Increasing Healthcare Opportunities for Low- and Middle-Income European Citizens

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Improvements in the health status of the European citizens have been notorious in the last decades. Life expectancy is higher than anywhere else in the world. In these countries Universal healthcare systems is a reality and is, in part, behind these good results. Higher income countries like United States see European healthcare systems as the solution to all their problems. The question is whether these models can cope with new diseases and expensive treatments for the low and middle-income population. These models, however, face as well issues of inequality because of the lack of patient choice and high cost.

Keywords: cross-border health care, single-payer system, COVID-19, national healthcare system

INTRODUCTION

It is interesting to see, that when we travel outside Europe, especially in the US, the academic and social debate is around which is the best healthcare system in order to improve the life of the people. General opinion believes that in the old continent everybody is covert when you get sick, that you receive the best treatment possible and that all this would be for free. In reality this is fare away from reality and probably too good to be true. First of all, the healthcare systems in Europe are quite different and if we compare those of Spain, UK or Italy with those around Germany, the contrast is clearer. In the broad sense similarities come from the universality of the systems, meaning that the whole population is covered for a wide range of services. Another myth come from the idea that universality means that there are no co-payment's, deductibles and this kind of things, false.

But what is causing the new type of health inequalities of the XXI century between European citizens now a days? It come from the luck of patient choice that users have for many treatments, generating an increasing problem of access to some medicines. Cross country comparison suggest that restrictions could lead to poorer health outcomes. In the developed world, like Europe, where health status is high, small differences in the therapy can mean to live some years more.

In this article we are going to analyse this reality that arise from these universal healthcare systems, focusing in National Health service (NHS)[1] models that are the kind of Healthcare services we find more in Europe and who suffer extra from this problem that is increasing in the last decades.

Since many years, it seems like the only thing that matters related with health inequalities is if everybody in a country have the opportunity to visit a doctor when is needed to a reasonable price. This should be at the top of the agenda in the countries where there is a lack of access and this circumstance can happen, like the US and all this countries that do not achieve the coverage to the whole population.

Nevertheless, in most of the countries of Europe, this is not more the main source of inequality between citizens. In this side of the Atlantic we see entry to health services as a right and not more something related to the labour status. Now a days we observe another kind of inequalities that will have great impact in health outcomes, especially in those groups of people with low and middle incomes. Inequality in access may still originate from differences in availability of medical resources across regions Joumard et al (2010) or socio-economic status. Many European with chronic and other type of diseases cannot have the best treatment available to get cured. This is the case for half of the population of Europe who live in a country under a National health services. It is well known that this kind of health models put some kind of restrictions for certain meds.

Everything started during the seventies in the UK, when the NHS severely limited the access of kidney dialysis, restricting it only for those that were young enough to benefit from it, excluding older people who were described as "a bit crumbly" and not worth the cost. As famous economist said (Deaton 2015, p.144):

> "*In such cases, inadequate provision of health care raises morbidity and mortality rates and mortality rates...*"

Since than much is done, but challenges with new treatments are increasing, as new drugs are replacing surgery and other procedures. Last treatments, especially for some diseases are getting more and more expensive. Healthcare systems have little room to buy these last meds that are in the market. This is happening in countries where the health services are financed by taxes and runned by the State. Let us see how these models work and what could be done to improve this reality.

HISTORY NHS

National Health Services are this kind of health services that we find in countries like UK, Spain and Italy. As main feature we have a system that is Central planned (different kind of levels) financed by taxes and free at the point of deliver. In this article we are going to focus in the NHS of United Kingdom, as this is one of the best and first examples, similar to the one from Spain, Greece or Italy

If we want to find the genesis from the National Healthcare System (NHS), we have to come back to the 19th century. At that time, you could find people that suggested that access to healthcare was necessary for a wealthy society. Most of the hospitals were runned by charities or municipalities. For example, the town hall of London was the manager of some hospitals in the area. But with the time, from different sectors related with socialist ideology, said that it was convenient to have a national healthcare system or at least some kind of social insurance in order to finance healthcare when people got sick.

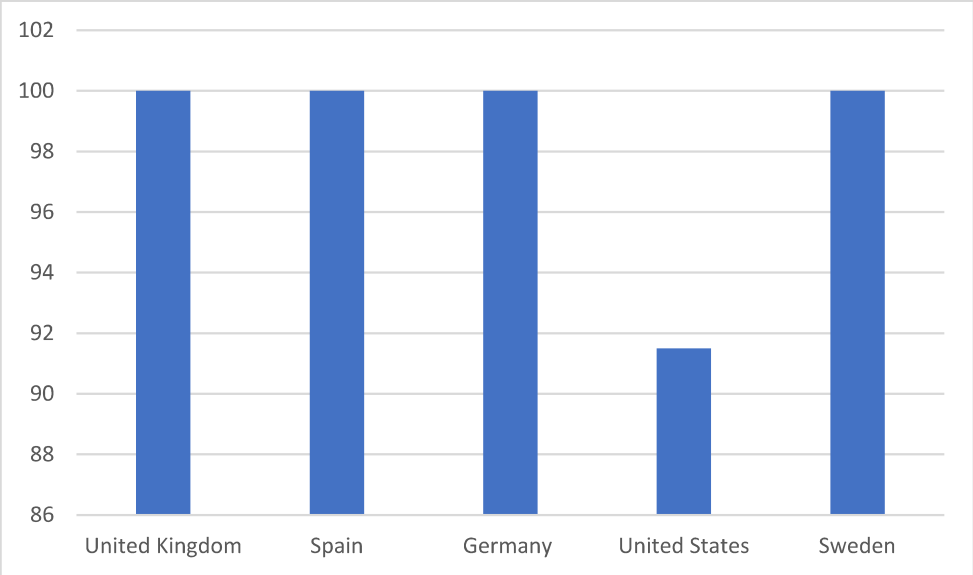
At the beginning of century XX, only people with a job had access to health care, but not the members of the family. This was the reason why only 1/3 of the population was covered for healthcare (Leathard 2000). This type of insurance was in force until 1948 and one of the features was the low level of investment because of the war. Many employees, because of these circumstances were working like volunteers.

What we know as National Healthcare System (NHS) was created in the UK (1948) in order to make medical care accessible for the people of this country. During this time, they decided to put all the hospitals and doctors together in order to build a national healthcare system, where all the citizens had access to healthcare and was financed by the State. Everything started when the labour party promised in 1945 a revolution in the way healthcare was provided. It was the Chancellor of health Aneurin Bevan who wanted to establish a health service with the following principles: It should be available for all the people, free at the point of deliver and financed by taxes. In realty the people were not too enthusiastic with the idea of Bevan. A prove of that was the survey that took place during the 30 and 40 (Hayes 2012). There was a strong opposition from conservatives and doctors, but some members of the labour party were as well against. In this sense Herbert Morrison said that the regions were better qualified to provide health care than central planners. Since them the National Healthcare system hasn´t change that much.

FEATURES OF THE NHS

One of the main reasons why citizens like the NHS is because they are very proud of providing treatment free at the point of use. This is true, in case you have to visit the doctor or when the patient has to stay at the hospital, not in case of prescriptions and other services. As Kristian Niemietz (2015, p.14) said" these *health facilities are open to all residents and free at the point of use, not unlike a public park or a public library*". As a result of health services that are free at the point of use, there are waiting times, but although every government promises that they are going to cut them, in a system with this characteristic, it can be used as a rationing tool. In this case further cuts in waiting times can stimulate new demands.

FIGURE 1
PORCENTAGE OF POPULATION WITH HEALTH INSURANCE COVERAGE



Source: OECD StatExtracts (2020)

As we said in the history of the NHS, these models are financed by general taxes. These healthcare systems that are financed by taxes are called as well single payer system, where the State is the only one that finance the service. That give the governments the power to decide where and how much to spend, where to invest and the responsibility to any kind of decision of public health, for example about how to deal with pandemics like the one of COVID-19.

Something important about NHS system and key in this research is to know which is the extent of the services that is provided. Not all of them give the same services under the same circumstances. Hospital treatment is free if you are a resident in the UK, if not you can get charged for some services. Everyone is entitled to register with a General Practitioner (GP) who can provide many services, like prescriptions and minor surgery. Patients can visit hospitals by means of a referral from the General Practitioner, however a referral is not needed for access to the Emergency department. For those that cannot travel to the hospital there are Health visitors for children under five and for older ones. Furthermore, there are District nurses that provide care for patients living at home. Users have the right to decide on the type of consultant they want to receive treatment from and to start any treatment during a period of 18 weeks from when a diagnosis has been made.

Although treatment on the NHS is free at the point of delivery, there may still be some costs (NHS services 2016). These kinds of costs could be things like prescriptions, travelling to the hospital for surgery, dentist and Optical services. The services that the NHS deliver include most of them, like vaccinations to protect against different infections, pregnancy or the one that is expected for the COVID-19. Patients are

required to make co-payments towards the cost of their prescriptions, dental care and eye care. This services like are free only under certain circumstances that depend on age (Children and the elderly) and on income, but in any case, there are some co-payments for the rest of the patients that we are going to describe briefly.

According to the numbers of the NHS, these payments cover the salary of 12,000 nurses every year. If so, we suppose that with an average salary of £23,000 per nurse, that means £276 million per year.

WHY NHS PUT RESTRICTIONS ON ACCESS TO SOME TREATMENTS

Everybody in a country want to live as much as possible and get the best treatment possible. But as we are not in "Alice in Wonderland", someone has to pay for this meds. Nobel prize laureate Angus Deaton said in his book (p.8):

> "*It is a good thing to improve health services, and to make sure that those who are in medical need are looked after. But we cannot set health priorities without attention to their cost".*

There are two reasons that come from the economic theory that explains these restrictions. Frist of all, in a national health service you have to work with a budget financed by taxpayers that is limited. Despite the increases from every year, there are still more expenses than expected (deficit). From the point of view of public policies, if we want to spend more on healthcare, we have to spend less on education, social services, etc. This is what we call in economics trade offs[2].

On the other hand, health economic theory explains why some restrictions could make sense. The health production function suggests that when we increase inputs (for example health expenditures), outputs (could be life expectancy or survival rates) increase at a decreasing rate. So as any other production function, the curve goes flatter and flatter. If we analyse the health production functions in developed countries is very difficult to increase outcomes (for example life expectancy or cancer survival rates) when you reach certain levels of health expenditures. This is because high income countries, like UK, operate at the right side of the curve[3]. In order to deal with these issues of increasing cost of drugs and value for money, UK government created The National Institute for Health and Care Excellence (NICE). This organization was established to assess NHS about value for money of treatments and procedures.

Like many other Health care systems, the NHS is not unique in facing challenges in paying as it becomes increasingly more expensive and, in many cases, affording effective new techniques. "*In some cases, in order to save money, the NHS places restrictions on access"* (Deaton 2015, p.144). These kinds of restrictions have been quite controversial and still observing the consequences.

After these famous restrictions, that NHS putted on kidney dialysis during the seventies, excluding older people who were described as "a bit crumbly" and not worth the cost, Conservative party started to have thoughts about the convenience of creating an independent institution to provide the National Healthcare System with advice about the value for money. Guidance was needed for some very expensive treatments, that were coming along. The problem came with a product called beta-interferon that was for the multiple sclerosis. This treatment was very expensive and was not able to provide a cure, so for the health Minister Gerry Malone it was something that really concentrated their minds and unnerved them.

For this kind of reason, the Conservative government created the National Institute for Health and Care Excellence (NICE) in 1999 to find out the best way of dealing with these questions. In this sense the NICE was conceived to provide guidance and advisory to improve care with all these treatments that came to the market or already existed.

The way the NICE do this, is by testing medical innovations and issuing detailed reports on how well it works and whether they offer value for money. After this, the government should put these judgments into the public healthcare system and give people the most effective treatment based on the latest evidence. So, we are speaking of an evidence-based organization.

WHERE THE NHS FAIL

The correct management of meds, drugs or any treatment have a vital role to play in delivering high-quality, effective and fair health services. In many cases new treatments don't add any value for the patients and in this case, health services have to put limits on it, but in other cases, this new drugs have the properties to increase the life expectancy of the people or improve the day by day. One of the main challenges that public health services face is dealing with these issues. How to increase quality and that this still is fair and financially sustainable. But in this context, where some restrictions are necessary, only because of the budget limits, where do we find inequalities? Where can NHS improve? In the access to the meds of some chronic diseases like cancer, sclerosis multiple and other rare diseases.

National Health services have many good things, as it is easy to receive a service and everybody in that country and for most of the services is for free or you don't have to pay that much. But what happen when someone has cancer, or another serious disease and want to get the last treatment?

There is where the NHS fail, probably as a patient you are not going to get the last treatment available. NHS sometimes put restrictions that are not in the best interest of the patients, because of the price or other reasons. If these limitations lead to less good health outcomes, then something is not well done.

In many cases patients in that circumstance cannot get this new meds. There are many examples and cases that suggest this evidence. In a recent article by James Paton, the author explains the problems that patients with cystic fibrosis have in order to get their meds. In the UK there are around 10.000 people afflicted with this illness (Paton 2019). There is a promising new drug that can transform the life of this people. This treatment is called Orkambi, from the pharmaceutical company Vertex and is available in the US at the price of 272.000 dollars. As the price is so high, in countries like England with universal coverage for most of the diseases, nobody receives this meds. In this case the NHS assessed by the NICE decided to exclude coverage of the Orkambi. Authorities took that decision after observing little evidence of better result in comparison with the traditional treatment. Family members with cystic fibrosis disagreed on that decision. Surprisingly in the north of United Kingdom, Scotland, NHS decided to finance this kind of treatment, so families are moving to Scotland to give a future to the members that suffer of these illnesses.

Another example is related with the treatment of the virus of hepatitis C. Now a days there is a cure for this disease that avoid a liver transplant or the death of the patient. The problem again come from the price of this treatment. Gilead Science, that is one of the leading companies trying to find a solution for the coronavirus pandemic, is selling a medicine that improve quite a lot the lives of people with hepatitis C. The treatment cost is $84.000 per person, $1000 each pill and the name is Sovaldi. Once again, because of this high price, national health services like the one of England or Spain, decided to put restrictions on which patients could receive this meds. Normally what they did, after many negotiations, is to give the drugs to those who were in more necessity. Something similar happens to these patients that want to have the last treatment for cancer available. In that sense Mark Littlewood Director by the IEA is quite clear, trying to explain that the "*NHS should be paying for paracetamol and sunscreen at a time when they are denying cancer treatments and drugs because they are too expensive*" (Scott and Kirk 2017).

We found some studies where limitations on treatments are more evident in chronic diseases like cancer and others. The Institute of Cancer Research lead by Professor Paul Workman found in a recent study, analysing access to innovative treatments, that one in six cancer patients is being denied for drugs recommended by their doctors.

In another report for the Secretary of State for Health done by Professor Mike Richard confirm that the UK use to many meds for certain diseases and on the other hand does not use to many drugs for chronic diseases like cancer, etc. According to this study (p.3), *"The UK is a relatively low user of new drugs, when compared with other countries"*. The interesting thing is that the UK is a high user in some drugs and low users in others. High user of drugs in areas like acute myocardial infraction and respiratory diseases but relatively low user in categories like cancer drugs launched within the last 5 or inclusive the last 10 years. The same applies for dementia or hepatitis C. This low use in meds related with chronic diseases like cancer, hepatitis C confirm the restrictions done by the NHS in this last kind of treatments. The same report concluded that "*low usage may imply that patients' needs are not being met effectively*". This suggestion

links with the outcomes in the international comparison. On the other hand, high usage of certain meds for cardiovascular diseases reported in the study links with the features of NHS. These systems are free at the point of use, and in case co-payments are low. Many times, the treatment is cheaper, like taking and aspirin each day, diet or doing some exercise. For that type of illnesses solutions are inexpensive and have not big consequences in the outcomes.

WHY NHS RANK SO WELL IN THE INTERNATIONAL COMPARISON (THE COMMONWEALTH FUND STUDY)

NHS systems like the one of the UK and Spain use to rank very well in the international comparison and are set down as the model to follow for many countries. One of the rankings that is more commented by the medias is the Commonwealth fund study – the think tank specialized in public policies-, which is seen has the gold standard of the world evidence. As researcher of the IEA said (Niemietz 2015 p.25), "*there was little discussion of the study's methodology"*, but many things were commented about how good were the results that put NHS at the top of the healthcare systems.

Commonwealth Fund ranks health systems according to categories like quality, access, equity, efficiency and outcomes. Each of these categories are at the same time divided in other subcategories. Easy access to certain services and good results in some outcomes, are behind these good positions in the ranking, but let us understand why. Many of these categories are designed to accommodate single payer systems like the NHS, that are free at the point of deliver, over other systems. This is clearer in the categories like access and equity. One of these categories take into account the percentage of people who spent in co-payments more than 1000 dollars per years. In this kind of models, NHS, it is quite difficult to reach these amounts as there are free at the point of use. Nevertheless, in other countries like Germany, Austria is very common to pay certain amount of money when you receive the service. This condition does not mean that citizens of this countries find many barriers to get treated.

Another category is related with the fact that the insurers denied the full reimbursement of the treatment. In many cases single payers put restrictions on consumption not financing some meds and the Commonwealth study put this treatment as not available. Nevertheless, social health insurances normally give the chance to get this meds but with higher co-payments, not fully reimbursed, classified by the organization as a barrier for entrance.

NHS COMPARISON WITH OTHER MODELS: HEALTH OUTCOMES

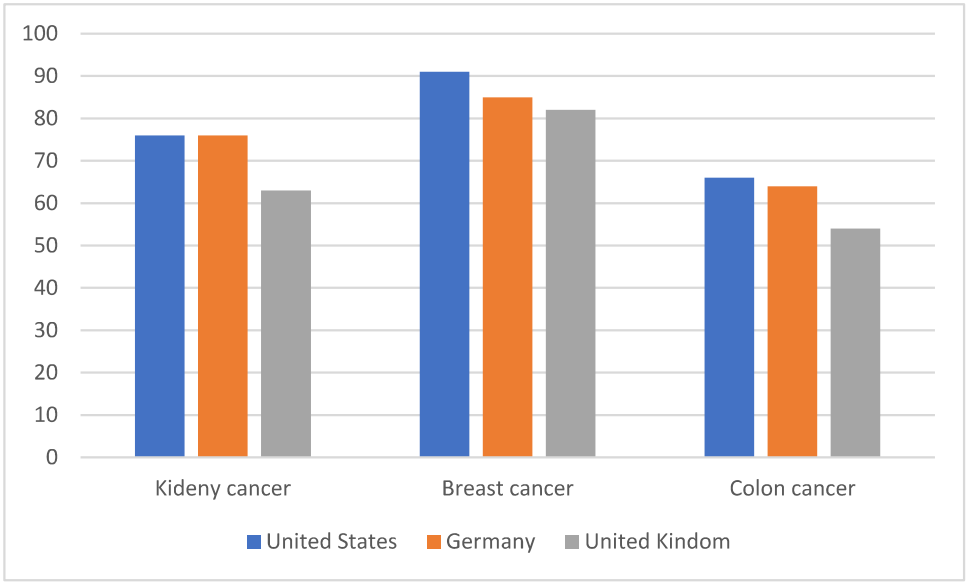
In the last decades we observe some improvements in the results of the National Health Service, but still there are many things to get done. As we said in the introduction, less access to certain treatments can lead to poorer health outcomes and this exactly what is happening he UK. In this last section, we did a comparison of the UK with other countries like Germany and US, as these nations have a more consumer-driven healthcare models. The outcomes that we will compare are cancer survival rates, mortality amenable to healthcare, stroke survival rate and spread in average life expectancy. We decided to choose this end results, because of two reasons: First of all, cancer and cardiovascular disease are the leading causes of death in Europe and other developed countries like the US. Second, because the differences could be related due to the difficulties of getting the last and best treatment available for those patients. We found some of the weakness of NHS in cancer survival rates and mortality amenable to healthcare. In the next pages we will show the results with graphs and empirical evidence from previous studies.

Cancer

Cancer is in high income countries one of the leading causes of death. Cancer survival rates are useful to analyse the effect of having restrictions in certain meds related. This type of outcome shows the percentage of people that survive after a period of time, when they have been diagnosed with cancer.

Although cancer occurs because of genetics, life still, environment and socio-economic situation, this proxy for health system performance is useful for our research.

FIGURE 2
RELATIVE FIVE YEARS CANCER SURVIVAL RATE 2010-2015



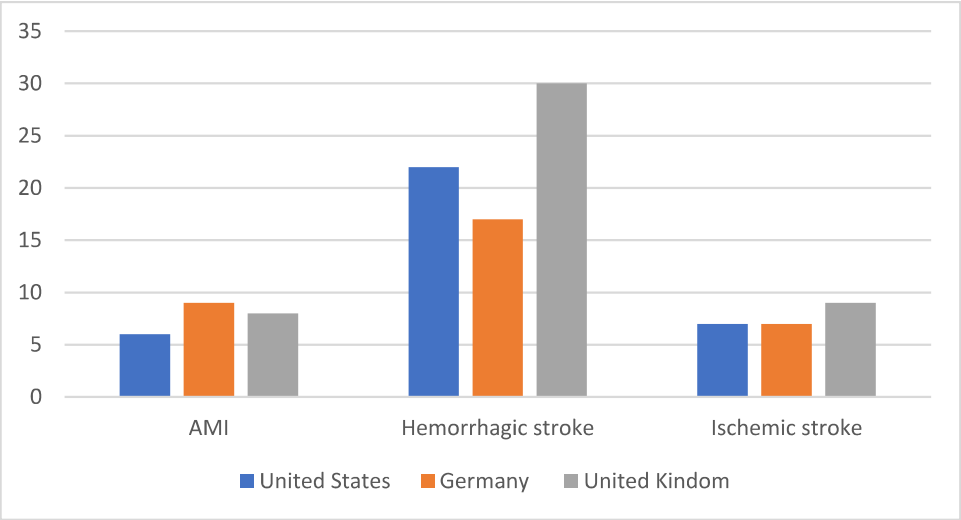
Source: OECD StatExtracts (2020)

Cancer survival rates in the United Kingdom are several points below those reached in United Sates or Germany. This data is in accordance with other studies that suggest same results (Eurocare, 2007; Spiers 2008).

Stroke Mortality Rates (Cardiovascular Diseases)

Cardiovascular diseases are as well one of the leading causes for death in developed countries. Like with cancer, other health determinants (socio-economic, lifestyle habits, etc.) will have an influence in the end result. Despite the British patients are closer to other countries in this type of outcomes, there are still behind. Similar results got (Gubb,2007) in a study related with deaths form circulatory diseases and (Gray, et. al. 2006) in a research done with stroke outcomes.

FIGURE 3
AGE/SEX STANDARISED 30 DAYS IN HOSPITAL STROKE MORTALITY RATE 2012 OR LAST YEAR AVALIABLE

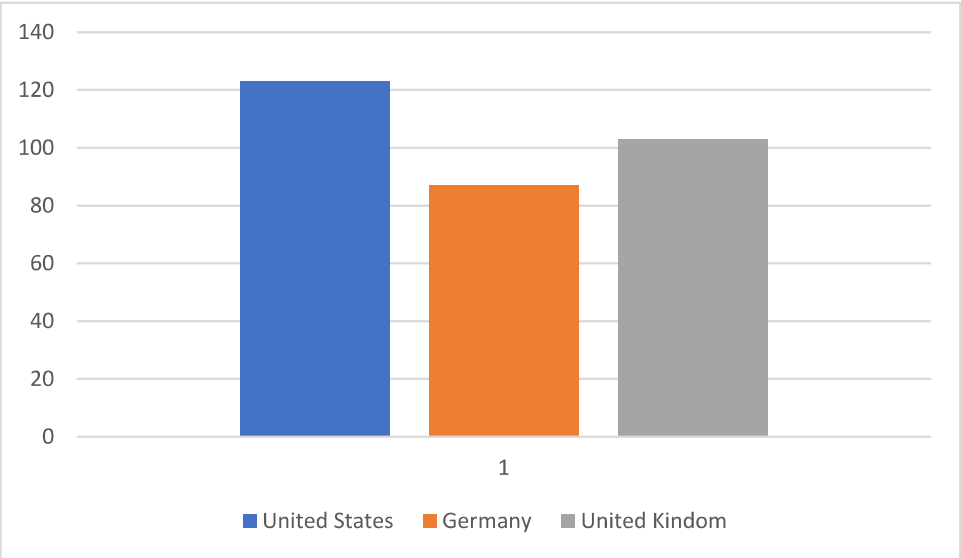


Source: OECD StatExtracts (2020)

Mortality Amenable to Healthcare

There are other kind of measures that can help to isolate the performance of the healthcare systems. Mortality amenable to healthcare (MAHC) supposed to identify deaths, that can be attributable to the healthcare system rather than to other things. One definition to that explain MAHC quite well is the one that give (Kristian Niemietz 2014, p. 17.) *"compares the mortality rates we actually observe with the hypothetical rates we would observe in an idealised health system, in which all diseases that could in principle be successfully treated are being successfully treated"*. This data can give us more idea if really NHS restrictions to certain meds have consequences in overall performance of the health care system.

FIGURE 4
MORTALITY AMENABLE TO HEALTHCARE (DEATHS PER 100.000)



Source: Gay et al (2011)

The table show us the deaths that could be avoided per 100.000 people. We can find two measures related to the MAHC, one done by the researchers Nolte & Mckee and the one of Tobias & Yeh (Gay et all.2011).
As we can see, there are avoidable deaths in every healthcare system, but in case we would have the one of Germany in the UK, around 8 deaths per 100.000 inhabitants could be avoided. To similar conclusions came the study done by the Taxpayers Alliance in 2008.

Inequalities of Outcomes

Health inequalities in health status can be approximate by the dispersion in the age of death among individuals (OECD). In an international study done by Joumard et al 2010 using the standard deviation as a measure of inequalities of outcomes, they could find that the UK is around the average of the OECD countries, been the dispersion in the age of death the highest in the US and the lowest in Sweden, Netherlands and Iceland. They observe that inequalities in health status differ significantly across countries and "*rather than the health care system, socio-economic factors are important shaping inequalities in health status" (Joumard et al.2010, p. 12)*

CONCLUSION AND OUTLOOK

Universal healthcare coverage in European countries is a reality since the last quarter of the XX Century (in the UK since 1948). Despite this, dipartites between countries are related with the extent of this coverage, defined by the range of services included.

The type of health inequalities that arise in Europe come from countries with National Health Services (NHS) like the one of England. In these models, there is a lack of access to treatments of life-threatening diseases, who can lead to less good health outcomes. There is evidence that for certain kind of meds National Health Services do restrictions. Studies with international comparison suggest that in England there is a low use in meds related with chronic diseases like cancer, multiple sclerosis etc. (Richards 2010). These restrictions happened in diseases where the drugs are quite expensive. The comparison in health outcomes indicate that other countries with less restrictions outperform in England in these indicators. Nonetheless these differences in the outcomes are not only because of the luck of access to these drugs as other health determinants, like lifestyle, genetics etc. will influence the results (Joumard et al 2010).

To deal with this increasing problem of access to meds, we propose to give the citizens more patients choice to increase control over their lives. In case a treatment is not available in a country or region, because restrictions or other reasons, NHS should let patients chose another region or country, where this therapy is obtainable, paying the cost of the standard procedure. In this case the citizen or an insurance would pay the difference. In this sense some steps have been done with the European health insurance card (EHIC), where European citizens can be treated in another country in case you are traveling, and you need emergency services. For that reason, more Cross-border health care cooperation is needed between countries of Europe.

To rich this goal patients should be more represented on the governmental structures, as is happening in more consumer driven health systems because as (Meadowcroft 2008: page 434) explained, patients are "highly dispersed and heterogeneous", making this new kind of benefits difficult to obtain.

ENDNOTES

1. The National Health Service is a publicly funded healthcare system that we find in UK, Spain and other countries in Europe.
2. What must be given up when an economic decision is made.
3. For a better comprehension see The Preston Curve 1976 and Microeconomics of Pindyck and Rubinfeld 2013.
4. A life shortening genetic disease that causes severe lung damage.

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