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The article by Kisa et al. reminds us of the obstacles to developing countries as they move to be part of the global community. Turkey is moving toward membership in the European Union (EU), a sophisticated and complex organization of developed nations. The health indicators for Turkey—infant mortality, maternal deaths, and others—demonstrate the challenges and issues that Turkish citizens face. The question becomes one of the level playing fields.[1]

The EU is making the case that for health, environment, and social issues, there must be a near-level playing field. The realities facing many of the countries that are seeking entry into the EU—Turkey being one of the extremes—can approach this as an opportunity to improve these indicators. There is considerable optimism, given the high growth rate and young age of the Turkish population. Hopefully, Turkey will be able to use the EU entry as the mechanism to improve the health system, as well as other infrastructure issues, to better life for all of its citizens.[2]

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A COMPARATIVE ANALYSIS OF THE EUROPEAN UNION'S AND TURKEY'S HEALTH STATUS: HOW HEALTH-CARE SERVICES MIGHT AFFECT TURKEY'S ACCESSION TO THE EU

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Health status, or the overall level of health in a population, is currently a key issue for Turkey in its application for full membership in the European Union (EU).[1,2] The recent entry of new countries into the EU and the presence of other applicant countries puts Turkey's candidacy in an interesting context, given that the differences between Turkey and the EU in terms of infant mortality rates, mortality rates of children aged 5 years and younger, disability-adjusted life expectancy, and maternal mortality rates are actually quite significant. The purpose of this article is to explore the differences and similarities between Turkey and these new member and applicant countries in terms of potential policy changes, which could help Turkey clear its unique hurdles to bring its health status in line with that of the EU.

Before looking at the EU countries and Turkey in terms of comparative health status, it is useful to examine why this question of health status is among the top four or five pivotal issues in Turkey's accession into the EU. It is important to note that societal investment in health and related domains is not only a social and economic imperative, but is also an investment into further development. However, this investment can be expensive and may produce results only in the long term. It may therefore be a difficult project around which to build political support.

Turkey is different from previous countries that have joined the EU in that it has a large and youthful population (approximately 72 million, average age 28), a large economy, and a geographic size larger than any of the current EU member countries or applicants. Turkey is also unique in its strategic position between Europe and the Middle East and in its moderating role among the primarily Muslim nations. These features add up to a big potential influence on EU policy and economics. In this context, the issue of Turkey's health status is important because it raises the question of whether Turkey, despite its young, well-trained workforce and democratic culture, will be a net burden on current EU resources.

Health status is an important determinant of an individual's economic and social well-being.[3,4] A healthy individual will be more productive, will contribute more toward a nation's economy and, other things

being equal, will have a better quality of life than will a sick individual.[5,6] From a policy perspective, two categories of data are important: (*1*) those that indicate the current health status of the population, such as infant mortality[7] and life expectancy[8] and (*2*) those that indicate the current level of health-care intervention, such as health expenditures[9,10] or health personnel and hospital beds per 100,000 people.[11] Estimates of how health-care services improve the health status of a population allow policy makers to provide for health-care services, either through public funding or private enterprise.[12]

RELATIONS BETWEEN TURKEY AND THE EU

Turkey has a long history of cooperation with European countries, and these relations have become particularly close since the Second World War. Turkey is a founding member of the United Nations (UN) and has been a member of the Council of Europe since 1949, the North Atlantic Treaty Organization (NATO) since 1952, and the Organization for Economic Cooperation and Development (OECD) since 1961. Turkey has also been an associate member of the Western European Union since 1992. The Turkish government began cooperating closely with the European Economic Community (EEC) in 1959. This cooperation continues up to the present and includes Turkey's negotiations for membership in the EEC's successor, the EU. The relations between Turkey and the EU depend on the Ankara Agreement signed by the EU and Turkey in 1963. Accession talks for Turkey's full membership in the EU began on October 3, 2005.[1,2,13]

DISCUSSION

During the past decade, the recently joined countries of the EU have made notable progress in improving their overall health status and the quality of their health systems.[14,15] However, they also have a major unfinished agenda for health system reforms. In their transition to EU membership, one of the biggest challenges was the need to begin following EU laws in detail, which involves a reexamination of every sphere of economic activity, from health-care reform to the labeling on packages of exported products. In Turkey, the harmonization of Turkish health legislation with EU legislation began in the early 1990s and continues at present. Specifically, this harmonization has involved regulations on cosmetics, medical products and devices, dangerous substances, the safety of toys, and the general protection of consumer health.[1]

Turkey, with its 72 million people, has the second-largest population after Germany among the EU members and applicant countries. Turkey's population is also young, due to a high fertility rate. About 10% of the population is younger than the age of 5 and 5.9% of the population is older than 65. Population projections made according to the year 2000 census show that Turkey will reach a population of 78 million in 2010. The young age of the population creates an unemployment rate of about 10%, which is close to the EU average and lower than that of Poland, Bulgaria, and Macedonia (Tables 1, 2, and 3).

In Turkey, gross domestic product (GDP) per capita (in units of purchasing power parity [PPP]) is the lowest ($6,772 U.S. dollars [USD]) among the EU members and applicant countries, and is below the EU average ($24,679 USD). Health expenditure per capita (in PPP) is very low in Turkey ($505 USD) compared to the EU average ($2,266 USD). Total health expenditure as a percentage of GDP was 7.5%, which is closer to the EU average.

Turkey's health status has not yet reached a satisfactory level, either absolutely or when compared to the EU members or applicant countries. Life expectancy at birth is about 68 years, which is the lowest life expectancy at birth among the EU or applicant countries. Average life expectancy for a newborn infant is a summary measure that can be used to compare death rates among countries and is a basic indicator of the health and well-being of a population.

Compared to EU members and applicants, Turkey has the highest number of deaths before 5 years of age per 1,000 people. Infant mortality in Turkey is 33 per 1,000 live births, which is higher than the EU average. These figures are important indicators that reflect health service accessibility. Infant mortality rates measure much more than differences in health-care services among countries. They also reflect the economic status of households, the low birth weight of babies, prematurity, lack of prenatal care, poor maternal health status, low maternal education, and poor nutritional status of the mother.

Factors associated with high rates of infant deaths can be better understood by examining the two components of the infant mortality rate: neonatal mortality (deaths during the first 28 days) and postneonatal mortality (deaths between 29 days and one year). The number of neonatal deaths per 1,000 live births is 22 and the number of early neonatal deaths per 1,000 live births is 19 in Turkey—rates that are higher than the EU average. Neonatal mortality is associated with prematurity, low birth weight, and congenital defects, whereas postneonatal mortality is associated with diarrhea from poor sanitation and improper milk pro-

Table 1. Health expenditures of European Union (EU) and applicant countries

Countries	*Percent unemployment rate*	*Real GDP, PPP per capita*	*Total health expenditure as percent of GDP*	*Total health expenditure, PPP per capita*	*Public health expenditure as percent of total health expenditure*	*Total inpatient expenditure as percent of total health expenditure*	*Total pharmaceutical expenditure as percent of total health expenditure*
Austria	7.1	30,094[b]	7.5[b]	2,257.05[b]	67.6[b]	36.1[b]	16.9[b]
Belgium	12.8[a]	28,335[b]	9.6[b]	2,827[b]	73.2[b]	32.0[c]	16.6[d]
Cyprus	3.6[a]	18,776[b]	6.3[b]	1,182.89[b]	50.5[a]		
Czech Republic	9.5[a]	16,357[b]	7.1[a]	1,298[b]	91.2[a]	36.7[a]	27.5[a]
Denmark	6.4[a]	31,465[b]	9.0[b]	2,763[b]	83.0[b]	50.7[b]	9.8[b]
Estonia	9.7[a]	13,539[b]	5.5[a]	717.57[b]	75.5[b]	30.6[b]	24.2[b]
Finland	8.8[a]	27,619[b]	7.4[b]	2,118[b]	76.5[b]	39.5[b]	16.0[b]
France	10.0[a]	27,677[b]	10.1[b]	2,903[b]	76.3[b]	38.5[b]	20.9[b]
Germany	9.2[a]	27,756[b]	11.1[b]	2,996[b]	78.2[b]	35.8[b]	14.6[b]
Greece	8.9[b]	19,954[b]	9.9[b]	2,011[b]	51.3[b]		16[b]
Hungary	6.1[a]	14,584[b]	7.8[e]	1,115[e]	70.2[e]	29.0[e]	27.6[e]
Ireland	4.4[a]	37,738[b]	7.3[e]	2,386[e]	75.2[e]	58.8[f]	11.0[e]
Italy	8.7[b]	27,119[b]	8.4[b]	2,258[b]	76.4[a]	42.4[a]	21.4[a]
Latvia	8.5[a]	10,270[b]	3.3[a]	513.5[b]	73.8[a]	60.1[a]	
Lithuania	6.0[a]	11,702[b]	6.0[a]	667.01[b]	70.6[a]		
Luxembourg	4.2[a]	62,298[b]	6.1[e]	3,190[e]	85.4[e]	40.3[e]	11.6[e]
Malta	5.6[a]	17,633[b]	9.21[a]	1,634.58[b]	78.19[a]		
Netherlands	4.2[a]	29,371[b]	9.8[b]	2,976[b]	62.4[b]	39.6[b]	11.4[b]
Poland	19.0[a]	11,379[b]	6.0[e]	677[e]	72.4[e]		
Portugal	6.7[a]	18,126[b]	9.6[b]	1,797[b]	69.7[b]	33.9[g]	23.4[b]
Slovakia	10.9[a]	13,494[b]	5.9[b]	777[b]	88.3[b]	30.4[b]	38.5[b]
Slovenia	10.6[a]	19,150[b]	8.6[a]	1,685.2[b]	79.0[a]	47.3[h]	20.8[h]
Spain	11.0[a]	22,391[b]	7.7[b]	1,835[b]	71.2[b]	27.2[b]	21.8[b]
Sweden	5.5[a]	26,750[b]	9.2[e]	2,594[e]	85.3[e]	31.2[e]	13.1[e]
United Kingdom	4.6[a]	27,147[b]	7.7[e]	2,231[e]	83.4[e]		15.8[d]
EU	9.21[a]	24,678.7[b]	8.81[b]	2,266.21[b]			
Bulgaria	12.2[a]	7,731[b]	4.73[i]	214.41[i]	100[j]	59.0[g]	
Croatia	18.0[a]	11,080[b]	9.04[i]	357.98[i]	100[j]		
Romania	8.0[a]	7,277[b]	3.7	298.36[b]	100[a]	53.0[h]	20.0[k]
TFYR Macedonia	36.7[b]	6,794[b]	4.5[c]	228.87[c]	93.9[c]	46.0[c]	13.5[c]
Turkey	10.3[a]	6,772[b]	7.53	505.19[b]	71.5[a]	19.9[c]	24.8[c]

[a]2004 data

[b]2003 data

[c]2000 data

[d]1997 data

[e]1996 data

[f]1989 data

[h]1994 data

[i]1993 data

[j]1995 data

[k]1998 data

Sources: European Health for All Database (HFA-DB) World Health Organization Regional Office for Europe; OECD Factbook 2006: Economic, Environmental and Social Statistics; OECD in Figures—2005 Edition; World Health Report 2005; World Health Report 2003; World Health Report 2006

GDP = gross domestic product

PPP = purchasing power parity

Table 2. Health status of European Union (EU) and applicant countries

Countries	*Probability of dying before the age of 5 (percent)*	*Disability-adjusted life expectancy, in years*	*Life expectancy at birth, in years*	*Life Infant deaths at age 65, in years*	*deaths per 1,000 live births*	*Neonatal deaths per 1,000 live births*	*Early neonatal deaths per 1,000 live births*	*Maternal per 100,000 live births*
Austria	5.09[a]	71.4[a]	79.47[a]	18.87[a]	4.47[a]	3.14[a]	2.10[a]	3.80[a]
Belgium	5.00[b]	71.1[a]	77.55[c]	17.61[c]	4.30[b]	4.19[d]	2.71[c]	10.00[c]
Cyprus	5.02[e]	67.6[a]	79.37[e]	18.00[e]	4.08[e]	4.00[c]	3.00[c]	36.73[f]
Czech Republic	4.58[a]	68.4[a]	75.96[a]	16.21[a]	3.75[a]	2.29[a]	1.33[a]	8.19[a]
Denmark	5.62[f]	69.8[a]	77.30[f]	17.07[f]	4.63[f]	3.27[f]	2.89[a]	3.06[f]
Estonia	9.05[e]	64.1[a]	71.78[e]	15.61[e]	6.98[e]	3.99[e]	3.36[a]	28.59[a]
Finland	4.33[a]	71.1[a]	78.99[a]	18.99[a]	3.34[a]	2.46[a]	1.96[a]	12.12[a]
France	5.04[b]	72.0[a]	79.55[b]	19.56[b]	4.1[b]	2.66[b]	1.84[b]	8.82[b]
Germany	4.96[a]	71.8[a]	79.36[a]	18.69[a]	4.14[a]	2.68[a]	2.05[a]	5.24[a]
Greece	4.75[e]	71.0[a]	78.93[e]	17.90[e]	4.02[e]	2.70[e]	1.78[e]	1.92[e]
Hungary	8.53[e]	64.9[a]	72.59[e]	15.32[e]	7.29[e]	4.74[e]	3.38[a]	4.20[a]
Ireland	7.46[f]	69.8[a]	77.21[f]	16.91[f]	6.04[f]	3.57[b]	2.67[a]	NA
Italy	5.52[f]	72.7[a]	80.26[f]	19.33[f]	4.67[f]	3.42[f]	2.18[b]	2.07[f]
Latvia	11.33[a]	62.8[a]	71.26[a]	15.45[a]	9.38[a]	5.70[a]	3.78[a]	9.83[a]
Lithuania	9.57[a]	63.3[a]	72.10[a]	16.22[a]	7.89[a]	4.8[a]	3.42[a]	16.44[a]
Luxembourg	3.84[a]	71.5[a]	79.56[a]	19.00[a]	3.48[a]	2.02[a]	1.65[a]	18.34[a]
Malta	7.86[a]	71.0[a]	79.43[a]	17.95[a]	5.92[a]	4.37[a]	3.09[a]	NA
Netherlands	5.33[a]	71.2[a]	79.42[a]	18.37[a]	4.39[a]	3.36[a]	2.58[a]	5.15[a]
Poland	8.08[e]	65.8[a]	74.74[e]	16.29[e]	7.04[e]	5.02[e]	3.75[e]	3.99[e]
Portugal	5.33[e]	69.2[a]	77.50[e]	17.61[e]	4.19[e]	3.44[b]	2.07[e]	7.11[e]
Slovakia	8.99[b]	66.2[a]	71.88[a]	15.43[b]	7.63[b]	4.68[b]	2.79[a]	5.58[a]
Slovenia	4.82[e]	69.5[a]	73.91[b]	16.97[e]	3.98[e]	3.00[e]	1.95[a]	NA
Spain	5.00[e]	72.6[a]	76.53[e]	19.08[e]	3.92[e]	2.50[e]	1.56[e]	4.53[e]
Sweden	4.03[b]	73.3[a]	79.78[e]	18.69[b]	3.28[b]	2.21[b]	1.70[a]	4.17[b]
United Kingdom	6.16[b]	70.6[a]	80.09[b]	17.91[b]	5.23[b]	3.64[e]	2.80[e]	5.98[b]
EU	5.70[a]	70.75[a]	78.45[b]	18.29[a]	4.75[a]	3.24[e]	2.31[a]	5.71[a]
Bulgaria	14.48[a]	64.6[a]	78.49[a]	14.87[a]	11.65[a]	6.57[a]	4.48[a]	10.02[a]
Croatia	7.10[a]	66.6[a]	72.60[a]	16.05[a]	6.08[a]	4.56[a]	3.42[a]	7.44[a]
Romania	19.69[a]	63.1[a]	75.66[a]	14.94[a]	16.84[a]	9.55[a]	6.86[a]	24.05[a]
TFYR Macedonia	13.02[e]	63.4[a]	73.54[b]	14.44[e]	11.29[e]	8.56[g]	6.03[f]	3.70[e]
Turkey	39.00[f]	62.0[a]	68.70[b]		33.00[e]	22.00[a]	19.00[a]	70.00[c]

[a]2004 data

[b]2002 data

[c]1996 data

[d]1991 data

[e]2003 data

[f]2001 data

[g]2000 data

Sources: European Health for All Database (HFA-DB) World Health Organization Regional Office for Europe; OECD Factbook 2006: Economic, Environmental and Social Statistics; OECD in Figures—2005 Edition; World Health Report 2005; World Health Report 2003; World Health Report 2006

NA = not available

cessing, communicable diseases, and pneumonia.[16–18] Improvements in prenatal care and intensive care services for low birth weight babies influence neonatal mortality rates, while control of infectious disease and better nutrition affect postneonatal mortality.[2,18]

Maternal deaths in Turkey average 70 per 100,000 live births, and this figure is higher than the corresponding figures of the EU members or applicant countries. The maternal death rate per 100,000 live births reflects the adequacy of obstetric care and the general level of socioeconomic development in a country. It can be used to assess the adequacy of a country's medical care system because most deliveries occur in a hospital, where medical staff competency,

Table 3. Demographic data of European Union (EU) and applicant countries

Countries	*Mid-year population*	*Percent of population <5 years of age*	*Percent of population aged ≥65 years*	*Population annual growth rate (1994–2004)*	*Crude death rate per 1,000 population*
Austria	8,174,733[a]	4.7[a]	15.74[a]	1.2[a]	9.09[a]
Belgium	10,406,000[a]	5.4[a]	17.00[a]	0.3[a]	10.21[b]
Cyprus	737,059	5.9[a]	11.86[c]	1.4[a]	7.22[c]
Czech Republic	10,206,923[a]	4.4[a]	13.99[a]	−0.1[a]	10.50[a]
Denmark	5,401,177[a]	6.0[a]	15.00[a]	0.4[a]	10.76[d]
Estonia	1,349,289[a]	4.8[a]	16.02[a]	−1.0[a]	13.41[c]
Finland	5,228,171[a]	5.3[a]	15.72[a]	0.3[a]	9.13[a]
France	60,257,000[a]	6.2[a]	16.30[a]	0.4[a]	8.97[e]
Germany	82,501,272[a]	4.3[a]	18.31[a]	0.2[a]	9.92[a]
Greece	11,098,000[a]	4.6[a]	17.69[c]	0.5[a]	9.57[c]
Hungary	10,107,146[a]	4.7[a]	15.43[c]	−0.2[a]	13.41[c]
Ireland	4,043,763[a]	7.3[a]	11.15[a]	1.3[a]	7.58[e]
Italy	58,033,000[a]	4.6[a]	19.00[a]	0.1[a]	9.77[d]
Latvia	2,312,819[a]	4.4[a]	16.36[a]	-0.9[a]	13.85[a]
Lithuania	3,435,591[a]	4.4[a]	15.06[a]	-0.6[a]	12.03[a]
Luxembourg	453,300[a]	6.2[a]	14.18[a]	1.4[a]	7.79[a]
Malta	401,267[a]	5.0[a]	13.17[a]	0.7[a]	7.47[a]
Netherlands	16,281,780[a]	6.0[a]	13.94[a]	0.5[a]	8.39[a]
Poland	38,559,000[a]	4.7[a]	12.86[c]	NA	9.56[c]
Portugal	10,501,970[a]	5.3[a]	16.82[c]	0.4[a]	10.42[c]
Slovakia	5,401,000[a]	4.7[a]	11.60[a]	0.1[a]	9.58[e]
Slovenia	1,997,004[a]	4.4[a]	15.17[a]	NA	9.74[e]
Spain	42,646,000[a]	5.1[a]	16.89[b]	0.7[a]	9.16[a]
Sweden	8,993,534[a]	5.4[a]	17.20[a]	0.2[a]	10.65[e]
United Kingdom	59,479,000[a]	5.6[a]	15.97[c]	0.3[a]	10.26[c]
EU	458,005,792[a]	NA	16.42[a]	0.15[a]	9.78[a]
Bulgaria	7,781,161[a]	4.3[a]	17.12[a]	−0.7[a]	14.15[a]
Croatia	4,439,400[a]	4.5[a]	16.64[a]	−0.3[a]	11.21[a]
Romania	21,673,328[a]	4.9[a]	14.53[a]	−0.5[a]	11.95[a]
TFYR Macedonia	2,030,000[a]	5.8[a]	10.69[c]	0.4[a]	8.88[c]
Turkey	71,152,000[a]	9.9[a]	5.90[a]	1.6[a]	6.25[f]

[a]2004 data

[b]1997 data

[c]2003 data

[d]2001 data

[e]2002 data

[f]1998 data

Sources: European Health for All Database (HFA-DB) World Health Organization Regional Office for Europe; OECD Factbook 2006: Economic, Environmental and Social Statistics; OECD in Figures—2005 Edition; World Health Report 2005; World Health Report 2003; World Health Report 2006

NA = not available

hygienic conditions, and adequacy of equipment can affect outcomes.[17] Disability-adjusted life expectancy, another basic indicator of overall health status, was 62 years in Turkey compared to an EU average of about 71 years.

In developing countries, a major determinant of health status is the pattern of urbanization. In Turkey, industry-driven urbanization began in earnest in the early 1940s. The first waves of migration to cities occurred during 1945–1950 and surged again in 1965–1970 due to employment opportunities created by industrial developments. Today, 65% of people in Turkey live in cities, and projections indicate that the urban ratio will reach 80% in the near future.[19] Rapid urbanization in Turkey has caused various problems, particularly due to the lack of infrastructure and town planning services, and this trend has resulted in many neighborhoods having a ghetto-like structure, even those neighborhoods that are composed of luxury apartment buildings. In step with urbanization, prob-

lems in the delivery of health services have multiplied and formed a vicious cycle with urban poverty.

Poverty itself has been shown to be a health risk in big cities. The health status of the poor is generally worse than that of the nonpoor.[20] Residents of low-income housing units are more likely than those who live in high-income areas to be hospitalized for conditions that are normally treated on an outpatient basis. Also, uninsured people are less likely to have recently received preventive health services or to have a health-care facility that they regularly use when they are ill. They tend to delay medical care and use fewer medical services. That delay can result in more severe illness, increased health-care costs, increased mortality, and increased costs to society. In addition, the uninsured use emergency departments more often than the insured.[21–28]

A related issue with high priority in Turkey is the existence of great differences in health indicators both between rural and urban areas and among regions. The 2003 Turkish Demographic Health Survey reported that the infant mortality rate in rural areas is about 70% higher than in urban areas. Mortality rates of infants and children 5 years of age and younger are higher than the national average in the North and East regions.[29]

The Human Development Index (HDI) is a simple measure aimed at expressing numerically the level of the development of the human life, its length, the possibility of acquiring knowledge, and the possibility of having access to resources needed for a decent standard of life. The United Nations Development Programme (UNDP) uses the HDI to compare the level of development that the states achieved in a particular year or even to follow the time evolution of human development. The HDI depends on the following variables: life expectancy at birth, level of education, and GDP per capita. In the UNDP's 2006 HDI, Turkey was reported as last of all the OECD countries and other EU candidate countries. The HDI shows Turkey as a "medium" country, with all current EU members (except Macedonia) being "high." This low ranking is mostly due to deficiencies in the country's health-care and education systems. Turkey's female literacy rate is 79.6%, which was one of the factors influencing Turkey's relative standing in terms of health status (most EU countries have female literacy rates in the high 90s).[30]

The resources used in the health sector of a country (health input) are designed to enhance the overall health status of the individuals served. Life expectancy and infant mortality rates, for example, are viewed as essential indicators of social advancement, public health, and the quality of health-care systems. The relationship between health inputs and health status shows whether inputs have been used in an efficient manner to provide health services.

In terms of health input, such as the number of physicians, hospital beds, and nurses per 100,000 people, Turkey had the lowest figures among the countries compared (Table 4). It is important to note that none of these indicators are totally acceptable in terms of measuring health input and output and their relationships. When the health-care systems are examined, unequal distribution of health input and use of health input in an effective way to improve the overall health status of the population should also be taken into consideration.

CONCLUSIONS

The countries that have joined or are now applying to join the EU differ considerably.[14] They have their own unique health systems, traditions, and health situations. However, when these countries are viewed as a group, some common features become apparent. In general, the health status indicators of the latest member countries compare poorly with EU averages. In Turkey, life expectancy at birth is lower than in any of the new EU members or applicant countries. Turkey has less male/female differences in terms of life expectancy.

Infant and maternal mortality rates are also higher in Turkey compared to the EU applicants and new members. As is known, infant and maternal mortality figures are important indicators of a country's overall health status.[31] Higher infant and maternal mortality means that many people are still having problems accessing health care and that there are existing inequalities across the region in terms of resource allocation. Turkey's number of hospital beds per 100,000 people is lower than that of the EU countries, and the same is true for Turkey's number of physicians per 100,000 people.

Overall economic indicators also show that Turkey faces some serious challenges in preparing for EU membership. Turkey's GDP per capita (in units of PPP) is lower than that of almost all new members or applicant countries. In terms of total health-care expenditures as a percentage of GDP, Turkey's is closer to the EU average. Although the share comprised by health expenditures in Turkey's GDP is not low, the return on this investment in terms of health status is somewhat less than might be expected. This is primarily due to inefficient use of resources; for example, the capacity utilization rate in Ministry of Health

Table 4. Some selected health input of European Union (EU) and applicant countries

Countries	*Hospital beds per 100,000 people*	*Physicians per 100,000 people*	*Dentists per 100,000 people*	*Pharmacists per 100,000 people*	*Nurses per 100,000 people*
Austria	834.07[a]	345.25[b]	50.31[b]	61.13[b]	601.41[a]
Belgium	682.48[b]	447.78[a]	90.67[b]	144.78[c]	1,341.31[b]
Cyprus	427.86[a]	260.77[a]	93.12[a]	14.85[a]	425.91[a]
Czech Republic	847.44[b]	347.57[b]	67.04[b]	55.59[b]	853.17[b]
Denmark	398.72[a]	295.37[a]	82.83[a]	49.09[a]	701.65[a]
Estonia	581.79[b]	315.98[a]	83.26[a]	57.33[a]	651.25[a]
Finland	690.15[b]	319.07[a]	86.84[b]	155.11[a]	763.17[b]
France	760.03[a]	337.70[b]	67.88[b]	108.12[b]	726.10[b]
Germany	857.93[b]	339.05[b]	78.78[b]	57.97[b]	768.47[b]
Greece	471.72[d]	437.85[e]	113.19[e]	69.15[f]	255.33[g]
Hungary	782.75[b]	333.69[b]	50.95[b]	51.01[b]	862.21[b]
Ireland	347.70[b]	275.51[b]	55.32[b]	96.40[b]	1,880.55[b]
Italy	411.80[b]	618.52[a]	62.08[a]	112.20[a]	446.50[b]
Latvia	773.56[b]	311.22[b]	60.10[b]	NA	529.57[b]
Lithuania	843.29[b]	389.95[b]	66.13[b]	66.95[b]	745.72[b]
Luxembourg	676.74[a]	275.53[b]	74.78[b]	82.73[b]	946.17[b]
Malta	464.28[b]	324.47 [b]	45.11[b]	208.59[b]	508.64[b]
Netherlands	457.73[a]	314.91[b]	47.82[a]	19.32[a]	1,400.24[b]
Poland	547.04[a]	229.39[a]	28.11[a]	66.02[a]	474.64[a]
Portugal	363.9[a]	328.79[a]	52.54[a]	91.11[a]	418.62[a]
Slovakia	698.74[b]	312.31[b]	45.20[b]	48.82[b]	661.84[b]
Slovenia	479.92[b]	226.27[a]	60.25[a]	41.07[a]	717.89[a]
Spain	369.21[b]	322.11[a]	50.13[b]	85.23[a]	367.16[d]
Sweden	522.00[h]	326.30[a]	152.12[h]	59.93[d]	1,016.90[a]
United Kingdom	397.65[a]	212.61[a]	43.84[e]	58.63[g]	498.59[f]
EU	591.56[b]	347.13[a]	62.50[b]	77.89[a]	731.15[b]
Bulgaria	613.13[b]	352.43[b]	83.42[b]	12.48[d]	382.58[b]
Croatia	552.98[b]	249.88[b]	71.92[b]	54.38[b]	513.56[b]
Romania	655.32[b]	198.22[b]	23.13[b]	5.98[b]	400.64[b]
TFYR Macedonia	493.64[e]	219.13[e]	55.29[e]	15.19[e]	518.61[e]
Turkey	263.93[b]	139.20[a]	25.73[a]	33.83[a]	247.68[a]

[a]2003 data

[b]2004 data

[c]1999 data

[d]2000 data

[e]2002 data

[f]1990 data

[g]1991 data

[h]1997 data

Sources: European Health for All Database (HFA-DB) World Health Organization Regional Office for Europe; OECD Factbook 2006: Economic, Environmental and Social Statistics; OECD in Figures—2005 Edition; World Health Report 2005; World Health Report 2003; World Health Report 2006

NA = not available

hospitals—the major providers of inpatient care in Turkey—is approximately 55% to 60%.[1,2,32]

Turkey has a high growth rate and a young population. The population's health status and the quality of the health-care sector are far below the country's general level of development. Major health-care challenges include the following: improving health status and reducing regional and urban/rural inequalities in health status; increasing population coverage; increasing access to quality health services; reducing high levels of out-of-pocket expenditures; achieving a more equitable distribution of health services and health-care personnel; tackling inefficiencies in delivery, including inappropriate referrals and relatively low occupancy rates in hospitals; improving doctors' training and management skills; improving preventive health services; and improving accountability and transparency.[1,2,32]

For many years, the health sector in Turkey has been problematic. Various attempts at improvement and modernization have been made in the last 25 years, but the lack of a clear consensus has hindered progress. Turkey's decision to continue health reforms in its process of adapting to the EU, therefore, amounts to a new opportunity for building the needed consensus.

To achieve the desired changes in the national health system, the Turkish government is trying to alter the existing structure toward a better one while protecting the current health status of people in the country. This new initiative is called the Health Transformation Program.[19] The program's main objective is to improve the general level of health by means of policies that embody three basic principles: effectiveness, productivity, and equity. Effectiveness simply involves finding policies that work. This goal is clearly limited by economic factors, and so the policy question becomes one of finding the optimal health care that the country is capable of—in other words, the country's highest possible health-care productivity. The second principle involves using resources more productively by reducing operating costs and producing more services with the same resources. The third principle, equity, is the most idealistic of the three and aims to provide universal access to health services for all Turkish citizens according to need, with contributions based on individuals' ability to pay.[2,19,22]

Turkey's Health Transformation Program is heavily influenced by international trends, including the World Health Organization's policy of Health for All in the 21st Century,[24] as well as the Accession Partnership document prepared by the EU.[7] The fundamental hope is that if Turkey harmonizes its health legislation with that of the EU, it will provide the momentum needed for policy decisions that will translate into better health and health-care services for people in Turkey.[2]

In conclusion, Turkey has the opportunity to provide health services to enable its citizens to lead healthier and longer lives. The attainment of this goal will depend on the implementation of rational policies and management of resources, by both the government and the private sector. Through the effective implementation of health reforms, Turkey will be able to increase accessibility, distribute resources rationally throughout the country, and use its resources effectively to provide universal coverage and deliver health services in accordance with community needs. And these accomplishments will be reflected quantitatively in the broad indicators of health status.

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