Assessing health status in European Union candidate countries: A descriptive study

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Abstract

Aim: The purpose of this study is to describe the health of the current European Union (EU) candidate countries in order to gain additional insights into the countries seeking to become EU member states.
Methods: Four health indicators (percent of GDP spent on health, percent of health expenditures paid out-of-pocket by private households, infant mortality rate, and disability-adjusted life expectancy) were selected to describe the health status of the five current candidate countries (Albania, the Former Yugoslav Republic of Macedonia, Montenegro, Serbia, and Turkey) as a means of assessing economic and social trends within these countries.
Results: This assessment shows that, in general, EU candidate countries spend a smaller proportion of GDP on health and have higher out-of-pocket payments than Croatia (a newly accessed country), or the EU average. Candidate countries also have higher infant mortality rates and lower life expectancies than EU member states.
Conclusion: While limited in its scope, this study demonstrates that assessing health status may be a useful tool during accession negotiations. Health indicators reveal trends in the candidate countries that may be otherwise ignored and, therefore, the European Commission should include more health-related criteria in its negotiation manual, the *acquis.*

Keywords: accession, candidate countries, European Union, health indicators.

Introduction

As of 2014, five countries, Albania, the Former Yugoslav Republic of Macedonia (hereafter referred to as Macedonia), Montenegro, Serbia, and Turkey, have received candidate country status, many of them already beginning to negotiate the conditions of their accession with the European Union (EU) (1). Negotiations involve adapting current national legislation to comply with EU legislation, and the European Commission (EC) regularly evaluates this progress. In order to become EU member states, countries must meet the Copenhagen Criteria and the EU standards enumerated in the *acquis* (2,3). The 35 chapters of the *acquis* include a range of topics, most of them economic, but health is only explicitly discussed in chapters 19 and 28 (3). Strikingly, in its 2014 enlargement strategy, the EC has only a passing mention of health (most often tied to consumer or worker protections) in the specific recommendations to these five countries (4).

Accession to the EU has a significant impact on the healthcare systems of countries. Healthcare is expensive and encompasses a vast array of stakeholders, industries, and social structures. Accession opens countries to EU pharmaceutical and medical device markets, and makes it easier for healthcare professionals and patients to travel throughout the EU. However, not all of these changes are positive. The free movement principle has led to a brain-circulation of the healthcare workforce in newly accessed Eastern European countries to Western Europe and has complicated reimbursement for cross-border healthcare services (5). Accession could lead to major shifts in a candidate country's healthcare system, which may be detrimental if the healthcare system is already under stress.

Population health is also important in assessing the readiness for accession. Health affects all aspects of life, specifically citizens' abilities to contribute to society. Case et al. show that childhood heath has a long-term effect on the future socioeconomic status of individuals (6). Furthermore, health indicators like fertility rate and infant mortality rate are negatively associated with economic growth, while adult survival rate and life expectancy are positively associated with economic growth indicators (7,8). The relationship between health and economic aspects is reciprocal: improved population health can increase the economic productivity of a country, while a country's financial gains can lead to an increased investment in health services, sanitation, and food and occupational safety. In light of the interrelatedness of health and economic ability, it is surprising that there is not more consideration of health in accession negotiations.

There have been many publications since the introduction of the *acquis* that advocate for candidate countries' healthcare systems to be a more prominent consideration in accession negotiations (9-11). Analysis of health indicators has been used by McKee et al. and Kisa et al. to assess the effectiveness of candidate countries' healthcare systems and their readiness to enter the EU, but a comparison has not been made between the current candidate countries (10,11). This paper seeks to describe the health of the candidate countries' populations in order to provide additional insights into the countries' readiness become EU member states. Using key health indicators, this study will compare candidate countries with each-other, with a newly accessed member state, and with the EU as a whole to identify trends that may be indicative of the countries' degree of cohesiveness with the EU. Based on the literature, it is predicted that the candidate countries will be more similar to each-other and to the newly accessed member state than with the EU in all of these indicators. This analysis, though narrow in its focus, will further demonstrate how assessing EU candidate countries with health indicators can reveal trends in these countries that may otherwise be neglected in lieu of economic or political improvements.

Methods

The five candidate countries were compared with the aggregated values from the 28 current EU member states. Individual country data from Croatia was also included as a control to compare the candidate countries to a newly accessed EU member state that has recently undergone EU negotiations. Data was downloaded from the WHO European Region Health for All database (HFA-DB) in October 2017 (12).

Four health indicators were selected for comparison based on the body of literature enumerating their importance in assessing the general health of a country and their impact on that country's economy (8-11). This literature was gathered from documents from the European Observatory on Health Systems and Policies and the World Bank. Additional literature was found through Medline using the search strategy: "(((((European Union [MeSH Terms) AND health) AND enlargement) OR acquis) OR accession." Papers that used health indicators and were from 2004 onward were included, while papers about countries other than the five candidate countries or Croatia were excluded. Two of these indicators, percent of GDP spent on health and private households' out-of-pocket expense on health, are indicators regarding the health system of each country. The remaining two indicators, infant mortality rate and disability-adjusted life expectancy, are indicators regarding the health statuses of the populations. All data, with one exception, are taken from 2014, because it was the most recent year that contained the most complete data for the selected indicators. Data for the disability-adjusted life expectancy is taken from 2015 because data from 2014 was unavailable.

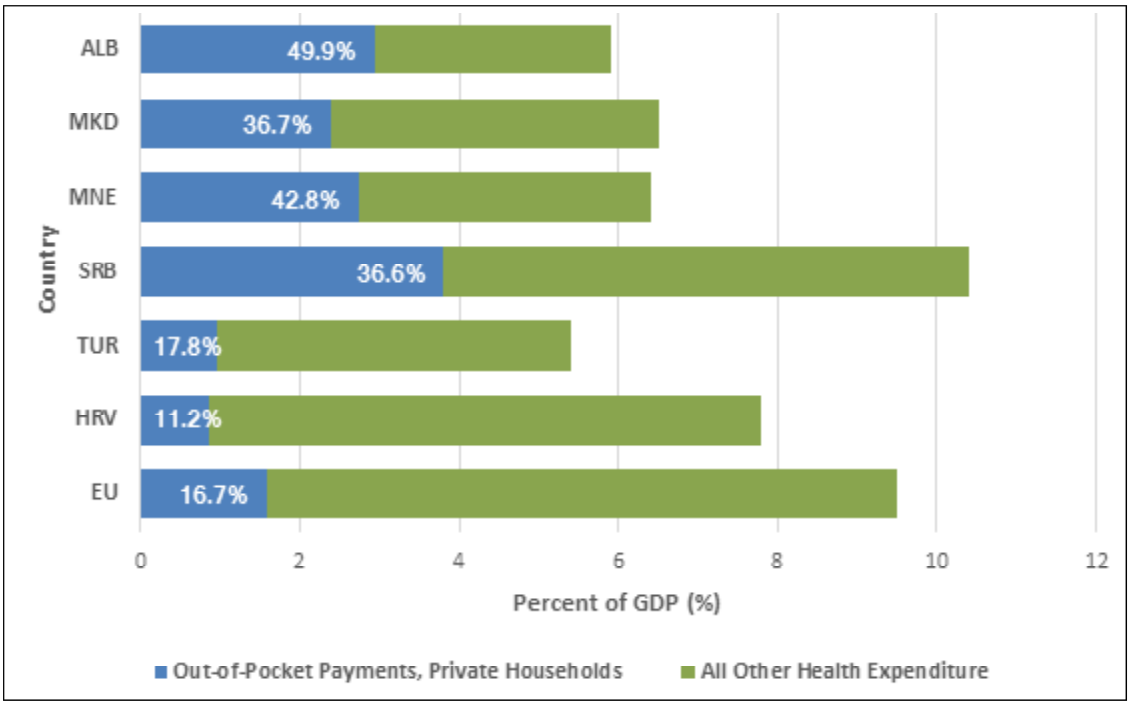
Metadata for the HFA-DB is available for download under "Metadata specifications (excel file)" on the WHO/Europe Data Warehouse website (13). Metadata for the specific indicators used can be found in the downloaded excel file of each indicator. Additional information on the calculations of specific health indicators can be found in *The World Health Report 2000* (14).

Results

The health indicators selected demonstrate the variations in health systems among the candidate countries. Figure 1 shows the percent of GDP spent on total health expenditures, with the out-of-pocket expenditures by private households highlighted. Most of the candidate countries spend around 6% of their GDP on health expenditures, with the exception of Serbia (Figure 1). The percentages reported on each bar represent the percentage of the total health expenditures paid out-of-pocket by private households. In all but two of the candidate countries, private households are responsible for about 36%-43% of the total health expenditure. Albania and Turkey are the two exceptions, with Albania at 49.9% and Turkey at 17.8% private household contribution (Figure 1).

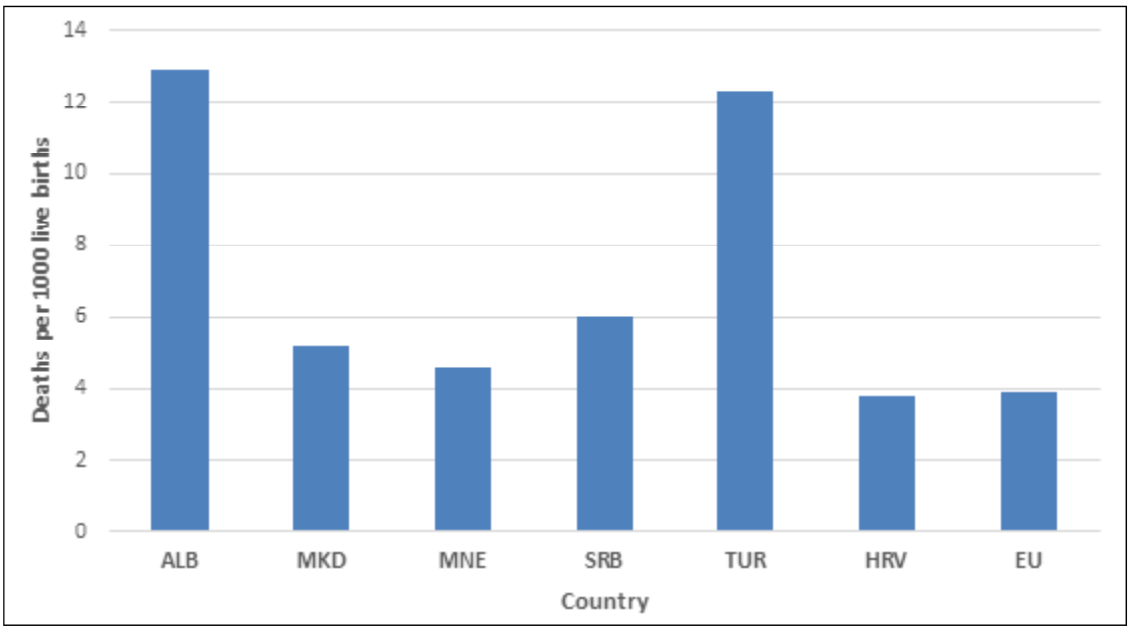
Figure 2 shows the infant mortality rate, which illustrates two trends among candidate countries. Albania and Turkey have infant mortality rates over 12 deaths per 1000 live births, while Serbia, Macedonia, and Montenegro have infant mortality rates ranging from about 4.5 to 6 deaths per 1000 live births (Figure 2). The disability-adjusted life expectancies in the candidate countries are fairly similar to each other (Figure 3). However, the life expectancies for each sex in Croatia are about one year higher than the life expectancies for males and females in the candidate countries (Figure 3). In all countries, female disability-adjusted life expectancy is higher than male disability-adjusted life expectancy (Figure 3).

Figure 1. Total health expenditure as a percentage of GDP including private households' out-of-pocket payments on health in 2014, WHO estimates
(Source: WHO, HFA-DB)



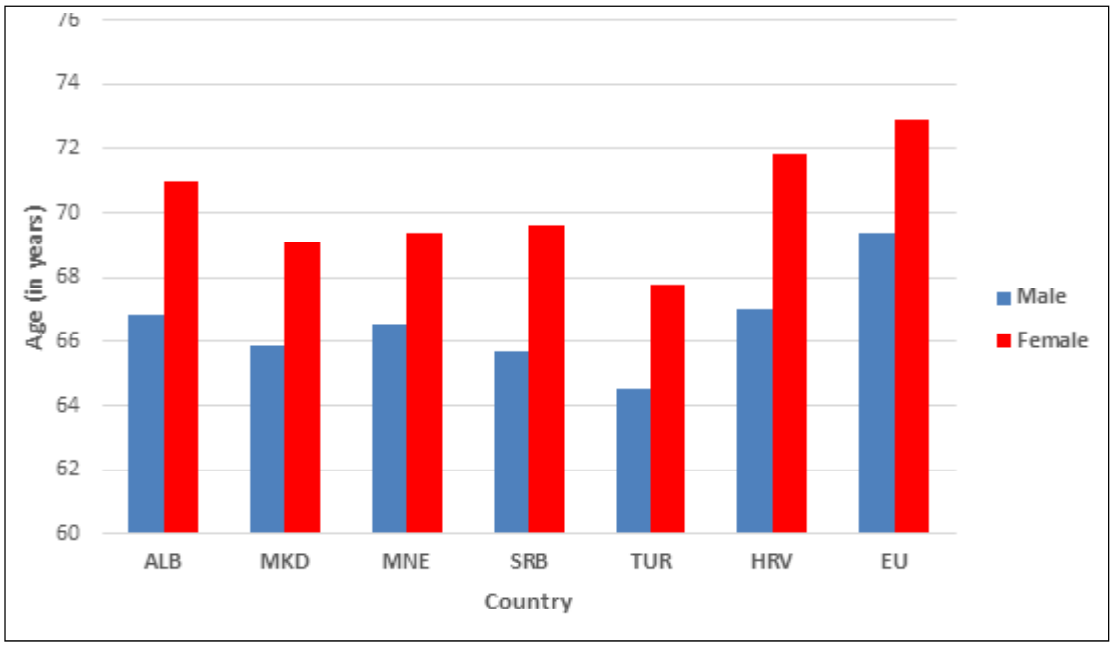
*Country abbreviations: Albania (ALB), the Former Yugoslav Republic of Macedonia (MKD), Montenegro (MNE), Serbia (SRB), Turkey (TUR), Croatia (HRV), European Union (EU).

Figure 2. Infant mortality rate in 2014, World Report estimates
(Source: WHO, HFA-DB)



*Country abbreviations: Albania (ALB), the Former Yugoslav Republic of Macedonia (MKD), Montenegro (MNE), Serbia (SRB), Turkey (TUR), Croatia (HRV), European Union (EU).

Figure 3. Disability-adjusted life expectancy by sex in 2015, World Health Report estimates (*Source: WHO, HFA-DB)*



*Country abbreviations: Albania (ALB), the Former Yugoslav Republic of Macedonia (MKD), Montenegro (MNE), Serbia (SRB), Turkey (TUR), Croatia (HRV), European Union (EU).

Discussion

These results support the findings of McKee et al.: there is a gap in the health statuses of candidate and EU countries (10). Most candidate countries spend a smaller proportion of their GDP on health than EU member states. They also have a higher percentage of out-of-pocket costs for private households, a higher infant mortality rate, and a lower disability-adjusted life expectancy than the EU averages. Croatia falls between the candidate countries and the EU average on three of the four indicators analyzed. These trends reveal the health gap between candidate and EU countries and support the hypothesis that candidate countries are more similar to each other and to newly accessed countries than to the EU as a whole.

The healthcare spending of all candidate countries except Serbia are about 3% lower than the EU average and 1.5% lower than the healthcare spending in Croatia (Figure 1). When the health statuses in these countries are considered, this is indicative of a lower investment in health by the national governments of the candidate countries than by the governments of EU countries. This lack of investment may in turn contribute to the lower health outcomes in these candidate countries.

Serbia is the only country that spends a greater percentage of its GDP on health expenditures than the EU average (Figure 1). This may be a result of the inefficient and excessive financing of healthcare due to corruption in Serbia in recent years (4). Corrupt financing practices have led to the EC calling for Serbia to address corruption and to the World Bank introducing the Second Serbia Health Project to "improve health care financing and efficient purchasing of pharmaceuticals and medical products" in 2014 (4,15). Measures like these point to the effect of political corruption on Serbia's healthcare system.

The contributions of private households to healthcare show a more consistent trend among candidate countries. Although all five candidate countries have state-funded, compulsory health insurance schemes,

the out-of-pocket payments by private households still account for a larger proportion of the total health expenditure than they do in the EU. In fact, Croatia, (which has a similar structure of healthcare financing to the candidate countries) has 11% of the total health expenditure funded out-of-pocket by private households, a percentage less than the EU average. The discrepancy between the spending of the candidate countries and Croatia shows that cost-sharing measures may not actually reduce costs for citizens in candidate countries. Turkey has the least out-of-pocket expenses for private households of the candidate countries, which may indicate that the cost-sharing measures in place to mitigate the burden of expenses paid directly by its citizens are more effective at achieving the intended goal than in other candidate countries.

The infant mortality rates reveal much about the health statuses of candidate countries. Albania and Turkey have high infant mortality rates (Figure 2), and this may be due to a variety of factors including poor sanitation, poor nutrition, lack of access to prenatal care and hospital facilities, and infectious disease (11). Infant mortality rate demonstrates the affect that socioeconomic status has on health and indirectly points to the level of poverty in a country. Although Turkey is the wealthiest of the candidate countries in terms of GDP, its high infant mortality rate indicates that there may be significant health disparities between the rich and poor in the country (4). Beyond infant mortality rate's value in assessing the current economic status of a country, it is also predictive of future economic growth (8). Given this, the high infant mortality rates in Turkey and Albania may indicate slower economic growth in the future than in Serbia, Macedonia, or Montenegro.

Disability-adjusted life expectancy shows a general picture of the burden of disease within a population. The high burden of disease on a population level can stem from one or more issues: more people are hindered by illness, people are hindered by more severe diseases, or more people are dying prematurely. In any circumstance, a sicker population means lower worker productivity, which leads to lower economic output. As seen in Figure 3, the burden of disease is greater in the candidate countries than in Croatia or the EU. Turkey has the lowest disability-adjusted life expectancy, with the high infant mortality rate reflected in this measure. Surprisingly, Albania, which also has a high infant mortality rate, has the highest life expectancy for both males and females of the candidate countries. According to Gjonça, this trend has been apparent since the last decades of the 20th century (16). While the infant mortality rate is high, the adult mortality rate in Albania is comparable to that of many Southern European countries (16). Additionally, the diet in Albania can be classified as a Mediterranean diet, which has been demonstrated to have a protective effect against the cardiovascular diseases that plague many neighboring countries (17). Albanians' diet may have an effect on the level of disability and premature mortality due to cardiovascular disease and other diseases associated with a more Western diet, which is reflected in its relatively high disability-adjusted life expectancy.

This study describes the health statuses of the candidate countries as compared to the health of EU member states, but it still has several limitations. First, only four health indicators were selected for analysis, and as a consequence, this study has a narrow view of the health statuses in these countries. There may be another collection of health indicators that can give greater insight into the health statuses and the potential impacts on the economies of these countries. Second, although health status is correlated and, in some studies, predictive of economic growth, it is in no way the sole determining factor of economic growth. This analysis of health should be appropriately weighed with other economic and political considerations when evaluating the countries and potential effect of accession.

Although economic growth is determined by several factors, health indicators are useful in assessing both

the health of citizens and the economic status of the candidate countries. For instance, the EC sees Turkey as a powerful strategic partner based on not only its geographic location but its economic promise. This economic promise might be hindered if the health of the Turkish population remains the same. Analysis like this could prove beneficial for understanding the potential health and economic impact of accession into the EU.

Beyond considering health for economic reasons, increased inclusion of health in accession negotiations could help assess candidate countries in a lens other than a political or economic one. As seen with the infant mortality rate in Turkey, analyzing population health may highlight social inequity that maybe difficult to see when looking solely at economic outcomes. Jennett argues that health is not a priority for candidate countries in the negotiation period because countries are focused on improving the political and economic aspects explicitly stated in the *acquis* (10). Because most of the *acquis* does not explicitly address health, candidate countries may be more inclined to focus policy changes on things that are directly assessed in accession negotiations. Improving health for all is a major goal of the EU, and so the EC should make health a more prominent part of the *acquis*. This would not only show countries that health should be a priority alongside economic and political progress, but would incentivize gains in population health status with the benefits of accession.

Conflicts of interest: None declared.

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