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## THE EFFECTS OF POLICY REFORMS ON OUT-OF-POCKET HEALTH EXPENDITURES: EVIDENCE FROM TURKEY

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### **In a nutshell**

- *Out-of-pocket payments on health care constitute a substantial portion of the household expenditure in many developing countries. These payments become catastrophic when a household is not able to pay and has to reduce other spending, including food, clothing and education, to compensate for the health expenditures.*
- *The principal objective of any health system should be the financial protection of the population. Commonly used indicators for financial protection are the out-of-pocket expenses as a share of total health expenditure and the amount of households driven into poverty by catastrophic health expenditures.*
- *In 2001 Turkey was facing large challenges in the health sector, where the infant and maternal rates were significantly higher than the average Organisation for Economic Co-operation and Development (OECD) countries' rates.*
- *There were large differences in the rural and urban areas and large disparities between the poorest and richest groups*

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- in terms of health care services and out-of-pocket expenditures. The resources of health care were not efficiently managed and the distribution and access was not equal everywhere, resulting to increases of out-of-pocket expenditures.*
- *In 2003 the Health Transformation Program has been launched with commitment to health reform targeting a people centered vision. The main objective of this program was the efficient and productive organisation of the resources in the health care system.*
  - *In 2008 the Universal Health Insurance has been established aiming at the reduction of out-of-pocket payments. Within the same system, the Green Card Holders enjoy the same benefits with the enrollees in the other health insurance schemes. The Green Card, program is a non-contributory health insurance scheme for the poor.*
  - *Under the Universal Health Insurance the out-of-pocket and catastrophic health expenditures for the poor who are enrolled in the Green Card program have been significantly reduced.*
  - *The improvements that gradually took place in the health care service delivery within a comprehensive reform of the health sector and the health care coverage of the poor through the Green Card program makes Turkey a unique example of universal coverage for quality health services.*

### About the authors

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### Characteristics of the Out-of-Pocket Expenditures

The economic consequences of diseases and poor health conditions in developing countries have attracted increasing attention the last years. Health shocks that are characterised by unpredictable illnesses that decreases the health and well-being status are among the most important factors associated with increased OOPes, poverty and health inequalities. At the point that an individual falls sick and incurs OOPes for health care the impacts on the finances of the household can be severe. The consequences do not include only the households' impoverishment directly caused by the OOPes, but also indirectly by the income loss from inability to work, premature death or disability, leading to lower income. Healthcare in many developing countries, including those in Middle East and North Africa (MENA) region, is mainly funded and financed through out-of-pocket expenditures (OOPes) by households. OOPes is a part of the private health expenditures which include amounts of cash and in-kind payments, such as gifts, money, chocolates and flowers. OOPes also include perks to suppliers of pharmaceutical products, therapeutic appliances and other health related goods and services, payments to health practitioners with purpose the enhancement of the individuals' health status.

An important tool and policy for a country's health

care system is to provide financial protection from extreme OOPes to ensure equitable access to health care. In the absence of this policy, a household may be forced to spend huge amounts on medical bills and treatment, as well as, significant use of time, to treat a family member. The reason that OOPes are a concern for policy makers and society is that they have multiple consequences to the household, the ill members and to the society generally.

First, is the impact of OOPes in the case of catastrophic health expenditures (CHEs), which according to World Health Organisation (WHO) these occur if a household's financial contributions to the health system exceed 40 per cent of income remaining after subsistence needs have been met or the non-food expenditures. In addition, the impact of OOPes goes beyond the catastrophic health expenditures, where people do not use health services anymore, because they cannot afford the direct costs, including costs for medicines and consultation, as well as, the indirect costs, such as transportation. Moreover, this has a further impact on poverty and overall a negative impact on country's growth and development.

Therefore, a concern of the policy makers is to protect people of financial catastrophic health expenditures as a result of the health services usage. Even though WHO has set up the threshold of 40 per cent where health expenditures can be viewed as catastrophic, this threshold can be varied in each country depending on the situations and on the national health policies that they wish to apply.

In 2008, OOPes in Turkey were 17.4 per cent of the total expenditure on health care (Turkish Statistical Institute, 2011). However, as a candidate country to European Union, the rate was higher than the other EU countries, including Germany with 13 per cent, France with 7.6 per cent and United Kingdom with 11.2 per cent at the same year (OECD, 2010). Nev-

ertheless, the health care system in Turkey has been restructured and has undergone health reforms since 2003, promoting the use of technology, delivering a high quality of health care, which might have affected the OOPEs as well. Apparently, the ratio was 22 per cent in 2006 and was reduced at 15.4 per cent in 2012, while the respective percentage in 2012 was 12.9 per cent, 9 per cent and 7.5 per cent for Germany, United Kingdom and France respectively (Ministry of Health, 2010). One of the main objectives of the health reforms in Turkey was the increase of the financial protection of households and the reduction of OOPEs and CHEs.

### **Characteristics of the Health Care in Turkey before the Health Reforms**

Before the health reforms take place over the years 2003-2008, the health status of Turkey was low in comparison to the other countries with the same income level. The maternal and infant mortality rates were rather high and there were large differences between urban and rural areas in terms of health indicators. More specifically, the infant mortality rate was 28.5 deaths per 1,000 live births and the maternal mortality ratio was reaching the 61 deaths per 100,000 live births and these ratios were some of the highest among middle-income countries. In 2001 the life expectancy at birth was about 66 for males and 71 for females, which was 10 years shorter than the average of the OECD countries.

A doctor was present only in 2 out of 5 births and only 11.6 per cent of women belonging to the poorest group were giving birth under the guidance and control of a doctor, while the respective percentage was 72.3 of the women in the richest group. In 2002 only 64 per cent of the population was covered by health insurance. Even those who were insured did not have adequate and equal access to health services. The OOPEs and especially the informal

payments were dangerously rising in the health sector leading to large problems for the poor and other vulnerable social groups by restricting access to health care services.

The resources for the health care were much less than the OECD countries and usually were used inefficiently and inadequately as a result of coordination and management lack. The launch of the Health Transformation Program (HTP) in 2003 and the Universal Health Insurance in 2008 aimed to solve the above-mentioned problems, to organise and provide financing to health sector and to deliver health services in a productive, equal and efficient way (Ministry of Health, 2010).

### **Health Reforms in Turkey**

The main objective of the health reforms in Turkey was the improvement of health using policies that embody three principles: effectiveness, productivity and equity. Effectiveness refers to the implementation of policies that work according to the capabilities of the system and the socio-economic factors of the country. The second principle involves the use of resources in a more productive by reducing the operating costs and producing more services with the same resources. The third principle which is the equity aims to provide universal access to health services for all citizens according to their ability to pay and their needs. The last principle mainly refers to the reduction of the OOPEs (OECD, 2014)-(Giovanis, E. and Ozdamar, O. 2016). Therefore, one of the main targets of the health reforms in Turkey was the reduction of the OOPEs and catastrophic health expenditures, especially in the poorest groups of the society. In Turkey the Health Transformation Program (HTP) initially took place in 2003. One main characteristic of the HTP is the expansion of coverage of the Green Card to include additional low-income groups. In addition, the

value added tax (VAT) of pharmaceutical products has been reduced resulting to a discount of pharmaceutical expenses and consequently reducing the burden for citizens.

It is claimed that HTP was successful in expanding health insurance coverage for the whole population –especially the poor people- and in improving access to health services –especially in rural areas. However, for the implementation of the reform it was a pre-requisite that the government of Turkey should prepare a universal health insurance (UHI) law that will combine all the different health insurance schemes into one. This law took years and has been adopted by the Turkish Grand National Assembly in 2006. However, the implementation of this law started after 2007 (OECD, 2014).

In addition, the preventive health care and mother-child health care services have been strengthened, and the family medicine implementation took place. This is a program which has been spread around the country and its purpose is the understanding of modern health, such as lifestyle, health diet and others.

Furthermore, HTP tried to expand the coverage in both formal health sector insurance schemes (SSK, Emekli Sandığı and Bagkur) and the Green Card program. This program, initially set up in 1992, was an important social protection mechanism and it was centrally financed through general revenues. The aim of this program was to offer health insurance to poor people who had traditionally not been covered by formal sector health insurance mechanisms and who have a household income per capita of less than one-third of the minimum wage threshold. More specifically, the Universal Health Insurance (UHI) system combined SSK, Bag-Kur and Green Card Program under one umbrella in October of 2008.

Under this system, the Green Card Holders in 2008 enjoy the same benefits with the enrollees in other health insurance schemes. The UHI and Green Card Scheme that covers the poor have increased the share of population under health insurance and ensured higher access to health care services. More specifically, the contribution to the formal health sector insurance schemes has been expanded from 59 per cent of the population to 69 per cent of the population in 2008, while the number of Green Card beneficiaries has been increased from 2.5 million in 2003 to 9.5 million on 2008 and 10.2 million in 2011 (OECD, 2014).

After its application, there were improvements in various health sector indicators. More importantly, the infant and maternal mortality rates and the life expectancy have greatly been improved. The overall success is that Turkey reached the OECD countries' health rates. Furthermore, the public-sector health expenditure ratio in total health expenditure increased at 79.6 in 2011 per cent from 61.1 per cent in 1999 (OECD, 2014).

The Turkish health reforms were strongly supported and driven by the Minister of health, who made strong commitment to improve the health status and conditions of Turkey's citizens, to ensure that they have adequate health insurance coverage and that the patients are at the centre of the health system concerns (OECD, 2014).

As we will discuss the health reforms that took place in Turkey over the years 2003-2008 were targeting at the reduction of the OOPes through discounts in medicine and therapy services, the expansion of the health coverage in a larger part of the population, changes in the Green Card program and improvements of infrastructure in the rural areas (Giovanis, E. and Ozdamar, O. 2016).

### **The Effects of the Universal Health Insurance System on the OOPes**

The study by Giovanis and Ozdamar (2016) explored the determinants and characteristics of the out-of-pocket to capacity to pay and catastrophic health expenditures in Turkey using a detailed micro-level survey, the Household Budget Survey during the period 2002-2011. The purpose of the study is to explore the effects of the health reform of the universal health insurance (UHI) in 2008 on OOPes and the catastrophic health expenditures considering groups having different types of insurance; public, private, Green Card and no-insurance.

After the implementation of the UHI the financial risk protection of households has improved significantly. The OOPes reduced from 22 per cent in 2006 to 15.4 per cent in 2012. The catastrophic health expenditures (CHEs) showed a declining pattern from 2003 to 2012. The CHEs were 0.75 per cent in 2003, 0.48 per cent in 2009 and reduced at 0.31 in 2011. This is part of various policies that the health reforms have implemented.

One policy was the reduction of out-of-pocket payments for medicine and therapy. The discount of pharmaceutical and therapy expenses, because of the VAT reduction, decreased the OOPes from 32 per cent in 2003 to 11 per cent in 2011.

Another part of the reforms was the expansion of the health insurance coverage, which grew from 60 per cent in 2003 to 99 per cent in 2011. This policy is also related to holders of the Green Card Program, which reduced their OOPes and CHEs. Through the expansion of this program, poor were benefited significantly. In 2002, only about a fourth of the population in the poorest groups were covered by some kind of health insurance plan and about half of them had a health insurance through the Green Card program. In 2008 this share rose remarkably to

82 per cent and the 65 per cent of them had access to the Green Card program. The share of the poor covered from health insurance expanded at 89 per cent in and the 75 per cent of this population was participating in the Green Card program.

Under the UHI system, the enrollees in the green card program are entitled to the same health services with those who have public health coverage which refers to the public sector employees. Moreover, after 2008 the infrastructure has been improved and the emergency services have been expanded in the rural areas (Giovanis, E. and Ozdamar, O. 2016), where the majority of the green card holders reside.

The UHI is administered by the Social Security Institution (SSI) and it provides reimbursement for designated preventative, diagnostic and curative services both inpatient and outpatient. With recent modifications, these health care services are offered for no fee to citizens earning less than 279 TL per month and those belonging to the Green Card program. For those who earn more, make gradual social security premium payments, increasing in stages according to their annual income.

Before the implementation of the UHI those with no insurance and the poor people belonging to the Green Card program were facing higher OOPes and catastrophic health expenditures. The OOPes have significantly been reduced after the UHI in 2008. The probability of CHEs occurrence in the poor and green card holders has been reduced by 3.9 per cent after the implementation of the UHI in 2008. The difference of OOPes between green card holders and employees registered in the formal health insurance systems has been declined by 110 TL per year.

The results also show that besides the socio-economic characteristics that have been examined in other studies, such as age, income and other factors



of OOPes, a very important factor is the accessibility level to health centres and transportation points. Since many people need a private transportation, in the case where the accessibility to public transportation is difficult or no convenient, as well as, the distance to health centres and their accessibility level, are all significant factors that can increase the OOPes (Giovanis, E. and Ozdamar, O. 2016).

Furthermore, the OOPes differences have also been declined in the rural areas relative to the urban areas. This is in line with the previous argument that the distance to health centres and the accessibility level to them which was low in the rural areas before the UHI in 2008 was some of the reasons of the higher levels in OOPes. The expansion of the emergency services to these areas, the improvement on infrastructure and transportation, and the equal and productive delivery of health care services to the rural areas, has resulted to lower OOPes and impairment on health status in terms of life expectancy at birth rates and reduction of the maternal and infant mortality rates (Giovanis, E. and Ozdamar, O. 2016).

The improvement on infrastructure that made the access to health centres and public transportation points was beneficial. After the UHI implementation in 2008 the improvement on the accessibility to health centres and public transportation reduced the CHEs by 0.9 per cent. The OOPes were 1.3 per cent less and the amount spent was on average 32 TL per year less. This reduction was significantly higher in the rural areas, where the OOPes have been reduced by 2.1 per cent corresponding to 51 TL per year. The probability occurrence of CHEs in rural areas has been declined by 1.2 per cent.

Another important factor is the disability, illness and various health problems of a person in the household, which is positively associated with the probability of seeking health care and increasing OOPes. The UHI had as a result the reduction of

the OOPes of households with disabled members by 280 TL per year and the probability of CHEs occurrence has been declined by 0.7 per cent.

In 2008 following the establishment of the UHI, the health care provision for children under 18 years old was made free regardless of their parent's social security and insurance status. This policy had as a result the reduction of the OOPes by 85 TL after the implementation of the UHI, while the reduction was higher in rural areas by 130 TL and 38 TL in urban areas. The reduction in CHEs was also significant, and they were declined by 4.1 per cent after 2008. The reduction was higher in rural areas by 5.7 per cent, while the respective percentage in urban areas was recorded at 3.5 per cent. The reduction was higher for the children of the Green Card holders, where the OOPes have been declined by 160 TL in comparison with the children whose parents had a formal security or social insurance. The respective difference in terms of CHEs reached the 1.6 per cent.

The findings of the study show that in all cases, public health insurance offers a protection to the individuals and households regarding the OOPes and the health expenditure levels. The results confirm the commitment of the government for a people centered vision, to provide accessibility to health care services in equity, and to reduce the OOPes. The study supports that the differences of the OOPes in the poor groups enrolled in the Green Card program have been reduced after the implementation UHI in 2008 (Giovanis, E. and Ozdamar, O. 2016). Also, in the whole population OOPes have been significantly reduced. These were relatively low in Turkey at 15.4 per cent in 2012, compared to the OECD average of 20 percent (OECD, 2014). Overall, Turkey has made dramatic progress in the extension of the health care coverage at around the 95 per cent of the population, which places Turkey among the vanguards towards Universal Health Coverage (UHC). The health reforms discussed

above reduced the OOPes in the following ways (OECD, 2014) - (Giovanis, E. and Ozdamar, O. 2016).

- Regarding the cut on VAT, the consequence was the price reduction which in turn reduced the extra expenses for pharmaceuticals.
- The Green Card Scheme was extended to cover all health expenditures including outpatient prescription of drugs and services that previously were not included, as well as the co-payment for pharmaceuticals was introduced.
- With the health reforms and the new regulations, Green Card holders had the same rights as the members of the formal health sector insurance schemes -SSK, Emekli Sandığı and Bağkur- giving them access to outpatient care and pharmaceuticals.
- The health care system is mainly funded through taxes, premiums and contributions reducing the level of OOPes.
- The definition of equity in finance and access to health services is based on the ability to pay (ATP). After 2008 the health expenditures are progressive, meaning that the share of OOPes contributed by the poor is less than their share of ability to pay.
- A long standing issue is the regional disparities and the inequitable geographic distribution of the health centres and hospitals. The policies taken after the reform reduced significantly the personnel gap between the highest and lowest provinces between 2001 and 2011. More specifically, the ratio for specialists from 1:14 reduced at 1:2.7, for general practitioners from 1:9 to 1:2.3 and for nurses and midwives from 1:8 to 1:4. For example, while there were 8 more nurses and midwives in the high personnel intensity provinces relative to the low provinces, the number was reduced at 4 in 2011.
- The Family Medicine Program introduced, and the changes followed encouraged the doctors and health workers to serve in rural populations. When a doctor is registered patients in

rural areas, health house midwives are also assigned. Additionally, mobile outreach services are provided to those living in those areas. The payment of those physicians is adjusted based on the socio-economic development of the area they practice and those working in underserved areas receive a “service credit” on a sliding scale, linked to the socio-economic development index of the district (OECD, 2014). In the poor areas the service credit can reach as high as the 40 per cent of the maximum payment. The implementation of this program reduced the health disparities and inequalities, made the access to health easier and less costly, and the investments on transportation reduced also the mobility related costs.

- Free health care provision for the population under 18 years old. This resulted to the reduction of the OOPes and CHEs, but also improved the health status reducing the child mortality ratios.

Next we discuss the costs associated with the features of the health reforms and the plausible benefits in health coverage and reduction of the OOPes.

### *Green Card Program*

In terms of health expenditures the implementation for the Green Card Program increased from 538,000 TL in 2000 to 3.2 million TL in 2011, the percentage of the health expenditures to the total public expenditures increased from 0.36 to 1. The respective increase of the health expenditures to GDP ratio increased from 0.15 to 0.45 over the same period 2002-2011. The Green Card program until 2004 covered only treatment costs and in 2003 2.5 million people were registered and the number increased at 10.2 million in 2011. In the following years, with the implementation of the health reforms, the program expanded the benefits to cover both inpatient and outpatient services at health centres and hospitals

and outpatient prescription drugs. In line with these policies, the prescription of pharmaceutical products and drugs was free. As we discussed before, the difference in OOPes between the Green Card holders and the employees registered in the formal public insurance scheme has been reduced by 110 TL per year. Also the targeting performance of the program is compared well internationally with other developing countries. More specifically, in 2010 the 71 per cent of the people belonging to the lowest income percentile are covered, while the respective rates are 39 per cent for Brazil, 60 per cent for Chile, 34 per cent in Mexico and Indonesia (OECD, 2014). While the OOPes are important, CHEs are associated with further financial burden and the ability to pay. Therefore, since the poor and vulnerable population groups are more likely to face CHEs and have a less ability to pay (ATP), the Green Card program was more successful because it reduced the OOPes and CHEs mainly to these groups.

### *Pharmaceuticals*

One of the main instruments of the health reforms in Turkey was the increase of the public insurance scheme's negotiating power as the sole buyer in the market and a combination for discounts that decreased the prices in 1,000 products by reducing the VAT from 18 to 8 per cent. In addition, those with formal health insurance were covered for inpatient prescription of drugs, while additionally the outpatient prescription for Green Card holders was free. However, the latter is a policy within the Green Card program. The result was the reduction of OOPes from 32 per cent in 2003 to 11 per cent in 2011. The public spending on pharmaceutical increased from 5 billion TL in 2002 to 16 billion TL in 2011 while the percentage of spending over the Gross Domestic Product (GDP) has been declined from 1.49 to 1.22 per cent. Even though the contribution of pharmaceutical policies were successful to reduce the OOPes the Green Card program and

the expansion of the Family Medicine program in all provinces of Turkey up to 2010 were more effective on reducing also the CHEs and the ability to pay for low income households.

### *Infrastructure and the family medicine program expansion in rural areas*

As we discussed earlier, the improvement in infrastructure in the rural areas and the expansion of the family medicine program increased the accessibility to health centres, health services and reduced the OOPes by 51 TL per year. Since the implementation of the Family Medicine program, the public spending increased from 0.2 million TL in 2002 to 3.150 million TL in 2011. Along with the Green Card program, the implementation of the Family Medicine program and its expansion in all areas of Turkey until 2010 and the improvement of transportation expenditure in rural areas, was the most significant and effective feature of the health reforms.

### *Benefits for disabled people*

The disabled people and those with poor chronic health conditions were benefited significantly from the reform as the OOPes were reduced by 280 TL per year after the implementation of the UHI reform. However, this feature of the reform is less significant as it refers to a small proportion of the population even though the reduction of the OOPes was high that is owned to the health conditions of those people.

### *Free Health Care Services for Population under 18 years old*

As we discussed earlier, in 2008, all health care services for the population under 18 years old became free regardless of the parents' social security status. This was a successful feature of the UHI, since it reduced the OOPes and CHEs by 85 TL and 4.1 per



cent respectively, and recorded even a larger reduction in rural areas and for the Green Card holders. The combination of various regulations and policies had as a result the reduction of the OOPes in Turkey over the period examined. More specifically, the major issue was the high percentage of the poor population paying for health expenses. While the overall goal of the health reform was the reduction of the OOPes in the whole population, the main purpose was to reduce the burden for the poor and vulnerable population groups discussed earlier. According to the costs implementation and the coverage of the benefits in population and the society, Green Card program and the improvement of infrastructure and the expansion of the Family Medicine program in all provinces of Turkey and especially in rural areas, which has been completed in 2010, were the most successful instruments of the health reforms. While the changes in the prices of the pharmaceuticals and the implementation of the UHI reduced the costs and OOPes for the whole population, Green Card program was more important and successful since was targeting the poor population and increased the access to health services, decreasing their burden on health expenditures and improving in this way the equity of accessibility to health centres. Moreover, those groups- uninsured and poor and those living in rural areas- were facing 2.5 times higher CHEs before the implementation of the UHI in 2008 relative to the rest of the population groups in urban areas. The ratio reduced at 1.3 until 2011. In addition, the free coverage of outpatient drug prescription was a policy within the Green Card program and not a pharmaceutical pricing policy (OECD, 2014) - (Giovanis, E. and Ozdamar, O. 2016). Along with these policies, the free health care provision of the dependent children, under 18 years old was also a very successful instrument, especially for the children of the Green Card holders. Overall, the Green Card program, along with the Family Medicine program and the free provision of health care services for individuals under 18 years old

were the three most important features of the health reforms implemented in Turkey over the period examined. However, there are still issues about the out-of-pocket payments and the health care system in Turkey which are discussed in the next part.

### **Health Care System Design for the Reduction of the OOPes and Future Challenges**

CHEs and OOPes do not disappear or necessary reduce with rising income. The health system should be designed in such a way that not only allows people to access services when they are required, but also to protect individual and households from catastrophic expenditure by reducing the OOPes. In the long term the aim should be the development of pre-payment mechanisms, including tax-based financing of the health care system, social health insurance or a mix of pre-payment mechanisms. The solutions discussed are strongly connected to the structure and design of the health care system. There are various options for OOPes reduction:

#### *Pre-payment mechanisms for the population coverage extension*

Where the social health insurance covers employees in the formal sector the system should extend the health insurance coverage to include self-employed and dependents, such as poor, unemployed and widows. In this case the government has two options; either providing the services for those groups or cover their financial contributions for those services. The pre-payment mechanisms include also the tax-based systems for the financial contribution. These systems should extend the coverage by improving the efficiency of the tax collection resulting to increase of funds and to ensure that those funds are allocated more efficiently and effectively. In addition, the government should control the labour market and reduce the incidence of employability in the informal sector, raising in this way the funds for

the social health insurance system. Another option is to increase the funds from abroad and advocate for increased flows to the health care system.

#### *Protection of poor and disadvantages social groups*

The programs that target only poor may not achieve the desired results and this is explained by two main reasons. First, the benefit package associated with these programs cover only limited services and the co-payments are high. Second, the beneficiaries of those programmes are not always eligible, that means poor, as for instance the Green Card Program. One solution for reducing the OOPEs is the design of programs that target the disabled, elderly and those with chronic health conditions that are often easier to target.

#### *Design of benefits package*

Government should consider the design of a benefits package that keeps a balance between cost and risk protection, since the services are offered by tax-based pre-payment systems. A package with limited services will have a low cost than a more generous benefits package, but it will be also less successful on protection against OOPEs and CHEs. Following the previous two recommendations a short term solution is to follow cost-effective ways that improve people's health and in the long term to expand the services as the funding increases, leading to the reduction of the CHEs incidence.

#### *Level of costs sharing by the patients*

The level of costs sharing by the patient is another plausible option for OOPEs reduction. In this case the decision made should consider the balance between the need of individuals' protection from CHEs and to ensure the effectiveness of the health care system. There are cases where the employees in the formal sector covered from health insurance

may have zero contributions to OOPEs, but they may make over use of pharmaceuticals and stays in hospitals can be significantly longer. Therefore, exemptions or lower rates can be applied to the vulnerable population groups mentioned earlier, including the unemployed, widows, elders and disabled.

#### *Outsourcing services*

Outsourcing is a practice that is used by different companies and transfer part of work to outside suppliers of companies rather than implementing it internally with purpose the reduction of the cost. Thus, outsourcing services can be another option for reducing the costs of various services in hospitals, saving in this way funds that can be allocated for the coverage of the vulnerable population groups mentioned earlier. This will result to OOPEs and CHEs reduction. For instance, the Ministry of Health conducted a survey in 2008 about the assessment of outsourcing practices and the costs saved in hospitals. According to the survey's results, 131 hospitals saved a total of 38.7 million TL by outsourced catering services and 244 hospitals saved 32.3 million TL by outsourced cleaning services. Also, with regard to medical services, the survey found that magnetic resonance imaging (MRI) test costs 81.80 TL in hospitals that conducted the test on their premises, but it costs 42.8 TL for hospitals that preferred outsourcing. Similarly, it has been found that a computed tomography scan (CT scan) costs 65.0 TL in the hospital's premises and 41.30 TL when it takes place by outsourcing suppliers (OECD, 2014), (Ministry of Health, 2010).

#### *Environment and region*

Improvement of environmental factors that increase health risks is another option to reduce indirectly the OOPEs though improvement of health status. Sanitation facilities, clean drinking water, air pollu-

tion, exposure to cooking fuels, availability of piped water supply and hygienic toilet facilities are some of the most important factors that influence health risk and therefore increase OOPes (Karn, S., Shikura, S. and Harada, H. 2003). As we discussed earlier the regional disparities have been greatly improved; however the disparities remain until now, as for instance there are 2.3 physicians per 1,000 people and 1.2 in Southeastern Anatolia. The highest-ranking region for nurse and midwife density is the Eastern Black Sea, which had 1.6 times as high density as Southeastern Anatolia, the lowest ranking. The reduction of regional disparities can reduce further the OOPes, because the access to health centres will be easier and more equitable, while the transportation related costs will be also further reduced.

### *Healthy lifestyle*

As we discussed, the mortality rates and the OOPes and CHEs have been reduced over the period examined, but there is a very important rising problem which is the increase and prevalence of the obesity in a large proportion in Turkey. In 2011 the 22 per cent of the population was defined as obese lower than in USA and Mexico at 35 and 32 per cent respectively. Even though the percentage is lower in relation to those countries, the growing prevalence of obesity foreshadows increases in the health risks and problems occurrence and higher health costs in future, therefore plausible higher OOPes. The government, public authorities, schools, and families should follow practices that involve healthy diet and physical activities that treat and prevent the obesity.

### *Future challenges*

Next we discuss the main challenges of the health care system in Turkey. One major challenge, as in any kind of health care system, is the informal payments. Many health systems guarantee citizens access to a

predefined package of services, either free or for a small fee. But, despite the official policies, in some cases health care providers demand, or even the patients offer, to make informal or illegal payment. This results to cost of patients' care increase, especially the poor, leading to higher OOPes and discouraging some people from seeking care, deteriorating in this way their health conditions. One solution to this problem can be the increase of the health care providers' salaries. Since low salaries often motivate providers to demand or accept informal payments, strategies to address this problem may reduce the practice. Another effective solution can be the implementation of policies and rules that prohibit informal payments. This can be effective if the rules are enforced and consequences for non-compliance are followed. The reduction of informal payments can be still a problem that contributes to OOPes and CHEs.

The ageing population in the developing countries and the burden on the health care infrastructure has proven to be a challenge in maintaining a sustainable health care system. This could be a challenge also for Turkey. More specifically, the population of the country over 65 years now amounts to 7.7 per cent of the total population in 2013 (Turkish Statistical Institute, 2014). While maternal and child health have rightly been the priorities for the Turkish health system in the past decade, the fast economic growth and reductions in premature mortality will lead to a demographic and epidemiological shift at a much faster speed than most OECD countries. With this increase, the cardiovascular and chronic diseases have become major public health challenges increasing also the OOPes. Diseases such as heart attack, stroke, diabetes and obesity have become common in Turkey over the last years. One possible solution for this issue is the smoke-free legislation passed in 2007 and bans on tobacco promotion, advertising and sponsorship since 2009 (Akdag, R. 2009). Also, in 2006 a new family doctor system started for primary health care. In this system, family doctors are responsible for the

people enrolled in their lists and their salaries are based on the numbers registered with them. Family doctors are mainly responsible also for preventive cure and guidance on aspects related to healthy life style, including smoking, sports, exercise and food diet. However, information and education programs about the healthy life style should be promoted and expanded in whole population. This can result to health improvement and thus, reduction to OOPes. The improvement of quality in the health care system should be the priority which can improve population's health status and reduce the OOPes.

Another critical issue that is related with both OOPes and the financial sustainability of the health care system in Turkey is the informal employment. The large changes in demography and other socio-economic characteristics, including the ageing population we mentioned earlier, started to create burden on the maintenance of the healthcare system sustainability. This will create further problems on the health coverage, increasing again the OOPes. In this case there are two possible solutions: allocation of additional funds or cost reduction. The main source of revenues can be the premium collection which is mostly critical. The informal economy is a significant problem that most countries face. In Turkey, the 22 per cent of the employed workers, in 2013, is estimated to belong to informal economy and almost the 20 per cent does not report income for tax (TurkStat, 2014). This results to less revenues allocated to health spending and it will lead to increased OOPes in the future. Therefore, one solution is the reduction of the informal employment, which will have multiple effects in the whole economy and society.

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