOI 10.1016/S0140-6736(10)61894-6

<sup>64</sup>Smith, O. (2018). Sri Lanka: Achieving Pro-Poor Universal Health Coverage without Health Financing Reforms. Universal Health Coverage Study Series No. 38, World Bank Group. Retrieved February 4, 2021 from <documents1.worldbank.org/Sri-Lanka-Achieving-pro-poor-universal-health-coverage-without-health-financing-reforms.pdf>

#### **4. European Region (EURO)**

The results for the EURO region in the year 2018 indicate that the larger the proportion of public spending, the better the outcome.

Western and Central European countries have strong public healthcare and the population of the EURO region enjoys some of the highest life expectancies in the world. However, the situation is different for Eastern European and CIS countries (Commonwealth of Independent States). These have significantly lower life expectancies than the rest of countries in the region, as well as higher private expenditure in the case of the most Eastern countries.

For instance, in the case of Tajikistan, the health model has evolved from the Soviet centralised system to a scheme in which out-of-pocket payments are the main sources of revenue. In 2018, the main issues that the country faced were based on political instability. The oppression of the opposition and dissidents of government policies were clear indicators of Tajikistan's problems.<sup>65</sup> Since the Soviet times, many of the infrastructures of the country have not been taken care of and the lack of maintenance of public medical and other facilities has been detrimental for the population's health.<sup>66</sup> This situation is similar for other CIS countries.

Inside the European Union we may also find countries such as Latvia and Romania, whose indicators for wellbeing are significantly under the EU average. Although in the case of Romania universal healthcare is available for all citizens and the majority of the funding comes from the government, the amount of resources (public and private) allocated towards healthcare in 2018 was 6% of the GDP, the lowest among the EU countries. A report published by the European Commission indicated that there is a big difference in wellbeing between the educated and the non-educated Romanians. Heart diseases were the second largest cause of death, which, together with education levels, relates to important behavioral issues that impact the health state of the population such as: 30% of males smoke, 50% of men drink heavily and regularly and the lack of physical activity is resulting in increasing obesity rates, mainly in kids.<sup>67</sup>

#### **5. Eastern Mediterranean Region (EMRO)**

Similar to the EURO region, the tendency in the EMRO region in the year 2018 showed that those countries with larger amounts of private expenditure also had lower life expectancy.

---

<sup>65</sup>Human Rights Watch (2019). World report 2019: Tajikistan, events of 2018. Retrieved January 23, 2021, from <https://www.hrw.org/world-report/2019/country-chapters/tajikistan#>

<sup>66</sup>Khodjamurodov, G., Rechel, B. (2010). Tajikistan: Health system review. Health systems in transition, vol. 12 n. 2. European Observatory on Health Systems and Policies. Retrieved January 23, 2021, from [https://www.euro.who.int/\\_\\_data/assets/pdf\\_file/0009/119691/E94243.pdf](https://www.euro.who.int/__data/assets/pdf_file/0009/119691/E94243.pdf)

<sup>67</sup> European Commission (2019). State of health in the EU: Romania. Retrieved January 28, 2021, from [https://ec.europa.eu/health/sites/health/files/state/docs/2019\\_chp\\_romania\\_english.pdf](https://ec.europa.eu/health/sites/health/files/state/docs/2019_chp_romania_english.pdf)

Data has shown that there are important differences between the life expectancies of the Eastern Mediterranean population. Countries such as Qatar, Lebanon and the UAE had relatively high life expectancies, whereas Pakistan, Sudan and Afghanistan's citizens were expected to live around 65 years, which was under the world average of 72.4 years old in 2018. Inequalities are not only present between countries, but they are also within a country's population. According to the World Health Organization's office in the EMRO region, these inequalities have decreased in the last years, but they are still very important and have an impact on the population's health.<sup>68</sup> Moreover, the importance given to health in the countries of the EMRO region in 2018 was very low and health spending was around 2 to 5% of their GDP. Nevertheless, we find the case of Iran and Afghanistan, whose health expenditure in 2018 represented 8.66 and 9.4% of their GDP respectively.

Afghanistan in the 2010's was going through a turbulent period, as tense conflicts between the government and the Taliban were constant. Violation of human rights, lack of access to education and the very affected health system were consequences of the war. A large amount of the private spending of the country came from non-governmental organizations and other external sources, a total of 16.44% of the health expenditure.<sup>69</sup>

Nearly 60% of the health inequalities between and within the EMRO countries was due to socioeconomic and behavioral reasons.<sup>46</sup> Therefore, in order to improve the health situation of the region not just health systems and expenditure should change, but also other factors such as education should be improved.

As indicated by the EMRO region office, many of these countries present an additional issue when analysing their health state and systems: the availability of data is not enough.<sup>46</sup>

## **6. Western Pacific Region (WPRO)**

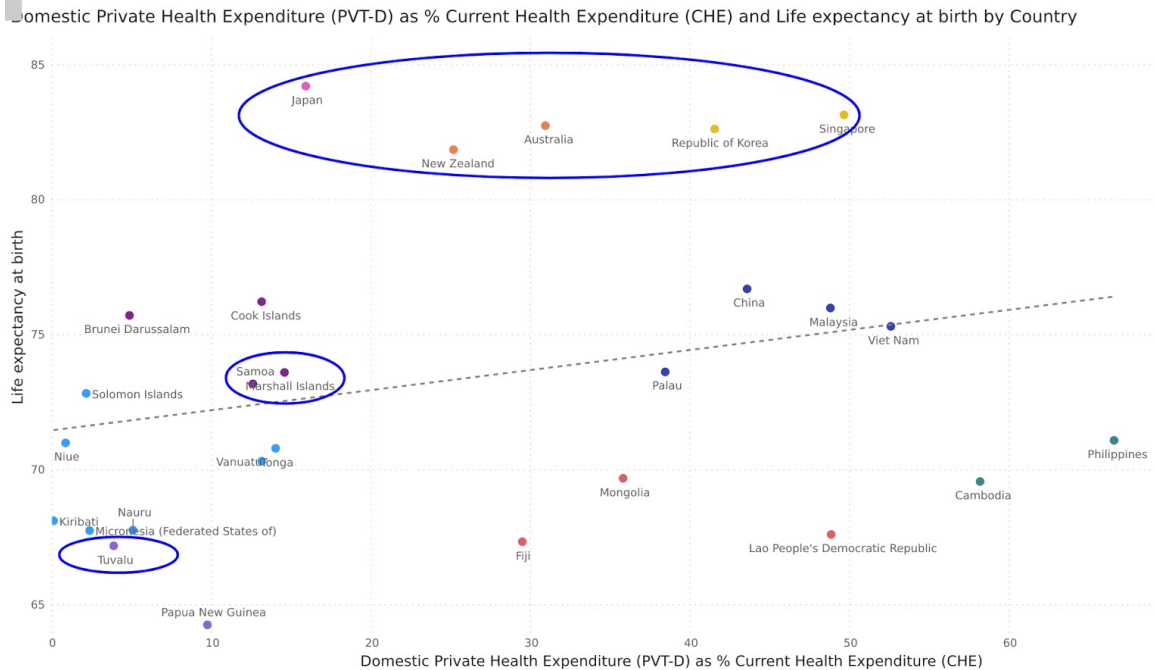
In the Western Pacific Region, the tendency shows that the larger the private expenditure, the larger the wellbeing. However, the results do not seem to show a clear correlation between the source of the capital and the life expectancy, as the relationship between these indicators is significantly heterogeneous between countries.

---

<sup>68</sup> World Health Organization, EMRO. (2014). Health inequities in the Eastern Mediterranean region. EMRO Technical Publications Series. Retrieved January 25, 2021, from [www.researchgate.net/Health\\_inequities\\_in\\_the\\_Eastern\\_Mediterranean\\_Region\\_Selected\\_country\\_case\\_studies](http://www.researchgate.net/Health_inequities_in_the_Eastern_Mediterranean_Region_Selected_country_case_studies)

<sup>69</sup>World Health Organization. Global health expenditure database: Afghanistan, EXT as % CHE, 2018. Retrieved February 1, 2021 from <https://apps.who.int/nha/database>

**Figure 9 Private health spending and life expectancy. WPRO Region (2018)**



Source: Prepared by the author on the basis of data supplied by WHO.

The most developed countries in the WPRO region showed better results for wellbeing among their population and they spent between 7 and 10% of their GDP on healthcare. However, we find other countries in the region that also spent in 2018 a large part of their GDP on health but who did not show an outcome at the same level. This was the case for Tuvalu and the Marshall Islands.

Tuvalu had a life expectancy in the year 2018 of approximately 67 years old. The healthcare system consists of public health services. However, these are underdeveloped and not prepared for complex health conditions. In the several islands of Tuvalu, there is one hospital and two clinics. This supposes a problem for the population, as for advanced treatments or very specific issues they must travel overseas. One of the main issues that the country faces in terms of healthcare are noncommunicable diseases, being obesity the most common form (55.2% of adult men and 70.7% of women in the mid-2010's).<sup>70</sup>

As it has been revealed for the other regions, the less developed countries do not have well developed public systems and citizens face large inequalities in terms of access to health services. In the urban areas, the hospitals and clinics are more prepared to face complex illnesses, whereas in many rural areas access to basic healthcare is a large issue.

<sup>70</sup>World Health Organization (2017). Country cooperation strategy at a glance: Tuvalu. Retrieved February 4, 2021, from <https://apps.who.int/iris/rest/bitstreams/609186/retrieve>



### 3. Key changes in health care spending in the world (2000-2018)

Over the period between 2000 and 2018, the average life expectancy worldwide has increased from 66.89 to 72.36 years old. In 2000 there were several countries, mostly from the AFRO region, that had life expectancies under 50 years old. By 2018, no country in the world had such a low life expectancy, being the lowest 52,81 years in the Central African Republic. This demonstrates that a global effort has been made towards increasing the accessibility and coverage of healthcare in order to improve the wellbeing of the population. These efforts are proved by an increase of the countries' expenditure on healthcare as a proportion of their GDP. As a result of the changes in healthcare spending and life expectancies, the results of the analysis have shown an even more steep slope, exposing that the countries that have prioritized healthcare more had in 2018 much higher wellbeing.

Figure 10 sums up the changes in life expectancies and the average domestic private expenditure as a percentage of current health expenditure (PVT-D % CHE) by region.

**Figure 10 Variation in average domestic private expenditure as a percentage of current health expenditure (PVT-D % CHE) by region and average life expectancy at birth (in years)**

Region	Average PVT-D % CHE		Average life expectancy		Variation	
	2000	2018	2000	2018	PVT-D % CHE	Life Expectancy
AFRO	53.92	45.94	53.08	62.91	-7.98	+9.83
EMRO	49.54	46.91	69.66	73.51	-2.63	+3.85
EURO	35.90	36.06	73.76	78.23	+0.16	+4.47
PAHO	48.36	43.17	71.59	74.93	-5.19	+3.34
SEARO	58.48	47.57	65.45	72.37	-10.91	+6.92
WPRO	27.47	25.26	69.24	73.35	-2.21	+4.11

Source: Prepared by the author on the basis of data supplied by WHO.

In the AFRO region, wellbeing significantly increased and a child born in 2018 is expected to live close to 10 years more than a child born in 2000. In general, private expenditure decreased in proportion to the total health spending. For instance, in Mali private health expenditure was 70.54% of the health spending in 2000 and it decreased to 35.81% in 2018. However, we observe that the importance given to health decreased as well, since health expenditure represented 5.47% of Mali's GDP in 2000 and 3.88% in 2018. This decrease can be explained by the armed conflict that began in 2012, which limited the resources available to assign to healthcare. Although the overall wellbeing in the region has increased during the last years, there is still a large issue with preventable diseases, malnutrition and very poor



hygiene conditions. In addition to that, the region's health relies in many of the countries such as Mali on foreign agents and the public health systems are not well developed.

In the case of the EMRO region, life expectancy has also increased. The patterns shown in both years indicate that the higher the public spending the higher the wellbeing of the population. Countries such as Qatar, Morocco and Lebanon have decreased the proportion of private expenditure. Qatar, the third country in the world in the year 2000 with the highest GDP per capita after Singapore and Luxembourg, had a life expectancy of 77.47 years old. The population in the country was approximately 594,000 and most of it were foreign nationals.<sup>71</sup> The healthcare model in Qatar consists of a government-funded scheme for Qatari citizens and private insurance provided by employers to foreign citizens, which explains the large amount of private expenditure taking into account the place of origin of its population. However, the overall health expenditure in the year 2000 accounted for 2.01% of the GDP and in 2018 it was 2.49%. This low investment in healthcare, results in limited capacity for patients in hospitals, who would prefer to seek medical aid abroad.<sup>72</sup> The case of Qatar is similar to that of other countries in the region who do not prioritise investing in constructing good public medical systems that ensure access to the entire population. In fact, in countries like the UAE, Egypt and Sudan the results have shown an increase of the private sector which accentuates the health and socioeconomic inequalities of the region.

The EURO region, as opposed to the other regions in the world, has seen an overall increase of the private sector, although it being only a 0.16% increase. Countries have not had a significant change in the distribution of their health expenditure between the private and public sector, which in most cases continues to be a mixed system with universal access to health services. In both 2000 and 2018, however, the Eastern European countries have shown significantly lower life expectancies compared to the rest of the countries from the EURO region. The countries that were part of the Soviet Union, saw a decrease in life expectancy starting from the end of the 1980s. Previously, life expectancies followed a similar path in all EURO countries due to the parallel decreases in child mortality rates. In the majority of the Eastern EURO region, the public systems were not well developed after the Soviet Union collapse. Government expenditure was very low, especially in the form of investment to decrease lifestyle-related illnesses and to prevent other diseases that could be avoided.<sup>73</sup> The main issues that made mortality rates rise in post-USSR and satellite countries

---

<sup>71</sup> Winckler, O. (2015). How many Qatari nationals are there?. Middle East Quarterly. Retrieved January 3, 2021, from <https://www.meforum.org/5081/how-many-qataris>

<sup>72</sup> Abdulla, L., Al-Qatani, D.M., Al-Kuwari, M.G. (2010). Prevalence and determinants of burnout syndrome among primary healthcare physicians in Qatar. Retrieved January 3, 2021, from [www.tandfonline.com/10.1080/20786204.2011.10874118](http://www.tandfonline.com/10.1080/20786204.2011.10874118)

<sup>73</sup> Murthi, M. (2015). In Europe, life gets shorter for some. World Bank. Retrieved January 2, 2021, from <https://www.worldbank.org/en/news/opinion/2015/04/22/in-europe-life-gets-shorter-for-some>

were cardiovascular diseases, violence, alcohol consumption and poor nutrition.<sup>74</sup> The situation has modestly improved since the year 2000 but experts agree that there should be further improvement of the public systems in order to better the population's wellbeing.<sup>75</sup>

The outcomes of the PAHO region demonstrate that the region has high private expenditure. However, we find the case of Cuba, which has no private facilities and whose system is completely funded in 2000 and 2018 by either the government or out-of-pocket payments of the population. Cuba has made an enormous effort to improve its health system, and the results on life expectancy are a consequence of these. Global institutions such as UNICEF have recognized the efforts of the country, as the investment of the government is very large taking into account its limited resources.<sup>76</sup> In 2000, 6.58% of the GDP was directed toward health, which increased to 11.18% in 2018. In fact, reports from the WHO show that the death causes in Cuba are similar to those of high income countries, being heart diseases and cancer the most common.<sup>77</sup> Contrary to Cuba, there is Haiti, which has been the poorest performing country for both years analysed in the American region. In Haiti, the political situation was very fragile. Most of the population from the poorest country of America live in precarious conditions, with illiteracy being an important problem between the Haitians. In a report published by the Pan American Health Organization, the agency affirmed that less than a 40% of the population in Haiti has access to the basic health services and drugs.<sup>78</sup> Prices in the country are not stable, and in particular prices for healthcare related products and services. Due to the increases in prices and the high amounts that need to be paid to access these medical services, the majority of the population are unable to seek help, and often turn to traditional healing methods. For these reasons, the wellbeing of Haitians is low and life expectancy highlights the deficiencies of the state's health system.

In the case of the SEARO region, private expenditure is very high, but it has significantly decreased between 2000 and 2018. The importance given to health has not improved much during the last years. What is more, in some cases it has even decreased through the years. For instance, in the case of India, the proportion of the GDP allocated toward health has decreased from 4.06% to 3.54%. From the small investment of the GDP on health, the majority comes from private sources. Private spending in 2000 made for 76.64% of the total health expenditure, and in 2018- 72.35%. In both cases, life expectancy was below the

---

<sup>74</sup> McKee, M., Shkolnikov, V. (2001). Understanding the toll of premature death among men in eastern Europe. Retrieved from January 2, 2021, from <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC1121549/>

<sup>75</sup> Müller-Nordhorn, J., Holmberg, C., Dokova, K.G. et al. Perceived challenges to public health in Central and Eastern Europe: a qualitative analysis. *BMC Public Health* 12, 311. Retrieved February 10, 2021, from <https://doi.org/10.1186/1471-2458-12-311>

<sup>76</sup> Berdine, G., Geloso, V., Powell, B. (2018) Cuban infant mortality and longevity: health care or repression?. *Health Policy and Planning*, vol. 33, nº 6, p. 755–757. Retrieved December 25, 2020. DOI <https://doi.org/10.1093/heapol/czy033>

<sup>77</sup> WHO, Pan American Health Organization. (2012). Health in the Americas - Cuba. Retrieved December 27, 2020, from [www.paho.org/salud-en-las-americas-2012?alias=125-cuba-125](http://www.paho.org/salud-en-las-americas-2012?alias=125-cuba-125)

<sup>78</sup> WHO, Pan American Health Organization (2007). Country profiles - Haiti. *Health in the Americas*, Vol. II. Retrieved December, 27 from [www.paho.org/hq/2010/Health\\_in\\_the\\_Americas\\_2007-Haiti.pdf](http://www.paho.org/hq/2010/Health_in_the_Americas_2007-Haiti.pdf)

world's average. Child and maternal mortality are important issues that the Indian population faces. Moreover, diseases that could be avoided are one of the principal causes of deaths, one of the reasons being that the deficient state of the water makes it not safe for the population to drink it. In addition to that, the country has bad sanitation conditions, which lead to many infections and diseases that affect its citizens.<sup>79</sup> The public policies are properly planned, but very limited.<sup>80</sup> Although the Indian government offers universal healthcare to its citizens, in practice, families have to pay out-of-pocket in order to access these services. The high costs to access healthcare, makes even more evident the inequalities of the country.<sup>81</sup> The poorer families often have to sell their assets or get into debt to pay for medicine and treatments.<sup>82</sup>

Lastly, the WPRO region has shown for both years a tendency different from the global pattern. In the West Pacific region, the higher the private expenditure, the higher the life expectancy. The results have indicated very diverse results among the countries and no clear correlation between both indicators. One of the key changes has been the case of Tuvalu, whose private health expenditure went from 0.52% of the total health expenditure to 3.87%. In terms of the total spending, it was 24.24% and 19.04% of the GDP in 2000 and 2018 respectively. The country has managed to increase its life expectancy by 3.19 years during this period, while seeing a decrease in the external aid received, which was 47.21% out of the total health expenditure in 2001 and 13.39% according to the last data available for 2014.<sup>83</sup> Nevertheless, the public system the country has developed is not strong and leaves many citizens unattended. In Tuvalu, private providers are not permitted by law.<sup>84</sup> On the other hand, for both analysed years, the countries with best performing systems in the region have been Australia, Japan and New Zealand. These states all have in common a mixed healthcare scheme in which the population has access to public and private health services.

From the data provided by the WHO, it has been observed that some countries have increased the proportion of public spending over the total expenditure. This is the case, for instance, of China. Whereas in the year 2000 78% of China's healthcare was funded through

---

<sup>79</sup> UNICEF India. Water, Environment and Sanitation. Retrieved December 26, 2020, from <https://www.unicef.org/india/what-we-do/water-sanitation-hygiene>

<sup>80</sup> Berman, P., Bhandari, L., Ahuja, R. (2010). The Impoverishing Effect of Healthcare Payments in India: New Methodology and Findings. *Economic and Political Weekly*. Vol. 45, n<sup>o</sup> 16. Retrieved December 28, 2020, from [www.researchgate.net/The\\_impoverishing\\_effect\\_of\\_healthcare\\_payments\\_in\\_india\\_New\\_methodology\\_and\\_findings](http://www.researchgate.net/The_impoverishing_effect_of_healthcare_payments_in_india_New_methodology_and_findings)

<sup>81</sup> Oxfam International. India: extreme inequality in numbers. Retrieved December 29, 2020 from <https://www.oxfam.org/en/india-extreme-inequality-numbers>

<sup>82</sup> Duggal, R. (2007). Healthcare in India: Changing the Financing Strategy. *Social Policy & Administration*, vol. 41, n<sup>o</sup> 6. Retrieved December 29, 2020. DOI <https://doi.org/10.1111/j.1467-9515.2007.00560.x>

<sup>83</sup> Global Health Observatory. External resources for health as a percentage of total expenditure on health. World Health Organization. Retrieved February 13, 2021, from, [www.who.int/GHO/external-resources-for-health](http://www.who.int/GHO/external-resources-for-health)

<sup>84</sup> Commonwealth of Nations. Find health and medical expertise in Tuvalu. Retrieved February 13, 2021, from [https://www.commonwealthofnations.org/sectors-tuvalu/business/health\\_and\\_medical/](https://www.commonwealthofnations.org/sectors-tuvalu/business/health_and_medical/)

private sources, in 2018 the figure decreased to 43.58% of the total health expenditure. This is due to the healthcare reform that started in the year 2009. After many years of high out-of-pocket payments and low access to healthcare, the Ministry of Health published in 2005 a report in which they recognised the importance of healthcare towards wellbeing and economic development.<sup>85</sup> After that, it was planned to implement a model that would reduce the costs and give universal access to health services, while keeping high quality standards. As a result, life expectancy in the country increased by more than 5 years, government expenditure increased faster than out-of-pocket payments and inequalities were reduced. However, there is still an issue of cooperation between institutions and between health providers.<sup>86</sup>

Contrary to the Chinese case, there are countries that do have strong cooperation within their health system. A good example of this is the United Kingdom, whose coordination was demonstrated during the Covid-19 pandemic. The UK showed for both 2000 and 2018 wellbeing indicators higher than the world's average, but it did not have outstanding results within the EURO region. However, in times of a health crisis, the country proved that private and public health providers and institutions can work together. Before public hospitals in the UK reached their capacity limits, the government decided that in order to avoid a collapse of the National Health Service, the less urgent services and operations would be carried out by the private sector.<sup>87</sup> The hospital management and agreements between the NHS, health institutions, the church and other non-health related services have kept the UK's health system from failing.<sup>88</sup>

Cooperation between the private and public sector is very important and the results of the analysis for 2000 and 2018 have shown that the countries with the best results have a mixed model in which access to healthcare is guaranteed to everyone and the population may choose to access private health services voluntarily.

---

<sup>85</sup> Yuan, B., Balabanova, D., Gao, J., Tang, S., Guo, Y. (2019). Strengthening public health services to achieve universal health coverage in China. *BMJ*. Retrieved February 07, 2021. DOI <https://doi.org/10.1136/bmj.l2358>

<sup>86</sup> Meng, Q., Mills, A., Wang, L., Han, Q. (2019). What can we learn from China's health system reform? *BMJ*. Retrieved February 07, 2021. DOI <https://doi.org/10.1136/bmj.l2349>

<sup>87</sup> Cambell, D., Helm, T., McKie, R., Tapper, J. (2020). NHS and private hospitals join forces to fight coronavirus crisis. *The Guardian*. Retrieved February 7, 2021, from [www.theguardian.com/coronavirus-nhs-private-hospitals-join-forces](http://www.theguardian.com/coronavirus-nhs-private-hospitals-join-forces)

<sup>88</sup> Campbell, D. (2021). London buses turned into ambulances to ease Covid strain. *The Guardian*. Retrieved February 7, 2021, from [www.theguardian.com/2021/london-buses-turned-into-ambulances-to-ease-covid-strain](http://www.theguardian.com/2021/london-buses-turned-into-ambulances-to-ease-covid-strain)

## VI. CONCLUSIONS

Taking into account the changes between 2000 and 2018 and observing the repeated tendencies across the world, we can draw the following conclusions:

- The global tendency is that an increase of the portion of the total GDP spent on health, the higher the wellbeing. For instance, in Japan, there was an increase in health expenditure over the GDP of 3.8% and an increase of 3.13 years in life expectancy.
- The global tendency is that the larger the portion of health expenditure coming from private funds, the lower the outcome. For instance, Ecuador funds its healthcare mostly through private funds, which results in financial pressure for the households who cannot afford to access it. A poorly developed public system results in health inequalities and a life expectancy lower than its neighboring countries.
- A mixed system (having both private and public funds) optimizes the wellbeing of the population. This is the case of Spain, whose health system has been recognised by organisations worldwide as being a well-performing and fair model that allows anyone to choose whether they want to be treated by public or private carers.
- Countries that offer universal healthcare and protect the health of the population show higher levels of wellbeing. For instance, the EU countries have the highest outcomes on wellbeing and offer universal access to healthcare for all its citizens.
- The wellbeing of the population depends on the degree of involvement of the Government. For instance, Cuba has focused on improving the health system through almost exclusively public funds, which has been applauded by the international community and has brought better health for its population.
- Since the UN Sustainable Development Goals, inequalities globally have been decreased but are still very large among countries and within them. For instance, countries in the Western Pacific such as Singapore and China have high economic disparities which prevent poorer families from accessing high quality services.
- Although there is a correlation between financing and health outcomes, the wellbeing of the population also depends on other aspects such as diet, education and knowledge about hygiene habits.
- Hospital management, stakeholders management and involvement with the local community are very important factors that improve the chances of a health system's success. For instance, the coordination of the United Kingdom with, for example, the religious community, has avoided the collapse of the NHS during the pandemic.

Although through the research done the cases of a large number of countries have been explained, we must keep in mind the time limitations of a deep global analysis, which makes it impossible to study the case of every country and its funding models.

## VII. BIBLIOGRAPHY

- Abdulla, L., Al-Qatani, D.M., Al-Kuwari, M.G. (2010). *Prevalence and determinants of burnout syndrome among primary healthcare physicians in Qatar*. Retrieved January 3, 2021, from [www.tandfonline.com/doi/abs/10.1080/20786204.2011.10874118](http://www.tandfonline.com/doi/abs/10.1080/20786204.2011.10874118)
- Amnesty International. *Myanmar (Burma) Human Rights*. Retrieved December 28, 2020 from [www.amnestyusa.org/countries/myanmar/](http://www.amnestyusa.org/countries/myanmar/)
- Australian Government, Department of Health. *The Australian health system*. Retrieved January 5, 2021, from [www.health.gov.au/about-us/the-australian-health-system](http://www.health.gov.au/about-us/the-australian-health-system)
- Bamfo, B., Dogbe, C. (2017). *Factors influencing the choice of private and public hospitals: empirical evidence from Ghana*. International Journal of Pharmaceutical and Healthcare Marketing. Retrieved November 25 from [www.emerald.com/insight/content/doi/10.1108/IJPHM-11-2015-0054/full/html](http://www.emerald.com/insight/content/doi/10.1108/IJPHM-11-2015-0054/full/html)
- Basu, S., Andrews, J., Kishore, S., Panjabi, R., & Stuckler, D. (2012, June). *Comparative Performance of Private and Public Healthcare Systems in Low- and Middle-Income Countries: A Systematic Review*. Retrieved November 12, 2020. DOI 10.1371/journal.pmed.1001244
- BBC. (2018). *Marshall Islands country profile*. Retrieved January 4, 2021, from [www.bbc.com/news/world-asia-15595431](http://www.bbc.com/news/world-asia-15595431)
- Berdine, G., Geloso, V., Powell, B. (2018) *Cuban infant mortality and longevity: health care or repression?*. Health Policy and Planning, vol. 33, n° 6, p. 755–757. Retrieved December 25, 2020. DOI <https://doi.org/10.1093/heapol/czy033>
- Berman, P., Bhandari, L., Ahuja, R. (2010). *The Impoverishing Effect of Healthcare Payments in India: New Methodology and Findings*. Economic and Political Weekly. Vol. 45, n° 16. Retrieved December 28, 2020, from [www.researchgate.net/The\\_impoverishing\\_effect\\_of\\_healthcare\\_payments\\_in\\_India](http://www.researchgate.net/The_impoverishing_effect_of_healthcare_payments_in_India)
- Bohigas, L. (2021) *How self-government in Catalonia has integrated private not for profit care in the public healthcare service*. Journal of Evolutionary Studies in Business, vol. 6, n° 1, 263-280. Retrieved February 10, 2021. DOI [doi.org/10.1344/jesb2021.1.j089](https://doi.org/10.1344/jesb2021.1.j089).
- Budheo, S., Watkins, J., Williams, C., Maruthappu, M. (2015). *Changes in government spending on healthcare and population mortality in the European union, 1995–2010: a cross-sectional ecological study*. Journal of the Royal Society of Medicine, 108 (12), 490-498. Retrieved December 1, 2020 from <https://doi.org/10.1177/0141076815600907>
- Carolyn H. Tuohy, Colleen M. Flood & Mark Stabile, (June 1, 2001). *How Does Private Finance Affect Public Health Care Systems?: Marshalling the Evidence from OECD Nations 1-2*. Retrieved November 9, 2020. DOI 10.1215/03616878-29-3-359
- CatSalut, Departament de Salut, Generalitat de Catalunya. (2019, March). *Eficiència hospitalària segons la titularitat, Catalunya 2005-2017*. Informes Breus, n° 30. Retrieved December 01, 2020, from [scientiasalut.gencat.cat/handle/11351/4017](http://scientiasalut.gencat.cat/handle/11351/4017)
- Directorate-General for Health and Food Safety (European Commission). (2019, 11 21). *State of health in the EU. Companion report 2019*. Retrieved November 11, 2020, from [op.europa.eu/en/publication-detail/-/publication/38894d8e-0cf3-11ea-8c1f-01aa75ed71a1](http://op.europa.eu/en/publication-detail/-/publication/38894d8e-0cf3-11ea-8c1f-01aa75ed71a1)
- Directorate General for Health Planning, Catalan Ministry of Health, Government of Catalonia. (2016). *Health Plan for Catalonia 2016-2020. A person-centered system: public, universal and fair*. Retrieved November 19, 2020, from [salutweb.gencat.cat/ca/el\\_departament/Pla\\_salut/pla-de-salut-2016-2020/](http://salutweb.gencat.cat/ca/el_departament/Pla_salut/pla-de-salut-2016-2020/)

- Drastichová, M., Filzmoser, P., (February, 2020). *The relationship between health outcomes and health expenditure in Europe by using compositional data analysis*. *Problemy Ekorozwoju/ Problems of Sustainable Development*, Vol. 15(2) 99-110. Retrieved November 24, 2020, from [ekorozwoj.pollub.pl/no30/13.Drastichova\\_et\\_al.pdf](https://www.ekorozwoj.pollub.pl/no30/13.Drastichova_et_al.pdf)
- Duggal, R. (2007). *Healthcare in India: Changing the Financing Strategy*. *Social Policy & Administration*, vol. 41, n° 6. Retrieved December 29, 2020. DOI <https://doi.org/10.1111/j.1467-9515.2007.00560.x>
- European Commission. (2018). *Human Capital, Inequality and Migration in Southern and Eastern Mediterranean Countries. Towards a coherent policy agenda*. *Mediterranean Prospects*, n° 8. Retrieved January 3, 2021, from [www.medpro-foresight.eu/system/files/MEDPRO%20PP%20No%208%20WP7%20Ayadi.pdf](http://www.medpro-foresight.eu/system/files/MEDPRO%20PP%20No%208%20WP7%20Ayadi.pdf)
- Fernández Pérez, P. (2021) *The Emergence of Modern Hospital Management and Organisation in the World 1880s-1930s*. Emerald Publishing Limited.
- Fernández Pérez, P., Zarzoso, A. (2021). *Introduction. A mixed model of hospital services: Catalonia, 1870s-2010s*. *Journal of Evolutionary Studies in Business*, vol. 6, n° 1, 1-29. DOI [doi.org/10.1344/jesb2021.1.j082](https://doi.org/10.1344/jesb2021.1.j082)
- Fernández Pérez, P. (2021). *How to evaluate the capacity of hospital systems in a very long term international comparative perspective? Hospital beds per inhabitant in Catalonia 1900s-2010s*. *Journal of Evolutionary Studies in Business*, vol. 6, n° 1, 182-226. DOI [doi.org/10.1344/jesb2021.1.j087](https://doi.org/10.1344/jesb2021.1.j087)
- Foubister, T., Thomson, S., Mossialos, E., & McGuire, A. L. (2006). *Countries are spending more on health, but people are still paying too much out of their own pockets*. Copenhagen : WHO Regional Office for Europe. Retrieved November 28, 2020, from [apps.who.int/iris/handle/10665/107741](https://apps.who.int/iris/handle/10665/107741)
- IDESCAT (Statistical Institute of Catalonia). (2020, August 27). *Annual indicators: Life expectancy at different ages*. Retrieved November 14, 2020, from [www.idescat.cat/indicadors/?id=anuals&n=10380&col=3&lang=en](http://www.idescat.cat/indicadors/?id=anuals&n=10380&col=3&lang=en)
- Joseph, B., Joseph, M. (2016). *The health of the healthcare workers*. *Indian Journal of Occupational & Environmental Medicine*. Retrieved January 17, 2021. DOI [10.4103/0019-5278.197518](https://doi.org/10.4103/0019-5278.197518)
- Keesara, S. R., Juma, P. A., & Harper, C. C. (2015, August 20). *Why do women choose private over public facilities for family planning services? A qualitative study of post-partum women in an informal urban settlement in Kenya*. Retrieved November 26, 2020, from <https://doi.org/10.1186/s12913-015-0997-7>
- Republic of Seychelles. (1993). *Constitution of the Republic of Seychelles*. Art.29 (p. 30). Retrieved December 23, 2020 from [greybook.seylii.org/BQCwwMYgK4DsDWszlQewE4BUBTADwBdoAvbRABwEtsBaAfx2zgBYAGATg44AcAJgDMANgCUAGmTZShCAEVEhXAE9oAck1SIhMLgTLVG7bv2GQAZTykAQhoBKAUQAyZgGoBBAHIBhZyISMAAJaFJ2CQkgA](http://greybook.seylii.org/BQCwwMYgK4DsDWszlQewE4BUBTADwBdoAvbRABwEtsBaAfx2zgBYAGATg44AcAJgDMANgCUAGmTZShCAEVEhXAE9oAck1SIhMLgTLVG7bv2GQAZTykAQhoBKAUQAyZgGoBBAHIBhZyISMAAJaFJ2CQkgA)
- Lucas R. E. (2006). *Migration and Economic Development in Africa: A Review of Evidence*. *Journal of African Economies*, vol. 15, n°2, p. 337-395 Retrieved December 23,2020. DOI <https://doi.org/10.1093/jafeco/ejl032>
- Marchildon, G. P. (2004). *The public/private debate in the funding, administration and delivery of healthcare in Canada*. *Healthcare Quarterly in collaboration with the University Health Network*, Vol. 4(4) 61-68. Retrieved November 13, 2020. [10.12927/hcpap.2004.16855](https://doi.org/10.12927/hcpap.2004.16855)
- Maruthappu, M., Painter, A., Watkins, J., Williams, C., Ali, R., Zeltner, T., et al. (2014). *Unemployment, public-sector healthcare spending and stomach cancer mortality in the European Union, 1981-2009*. *European Journal of Gastroenterology & Hepatology*, 26, 1222-1227. Retrieved November 24, 2020 from <https://doi.org/10.1097/MEG.000000000000201>
- McKee, M., Shkolnikov, V. (2001). *Understanding the toll of premature death among men in eastern Europe*. Retrieved from January 2, 2021, from [www.ncbi.nlm.nih.gov/pmc/articles/PMC1121549/](https://www.ncbi.nlm.nih.gov/pmc/articles/PMC1121549/)



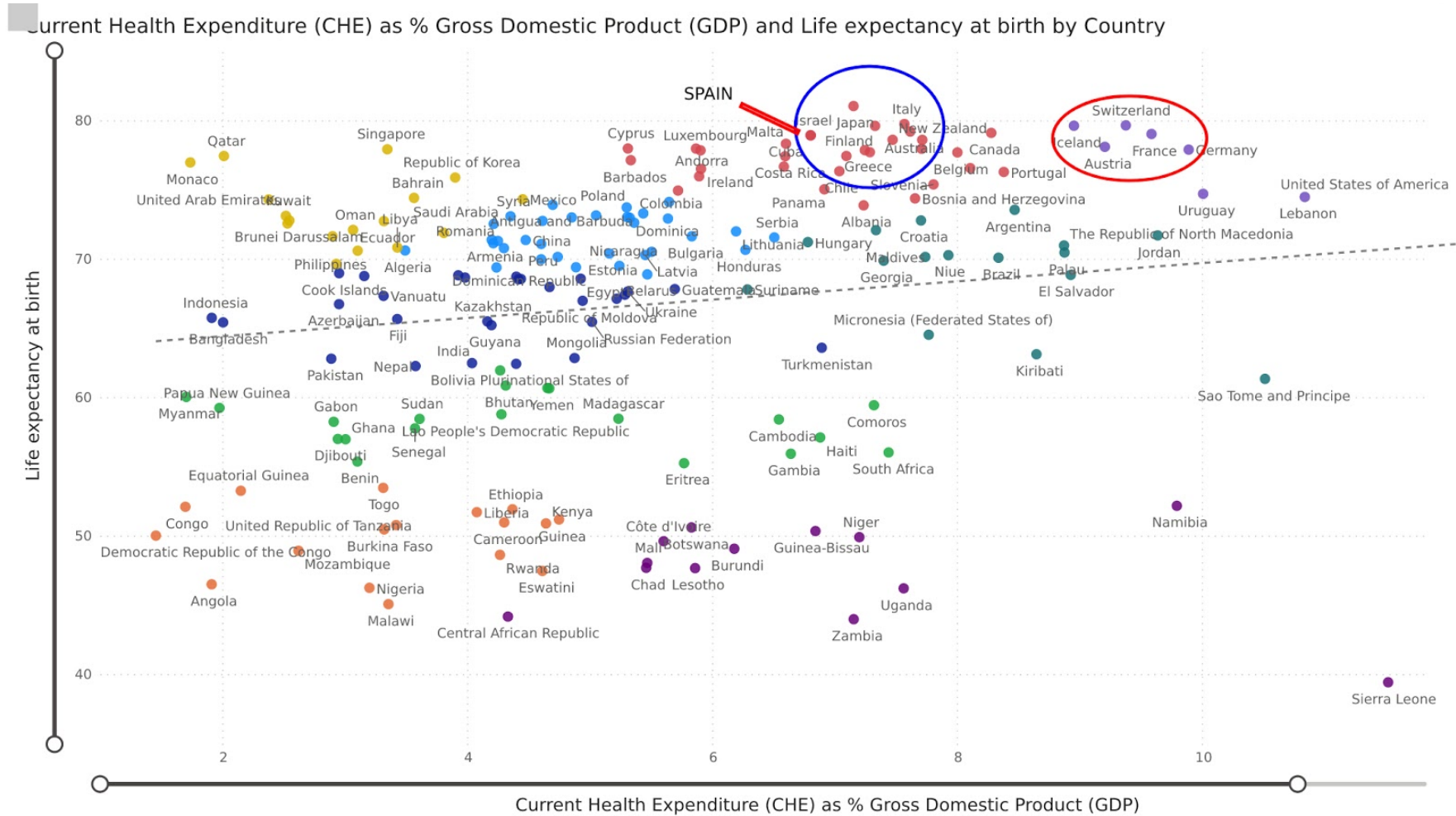
- Murthi, M. (2015). *In Europe, life gets shorter for some*. World Bank. Retrieved January 2, 2021, from [www.worldbank.org/en/news/opinion/2015/04/22/in-europe-life-gets-shorter-for-some](http://www.worldbank.org/en/news/opinion/2015/04/22/in-europe-life-gets-shorter-for-some)
- National Center for Health Statistics. CDC, Department of Health and Human Services (USA). *Life Expectancy*. Retrieved November 14, 2020, from [www.cdc.gov/nchs/fastats/life-expectancy.htm](http://www.cdc.gov/nchs/fastats/life-expectancy.htm)
- National Center for Health Statistics. Centers for Disease Control and Prevention, Department of Health and Human Services (USA). (2020, September). *Health Insurance Coverage: Early Release of Estimates From the National Health Interview Survey, 2019*. Retrieved November 18, 2020, from [www.cdc.gov/nchs/health-insurance.htm](http://www.cdc.gov/nchs/health-insurance.htm)
- New Zealand Ministry of Business, Innovation & Employment. *Paying for healthcare services*. Retrieved January 6, 2021, from [www.newzealandnow.govt.nz/living-in-nz/healthcare/paying-for-healthcare-services](http://www.newzealandnow.govt.nz/living-in-nz/healthcare/paying-for-healthcare-services)
- OECD. *OECD Better Life Index: Switzerland*. Retrieved December 31, 2020 from [www.oecdbetterlifeindex.org/countries/switzerland/](http://www.oecdbetterlifeindex.org/countries/switzerland/)
- OECD (2011). *Health: Switzerland's health system is high-performing but must prepare for the future*. Retrieved December 31, 2020, from [www.oecd.org/healthswitzerlandshealthsystemmustprepareforthefuture.htm](http://www.oecd.org/healthswitzerlandshealthsystemmustprepareforthefuture.htm)
- OECD (2017). *State of health in the EU: Cyprus*. Country Health Profile. Retrieved December 31, 2020 from [read.oecd-ilibrary.org/social-issues-migration-health/cyprus-country-health-profile-en#page3](http://read.oecd-ilibrary.org/social-issues-migration-health/cyprus-country-health-profile-en#page3)
- Oxfam International. *India: extreme inequality in numbers*. Retrieved December 29, 2020 from [www.oxfam.org/en/india-extreme-inequality-numbers](http://www.oxfam.org/en/india-extreme-inequality-numbers)
- Rahman, O. H. (2018). *What Bahrain's huge oil and gas discovery means for its post-oil agenda*. Retrieved January 3, 2021, from [www.worldpoliticsreview.com/bahrain-s-huge-oil-and-gas-discovery-means-for-post-oil-agenda](http://www.worldpoliticsreview.com/bahrain-s-huge-oil-and-gas-discovery-means-for-post-oil-agenda)
- Shishkin, S., Sheiman, I., Shevsky, V. (November, 2018) *The evolving Semashko model of primary health care: the case of the Russian Federation*. Risk Management and Healthcare Policy № 11 (209-220). Retrieved November 27, 2020. DOI: 10.2147/RMHP.S168399
- Swiss Confederation, Federal Department of Home Affairs. *Requirement to take out insurance*. Retrieved December 31, 2020, from [www.bag.admin.ch/faq-versicherungspflicht-2016-2017.pdf](http://www.bag.admin.ch/faq-versicherungspflicht-2016-2017.pdf)
- The Commonwealth Fund. *International health care system profiles: Japan*. Retrieved January 5, 2021, from [www.commonwealthfund.org/international-health-policy-center/countries/japan](http://www.commonwealthfund.org/international-health-policy-center/countries/japan)
- The Commonwealth Fund (USA). (2020, September 11). *2020 Scorecard on State Health System Performance*. Retrieved November 21, 2020, from [www.commonwealthfund.org/fund-reports/2020/sep/2020-scorecard-state-health-system-performance](http://www.commonwealthfund.org/fund-reports/2020/sep/2020-scorecard-state-health-system-performance)
- UNICEF India. *Water, Environment and Sanitation*. Retrieved December 26, 2020, from [www.unicef.org/india/what-we-do/water-sanitation-hygiene](http://www.unicef.org/india/what-we-do/water-sanitation-hygiene)
- United Nations. (2000). *2000: Economic growth all over*. Press Release REC/89. Retrieved January 25, 2021, from [www.un.org/press/en/2000/20000504.rec89.doc.html](http://www.un.org/press/en/2000/20000504.rec89.doc.html)
- Vidal Alaball, J. (2014) *El Sistema Sanitari Català (un model sanitari?)*. Retrieved November 27, 2020 from <https://bit.ly/37ynULJ>
- Winckler, O. (2015). *How many Qatari nationals are there?*. Middle East Quarterly. Retrieved January 3, 2021, from [www.meforum.org/5081/how-many-qataris](http://www.meforum.org/5081/how-many-qataris)
- World Bank. GDP per capita (current US\$) - *Cuba, Barbados, United States, Canada*. Retrieved December 21, 2020, from [data.worldbank.org/indicator/NY.GDP.PCAP.CD?locations=CU-BB-US-CA](http://data.worldbank.org/indicator/NY.GDP.PCAP.CD?locations=CU-BB-US-CA)



- World Bank. GDP per capita (current US\$) - *Sub-Saharan Africa*. Retrieved December 23, 2020, from [data.worldbank.org/indicator/NY.GDP.PCAP.CD?locations=ZG&most\\_recent\\_value\\_desc=true](https://data.worldbank.org/indicator/NY.GDP.PCAP.CD?locations=ZG&most_recent_value_desc=true)
- World Bank. GDP per capita (current US\$) - *United States, Uruguay*. Retrieved December 27, from [data.worldbank.org/indicator/NY.GDP.PCAP.CD?locations=US-UY](https://data.worldbank.org/indicator/NY.GDP.PCAP.CD?locations=US-UY)
- World Health Organization. (2000). *The world health report 2000 - Health systems: improving performance*. Retrieved November 11, 2020, from [www.who.int/whr/2000/en/whr00\\_en.pdf?ua=1](http://www.who.int/whr/2000/en/whr00_en.pdf?ua=1)
- World Health Organization. (2003). *Health Systems: principled integrated care*. Retrieved November 11, 2020, from [www.who.int/whr/2003/en/Chapter7.pdf](http://www.who.int/whr/2003/en/Chapter7.pdf)
- World Health Organization. (2005). *Designing health financing systems to reduce catastrophic health expenditure*. Technical Briefs for Policy-Makers, N°2. Retrieved November 19, 2020, from [who.int/health\\_financing/pb\\_2](http://who.int/health_financing/pb_2)
- World Health Organization. (2018). *Catalonia, Spain. Regions for Health Network*. Retrieved November 22, 2020, [www.euro.who.int/\\_data/assets/pdf\\_file/0004/373387/rhn-catalonia-eng.pdf](http://www.euro.who.int/_data/assets/pdf_file/0004/373387/rhn-catalonia-eng.pdf)
- World Health Organization. (2018). *Country cooperation strategy at a glance: Marshall Islands*. Retrieved January 4, 2021, from [apps.who.int/iris/10665/136940/ccsbrief\\_mhl\\_en.pdf?sequence=1](https://apps.who.int/iris/10665/136940/ccsbrief_mhl_en.pdf?sequence=1)
- World Health Organization. (2019). *Countries are spending more on health, but people are still paying too much out of their own pockets*. Retrieved November 15, 2020, from [www.who.int/countries-are-spending-more-on-health-but-people-still-paying-too-much-out-of-their-pockets](http://www.who.int/countries-are-spending-more-on-health-but-people-still-paying-too-much-out-of-their-pockets)
- World Health Organization. (2019). *Global spending on health: A world in transition. Global Report*. Retrieved November 14, 2021, from [www.who.int/health\\_financing/health-expenditure-report-2019.pdf?ua=1](http://www.who.int/health_financing/health-expenditure-report-2019.pdf?ua=1)
- World Health Organization. (December 9, 2020) *The top 10 causes of death*. Retrieved December 25, 2020 from [www.who.int/news-room/fact-sheets/detail/the-top-10-causes-of-death](http://www.who.int/news-room/fact-sheets/detail/the-top-10-causes-of-death)
- World Health Organization. *Country Profiles: Marshall Islands*. Retrieved January 4, 2021 from [www.who.int/diabetes/country-profiles/mhl\\_en.pdf?ua=1](http://www.who.int/diabetes/country-profiles/mhl_en.pdf?ua=1)
- World Health Organization, Pan American Health Organization (2003). *Country profiles - Bolivia*. Epidemiological Bulletin, Vol. 24 No. 1. Retrieved December, 27 from [www.paho.org/english/dd/ais/be\\_v24n1-Bolivia.htm](http://www.paho.org/english/dd/ais/be_v24n1-Bolivia.htm)
- World Health Organization (Africa). (2017). *Universal health coverage in Africa: a framework for action*. Retrieved November 19, 2020, from [www.afro.who.int/2017-06/uhc-in-africa-a-framework-for-action.pdf](http://www.afro.who.int/2017-06/uhc-in-africa-a-framework-for-action.pdf)
- World Health Organization (Europe). (2012). *Behind the estimates of out-of-pocket spending on health in the former Soviet Union*. Retrieved November 28, 2020, from [www.euro.who.int/en/health-topics/Health-systems/health-systems-financing/publications/2012/behind-the-estimates-of-out-of-pocket-spending-on-health-in-the-former-soviet-union-2012](http://www.euro.who.int/en/health-topics/Health-systems/health-systems-financing/publications/2012/behind-the-estimates-of-out-of-pocket-spending-on-health-in-the-former-soviet-union-2012)
- World Health Organization, Pan American Health Organization. (2012). *Health in the Americas - Cuba*. Retrieved December 27, 2020, from [www.paho.org/salud-en-las-americas-2012/category\\_slug=hia-2012-country-chapters-22&alias=125-cuba-125](http://www.paho.org/salud-en-las-americas-2012/category_slug=hia-2012-country-chapters-22&alias=125-cuba-125)
- World Health Organization, Pan American Health Organization (2007). *Country profiles - Haiti*. Health in the Americas, Vol. II. Retrieved December, 27 from [www.paho.org/2010/Health\\_in\\_the\\_Americas\\_2007-Haiti.pdf](http://www.paho.org/2010/Health_in_the_Americas_2007-Haiti.pdf)
- World Health Organization, Western Pacific Regional Office. *Health Equity in the Western Pacific*. Retrieved January 5, 2021, from [www.who.int/westernpacific/health-topics/equity](http://www.who.int/westernpacific/health-topics/equity)

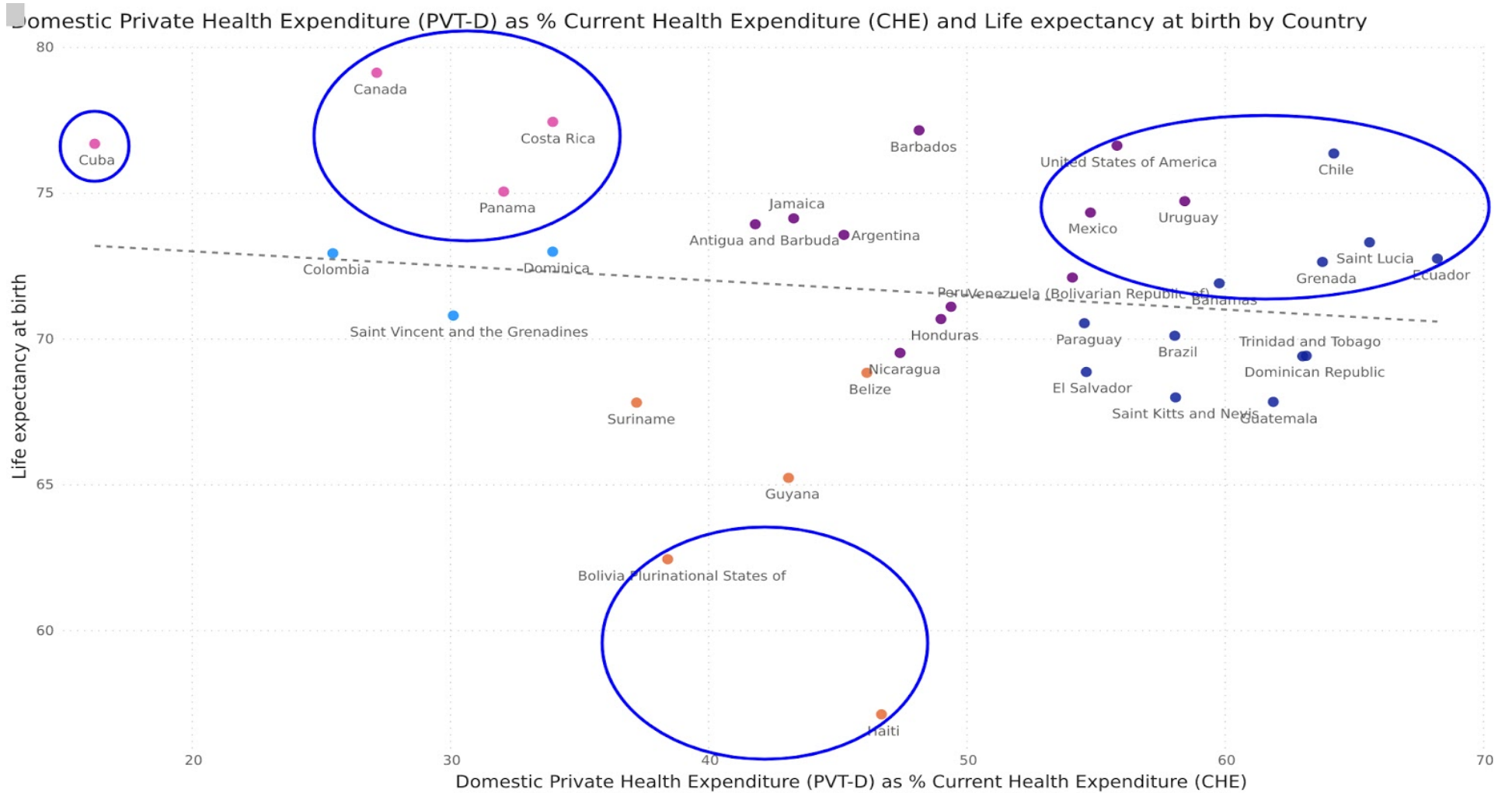
## VIII. ANNEX

### 1. Figure 4 Health expenditure as a percentage of GDP and life expectancy at birth (2000)



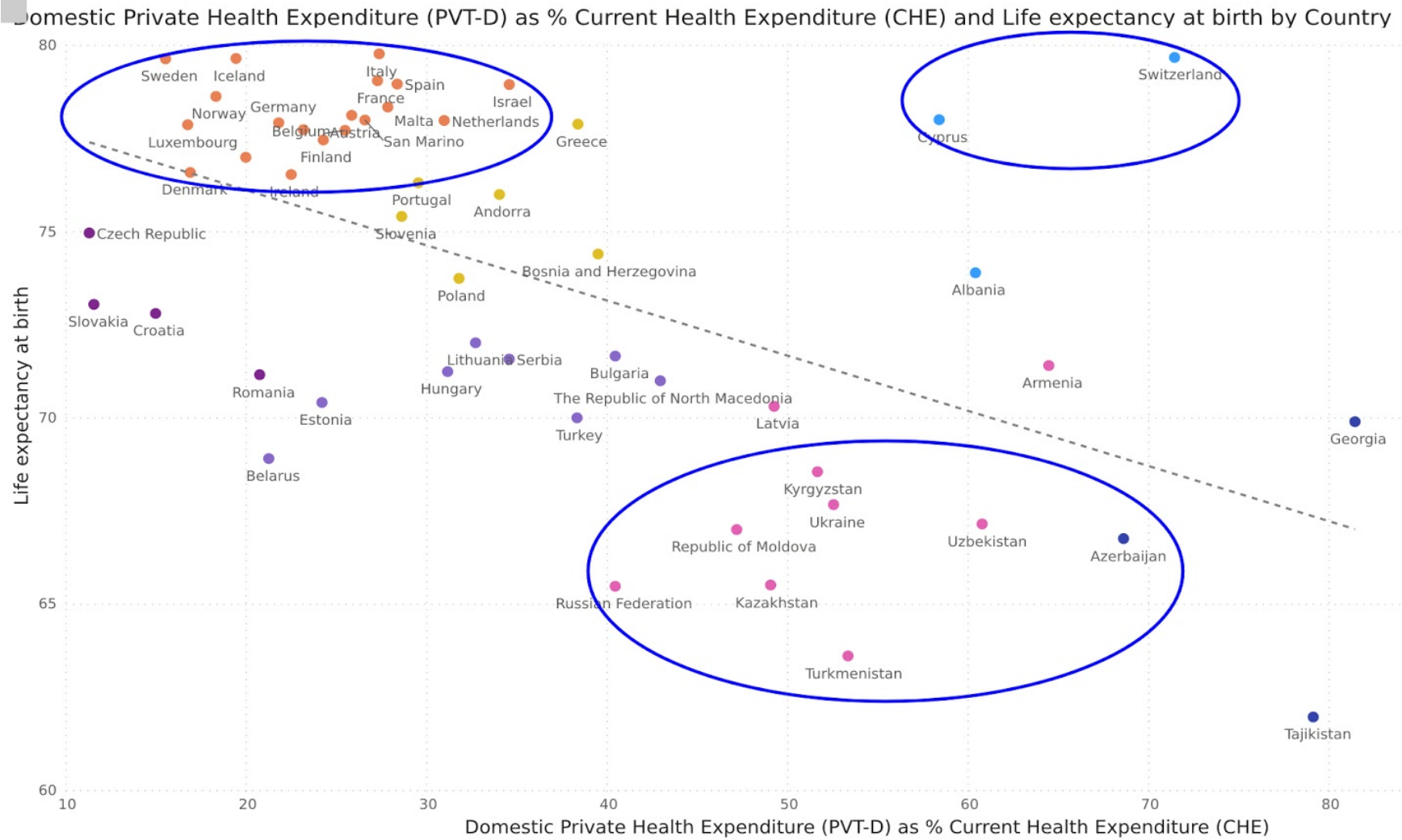
Source: Prepared by the author on the basis of data supplied by WHO.

2. Figure 5 Private health spending and life expectancy. PAHO Region (2000)



Source: Prepared by the author on the basis of data supplied by WHO.

3. Figure 6 Private health spending and life expectancy. EURO Region (2000)



Source: Prepared by the author on the basis of data supplied by WHO.

4. Figure 7 Private health spending and life expectancy. WPRO Region (2000)

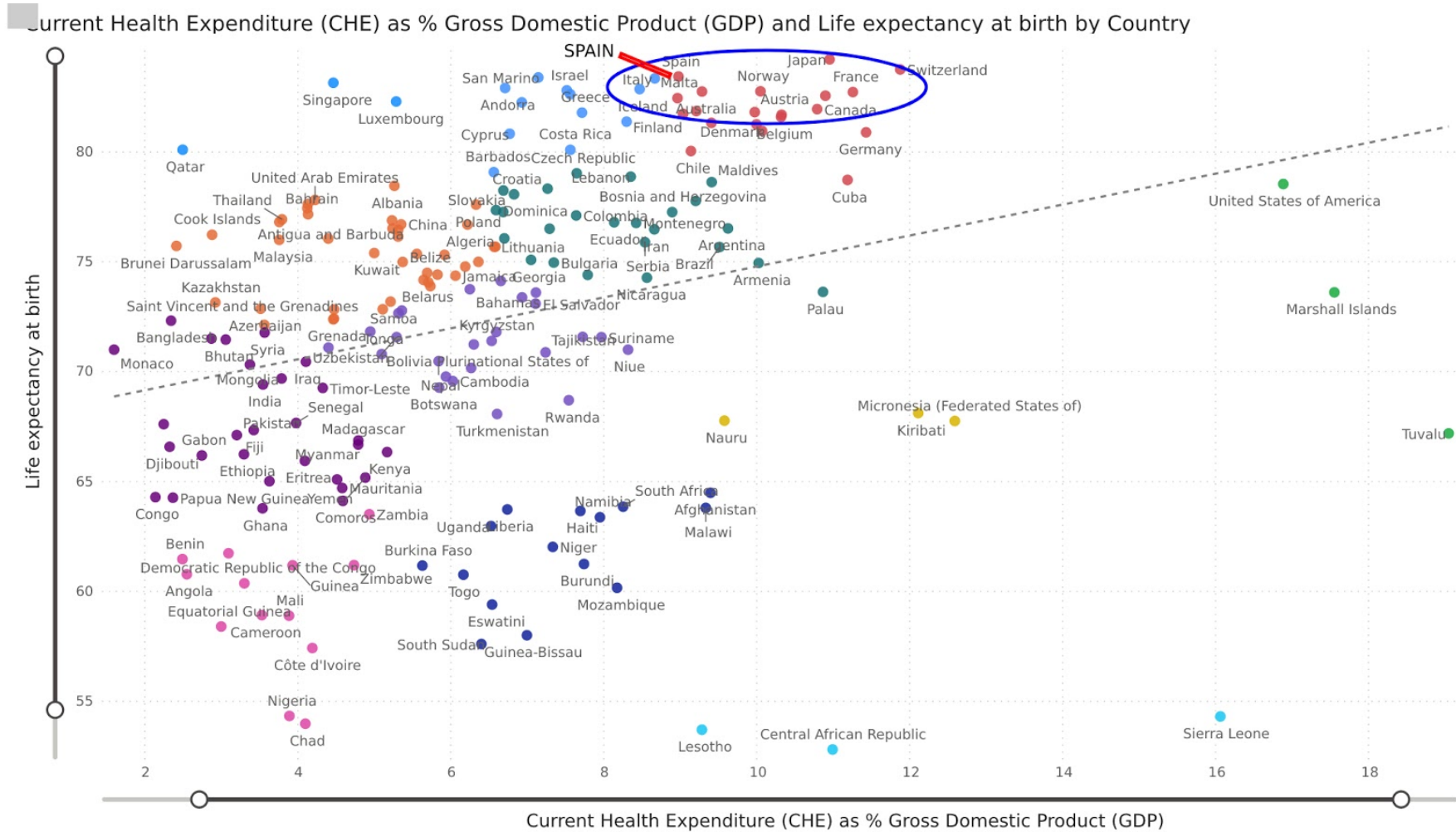
Domestic Private Health Expenditure (PVT-D) as % Current Health Expenditure (CHE) and Life expectancy at birth by Country



Source: Prepared by the author on the basis of data supplied by WHO.



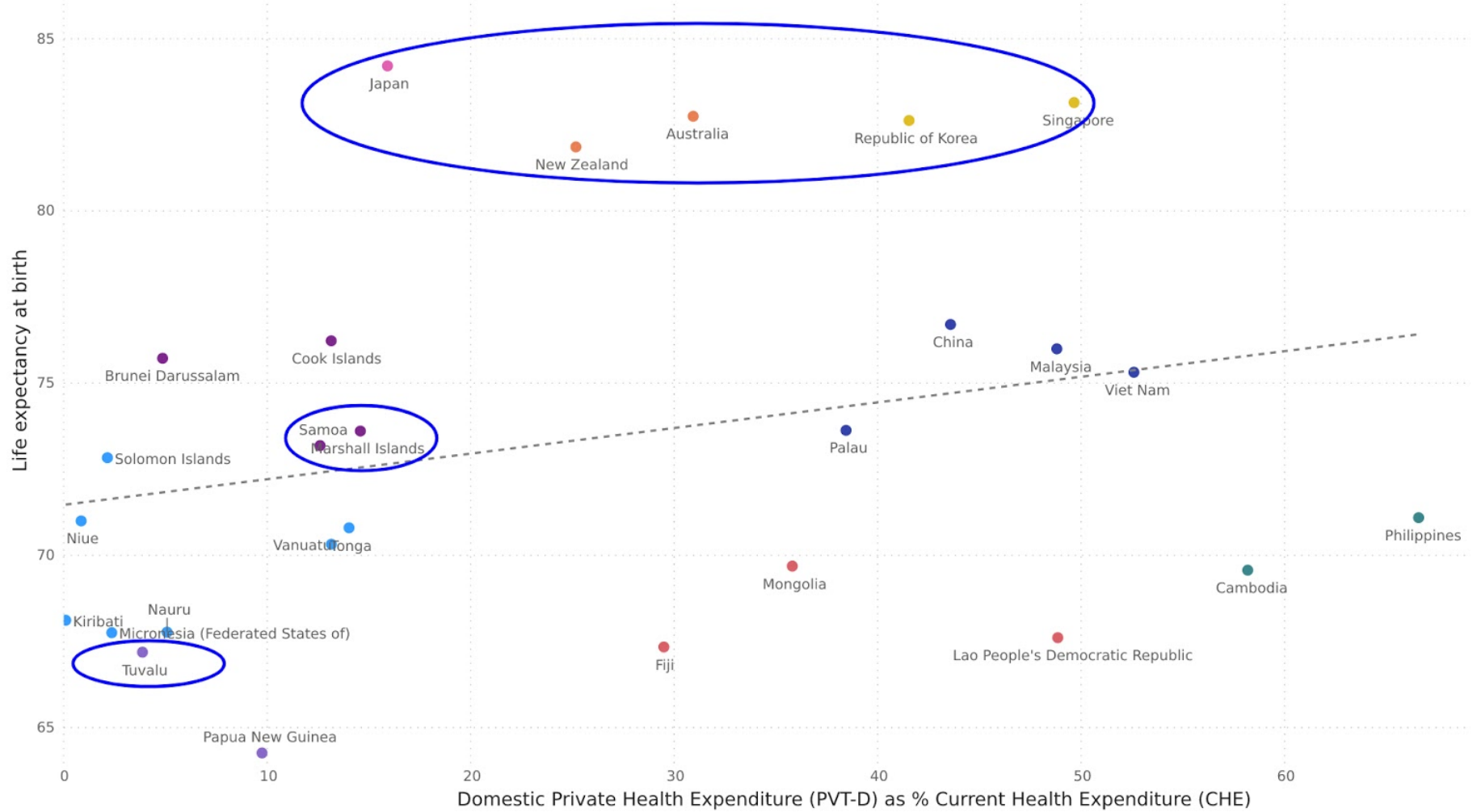
5. Figure 8 Health expenditure and life expectancy at birth by country (2018)



Source: Prepared by the author on the basis of data supplied by WHO.

6. Figure 9 Private health spending and life expectancy. WPRO Region (2018)

Domestic Private Health Expenditure (PVT-D) as % Current Health Expenditure (CHE) and Life expectancy at birth by Country



Source: Prepared by the author on the basis of data supplied by WHO.