

# The efficiency and economic sustainability of Austria's Public Health Care System - A comparison with the European Union



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## 1. Introduction to Public Health

The present research paper aims to analyze the efficiency of the public health care system in Austria, based on various indicators as well as comparative analyses with other European countries. Before entering into the detailed analysis, the following three questions are addressed. Firstly, why is health important in the first place? Secondly, what is a good definition of health? Lastly, what is health comprised of?

According to the World Health Organization (WHO) health can generally be defined as “a state of complete physical, mental, and social wellbeing and not merely the absence of disease or infirmity”. Often, when we think about health we tend to associate the term health with sickness as well as with the treatment of illnesses. However, the WHO’s definition makes it clear that health encompasses much more than the absence of illness. Wellbeing has many dimensions including, but not limited to, social, mental, physical, and occupational wellness. Each of these aspects has a profound influence on human wellbeing. A person may enjoy physical wellness while at the same time suffer from social or mental illness. Can this person then be considered to be in good health? If we take the broad definition of health into account, the answer is certainly “no”. In addition, the determination of wellness in each of these factors largely depends also on a plethora of other exogenous as well as endogenous variables. The environment in which the individual is brought up as well as their financial wellbeing could be two examples of indicators influencing one’s health. In many developing countries, for example, one may face shortages of adequate nutrition, hygiene, and sanitary measures to avoid the spread of diseases. Hence, such an environment may give rise to physical illness. On the other hand, one may face an environment providing one with the ability to obtain physical wellbeing while having restricted financial or social wellbeing, which could lead to social or mental distress. Undoubtedly, there are also many other variables influencing each aspect of wellbeing, the origins of which are complex and interlinked.

The complexity of these issues raises the question whether health care shall be regarded as a public or a private good. In European countries, government intervention in the sector of health care is frequent and comprehensive. The reason being that European governments predominantly consider health to be a public good. That is, the benefits of one person being healthy are greater than the individual benefits accruing to that individual. For example, healthier people are more productive, less prone to disruptive behaviors, better educators and better providers. In European countries, access to health care should not depend on citizen’s income level, hence, the government must intervene to provide health care to all inhabitants of the country based on egalitarian principles.

The opponents of this theory view good health as a result of individual action rather than a public right. From this perspective individuals have the sole responsibility of taking care of their own health by adapting their lifestyle choices accordingly.

These two perspectives gave rise to the establishment of the two major health care systems we have today: the British system based on the provision of public health care, established as the “National Health Service” in 1948 and the insurance system in the United States. However, as outlined above, in order to be blessed with good health it takes many more factors than just access to health care facilities. Taking the above mentioned variables into account health can be regarded as a function of access to health care facilities, nutrition,

exercise, social conditions, labor conditions, financial conditions, environmental factors, level of education as well as the immediate family. When evaluating the state of health in a given country the provision and quality of health care facilities is usually the first factor to be assessed. With the threats of climate change becoming ever more visible, awareness of the influence of environmental factors, such as pollution, on a population's health have risen. Likewise, through educational and awareness raising campaigns, the importance of nutrition and exercise to maintain good physical and mental health has become more widely known and taken into account by citizens. However, many other factors such as the influence of social and financial conditions on mental as well as physical health or the influence of the level of health education on the immediate family, as parents are often the immediate caretakers of their children who are suffering from illness, remain to be better understood as principal factors influencing health.

It is evident that better health is important for a variety of reasons. Health can influence people's overall happiness and therefore may also increase social and mental wellbeing. According to the WHO, healthier people also contribute to a more prosperous society as they live longer and are better able to foster economic growth. (WHO, 2020) In particular, the WHO identified education, productivity, resources, investment, and demographics as possible channels for health to contribute to economic prosperity. Education can be enhanced as children disposing of a better health are more able to attend classes as well as concentrate and participate actively in the classroom. Productivity is affected for similar reasons, the less often people are sick, the less they will have to stay at home from work and will be able to focus on their current tasks. Natural resources are more easily found when there are ways to address endemic diseases. Investments as well as personal savings are more likely to be made if one expects to live a long healthy life. Additionally, healthier population can shift demographics through women giving birth to fewer children, temporarily increasing the share of working-age population in a given economy. (Yamey G, 2016)

The above-mentioned points make clear that when thinking about healthcare, one needs to apply a broader view that encompasses not only access to physical facilities but also access to mental or social programs, education, and many other variables.

The purpose of this paper is to primarily evaluate the economic efficiency of Austria's Public Health Care System. Much of the current research and data available focuses primarily on access to health care facilities, however, the paper also sheds some light on the importance of mental wellbeing, lifestyle choices, and environmental factors. These factors are, however, not the only factors which may influence one's health and it is therefore important to keep the aforementioned broader definition of health in mind when thinking about these issues.

### **1.1. Introduction to Public Health Care Spending**

Health care expenditures are among the three biggest pillars of any public assistance program and therefore constitute one of the largest costs of governments providing public health care. In recent years countries worldwide have witnessed an upwards sloping trend in total health care spending as well as in the share of their GDP spent on health care. Several factors – such as demographic shifts – suggest that expenditures on health care will further rise, putting pressure on already expanding public deficits and questioning the economic long run sustainability of public health care systems.

This paper aims to outline the various aspects which bring about the current as well as projected surge in health care expenditure of European Union countries, with a particular focus on Austria. Furthermore, European Union countries' health care systems will be qualitatively compared to the performance of Austria's health care system in order to measure Austria's health care systems' success so far in providing adequate medical services to their citizens. Moreover, in order to analyze whether the public health care system in Austria can still be economically sustained, the structures, financing and functioning of Austria's health system will be articulated. Both factors, recent projections for increases in health care spending, and the current financing structures of Austria's public health system will then be considered together and evaluated.

## 2. Increases in Health Care Spending

In recent years countries have witnessed both, increasing health care spending by governments and increasing health care costs. The main factors contributing to the increase in health care spending can be summarized in the following three points: the nature of the demand of medical services, the demographic transition, and technological progress.

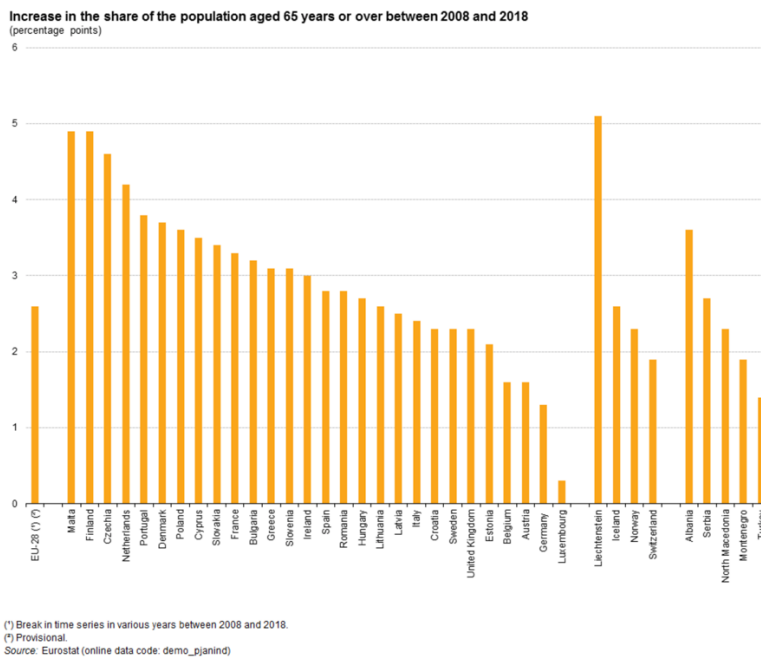
Firstly, the nature of the demand for health care is such that one can categorize it as a superior good, meaning that its income elasticity is greater than one. If the income of citizens of a given country increases by one percent, the demand for health care of these citizens will increase by more than one percent. As average income levels have been increasing worldwide, demand for medical services has been increasing more than proportionally. De facto, the average per capita income, adjusted for inflation, in European Union countries has increased from 18,241 U\$ in 2000 to 32,367 U\$ in 2016. (World Bank Group, 2019) At the same time health care spending rose from 1,450 U\$ per capita to 3,211 U\$ during the same time period. It can therefore be observed that the income per capita rose by 77 percent, while simultaneously, spending on health care demand, measured in money spent on health care, has increased by 121 percent. It can clearly be seen that the increase in health care spending is higher than proportional and we can conclude that healthcare spending therefore exhibits an income elasticity greater than one. The same phenomenon holds true for the rest of the world where income per capita as well as health care spending have also been consistently inclining over the past decades. (World Bank Group, 2019) In general, it can be concluded that in high income countries, such as many European Union countries, health care spending is growing at approximately 4 percent, at a faster rate than the GDP. For example, in Austria the portion of GDP spent on health services rose from 9.2 percent in 2000 to 10.4 percent in 2016. With these values Austria lies slightly above the European Union average, whose share of GDP on health expenditures increased from 7.9 to 9.9 percent over the same period. (World Bank Group, 2019)

In addition, the share of government spending on health care has been rising. On average, within the European Union countries the share of governmentally financed health care expenditure rose from 76.9 percent out of all health expenditures in 2000 to 79.7 percent in 2016. In Austria the share of governmentally financed health care actually declined from 74.1 percent to 72.5 percent of total health expenditures over the same time period. (World Bank Group, 2019) Consequently, out-of-pocket payments, measuring the amount spent on health care which is privately financed by citizens, has increased from 17,8 percent to 18,92 percent in Austria and from 14.2 to 15.2 percent in the European Union. A few European Union countries, such as Cyprus, Estonia, Greece, Lithuania, and Luxembourg, have started to externally finance a small share of their health expenditure ranging from

0.01 percent to 1.17 percent of their overall health spending. Over the period of 2000 to 2016, Austria’s public debt increased from a share of 65.9 percent of the GDP to 84.6 percent, representing 295.7 € billion. In comparison, the mean public debt in European Union countries was at a rate of approximately 83.4 percent of the average GDP. However, at the end of 2018 public debt saw a slight decrease to 284.8 € billion, corresponding to 73.8 percent of the GDP. (Eurostat, 2019)

Secondly, recent demographic projections by the European Commission expect that although Europe’s population is supposed to increase from 511 million in 2016 to 520 million in 2070, the population at working age is supposed to experience a considerable drop of 41 million from 2016 to 2070. The population of working age generally comprises of the group of people aged between 14 and 64. The share of the population aged 65 years or above is expected to increase by between one to ten percent per country. Figure 1 depicts these demographic trends over the period of 2008 to 2018. In Austria, the share of the population aged 65 years as a percentage of the total population is increasing by almost 10 percent over the same time period. A recent projection shows that, whereas today 18.6 percent of the population living in Austria is above the age of 65, by 2070 this share is expected to increase to 28.5 percent, see Figure 2. (Eurostat, 2019; Statistik Austria, 2019)

**Figure 1**



Source: Eurostat

Figure 2

## Vorausberechnete Bevölkerungsstruktur für Österreich 2017-2100 laut Hauptszenario

Jahr	Bevölkerungsstruktur						
	Insgesamt	Unter 20 Jahre	20 bis unter 65 Jahre	65 und mehr Jahre	Unter 20 Jahre	20 bis unter 65 Jahre	65 und mehr Jahre
	absolut				in %		
2017	8.795.073	1.717.052	5.442.187	1.635.834	19,5	61,9	18,6
2018	8.844.115	1.722.924	5.463.008	1.658.183	19,5	61,8	18,7
2019	8.887.438	1.731.493	5.474.211	1.681.734	19,5	61,6	18,9
2020	8.930.129	1.741.447	5.479.932	1.708.750	19,5	61,4	19,1
2021	8.972.121	1.752.529	5.478.384	1.741.208	19,5	61,1	19,4
2022	9.013.276	1.763.553	5.472.342	1.777.381	19,6	60,7	19,7
2023	9.053.549	1.773.850	5.465.039	1.814.660	19,6	60,4	20,0
2024	9.092.723	1.783.873	5.454.318	1.854.532	19,6	60,0	20,4
2025	9.130.727	1.793.023	5.439.823	1.897.881	19,6	59,6	20,8
2026	9.167.371	1.802.034	5.420.861	1.944.476	19,7	59,1	21,2
2027	9.202.671	1.811.122	5.397.635	1.993.914	19,7	58,7	21,7
2028	9.236.358	1.819.540	5.371.809	2.045.009	19,7	58,2	22,1
2029	9.268.570	1.827.215	5.344.784	2.096.571	19,7	57,7	22,6
2030	9.299.173	1.833.684	5.318.643	2.146.846	19,7	57,2	23,1
2040	9.530.884	1.836.083	5.204.400	2.490.401	19,3	54,6	26,1
2050	9.673.631	1.822.025	5.210.680	2.640.926	18,8	53,9	27,3
2060	9.744.992	1.854.933	5.151.729	2.738.330	19,0	52,9	28,1
2070	9.844.235	1.875.047	5.165.783	2.803.405	19,0	52,5	28,5
2080	9.967.932	1.877.703	5.207.084	2.883.145	18,8	52,2	28,9
2090	10.038.629	1.889.272	5.214.161	2.935.196	18,8	51,9	29,2
2100	10.089.224	1.900.755	5.227.374	2.961.095	18,8	51,8	29,3

Q: STATISTIK AUSTRIA - Bevölkerungsprognose 2018. Erstellt am 22.11.2018.

Source: Statistik Austria

The presence of a predominantly aging population, is considerably contributing to rising health care expenses as elderly people need more frequent as well as more excessive treatment.

Thirdly, whereas technological progress usually brings about diminishing costs through increased productivity, in the medical sector the opposite is true. Technological innovation is usually very costly due to the fact that – contrary to other sectors – one cannot apply the concept of economies of scale. Although there may be new technological equipment, every patient still needs to be treated by one or more doctors separately. There is no efficient way one could either increase the number of patients receiving treatment at the same time or reduce the number of health practitioners per patient. Moreover, a newly introduced pharmaceutical or medical equipment usually is considerably expensive. Hence, although technological progress is important to curing many diseases, it is also somewhat contributing to increasing health care expenditure.

### 3. European Union Health Care Systems' Success So Far

#### 3.1. Progress in population's health

So far, we have seen that health care expenses have been increasing globally. This raises the question whether these hikes in spending have resulted in a better health status in the respective populations. Augmented physical conditions should be the primary factor justifying increased spending on health care. In order to answer this question, the effectiveness of European Union countries' health care systems will be analyzed according to the following parameters: Life expectancy at birth, infant mortality rate, maternal mortality ratio, suicide rate, male semen count, cancer incidence and mortality rate. These health indicators are commonly recommended and set by the World Health Organization (WHO).

Life expectancy at birth measures the number of years a newborn person can be expected to live in a given country. On average, this value has increased from 77.1 years in

2000 to 80.97 years in 2016 in European Union countries. In comparison, life expectancy at birth in Austria rose from 78.1 years to 81.6 years over the same time period and is, therefore, slightly above EU average. (World Bank Group, 2019)

The infant mortality rate assesses the number of babies who die under the age of one year, per 1000 newborns. In European Union countries this rate decreased from 5.89 in 2000 to 3.51 in 2016 and from 4.6 to 3 in Austria. The worldwide average is considerably higher with a decrease from 53.6 to 30.3 over the same time period. (World Bank Group, 2019)

The maternal mortality ratio measures the number of females who die due to complications related to giving birth per 100.000 live births. The EU country average decreased from 11 to 8 from 2000 to 2015, while the Austrian ratio declined from 5 to 4. (World Bank Group, 2019)

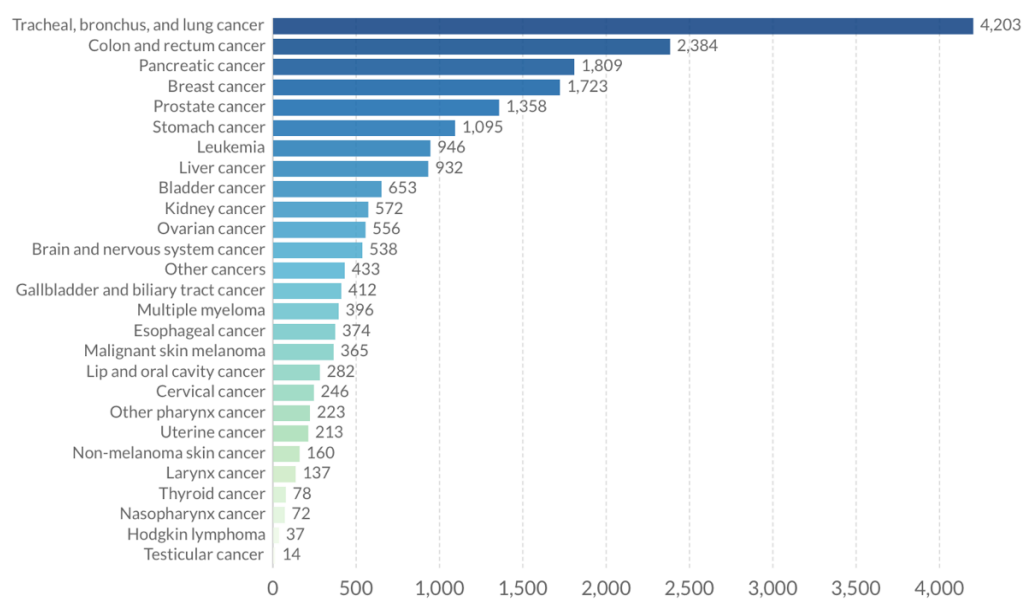
The suicide rate measures the number of suicide deaths per 100.000 people. The global suicide rate is falling in all countries with a few exceptions such as the United States and Brazil. The former has experienced the highest increase in the suicide rate of 18 percent over the last century. (The Economist, 2019) In EU countries however, suicide rates declined from 14.5 in 2000 to 12.74 in 2016. Austria has a slightly higher rate which decreased from 20 to 15.6 over the same period. Within the European Union, Lithuania has by far the highest rate of suicides at 31.9 per 100.000 inhabitants. Lithuania is followed by Latvia to the extent of 21.2 and Belgium amounting to 20.7 suicides per 100.000 citizens in 2019. (World Population in Review, 2019)

The count of male semen has been introduced to this analysis instead of using the fertility rate which is more commonly used. The fertility rate measures the number of children a female gives birth to per 1.000 women. This measure does not take into account whether a female body is capable of reproducing in the first place. A lower fertility rate could, thus, merely indicate that women voluntarily chose to have fewer babies. As the aim of the paper is to investigate improvements in health, including reproductive health, the fecundity rate would be a better measure as it assesses the average number of offspring a human could technically produce. In order for a woman to be capable of giving birth, good health is necessary. However, little research has been done so far on fecundity rates and therefore the male semen count will be used instead. It proves to be a useful alternative as it sheds light on males' fertility. The most comprehensive study up to date, undergone by the Hebrew University of Jerusalem, showed that sperm counts of men from Australia, New Zealand, North America, and Europe have more than halved from 1973 to 2011. In particular, the study found that sperm concentration decreased by 52.4 percent while the total sperm count decreased by 59.3 percent. (Salam, 2017) No data is publicly available on Austrian sperm counts but, based on this study, it can be assumed that also Austrian citizens are affected by decreasing sperm count, possibly resulting in fertility issues. The reasons for the decline in sperm count are expected to be due to changing environmental conditions as well as exposure to certain chemicals and pollutants, particularly plastics like Bisphenol A. The consequences of this phenomenon can already be seen. Already today, an estimated 8 to 10 percent of all babies born in Denmark are born with the help of reproductive assistance technologies. Many patients experiencing difficulties when conceiving come from EU countries such as Sweden, Norway, Switzerland, France, and the United Kingdom to receive treatments at Danish fertility institutions as Danish laws are more liberal than in the rest of Europe. (Bajekal, 2019)

Although, since 2000, cancer incidences, representing the amount of new cancer cases in a population, have been declining in most Central European countries such as Austria, France, and Italy, there has been an increasing trend in Eastern European countries

such as Estonia, Lithuania, and Slovakia. (International Agency for Research on Cancer, 2019) Cancer mortality, indicating the number of deaths caused by cancer, has been decreasing since 2000 in most European countries including France, Germany, Denmark, Belgium, Italy, Estonia, Lithuania, Slovakia, and Hungary. Across all Western, Eastern and Central European countries, tracheal, bronchus, and lung cancer was the primary sort of cancer leading to death. This type of cancer alone amounted to approximately a fifth of all cancer related deaths in EU countries in 2015. Men were almost twice as much affected as women. (European Commission, 2019) In particular, Austria's cancer mortality per 100.000 men decreased from 391.4 in 2000 to 317.8 in 2014. Similarly, the mortality for women declined from 230.4 to 200.7 respectively. Cancer incidence in men decreased from 719 to 555.5 and from 452.1 to 403.3 in women over the same time frame. All values are age-standardized. (European Observatory on Health Systems, 2018)

**Figure 3**



Source: International Agency for Research on Cancer

Whereas, Poland, Denmark, Netherlands, and Croatia have the highest number of deaths from tracheal, bronchus, and lung cancer within Europe, Cyprus, and Portugal have the lowest. The second type of cancer leading to most of the deaths in EU countries is colorectal cancer. The share of men and women dying of colorectal cancer has remained relatively stable. Contrary to Cyprus which has the lowest number of people dying of this type of cancer, Slovenia, followed by Croatia, Hungary, and Slovakia have the highest. Breast cancer, being another major type of cancer leading to death, recorded the highest amount of deaths in Croatia, Slovakia, and Hungary. On the contrary, the lowest rate was noted in Spain, followed by the Czech Republic, Sweden, Portugal, and Finland.

Overall, one could summarize the afore-mentioned remarks by stating that clear improvements can be seen in the health statuses of European Union countries and, in particular, in Austria.



## 4. Comparison of European Union Health Care Systems' Performance vs. Austrian Health Care System's Performance

In the World Health Report 2000 the World Health Organization ranked countries' healthcare systems as follows, placing European Union countries on top. France was ranked first, followed by Italy, San Marino, Andorra, and Malta. (World Health Organization, 2000) Austria scored the 9<sup>th</sup> place. A more recent evaluation, published by the European Health Consumer Index 2018, ranked the quality of European health care systems based on 48 indicators, including accessibility and waiting time of health services. The report rated European health care systems in the following order: Switzerland, Netherlands, Norway, Denmark, Belgium, Finland, Luxemburg, Sweden, Austria, etc. Interestingly, Austria had the same rank, namely the 9<sup>th</sup> place, in this study. (Health Consumer Powerhouse, Ltd., 2018)

### 4.1. Performance of the Austrian Health Care System

In order to evaluate the performance of Austria's health system, firstly, the current health status of the country's citizens will be looked at.

The life expectancy at birth of Austrian citizens was 84.1 years for women and 79.3 for men in 2017. With those values Austria is slightly above the EU average which was at 83.7 for women and 78.3 for men. (World Bank Group, 2019) This figure would lead to the assumption that Austria's health care system is working better compared to other European Union countries. However, the number of deaths caused by cardiovascular diseases, such as stroke and myocardial infarction, as well as malignant neoplasms and lung cancer are significantly higher than the EU average. These conditions present the main causes of death in Austria. A potential explanation for the high prevalence of these diseases may be posed by the high proportion of the population consuming tobacco and/or alcoholic beverages. Approximately one fourth of Austrians reported to be smoking on a daily basis in 2014. This frequency is above the EU average and has, unfortunately, not declined within the last decade. Smoking rates have increased from 13.6 percent of the female population to 22.2 percent in 2014. The rates for males have, however, declined from 35.3 percent to 26.7 over the same time period. (European Observatory on Health Systems, 2018; OECD, 2017)

Binge drinking, which refers to consuming more than six alcohol beverages in a short period of time, has declined in Austria to being marginally below the EU average. Despite these improvements, the consumption of alcoholic beverages persists at a relatively high level. Other major illnesses in Austria are diabetes and dementia, which are both also among the ten most sicknesses causing most of the deaths. With 14 percent, the share of the obese population continues to be lower than the EU average but has significantly risen by five percent since 1999. It remains to be said that mental diseases – such as depression – have significantly increased. In general, most – if not all types – of diseases have been decreasing, with the only exception of mental disorders, see Figure 4.

**Figure 4: Main causes of death, per 100.000 (standardized rates)**

	1980	1990	2000	2010	2014
<b>ALL CAUSES OF DEATH</b>	<b>1 415.7</b>	<b>1 153.2</b>	<b>953.9</b>	<b>787.3</b>	<b>735.8</b>
<b>INFECTIOUS DISEASES</b>					
Certain infectious and parasitic diseases	8.8	5.3	3.8	6.8	6.8
of which: tuberculosis	5.7	1.9	0.9	0.4	0.7
of which: HIV/AIDS	-	0.9	0.6	0.5	0.5
<b>NON-INFECTIOUS DISEASES</b>					
Circulatory diseases	778.3	603.5	500.5	331.3	302.3
of which: ischaemic heart disease	210.0	225.0	201.4	149.7	131.1
of which: cerebrovascular disease	146.1	123.3	95.0	53.8	42.8
Malignant neoplasms	273.7	261.1	229.7	204.0	197.2
of which: colon, rectum and anus	38.4	37.4	31.2	21.9	20.6
of which: trachea, bronchus, lung	43.6	42.4	39.7	38.3	38.1
of which: female breast	34.9	39.3	34.6	26.9	26.1
of which: uterine neck (cervix uteri)	7.3	4.6	3.0	3.1	2.8
of which: prostate	41.2	47.5	47.9	32.2	27.7
Diabetes	16.3	27.6	17.1	30.3	28.9
Mental and behavioural disorders	3.4	3.6	4.9	9.3	14.5
Diseases of the mental system	11.5	15.2	20.8	17.2	11.7
Diseases of the respiratory system	75.7	59.4	50.8	42.4	34.6
Diseases of the digestive system	76.6	56.1	42.8	32.3	26.6
<b>EXTERNAL CAUSES</b>					
of which: transport accidents	26.6	9.4	30.5	19.4	5.3
of which: intentional self-harm	26.9	12.9	38.1	23.9	9.7

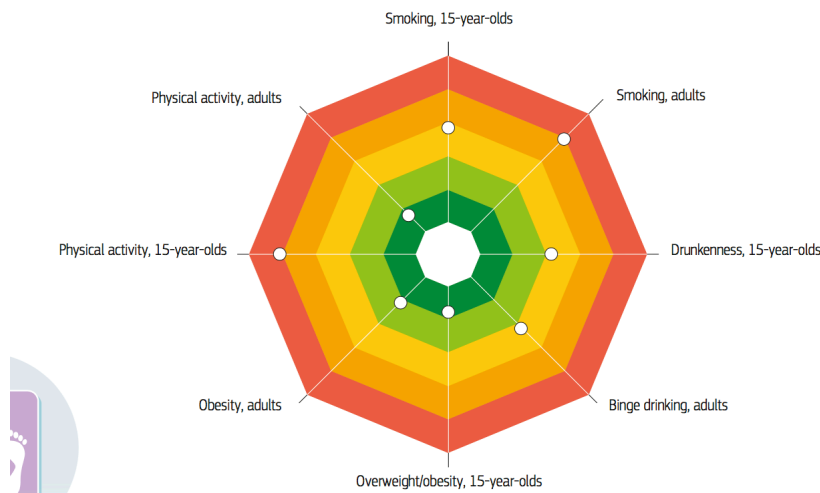
Source: OECD, 2017f

Source: OECD

On top of that, it can be expected that fertility, in particular male fertility – measured through a reproductive semen count – has been declining.

It is estimated that an approximate amount of 28 percent of diseases in Austria in 2015 can be attributed to lifestyle choices, such as smoking, consumption of alcohol, other dietary choices, and little to no physical activity. Although Austrian adults engage in substantially more physical activity than the EU average, the engagement of Austrian teenagers is considerably lower than the EU average. Eating habits are slightly better but comparable to those in other European Union countries, however, among all EU countries women keep a notably healthier diet than men. The per capita meat consumption remains relatively high in Austria compared to the EU average. In 2013, the average person in a EU country consumed 81.26 kilograms of meat a year. In Austria the number was significantly higher with 90.87 kilograms a year. (Food and Agriculture Organization, 2019) Many of these behavioral risk factors are more common amongst economically disadvantaged or less educated social groups. Smoking rates are approximately 83 percent higher in the lowest educated group compared to the highest educated group. Obesity rates are twice as high in the lowest educated group compared to the highest educated group. Figure 5 shows these behavioral health risk indicators compared to other EU countries. The indicator being in the green area means Austria performs comparably well in regards to other EU countries. The indicator being in the red area means exactly the opposite. (OECD, 2017)

Figure 5



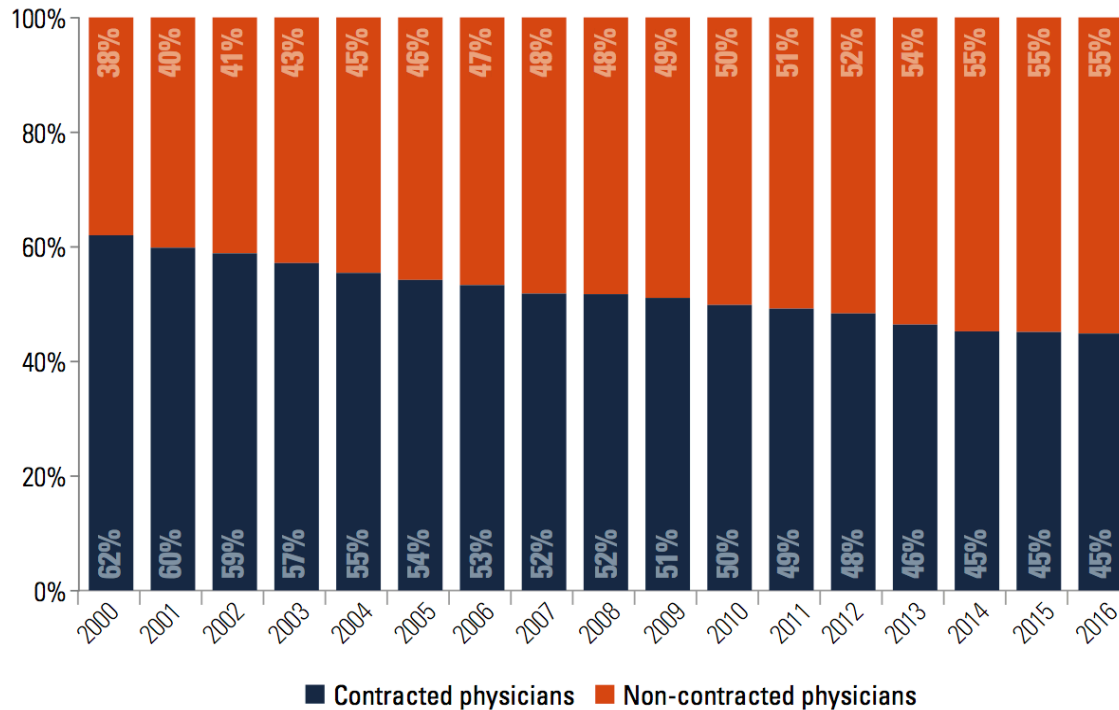
Source: OECD Health Systems Report

It could be argued that the high smoking rates prevail due to the nonexistent comprehensive smoking policies in Austria, especially when compared to other EU countries. On account of a new EU Directive on Tobacco in 2016, cigarette packages now have to include more warnings and safety information. However, this action was initiated by the European Union, rather than by Austria itself. Although Austria's government decided to implement a smoking ban in restaurants and bars in 2015, the following administration decided not to implement this ban. Approximately 800,000 Austrians mobilized to sign a petition to uphold the previously made claim of implementing a comprehensive smoking ban in restaurants and bars. Yet, the Minister for Health at that time was against implementing the respective law, arguing that restaurant guests should not be disciplined for their weaknesses. With a change in government in 2019, the smoking ban was finally enforced on the 1<sup>st</sup> of November 2019 and it is since then illegal to smoke inside of restaurants, bars and clubs. Given that Austria was among the last EU countries not having implemented such a ban yet, and given the fact that many diseases in Austria can be linked to smoking, it can be expected that the smoking ban can result in long-term health benefits for its population.

Being aware of these health risks which are solely caused by lifestyle choices, the Austrian government tried to take several measures to address these issues. Despite these shortcomings, Austria has made a better progress in raising awareness of other behavioral risk factors, such as nutrition and exercise. In regards to nutrition, Austria has started implementing a National Action Plan on Nutrition in 2011. It has since then been updated in 2012 and 2013 with the latter being the latest version up to date. The action plan aims to raise awareness of health risks related to nutrition and provides guidance and information on the composition of an adequate nutritional intake. In particular, it aims to reduce diseases related to poor nutrition, reduce the number of premature deaths as well as premature retirements, decrease the amount of chronic illnesses for the elderly as well as reduce the overall healthcare costs through such measures. (Bundesministerium für Gesundheit, 2013) In regards to exercise, Austria has published a National Action Plan on Physical Activity which raises awareness of the benefits and importance of physical activity on health. The action plan focuses particularly on increasing physical activity in day to day life as well as raising awareness amongst children and adolescents. (Bundesministerium für Gesundheit, 2013)

Although Austria has the second highest density of medical practitioners amongst EU countries and even exports doctors abroad, the amount of doctors concluding agreements with SHI funds has remained the same. This trend of practitioners not contracting with SHI funds is also depicted in Figure 6. (Gesundheit Österreich GmbH, 2019)

**Figure 6**



Source: Gesundheit Österreich GmbH

Although an initiative in 1998 has established a nationwide vaccination program which provides vaccinations against mumps, measles, and rubella to all adults for free, the general rate of vaccination for all immunizations remains relatively low in Austria compared to other EU countries. Typically recommended immunizations such as hepatitis B, HPV, pertussis, diphtheria, influenza type B have since then been for free for children up to 15 years but not for adults. For example, in 2014 only around 20 percent of Austria's citizens aged 65 or older were vaccinated against influenza type B. In comparison, the rate of immunization of this type of illness amounted to over 70 percent in the UK and the Netherlands, where this particular vaccination is provided free of charge also to adults. In 2017, 99.9 percent of Austria's population was covered by social health insurance (SHI). Out of those, 76 percent paid taxes and income-based contributions. The remaining 24 percent were dependents such as minors or spouses. Citizens receiving unemployment benefits or any other kind of social benefits are also covered by SHI. Only a small percentage of the population, notably 0.01 percent, which is unemployed, does not receive any kind of governmental aid, does not qualify as a dependent of an insured person, and does not own a residence permit, is not covered by the public insurance system. They do, however, have the possibility to purchase a monthly insurance cover at a current cost of 438.5 € per month. This special type of insurance is primarily used by students or part-time workers if they, for any reason, lose their coverage under the SHI funds for a short period of time. (Sozialministerium Österreich, 2019)

## 4.2. Functioning and Organization of Austria's Health Care System

The main payers for health related services are the state governments as well as the social health insurance funds. The duties of the Austrian health system are segregated between the federal level, the nine federal provinces ("Bundesländer") and the social insurance providers. The federal government is responsible for designing and enforcing all health related laws and it is thereafter the responsibility of the states to implement and comply with these legislations. Exempted from this rule are all concerns related to hospitals, which are governed by the respective federal province they operate in. In particular, at the federal level the Federal Ministry of Social Affairs, Health, and Consumer Protection, hereafter referred to as BMASGK, is responsible for drafting the laws, supervising social health insurance funds, the Main Association of Austrian Social Security Institutions, and financing. Several independent institutions and advisory boards regularly cooperate with the BMASGK to provide recommendations on specific matters. (European Observatory on Health Systems, 2018)

Until April 2019, Austria had 21 social insurance funds out of which 18 were related to health insurance. All 21 social-security bodies were bound together by one main association called the Main Association of Austrian Social Security Institutions (HBV). This main association was also responsible for other social assistance payments, such as pension plans. Austria's social insurance system works on a self-governing basis. Health care provisions, except for the provision of hospital care, are established through agreements between self-governing bodies of social health insurance funds, such as delegates of employees and employers, and self-governing bodies of providers of health care, such as the medical chamber or delegates of dentists or pharmacists.

Individuals could not choose their preferred type of SHI as they were assigned to a certain type of insurance in conformity with their type of employment. Until recently, there were nine regional SHI funds, one for each of the nine federal provinces, and several special funds depending on the type of profession. However, since April 2019, the nine regional funds have started a process to be consolidated to one big federal fund called ÖGK (Österreichische Gebietskrankenkasse). Starting from January 1<sup>st</sup> 2020, the big federal fund should be fully established in lieu of the regional funds. Previously, there used to be five health insurance funds for companies and a special insurance for entrepreneurs and freelancers. The SHI fund for entrepreneurs as well as the one for public service employees will remain. The 18 SHI were consolidated into three main ones. The remaining three social insurance funds were combined into two, one fund for pension payments and one fund for accident reimbursements. The main argument for this consolidation was that up to the mentioned date, citizens were paying different shares of their income for their social insurances and had to pay different rates of co-payments, depending on their region. With the consolidation, everyone in the same type of social insurance and SHI fund should now pay the same fees for the same services. In particular, the new rate of contribution to the SHI for private sector employees and employers was set to 7.65 percent of the income, out of which 3.87 percent are supposed to be paid by the employee and the remaining 3.78 percent by the employer who is employing the respective employee. It can be clearly seen that the contribution to the SHI funds clearly depends on the level of income, rather than on the level of health risk. However, there are certain maximum values of contribution for each category of employment type. For example, for most employees the maximum contribution for health insurance was capped at 399.33 € out of which 202.01 € is the maximum value paid by the employee and 197.32 € the maximum value paid by the employer. Contributions

of unemployed citizens to the health funds are covered by general tax revenues. (Versicherungsanstalt öffentlicher Bediensteter, 2019)

In theory, with the new reform, the functioning of the SHI system should be facilitated as instead of having nine central offices, there is now one headquarter which is responsible for collecting tax payments, budgeting, financing as well as all other administrative tasks. A further goal is to save human resource costs through centralization. In particular, the government aims to reduce the number of employees working in SHI funds from 2000 to solely 480 by the year 2023. Additionally, the number of times a meeting has to be held to bring all health representatives of the federal provinces and various fields together, is expected to be reduced from 90 times a year to 50 over the same time frame. All actions considered together, the Austrian government announced to expect to save one billion euros by consolidating these SHIs. However, many remain skeptical about this new approach. As there will be expected savings through this consolidation, the government is planning to spend significantly less capital on public health expenditure. Yet, the planned decrease in public expenditures in health is much higher than the actual savings of this consolidation, resulting in a loss of approximately 165 € million, according to the latest projections. (Wiener Gebietskrankenkasse, 2019)

It proves difficult to give an accurate evaluation of this new policy, as it has only been in place for a relatively limited time, but one should certainly remain cautious about the possible drastic implications for Austria's public health care system.

Although patients have the right to freely choose their practitioner of choice, as long as this practitioner has an agreement with SHI funds, patients may be very limited in their choice due to their location of residence or availability of services. For some services, such as MRI or CT procedures, a referral from a general practitioner is needed in order to access the service. Even for visiting a specialist doctor, such as a dermatologist, a referral is often needed in order to get access to this particular specialist as well as to get reimbursements from the SHI funds. Alternatively, patients can access any provider of medical services, who does not have a contract with SHI funds, at any time, given that they cover most of the cost of the consultation. As the process to get access to medical services can sometimes be very bureaucratic and can involve long waiting times, non-contractor practitioners have become increasingly more popular. Therefore, many Austrians are progressively enrolling in additional voluntary health insurance to get better and faster access to medical services. In the following section, data showing the increase in out-of-pocket payments over the past years, will be provided. Out-of-pocket payments were mainly spent on ambulatory care, medicines, long-term care, and therapeutic appliances. In a European Survey measuring corruption, 9 percent of Austrians who responded to the survey, claimed to have made an informal payment to their service provider in order to reduce the often long waiting times. (European Union, 2017) The EU average for such type of additional payment is at approximately 5 percent and Austria's value is therefore considerably higher. Until the beginning of last year this was particularly true for CT or MRT scans, where patients had to wait several weeks or even months to get an appointment. These long waiting times resulted from a cap that was put on the budget for such services. Since the beginning of 2018, however, this cap was removed and all service providers of CT or MRT scans who are contractors of SHI funds now have to provide an appointment within a much shorter time. Patients suffering from pressing medical concerns have to receive a scan within 10 or 20 days for a CT or MRT appointment respectively. Despite these recent changes, there still remain significant differences in access to services between patients holding additional

voluntary health insurance and patients only possessing SHI. (Sozialministerium Österreich, 2019)

SHI funds cover practically all major treatments and preventative health measures ranging from medical examinations, vaccinations, medicines, medical rehabilitation, travel and transportation, hospital care and certain aids for disabled people. It has, however, to be mentioned that certain types of treatments, such as many types of vaccinations or braces for teeth corrections, are only covered for children up to an age of 18. After the age of 18, not all services which are covered by SHI are fully paid for. In addition, certain co-payments for hospital treatments or prescription medicines are in place, even if some of these services are covered by SHI funds. The co-payment for a prescribed medicine has been constantly increasing from 4.25 € in 2003 to currently 6.10 €. For citizens living in difficult economic situations, such as earning an income below 933.06 € a year as a household and bearing high costs for medicines, there is the opportunity to ask for an exemption of co-payments for the medicines. (Sozialministerium Österreich, 2019) The reimbursement for pharmaceuticals and medical treatments applies only to standard treatments and procedures according to standard western medicine. Alternative or complementary treatments such as acupuncture, kinesiology, Chinese medicine, and homeopathy are usually not covered and are, hence, predominantly paid privately. Only certain complementary prescriptions such as pain relief, acupuncture, and massages may qualify for partial reimbursement through a SHI fund. However, although the number of doctors holding certificates in alternative medicines has significantly increased from 3543 in 2000 to 4301 practitioners in 2016, these alternative procedures and pharmaceuticals have yet to be taken into the scope of the SHI funds. In any case, solely legally recognized doctors are authorized to provide a diagnosis or suggest treatments through alternative medicines. (European Observatory on Health Systems, 2018) Also in the case of mental health care, not all services are covered by the SHI funds. Austrian patients can enjoy up to 40 hours of psychotherapy at a contracted psychotherapist. After exhausting that contingent, SHI funds only subsidize 21.8 € per one hour session to patients who demonstrate psychiatric health issues, which leaves approximately 50 € left to be paid privately by the patient. Psychiatrists are typically covered by SHI, yet, in 2015 only 19 percent of all psychiatrists had a contract with the SHI funds. It is obvious that there remains a problem with adequate access and coverage to mental health care services in Austria.

Furthermore, SHI funds support sickness as well as maternity benefits. For example, should one get sick, one is still entitled to receive one's full salary from the employer for a period of 6 - 12 weeks. Thereafter, the burden of the salary payment will be equally split between the employer and the respective SHI for the maximum duration of one year.

The level of health literacy remains significantly lower in Austria than in other EU countries as only 43.6 percent of Austrians indicate a level of sufficient health literacy. The EU average is approximately 52.5 percent with some countries, such as the Netherlands, showing as much as 71.4 percent of excellent health literacy. Indicators for higher health literacy were higher social or financial status or a higher status of education. Women and adolescents demonstrated significantly higher health literacy rates. (HLS-EU Consortium, 2015) This issue is, however, currently being addressed and measures such as providing more information on public health portals have already started to being undertaken to allow greater access to health related information to all citizens free of charge.

As in most European Union countries the issue of antimicrobial resistance is continuously receiving more awareness. Antimicrobial resistance refers to antibiotics, antiviral, and antifungal medicines that lose their effectiveness in curing diseases in humans if a certain population group became resistant to a particular strain of bacteria due to the

wide spread usage of these substances. Since the initial invention of penicillin in 1928 many lives have been saved. However, these medications have since then been widely overused in humans to treat infections which can create resistances against these substances in a population group when their bacteria evolve or become resistant. Once the human's bacteria are resistant against a certain drug, it becomes more arduous or even impossible to treat a certain disease. As reported by the World Health Organization, "without urgent action, we are heading for a post-antibiotic era, in which common infections and minor injuries can once again kill". (World Health Organization, 2018) Surveillance of antimicrobial resistance as well as antibiotic usage has been ongoing since 2005. The data is consolidated into a report available to the public and published annually. The latest report, from 2017, reveals that the total usage of antibiotics in Austria has decreased from 66,907 tons in 2011 to 65,498 tons in 2017. In particular, whereas the total usage of antibiotics has increased by 12.4 percent in hospitals, it decreased by 8.1 percent in the sector of ambulatory care. However, from 2016 to 2017 the prescription rate of antibiotics per 10.000 inhabitants has increased slightly from 16.5 to 17.3. (AURES, 2018) The European commission published a "EU One Health Action Plan Against Antimicrobial Resistance" in 2011, 2017, and last year, in 2018, in which it informs and guides its member states about antimicrobial resistance and suggests best practices to implement at national levels. The Austrian government refers to this document in order to create its National Action Plan on Antimicrobial Resistance. The latest national action plan was created last year and set several goals such as the surveillance and gathering of data on antimicrobial use, setting hygiene quality standards at hospitals, improving cooperation and standardization amongst health care providers on this matter, having standard recommendations for practitioners as well as increasing awareness of the importance of the yearly published data on antimicrobial resistance in Austria. Furthermore, the National Action Plan aims to bring the issue to the attention of the public as a Eurobarometer survey in 2016 revealed that approximately half of European Union citizens still remain under the – obviously wrong – impression that antibiotics can cure viruses. (Bundesministerium für Arbeit, Soziales, Gesundheit und Konsumentenschutz, 2018)

### **4.3. Financing of Austria's Public Health Care System**

Taxes and contributions to social insurances account for the primary source of government revenues and amount to approximately 87 percent. Roughly 46 percent of Austria's governmental expenditure is spent on social assistance and health care programs. The financing of public health care is accrued through the federal level, the states' levels as well as through social health insurance (SHI). More than half, 60 percent, of citizens' contributions to SHI funds are derived from a percentage of the citizens' income. The remainder is derived through taxes, such as VAT, income taxes or tobacco taxes, which is currently set at 59 percent of its retail price. (European Observatory on Health Systems, 2018)

The portion of the GDP spent on health services rose from 9.2 percent in 2000 to 10.4 percent in 2016. With these values Austria is slightly above the European Union average, whose share of the GDP on health expenditure increased from 7.9 to 9.9 percent over the same period. The share of governmentally financed health care actually declined from 74.1 percent to 72.5 percent over the same time period. (World Bank Group, 2019) Consequently, out-of-pocket payments, measuring the amount spent on health care which is privately financed by citizens, has increased from 17.8 percent to 18.92 percent in Austria and from 14.2 percent to 15.2 in the EU. Out-of-pocket payments are, hence, approximately



15 percent higher than the EU average. Growth rates on health spending have consistently been above GDP growth rates. Therefore several reforms, putting limits on health budgets, have been put in place in order to halt the gap between GDP and health expenditure growth rates.

In particular, in 2015 Austria's expenditure on health care coming from the government as well as social health insurance providers totaled 26.4 € billion. In comparison, total health expenditure coming from private households and private insurance companies totaled 8.6 € billion. Public sources therefore finance approximately 75 percent of all spending on health care. Taking these two main types of payers together with private organizations and investments into the medical sector together, the total number of health expenditure equaled 38.4 € billion in 2015. (Statistik Austria, 2019) 2.5 € billion, equaling to approximately 6.7 percent of the total health expenditure were investments into the medical sector. More than half, roughly 54 percent of them came from public sources. Austria spent around 5138 US\$ on health per capita, which is almost 2000 US\$ above the EU average. Whereas hospitals are usually paid according to the Diagnosis Related Group (DRG) scheme, practitioners are remunerated by the SHI funds through a specified fee per type of service and contact capitation, meaning on the number of patients they dealt with.

#### **4.4. Pharmaceutical Pricing and Reimbursement**

The federal level, in particular the Ministry of Health (BMASGK), has the right to set a maximum price for medicines. Pharmaceuticals that are used in ambulatory care and qualify for reimbursement by social health insurance providers are usually priced at or below the EU average price. It is up to the HVB to determine which pharmaceuticals are allowed to be on the list of medicines qualifying for price reimbursement through social health insurance providers. This established list is usually referred to as "Erstattungskodex". In 2018, a total of 9182 different pharmaceuticals, including homeopathic medicines, were authorized in Austria. Out of this number, 7372 pharmaceuticals were accepted into the "Erstattungskodex". However, the price of all medicines which do not qualify for the positive list in the ambulatory care sector can be set by the producers of the certain medicine. Only if their annual sales result in expenses on the part of SHI in Austria of over 750,000 €, the EU average price for the certain product will be considered. In case the EU average price is above the price the pharmaceutical company set in Austria, the respective firm is constrained to pay back the difference. The final price for the customer is comprised of the factory price, a mark-up for wholesalers and pharmacies as well as a ten percent value added tax. The size of the mark-up is different for private customers, for social health insurance providers or a state. If an Austrian citizen, covered by SHI, is prescribed a medical product which is part of the "Erstattungskodex", the individual is fully compensated for the price, with the sole exception of a lump-sum fee per each prescribed pharmaceutical as explained above.

The "Erstattungskodex" is divided into different categories. In particular, certain medicines require a pre-assessment by a specialist doctor in order to be prescribed and reimbursed for a particular type of pharmaceutical. Medicines used in inpatient care services are purchased by hospitals and are reimbursed according to the Diagnosis Related Group (DRG) scheme, with the exception of certain pharmaceuticals used in chemotherapy.

Comparing Austria to other EU countries one finds very little regulations in Austria that lead practitioners to consider a cost-effective handling of pharmaceuticals. It is prohibited by law to prescribe no brand generic medicines containing the same substance.

The branded pharmaceuticals, which are usually more expensive, have to be prescribed at all times. Although certain frameworks for regulating adequate pharmaceutical prescriptions by practitioners have been put in place – such as a penalty for doctors who do not adhere to the instructions – these efforts have seen little result in practice. (European Observatory on Health Systems, 2018)

## **5. Evaluation of Austria's Public Health Care System and Projections for the Future**

### **5.1. Qualitative Evaluation of Austria's Public Health Care System**

Overall, it can be said that Austria's public health system works well. Most health indicators such as mortality rates, life expectancy at birth, and cancer mortality rates have been decreasing and lie below the EU countries' average. However, there remain some issue areas in which Austria's public health system has room to improve. Suicide and depression rates are slightly higher than the EU country average. A possible explanation for that could be the low coverage of psychotherapists available to SHI insurers. As outlined above, patients are only allowed to receive the first 40 hours free of charge after which they would have to cover the majority of the costs themselves. As these costs amount to approximately 50 € this cost may pose an obstacle for certain disadvantaged socio-economic population groups. Furthermore, even if a patient is still within the limit of consuming the first 40 hours of treatment it may prove difficult to get access to a psychotherapist that has a contract with SHI funds. Only approximately 19 percent of psychotherapists are contractors of SHI funds which may leave some peripheral regions with little or no access to a provider which is covered by SHI. In general, not much awareness has been raised on the importance of mental health care and the provision of such services under the SHI scheme needs to be revised and updated. The reasons why psychotherapists do not consider contracting with SHI shall be determined and then appropriately addressed in order to increase the share to provide access to services to a wider population. (European Observatory on Health Systems, 2018)

A similar phenomenon is seen in the decreasing trend in general practitioners having a contract with SHIs. The share of contracted physicians shrank from 62 percent in 2000 to 45 percent in 2016, which constitutes an alarming decrease. Additionally, it is expected that this trend will be expedited by the large share of contracted practitioners being close to their forthcoming retirement. Also in this case a determination of the causes that have brought about the decline would be necessary in order to keep an adequate level of contracted practitioners. If the share of contracted physicians decreases much further, inequalities in access to services would prevail, which undermines the correct functioning of a public social health care system. Even now an increasing trend in voluntary health insurance can be seen in order to get faster access to health services through non-contracted practitioners. Concurrently, waiting times for particular services need to be paid attention to, especially during holiday seasons when many general practitioners offices are closed. (European Observatory on Health Systems, 2018)

Health literacy also remains somewhat lower than the EU countries' average. Particularly, in regards to antimicrobial resistance more awareness needs to be created among the population in order to be adequately informed. Antibiotics use and prescription amongst practitioners are still relatively high compared to some other EU countries. Physicians need to be better informed and clearly standardized practices need to be set in

order to be more consistent and coherent in combating antimicrobial resistance in Austria. (AURES, 2018) Some awareness-raising campaigns on the usage of antibiotics have already been put in place at several doctor offices to inform the general public. Efforts like these need to be continued in order to educate all Austrian citizens on the importance of antimicrobial resistance.

Moreover, vaccination rates remain relatively low compared to other EU countries. This phenomenon could be due to the fact that many vaccinations are only covered by SHI funds up to the age of 18. In other EU countries where certain vaccinations are covered by SHI, the rate of the respective vaccinations is significantly higher. In particular, many vaccines, such as the HPV vaccine, are only available free of charge to children below a certain age limit. Adults who have missed a vaccine in their childhood for whatever reason may find it difficult to cover the cost themselves. In the case of the HPV vaccine the cost would amount to 600€ - three doses à 200€ - which could lead to, particularly, young adults refusing to be given the vaccine for economic reasons.

As outlined above, 28 percent of diseases in Austria can be linked to behavioral factors such as smoking, drinking, nutritional choices, and physical activity. Although, the Austrian Health Ministry has been trying to increase the awareness of healthy nutritional choices and physical activity, little incentives or policies have been put in place to address the widespread habit of smoking and drinking. The frequency of both of these behaviors remains significantly above the EU average. (European Observatory on Health Systems, 2018; OECD, 2017)

Another issue that may dramatically impact the future of Austria's citizens' health is the phenomenon of climate change. Changing weather patterns and climatic conditions will lead to an increase in vector-borne diseases, in the frequency of heat-strokes, in childhood asthma as well as in other respiratory diseases. (Luber, 2015) Vector-borne illnesses in Austria are most often transmitted through ticks or fleas on pets. Warmer weather conditions can not only cause already existing types of vectors, such as ticks, to become more prevalent but can also give rise to new types of insects, being capable of transmitting diseases, to settle in Austria. In 2018, the WHO already detected an increase in a vector-borne disease, namely the West-Nile-Virus in Central and Southern Europe. (WHO, 2018) Maintaining the current nationwide FSME-vaccine programs against encephalitis, further raising the awareness of the vaccine's importance as well as overseeing the development of possible new vector-borne diseases would be good steps to take.

According to the Austrian institute for meteorology temperatures in the year 2018 were 1.8 Celsius higher than the average temperatures measured over a period of 252 years before 2018. With rising temperatures causing ever hotter summers the city of Vienna has taken several initiatives trying to maintain a cool climate and combat heat strokes, including setting up more water drinking fountains, water sprinklers as well as more green spaces. Such measures will become ever more important in order to avoid heat-related illnesses. (Zentralanstalt für Meteorologie und Geodynamik, 2019)

## **5.2. Economic Evaluation of Austria's Public Health System and Projections for the Future**

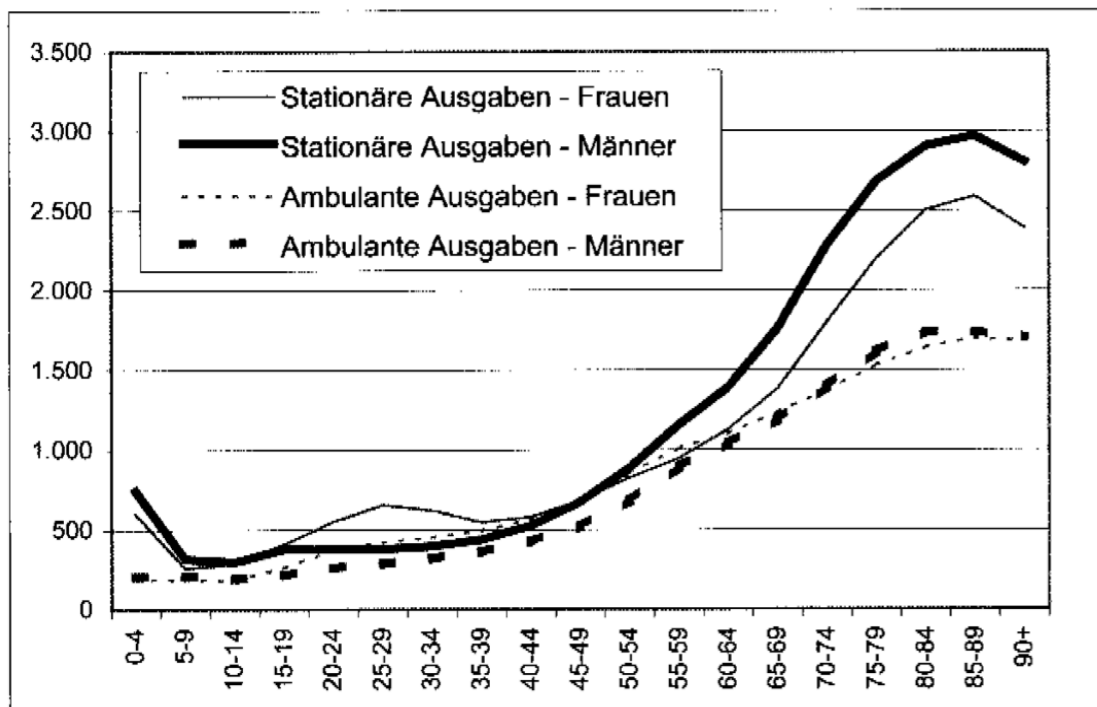
As in most European Union countries, Austria's total health care expenditure has constantly been increasing. Furthermore, the share of GDP spent on health services has also been

increasing by approximately one percent over the last decade. In particular, the share of GDP Austria spends on health care is now slightly above the EU average. However, as Austria's GDP has grown at a lower rate than the total expenditure on health care, health reforms were put in place in order to reduce the government spending on health care. This action resulted in a declining portion of governmentally financed health care from 74.1 to 72.5 percent of total health care expenditures over the period of 2000 to 2016. As a consequence, out-of-pocket payments have been increasing and are at a rate which is higher than the EU average. (World Bank Group, 2019).

For the first time since a decade, Austria has managed to decrease its public debt. In 2007, the share of public debt was equal to 65 percent of the GDP and has hence been increasing and reached its peak with 84.8 percent of the GDP in 2015. From 2015 onwards public debt has decreased to a share of 78.3 percent of the GDP in 2017. (Sozialministerium Österreich, 2019) A favorable economic conjuncture which led to less spending in unemployment benefits, an elevation of the retirement age which in turn reduced pension payments, low interest rates as well as the mentioned decreased share of publicly financed health care contributed to the decrease in public debt. (Salzburger Nachrichten, 2018) With its current value Austria is relatively similar to other EU countries, with the exception of Italy and Greece which are still displaying the highest public deficits. The financial crisis of 2008/09 is usually held responsible for the sharp increases in public debts after 2008. According to the World Health Organization, as well as according to "Statistik Austria", high income countries tended to increase their spending on health care even during that particular economic crisis. The reason for that is simply due to the fact that also during a recession, a state's citizens need to be provided adequate health services. Citizens will not stop becoming sick merely because the country is during a recession. As a country will always go through recessions it may prove difficult over the long run to keep up governmentally financed health care spending without running into the risk of having substantial increases in public debt. (Statistik Austria, 2019)

Furthermore, as we know from Figure 2, recent demographic projections have suggested that the population in Austria will increase from approximately 8.8 million today to 9.6 million in 2050. Simultaneously, the share of the population aged 65 years or above will increase from 18.9 percent to 27.3 percent, which constitutes an increase of roughly 8 percent. OECD projections as well as an Austrian study undergone in 2003 reveal that public health care expenditure per person increases exponentially after the age of 40. Figure 7 depicts public per capita expenditure on health care according to the individual's age group. (OECD, 2017; Riedel & Röhring, 2007)

Figure 7



Source: Monika Riedel, Gerald Röhrling

Hence, it can be expected that an increase of 8 percent in the share of people aged 65 and above will put severe pressure on the public health care system by drastically increasing public expenditures. Considering this demographic development together with the newly implemented reform, which aims to cut public investment in the SHI funds, suggests that without any changes, Austria's public health care system in its current form may not be economically sustainable. Although, the trend of the declining number of physicians who have a contract with SHI funds, as well as the decline in the percentage of publicly financed health expenditure may alleviate some of the pressures on the public health system, this trend would only undermine the purpose and functioning of a social health system since not all population groups would still have access to health care. Therefore it is crucial to provide incentives or implement new policies to keep the coverage of contracted physicians at an adequate level while at the same time addressing the new challenges that Austria will be facing.

## 6. Conclusion

Austria's public health care system performs well on most aspects when compared to other EU countries' health care systems. In particular, Austrians self-report the lowest number of unmet medicinal needs amongst all EU countries. (OECD, 2017) Furthermore, sickness and maternity benefits which are also covered by SHI are exceptionally generous compared to other EU countries. However, there do remain certain health problems out of which many are linked to behavioral circumstances such as smoking, drinking, bad nutrition, and an insufficient amount of physical activity. Mental health care and vaccination coverage

remains significantly lower than in other EU countries.

Additionally, a new reform, consolidating SHI providers, is aiming to reduce costs but is also accompanied by less public investment in health care. Recent trends show that publicly financed health care is decreasing, while the number of doctors contracting with SHI is declining as well. Demographic projections show a sharp increase in the elderly population in the coming years which will result in higher health care expenditure. In order to address all these afore-mentioned problems while not risking the collapse of the public health care system it will be inevitable to undertake certain measures. As Austria's citizens' contributions to SHI funds compared to other EU countries remain relatively low, one could consider introducing a small lump-sum out-of-pocket payment when visiting practitioners. This will prevent citizens from going and seeing doctors when they would not necessarily need any services, which would in turn free doctors' time to serve those patients who are indeed in need of medical aid. Furthermore, it would raise citizens awareness of the fact that every medical service involves costs, which could improve their understanding of the functioning of Austria's public health care system. In addition, the extra income generated by increased out-of-pocket payments could go towards increasing the coverage of mental health services, including vaccinations for citizens aged over 18 as well as maintaining an adequate coverage of SHI contracted practitioners. Increasing the coverage of mental health services as well as vaccinations would be an asset to Austria's citizens' health even if it comes with a small out-of-pocket payment.

As the share of behavioral diseases related to smoking or an unhealthy lifestyle is significantly higher in regards to other EU countries it would be imperative to either drastically implement new policies on smoking and/or other behavioral factors or to introduce a system whereby lifestyle choices such as smoking, drinking, nutrition and physical activity shall be taken into account and citizens performing poorly in these respects should pay a higher premium to SHI funds. Another possible mechanism to account the negative externalities - a burden in Austria's public health system - would be to further increase taxes on cigarettes, alcoholic beverages, and potentially also certain highly caloric, non-nutritious food items. Evaluating citizens on their lifestyle choices may be necessary as Austria's public health system needs to find ways to remain economically viable. Citizens have a choice as to how they choose to live their lives and they are free to do so. However, if these choices result in externalities in the form of higher costs for other citizens, which may even leave some economically disadvantaged population groups out of health care, it is fair to ask for a premium to compensate the costs they put on the system. However, other factors such as aging, having been born with a certain disease or disability or being economically disadvantaged are elements an individual has no means to influence. Hence, citizens should not be discriminated against these factors as this would undermine the moral principle of a social health system to provide health care for all social groups.

In conclusion, I hope that Austria can find a way to further improve and expand its public health care system while simultaneously addressing the issue of rising costs by establishing a fair payment system that provides access to all population groups.

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