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# Better noncommunicable disease outcomes: challenges and opportunities for health systems

# Country assessment **TURKEY**

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# Abstract

Like many countries, Turkey is facing a growing noncommunicable disease (NCD) disease burden. This report takes stock of Turkey's achievements and challenges on how to accelerate improvement in NCD outcomes. Turkey has already made impressive progress to implement many recommended core population interventions for NCDs. Efforts have been most significant in the area of tobacco control. Challenges include implementation of the already passed alcohol policy and development of a comprehensive and pragmatic approach to addressing obesity. In terms of core individual services, Turkey has made great strides to improve access to quality health care services at all levels, with well documented impact on maternal and child health outcomes. Nevertheless, challenges remain in terms of integrating timely detection and continuous management of cardiovascular disease conditions, diabetes, and cancer into family medicine. The report examines these issues in depth and concludes with policy recommendations in these areas to contribute towards addressing Turkey's next generation health challenge.

## Keywords

CHRONIC DISEASE  
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# Introduction and rationale

Like many countries, Turkey is facing a growing noncommunicable disease (NCD) disease burden. With its impressive Health Transformation Program, Turkey has introduced fundamental changes to its health system. These changes have led to a rapid increase in health insurance coverage, improved access to health services and reduced regional inequalities in access to care, with demonstrated impact on infant, child and maternal mortality (Akdag, 2011; Ministry of Health, 2012a; Atun R, Aydin, Chakraborty, Sümer, Aran, Gürol et al., 2013). Over a decade into systematic health reforms, the Ministry of Health has approached WHO to take stock of achievements and challenges to identify how to accelerate progress for NCD outcomes.

The objectives of the country assessment are twofold. First, it is expected to produce pragmatic, contextualized and actionable policy recommendations in health system strengthening to accelerate gains in key NCD outcomes for Turkey. It is hoped that the assessment and its policy recommendations will provide a platform for a comprehensive NCD action plan to serve as an umbrella for a number of already existing subsectoral plans. Second, the assessment will contribute to regional knowledge and experience sharing on common health system barriers for NCDs and promising approaches to remove them. Early results of the assessment were featured in the High-level Meeting on Health Systems for Health and Wealth in the Context of Health 2020 in Tallinn, Estonia on 17-18 October 2013; the 10th Flagship Course on Health Systems Strengthening in Barcelona, Spain on 21–30 October 2013; the International Anniversary Conference Marking 35 Years of the Declaration of Alma-Ata on Primary Health Care in Almaty, Kazakhstan on 6-7 November 2013; and the WHO European Ministerial Conference on the Prevention and Control of NCDs in the Context of Health 2020 in Ashgabat, Turkmenistan on 3–4 December 2013.

The country assessment is part of a regional project of the WHO Regional Office for Europe to step up support to Member States on strengthening their health systems for better NCD outcomes. Five countries have agreed to participate as first line countries in the assessment: Kyrgyzstan, Hungary, the Republic of Moldova, Tajikistan and Turkey. The five country assessments are using a common approach with multidisciplinary assessment teams. The assessment is based on a structured assessment guide, which is tailored to the specifics of each country. (WHO Regional Office for Europe, 2014 (forthcoming)) The guide has been informed by a background paper, which explores the role of health systems in tackling NCDs (Roberts & Stevenson, 2014 (forthcoming)).

To meet the objectives, a multidisciplinary WHO expert team visited Turkey on 17–26 June 2013. The mission started with a three-day consultation with a wide range of experts and stakeholders involved in NCDs in Turkey. (See Annex 1 for list of participants) Presentations and small group discussions provided the opportunity for sharing information, reviewing data, identifying success and challenge areas, and building consensus around some of the key points in the assessment. The workshop was followed by field visits to the Ankara and Malatya provinces and individual meetings with their respective health authorities; public health authorities; the Ministry of Development; local governments; city hall officials; community health centres (CHCs); family medicine centres; early cancer diagnosis, screening, and training centres (KETEMs); smoking cessation clinics; ambulance call centres and hospitals. The meetings and visits allowed the team to gather first-hand impressions and to vet information obtained from



documents and a workshop presentation with information from the field. At the end of the mission, impressions formed during the workshop and field visits were presented to key stakeholders for further consensus building.

The structure of the report is as follows. The first section outlines trends in key NCD outcomes with a focus on mortality-based indicators. The second section reviews progress in scaling up coverage of core NCD interventions and services. The third section discusses health system challenges and opportunities for further improving coverage core NCD interventions and services. The fourth section presents selected innovations and good practices implemented in Turkey. The last section concludes with policy recommendations.



# 1. Noncommunicable disease outcomes

## 1.1 Mortality-based outcome measures

**Turkey has shown impressive commitment to health and to addressing health inequalities with documented improvement of many health outcome indicators** (Akdag, 2011; Ministry of Health, 2012a; Atun R, Aydin, Chakraborty, Sümer, Aran, Gürol et al., 2013). Since the launch of the Health Transformation Program, Turkey has recorded a significant increase in life expectancy and large declines in maternal, infant and child mortality. There is documented progress in reducing regional inequalities in these outcomes. A comprehensive but prioritized health system reform programme that focused on all health system functions including financing, service delivery, resources and governance contributed to the achievements.

**Assessing mortality trends in key NCDs for this report proved to be challenging due to incomplete death registration up to 2008.** Prior to 2008, it is estimated that only 50% of deaths were recorded. Death registration including cause of death was undertaken only in large districts or provincial centres and was incomplete. Accuracy was also a problem, with cause of death collected on the basis of the International Classification of Diseases (ICD), eighth revision and often referring to the immediate cause of death rather than the underlying cause.

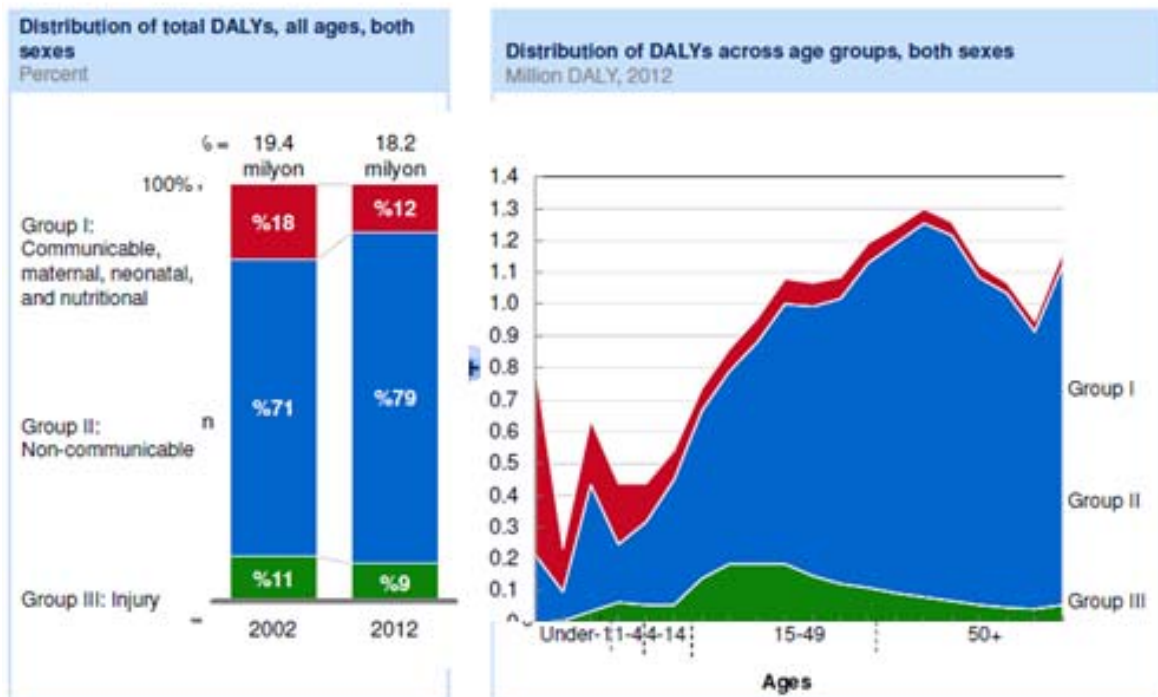
**Since 2009, significant improvements in completeness and reliability of death registration have been implemented.** Examples include improved death certification forms, training of physicians and increased use of verification. Causes of death have been collected, and the underlying causes are categorized according to ICD-10 as of the beginning of 2009. It became mandatory for doctors to certify the cause of death, even if the death occurred at home; a complete death registration is required before burial can take place. Doctors note the causes of death as open-ended in the death registration forms, and the Turkish Statistical Institute updates the cause of death using the automatic classification of medical entry table codes for ICD-10. Further improvements have been implemented in 2013. The two forms, death registration and cause of death, were combined into one form. A direct entry web-based system has been introduced with built-in error checking and alert systems. Doctors can electronically submit the cause of death directly into the system, which is coded using ICD-10, or use an open-ended cause of death form and have it verified by the Ministry of Health before submission to the Turkish Statistical Institute. From 2013, extra socioeconomic variables can be included in the death registration form, although the fields are voluntary. The changes have led to significant improvements. In 2009, approximately 70% of deaths were recorded, with a cause of death specified in 76% of those cases. Between 2010 and 2012, an estimated 85% of all deaths were recorded, a cause of death specified in 90% of cases. Implementation of the family medicine system across the country has greatly contributed to this achievement.

**Although analysis of a time trend for key NCD conditions or comparison across countries seems difficult, it is widely recognized that NCDs present the next generation health challenge in Turkey.** The 2013 National Burden of Disease Study showed that the burden of disease rate constituted 71% of the disability-adjusted life-years (DALYs) in 2002; the rate had increased to 79% by 2012 (Basara, 2013) (Fig. 1) This trend is not unusual in countries that successfully address infectious diseases and childhood illnesses and increase the life-span of the population. Reviewing trends

between 2002 and 2012 in the top 25 causes of DALYs, a number of trends relevant for this assessment become apparent.

- **Circulatory conditions:** ill health due to ischemic heart disease, the greatest contributor to the disease burden, has not improved during the past decade. Other cardio-circulatory causes of death and disability have been slightly reduced, but their weight is much smaller in the overall disease burden than that of ischemic heart disease.
- **Diabetes:** the disease burden from diabetes has increased by 12.8% and has become the fourth most significant cause of ill health in Turkey. This trend is in line with the increased rates of obesity, as presented in the next section.
- **Stroke:** DALYs due to stroke have declined by 6.6%. However, due to the epidemiological transition Turkey is undergoing, stroke is now the third most significant cause of ill health with a significant disability burden.
- **Cancer:** a number of cancers including lung, stomach and colorectal cancers are among the top 25 causes of ill health. DALYs associated with each of these have increased over the past decade, although some of the increase could be due to the improved detection described in the next section.
- **Lung diseases:** DALYs lost from lung diseases such as chronic obstructive pulmonary disease and asthma have also increased significantly.

**Fig. 1. Rise in NCDs as share of total burden of disease, 2002–2012**



Source: reproduced by permission of the publisher from Basara (2013)

With improvements in death registration underway, Turkey is well set to systematically track progress in key NCD outcomes, set specific targets in line with the commitment to reduce NCD mortality by 25% by 2025 and routinely assess progress towards them. The same kind of results-driven approach that underlies Turkey’s success in reducing maternal and infant/child mortality can be effectively applied to NCDs.

## 1.2 Inequalities and social determinants of NCDs

In Turkey, inequities in health have been observed in relation to wealth, education level, gender and place of residence. In 2011, Turkey's Gini coefficient was 0.41, indicating wide income inequalities according to the Organisation for Economic Co-operation and Development (OECD) (OECD, 2011). Turkey is one of only two OECD countries where income inequality is decreasing. There is a social gradient in self-reported health status, with Turkish people in the lowest income groups and with the lowest level of education reporting the lowest overall health (Sozmen, Baydur, Simsek & Unal, 2012). Inequities have been reducing between 2003 and 2008, although gaps remain. Inequities in health outcomes have been observed between poorer eastern provinces and more developed western provinces. Inequalities in health service indicators (including facility births, antenatal care and childhood immunization) have been noted for mothers with low levels of education and rural residents (Atun R, Aydin, Chakraborty, Sümer, Aran, Gürol et al., 2013).

Less is known about inequities specifically in relation to NCDs and NCD risk factors in Turkey. For smoking, men in low socioeconomic groups are more likely to smoke than men in wealthier groups, while smoking is more common for women in wealthier socioeconomic groups (Hassoy, Ergin & Kunst, 2013). Turkish women are much more likely to be obese than men, and women are less physically active and report lower levels of neighbourhood safety in poorer neighbourhoods than in wealthier neighbourhoods (Yildirim, Ince & Muftuler, 2012). Children in Turkey from poorer families are less likely to eat fruit every day, but less likely to consume soft drinks every day (Currie C, Zanotti, Morgan, Currie D, de Looze, Roberts et al., 2012). Turkish children from wealthier families are more likely to report engaging in regular exercise, but also more likely to spend long periods watching television.

The environmental and social influences contributing to the NCD burden in Turkey need to be better understood to develop policies and solutions that will work effectively across different population groups. This is essential if NCD prevention is to be effective overall, as there is no standard response that will work for groups with different situations and needs.



## 2. Coverage of core NCD interventions and services

This section explores coverage of core population interventions (tobacco, alcohol and nutrition) and individual services (cardiovascular disease (CVD), diabetes and cancer) that are closely linked with improving NCD outcomes (Table 1). Core services are evidence based, high impact, cost-effective, affordable and feasible to implement in a variety of health systems. The core services reviewed in the country assessments are closely linked to the *Global action plan for the prevention and control of noncommunicable diseases 2013–2020* (WHO, 2013a). A standard set of core interventions and services are used for all country assessments.

**Table 1. Core population interventions and individual services for NCDs**

Core population interventions	Core individual services
<ul style="list-style-type: none"> <li>• Wide range of <b>anti-smoking</b> interventions               <ul style="list-style-type: none"> <li>– Raise tobacco taxes to reduce affordability</li> <li>– Smoke-free environments</li> <li>– Warning about the dangers of tobacco and tobacco smoke</li> <li>– Bans on tobacco advertising, promotion and sponsorship</li> <li>– Quit lines and nicotine replacement therapy (NRT)</li> </ul> </li> </ul>	<ul style="list-style-type: none"> <li>• <b>CVD and diabetes – first line</b> <ul style="list-style-type: none"> <li>– Risk stratification in primary health care, including hypertension, cholesterol, diabetes and other CVD risk factors</li> <li>– Effective detection and management of hypertension, cholesterol, and diabetes through multidrug therapy based on risk stratification</li> <li>– Effective prevention in high-risk groups and secondary prevention after AMI, including acetylsalicylic acid</li> </ul> </li> <li>• <b>CVD and diabetes – second line</b> <ul style="list-style-type: none"> <li>– Range of rapid response and secondary care interventions after AMI and stroke</li> </ul> </li> </ul>
<ul style="list-style-type: none"> <li>• Interventions to <b>prevent harmful alcohol use</b> <ul style="list-style-type: none"> <li>– Use pricing policies on alcohol including taxes on alcohol</li> <li>– Restrictions and bans on alcohol advertising and promotion</li> <li>– Restrictions on the availability of alcohol in the retail sector</li> <li>– Minimum purchase age regulation and enforcement</li> <li>– Allowed blood alcohol level for driving</li> </ul> </li> </ul>	<ul style="list-style-type: none"> <li>• <b>Diabetes</b> <ul style="list-style-type: none"> <li>– Effective detection and general follow-up</li> <li>– Patient education and intensive glucose management</li> <li>– Hypertension management among diabetes patients</li> <li>– Prevention of complications (e.g. eye and foot examination)</li> </ul> </li> </ul>
<ul style="list-style-type: none"> <li>• Interventions to <b>improve diet and physical activity</b> <ul style="list-style-type: none"> <li>– Reduce salt intake and salt content</li> <li>– Replace trans-fats with unsaturated fat</li> <li>– Implement public awareness programmes on diet and physical activity</li> <li>– Reduce free sugar intake</li> <li>– Increase intake of fruit and vegetables</li> <li>– Reduce marketing pressure of food and non-alcoholic beverages to children</li> <li>– Promote awareness about diet and physical activity</li> </ul> </li> </ul>	<ul style="list-style-type: none"> <li>• <b>Cancer – first line</b> <ul style="list-style-type: none"> <li>– Prevention of liver cancer through hepatitis B immunization</li> <li>– Screening for cervical cancer and treatment of precancerous lesions</li> </ul> </li> <li>• <b>Cancer – second line</b> <ul style="list-style-type: none"> <li>– Vaccination against human papilloma virus as appropriate if cost-effective according to national policies</li> <li>– Early case-finding for breast cancer and timely treatment of all stages</li> <li>– Population-based colorectal cancer screening at age &gt;50 linked with timely treatment</li> <li>– Oral cancer screening in high risk groups linked with timely treatment</li> </ul> </li> </ul>

Source: WHO, 2014 (forthcoming)

## 2. 1 Population interventions

**Turkey has made impressive progress towards implementing many of the core population interventions for NCD prevention.** Efforts have been most significant in the area of tobacco control, with Turkey having over 10 years of progressively strong action. The progress has been assisted by strong leadership from the Minister of Health and the Prime Minister, and the development of clear legislation to support the implementation of tobacco control policies. Current challenges include implementation of the recently passed alcohol policy and development of a comprehensive and pragmatic approach to addressing obesity. Progress from core population interventions related to tobacco, alcohol and nutrition are reviewed in detail below. During the mission, a score card based on criteria developed by WHO was discussed extensively with key stakeholders and the outcomes of these discussions are summarized in Table 2.

**Table 2. Score card for core population interventions**

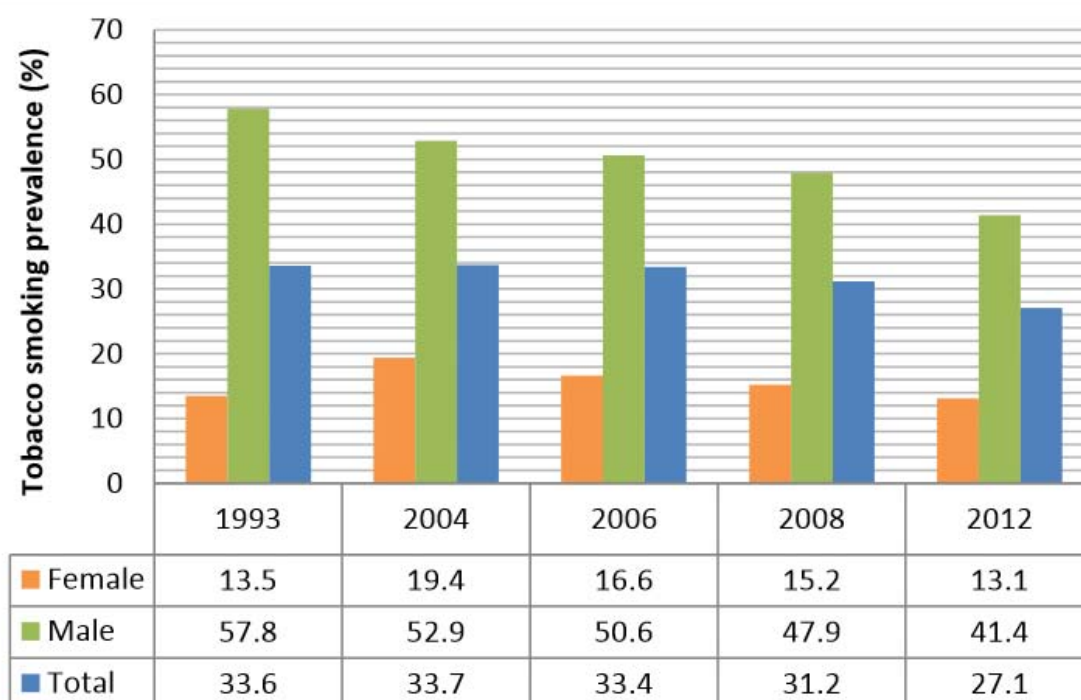
<b>Range of anti-smoking interventions (FCTC)</b>	
Raising tobacco taxes	<b>Extensive.</b> Tobacco taxes are 81.7% of retail price.
Smoke-free environments	<b>Extensive.</b> Public indoor spaces are fully smoke-free with continued to efforts for good enforcement.
Warnings of dangers of tobacco and smoke	<b>Extensive.</b> Health warnings cover 65% of the front and back of the package with pictorials from the European Union.
Bans on advertising, promotion, sponsorship	<b>Extensive.</b> Bans on all tobacco advertising, promotion and sponsorship are well enforced.
Quitlines and nicotine replacement therapy (NRT)	<b>Extensive.</b> Free 24/7 quitline service offered since 2010. Services provided by smoking cessation clinics are offered free of charge.
<b>Interventions to prevent harmful alcohol use</b>	
Raising taxes on alcohol	<b>Limited.</b> Alcohol taxes follow the consumer price index, but there are no taxes to make alcohol products less attractive to young people.
Restrictions, bans on advertising/promotion	<b>Extensive.</b> A full ban on alcohol marketing is well enforced.
Restrictions on availability of retailed alcohol	<b>Extensive.</b> All governmental and educational institutions are free of alcohol, and the restrictions are well enforced.
Minimum purchase age regulation and enforcement	<b>Moderate/extensive.</b> The minimum age limit for purchase of alcohol products is 18 years, which is effectively enforced. An establishment that violates the regulation does not lose its alcohol retail license but is punished severely.
Allowed blood alcohol tolerance for driving	<b>Limited/moderate.</b> The maximum blood alcohol content is 0.5g/L for non-professional drivers and 0.21g/L for professional drivers.
<b>Interventions to improve diet and physical activity</b>	
Reducing salt intake and salt content in foods	<b>Moderate/Extensive.</b> Salt intake has been reduced at least by 10% in the last 10 years.
Virtually eliminating trans fatty acids from the diet	<b>Moderate.</b> Trans fats have been reduced in some food categories and among voluntary industry operators, but it is not mainstreamed
Reducing free sugar intake	<b>Limited.</b> The aim to reduce the intake of free sugars is in policy documents, but no action has been taken.
Intake of fruit and vegetables	<b>Moderate.</b> The aim to increase consumption of fruit and vegetables is in line with the WHO/Food and Agriculture Organization of the United Nations recommendations of at least 400 g/d and some initiatives exist.
Reduce marketing pressure of food and non-alcoholic beverages to children	<b>Moderate.</b> (self-regulatory). The WHO recommendations on marketing to children have been acknowledged and steps have been taken to reduce marketing pressure on children using a self-regulatory approach (WHO, 2010b).
Promoting awareness about diet and activity	<b>Moderate.</b> There are initiatives for workforce development for nutrition and physical activity; nutrition and physical activity are starting to be considered a priority element in primary care.



## Tobacco

**Turkey is a world leader in tobacco control with documented progress in reducing smoking rates among both men and women.** Between 2008 and 2012, smoking rates declined by an impressive 13.4% due to a set of consistently implemented comprehensive policies (WHO, 2013c) (Fig. 2). Turkey was the first country to fully implement the full range of comprehensive tobacco control measures noted above which are also embedded in the WHO MPOWER strategy. The first anti-tobacco law came into force in 1996, restricting smoking in health and educational establishments and public transport. It also banned all advertising and promotion, made the television companies responsible for broadcasting educational programmes on the hazards of smoking, banned the sale of tobacco products to individuals under 18 and introduced health warnings on cigarette packages. In 2004, Turkey became a party to the WHO Framework Convention on Tobacco Control (FCTC) (WHO, 2003). A national tobacco control plan was announced by the Prime Minister and the Minister of Health in December 2007. A second anti-tobacco law was introduced in 2008, considerably expanding the number of smoke-free areas to include hospitality workplaces (restaurants, bars, cafés, etc.), taxis and open areas of schools. It also banned tobacco promotion or sponsorship.

**Fig. 2. Tobacco smoking prevalence in Turkey, 1993–2012**



Sources: WHO Regional Office for Europe, 2012b; WHO, 2013c.

Tobacco taxes were raised in 2010–2011 and are currently at 81.7% of the packet price, meeting the levels recommended by WHO. Extensive pictorial and text warnings are in place on cigarette packages, taking up 65% of the front and back. Pictorial warnings on tobacco packages have been in place since May 2010. Smoke-free environments and bans on tobacco advertising, promotion and sponsorship are generally well enforced. A free national quitline service has been available 24 hours a day since 2010. Services provided by smoking cessation clinics are offered free of charge.



Turkey continues to press ahead with tobacco control measures as tobacco use remains a major risk factor for NCDs, with overall smoking rates of 27.1% in 2012, including 41.4% of men. However, it is clear that Turkey's strong stance on tobacco control is producing results.

### **Alcohol**

**Although rising in recent years, alcohol consumption is still very low compared to the global average, and alcohol-related harm makes a much smaller contribution to the overall burden of disease in Turkey than other preventable health risk factors such as smoking and obesity.** At only 1.5 litres a year, Turkey has the lowest per capita alcohol consumption rate in Europe, and 83% of the population do not consume alcohol at all (WHO, 2013b). (WHO Global Health Observatory Data Repository). Maximal gains to NCD prevention and control in Turkey therefore will come from further strengthening measures to address tobacco use, nutrition and physical activity.

In 2013, Turkey set out to strengthen alcohol control using a comprehensive approach similar to tobacco control. After hosting a global symposium on alcohol control in April 2013, the Turkish Parliament passed an alcohol control law in May 2013, spearheaded by the Prime Minister. The law includes restrictions on alcohol sale, advertising and promotion. Shops cannot sell alcohol between the hours of 22:00 and 06:00. Alcohol products cannot be displayed in store windows. Shops located within the immediate vicinity of schools and mosques cannot sell alcohol products. Spirits producers can no longer advertise or sponsor events. An action plan outlining how the new policies will be implemented is under development by the Ministry of Health.

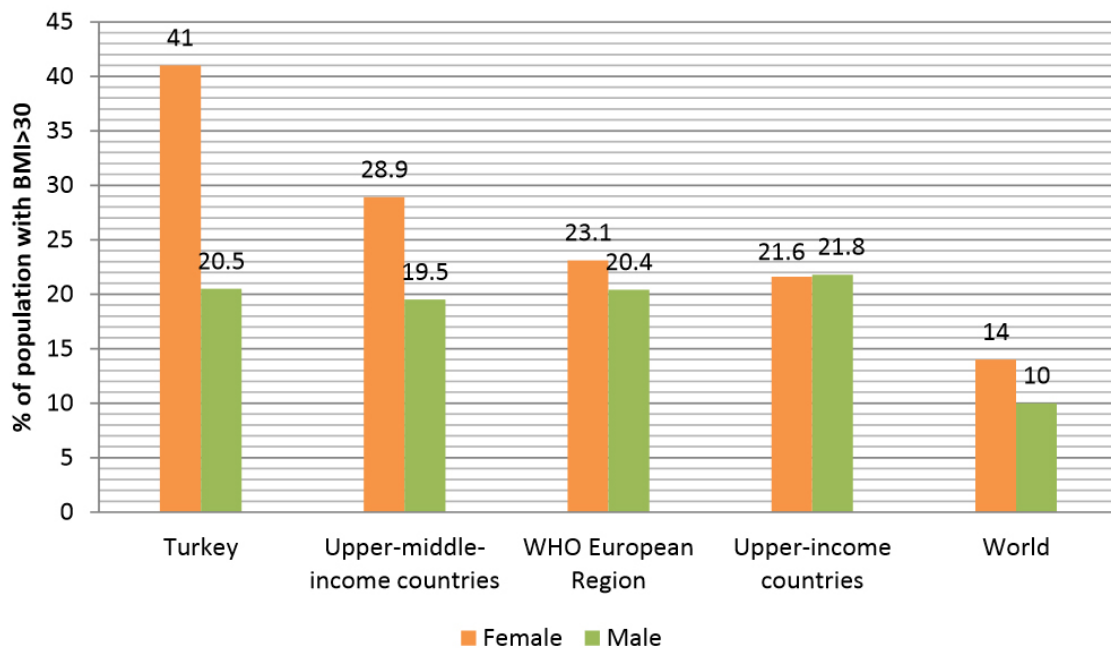
Regular twice-yearly excise tax increases adjusted to the consumer price index were introduced on beer, wine and spirits in 2012. A by-law governing the principles and procedures related to the sale and service of alcohol products entered into force in 2011. In 1997, 0.5g/litre was set as the maximum blood alcohol content for drivers. With the new regulation introduced in 2013, the limit has been set to 0.21 promille for all drivers.

### **Nutrition**

**Nutritional risk factors for NCD are a major concern in Turkey, especially overweight and obesity, and salt consumption, which are much higher than the average for the WHO European Region.** Based on the Turkey Nutrition and Health Survey in 2010, 65% of the adult population are overweight or obese, with 41% of women and 20.5% of men obese (Ministry of Health, 2010b). There is no nationwide figure regarding the prevalence of overweight and obesity in Turkish children and adolescents, but several studies between 2000 and 2010 have found varying prevalence rates of 10.3–17.6% and 1.9–7.8% for overweight and obesity, respectively, in children aged 6–16 years (Bereket & Atay, 2012). The Childhood Obesity Surveillance Initiative (COSI) was launched in 2013 and will yield more comprehensive information shortly.

According to the report, Monitoring the development of school age children in Turkey, the obesity rate for the 6–10-year-old age group is 6.5%, of which 14% are overweight. In other words, one out of five children aged 6–10 years is obese or overweight. According to the Turkey Nutrition and Health Survey in 2010, 4.8% of 787 children are obese (male: 6.4%, female: 3%) and 12.5% are overweight (male: 14.4%, female: 10.3%). The results of the same survey reveal that the regions with the most frequent

**Fig. 3. Prevalence of obesity with body mass index (BMI) > 30**



Sources: Ministry of Health, 2010b; WHO, 2012.

incidence of obesity among children and young people between the ages of 6–18 years are respectively: Eastern Marmara Region (11.4%), Aegean Region (12.5%), Western Anatolian Region (11.4%) and Istanbul (10.8%). The obesity rate is 7.3% for girls and 9.1% for boys. Among 6–11-year-old Turkish children, 58.4% do not exercise regularly (for 30 minutes or more). In Turkey, 67.6% of all men, 76.5% of all women and 71.9% of all adults do not exercise at all (Ministry of Health, 2010b).

The Public Health Institution of Turkey (PHIT) has initiated the Obesity Prevention and Control Program of Turkey (2010–2014), which was updated and extended to 2017. The promotion of breastfeeding and nutritional advice for pregnant women and children are featured as part of the focus on improving maternal and child health through the Health Transformation Program. Exclusive breastfeeding and fruit and vegetable consumption are high in Turkey, compared to other European countries. These protective factors should be encouraged and indicate that the primary drivers of Turkey's high obesity rates are related to other aspects of diet and physical inactivity. Measures have been taken to promote healthy diet and physical activity in schools, including developing a physical education curriculum and regulating the types of food provided in school canteens. Special days and weeks are celebrated in all 81 provinces in Turkey to create awareness on nutrition, obesity, diabetes and physical activity. National guidelines on physical activity, which include national recommendations, have been completed.

Population-based interventions that could be explored or strengthened in Turkey to address obesity include taking action to restrict the marketing of food and beverages to children, eliminating trans fats, promoting awareness about physical activity and diet, and fiscal policies to encourage healthy eating. Proactive discussions and meetings with industry are taking place in Turkey to address these issues already. For example, the "Salt National Counterparts Regional Meeting" and "Food Marketing National Counterparts Regional Meeting" were held in Turkey in May 2013 in cooperation with WHO.

In 2011, the Law on the Establishment of Radio and Television Enterprises and their Media Services” was enacted and it places restrictions on marketing to children of goods and services which could cause mental, physical or moral harm. With reference to food and beverages, the law states that “commercial communication of foods and beverages containing nutrients and substances that are not recommended to be excessively consumed in the overall diet shall not be inserted in or accompanied with children’s programmes”.

Simple changes to existing initiatives, such as encouraging students to switch from drinking whole milk to low-fat milk through the school milk programme, could help reduce obesity. Whole milk is provided within the context of the school milk programme, which is based upon the recommendation of the Scientific Committee; changes to the milk programme would require the Committee’s approval. The programme has already made some shift towards using lower fat milk: the fat content of distributed milk was reduced from 3.5 g per 100 ml in the 2011-12 academic year to 3.0 g per 100 ml in the 2012-14 academic years.

The 2008 SALTURK-1 study found salt consumption in Turkey at 18 g/day per adult (Turkish Society of Hypertension and Kidney Diseases, 2008), higher than the estimated WHO European Region average of 8–12 g/day (WHO Regional Office for Europe, 2014b). The Government initiated a comprehensive salt reduction programme in 2011, and there is evidence that the salt content in foods and the high average salt intake in Turkey have begun to decrease. The salt consumption study (SALTURK-2) was repeated in 2012 and found a 16% decrease in salt consumption to 15 g/day (Turkish Society of Hypertension and Kidney Diseases, 2012).

The national “Reducing excessive salt consumption programme of Turkey (2011–2015)” includes the major components recommended by WHO: monitoring, major reformulation actions and awareness raising (WHO Regional Office for Europe, 2013b). Awareness campaigns have been carried out through mass media, using messages on lottery tickets and in schools. The action plan currently under discussion will introduce high-, medium- and low-salt logos on foodstuffs. Collaboration with the food industry has begun, with voluntary initiatives leading to the reduction of salt in bread and some processed foods, such as tomato pastes. Reduction of salt in cheese and olives has been completed in cooperation with the Ministry of Food, Agriculture and Livestock. A regulation banning the sale of chips in school canteens has been in place since July 2011.

The regulation was amended in 2011 to include the following provision: “Beverages with high energy density, but low nutritional value (energy drinks, soft drinks, flavoured drinks and cola drinks) with the exclusion of natural mineral waters and fried food and chips shall not be sold and automatic vending machines shall not be kept in areas such as canteens, tea shops, snack bars etc. of education institutions, with or without boarding or lodging facilities, including mess halls, as such products may lead to malnutrition and obesity among students. Instead, milk, ayran (yoghurt drink), yoghurt, fruit juices, freshly squeezed fruit juices, and fruits sold by the piece shall be offered in these areas.”

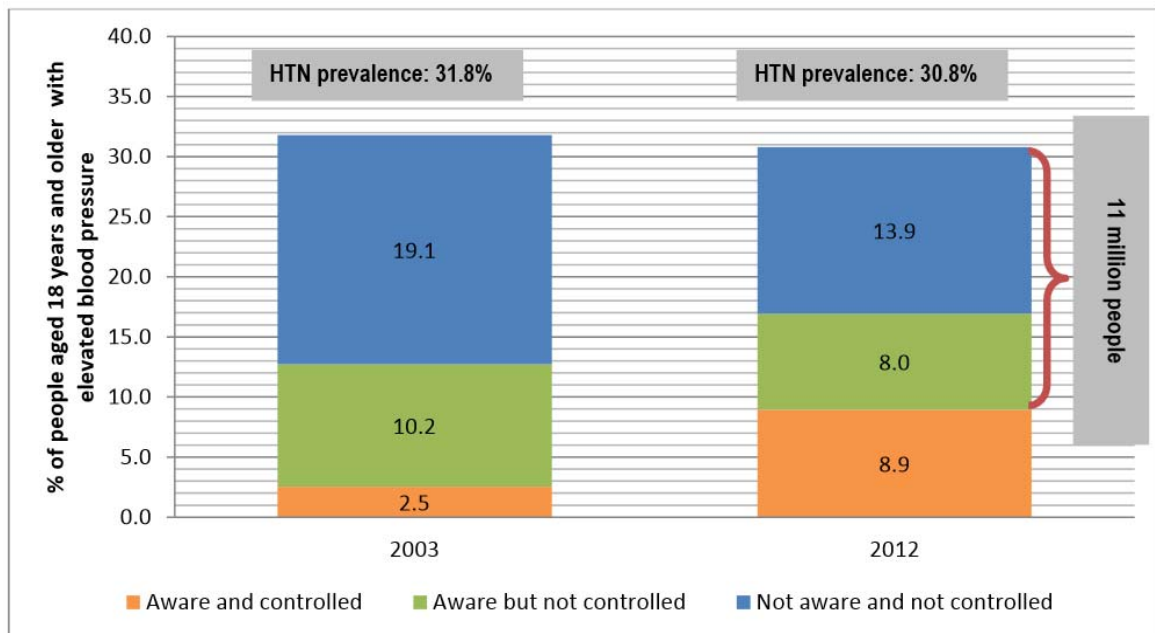
## 2.2 Individual services

Turkey has made impressive progress towards improving access to and quality of NCD-related individual services (e.g. access to specialists, diagnostics, medicines and surgical interventions). Nevertheless, challenges remain in other areas such as systematically organizing timely detection and continuous management of CVD conditions and diabetes grounded in family medicine. Progress related to core individual services listed in Table 1 is described in detail below. However, a score card for individual services is not presented as the organization of CVD and diabetes care is under complete rethinking and cancer screening has only recently been extended nationwide.

### *CVD and diabetes*

**The prevalence of CVD and diabetes is high and increasing in Turkey requiring a systematic rethink of how the conditions are diagnosed and managed.** Among the population aged 18 years or older (about 15 million people), the prevalence of HTN was estimated at 31.8% in 2003, and remained equally high at 30.8% in 2012 (Altun B, Arici, Nergizoğlu, Derici, Karatan, Turgan et al., 2005; Hacettepe University, 2013). Prevalence of HTN is somewhat higher among women (32.3%) than men (28.4%). The PatenT studies highlighted that patients' awareness of HTN increased significantly between 2003 and 2004 from 40% to 55%, as did control of HTN from 8% to 29%. The figures demonstrate excellent progress but also raise questions: how to raise awareness among the remaining 45% of those with elevated blood pressure (6.75 million people), and how to raise awareness among the 71% (11 million people) whose condition is not under adequate control.

**Fig. 4. HTN prevalence, awareness and control**



Sources: Calculations based on PatenT and PatenT2 studies from Altun B, Arici, Nergizoğlu, Derici, Karatan, Turgan et al., 2005; Hacettepe University, 2013.

Diabetes raises similar issues. Diabetes prevalence nearly doubled between 1997 and 2009 from 7% to 13%. Diabetes prevalence among the population over the age of 15 years was 12% according to the Chronic Diseases and Risk Factors Survey in Turkey (Ministry of Health, 2013). The prevalence of metabolic syndrome is high at 41% among women

and 29% among men (Ministry of Health, 2011). Health behaviour modification efforts are successful at this stage in preventing serious health effects. This requires effective detection, risk stratification to identify the effective approach, and access to counselling and peer support.

**Detection and management of CVD and diabetes are the next generation challenges for strengthening family medicine in Turkey.** The introduction of family medicine in Turkey has been impressive with its emphasis on maternal and child health. However, family medicine doctors are not yet systematically taking part in detection and management of cardiovascular conditions and risk factors such as HTN, high cholesterol and diabetes. Screening for these conditions is ad hoc; detection and confirmation of diagnoses often takes place by specialists in hospital outpatient clinics, and management of chronic conditions is also mostly in the sphere of specialists. Many chronic disease patients face multiple morbidities, and the conditions are often managed by different specialists without formal and systematized communication between them. At the time of the assessment, comprehensive cardio-metabolic risk assessment was not used, and family medicine doctors did not have practice guidelines and visual aids to support clinical decision-making for these conditions. However, guidelines have been designed, including in electronic form, and will be rolled out from 2014. Coordination and information sharing between family medicine doctors and specialists are not systematic.

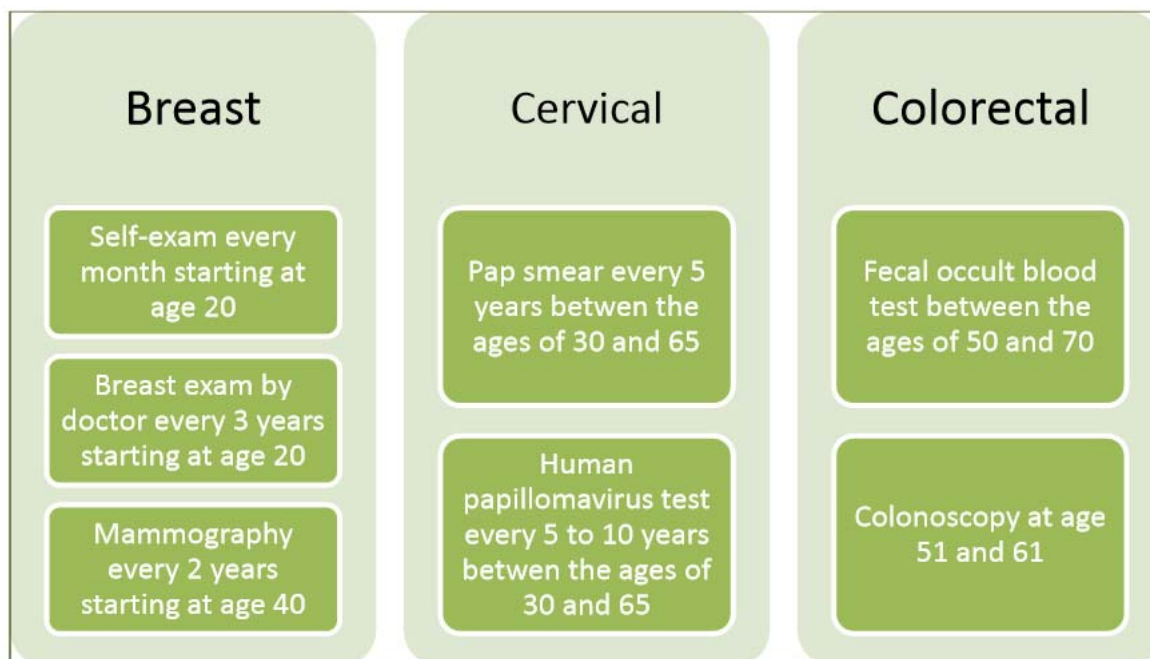
**While diagnosing and managing these conditions at specialist level in hospital-based polyclinics may be attractive at first sight, it is not optimal for making a large impact on population health in a sustainable manner.** First, family medicine, with its strong link to CHCs and outreach, provides an excellent opportunity for opportunistic and systematic screening of CVD/diabetes risk factors and counselling about risk behaviour modification (e.g. diet, smoking), in addition to providing medical treatment. Handling these conditions at outpatient specialist-level is likely to lead to detection of CVD and diabetes at more advanced stages, and to an approach focusing on medical treatment at the expense of counselling. Second, many people with chronic conditions have co-morbidities, and appropriate management of their conditions requires a comprehensive approach. Finally, prevalence of chronic disease risk factors is increasing, and if detection improves, outpatient clinics will have a difficult time dealing with the inflow of patients, leading to long waiting times and short visits, and ultimately affecting patient clinical care and experience. Involving family medicine to a greater extent in the detection and management of CVD/diabetes would help implement a risk-stratified approach with the bulk of the conditions detected and managed in family medicine and referral of complex cases to specialists. It would also free up specialists at secondary and tertiary levels from simple cases and allow them to focus on complex conditions.

## **Cancer**

**Turkey has made excellent progress to improve registration, prevention and early detection of cancer.** A comprehensive National Cancer Control Program 2011–2015 was introduced, prompted by late stage diagnosis (III–IV) for most cancers, including breast and cervical (Ministry of Health, 2010a). The National Cancer Control Program is based on a balanced approach of effective primary prevention, efficient registration for surveillance and monitoring, early detection and effective treatment including palliative care. National screening standards are presented in Fig. 5. As in many countries, guidelines for cancer screening are under extensive discussions in Turkey and likely need to be revised as more information becomes available regarding cost-effectiveness and as WHO guidelines are revised and updated.



**Fig. 5. National screening standards, 2013**



**Turkey has a clear direction in organizing a systematic approach to cancer screening; the approach is consistently implemented and is likely to bring results in terms of earlier detection, more successful treatment and ultimately reducing cancer mortality.** The focal point for screening is the KETEMs, which provide early cancer diagnosis, screening and training. The centres also provide smoking cessation services. The first 11 KETEMs were established in 2002. Ten years later, 124 KETEMs operated around the country. An additional 140 KETEMs are opening in 2012/2013 bringing the total number of KETEMs to 264. The Ministry of Health plans to have one KETEM per 250 000 population and mobile KETEMs. KETEMs are located mostly in hospitals and collaborate closely with CHCs and family medicine centres in their catchment area. The location of KETEMs in hospitals allows ease of referral to hospital laboratories and specialists for confirmation of diagnosis and treatment, while the close collaboration with CHCs and family health centres (FHCs) allows organized systematic screening. The enrolment database of family physicians allows the identification of individuals due for screening in a target group, and the family physicians and CHCs organize information campaigns. CHCs also arrange for transport from the family medicine centres to the KETEMs and back on the day of the appointment.

**Cancer screening coverage rates have increased rapidly as a result of the programme and roll-out of KETEMs.** Between 2007 and 2012, the opening of KETEMs has led to a doubling of coverage rate from 16% to 27% for mammography, and from 6% to 13% for cervical cancer screening. The further roll out of KETEMs, combined with the existing know-how, will allow rapid expansion of these programmes to reach Turkey's ambitious goal to provide screening services to 70% of the target population.



# 3. Health system challenges and opportunities to scale up core NCD interventions and services

It is now widely recognized in Turkey that the next generation health challenge is to tackle NCDs to maintain the continuous improvement in life expectancy. Many elements of a high performing health system have been put in place through the Health Transformation Program, which will provide an effective vehicle to address this challenge. They include high levels of health coverage, significant public funding indicating actual political commitment to health, a universally accessible service delivery system with family medicine as its cornerstone, available and accessible medicines, strong and transparent governance with comprehensive regulatory frameworks and effective enforcement.

The previous section showed that Turkey has already been successful at putting in place core population interventions for smoking as well as many individual interventions related to cancer. The previous section also highlighted that, to make further progress with NCDs, it is essential to focus on implementing effective nutritional policies among population interventions and to develop a comprehensive care model for CVD and diabetes grounded in family medicine. This section reviews 15 important health challenges and opportunities that are associated with successfully scaling up core population interventions and individual services (Fig. 6).

**Fig. 6. Fifteen health system challenges and opportunities for NCDs**

Political commitment to NCDs	Explicit priority-setting approaches	Interagency cooperation	Population empowerment
Effective model of service delivery	Coordination across providers	Regionalization	Incentive systems
Integration of evidence into practice	Distribution and mix of human resources	Access to quality medicines	Effective management
Adequate information solutions	Managing change	Ensuring access and financial protection	

Source: Roberts & Stevenson, 2014 (forthcoming)

## Challenge 1. Developing political commitment to better NCD prevention and control

**NCD prevention in Turkey has benefitted from strong, high-level leadership on tobacco and more recently, on alcohol.** The Prime Minister and Minister of Health were strong leaders of the tobacco control campaign. The WHO FCTC was helpful in providing



the mandate for government action on tobacco control. The 2013 alcohol control law has been championed by the Prime Minister and the prominent, national nongovernmental organization (NGO) the Turkish Green Crescent Society. Similar high-level leadership has not been as visible in relation to obesity or diet-related NCD risk factors, although, within the Ministry of Health, a number of national strategies have been developed on these issues, including obesity, salt reduction and cancer control.

**There is also evidence of explicit political commitment to health equity.** The ultimate goal of the Health Strategic Plan 2013–2017 is “to protect and improve the health of our people in an equitable manner” (Ministry of Health, 2012b). Preventing and controlling NCDs also feature very strongly in this strategy, with a number of specific objectives relating to combating NCDs and NCD risk factors.

**Health has held a prominent position in the political agenda over the last decade in Turkey, with improving access and quality of health services as key priorities of the Government.** The visible improvements have increased public satisfaction and contributed to political stability, which enabled the Government to further embed its reforms. The focus of the Health Transformation Program has been primarily on improving access to and quality of health services, and reducing maternal and neonatal mortality. This selective focus has been enormously successful, with a nationwide system of primary care established and both maternal and infant mortality falling sharply. The time is opportune for Turkey to build upon this success and shift focus to the major NCD challenges that threaten the well-being of the Turkish population. It is also time to move to the next stage in pursuing health equity. In a few short years, Turkey has moved from a country with wide inequalities in access to health services between provinces to near universal access to primary care across all 81 provinces. The country is in the position to take a more nuanced approach to inequalities – by monitoring and reducing inequities in health risk factors and access to care for different local communities or social groups within provinces. This would include looking at differences in outcomes between groups of different socioeconomic status, education level, neighbourhood and gender.

The national development plan outlines the key priorities for the Turkish Government for a five-year period. The plan is developed by the Ministry of Development, but approved by the Grand National Assembly of Turkey, which provides a high-level mandate to assist budget allocation, implementation and collaboration across government. **To date, NCDs have not featured explicitly in national development plans**, although health has featured strongly, with human development and social solidarity forming one of the five pillars of the last plan. The 10th National Development Plan is under development, and NCD prevention and control is proposed as one of the health priorities. Including NCDs explicitly in the National Development Plan will provide a mandate from the highest level of the Turkish Government, and will greatly facilitate efforts to scale up NCD prevention and control, allocate resources and improve coordination across government agencies.

## **Challenge 2. Creating explicit processes for setting priorities and limits**

**In terms of setting national priorities for health, the Health Strategic Plan and the national development plan both provide an explicit, participatory and strategic process for identifying medium-term priorities.** The development of the Health Strategic Plan 2013–2017 involved over 4000 stakeholders, both within government and externally including academic institutions, local government, citizens, professional groups

and NGOs. Each national development plan is developed over a 1.5-year consultation period, announced by the Prime Minister. Around 66 ad hoc committees are convened to provide advice on policy issues.

**Public health expenditures have increased significantly in Turkey between 2002 and 2012, reflecting increased fiscal space during times of economic growth but, more importantly, reflecting the increasing priority of health in the government budget.** The Government allocated 12.8% of its general budget to health in 2012, which is a notable increase from 9.1% in 2002 (WHO Regional Office for Europe, 2014a). The increase in health budget allowed expansion of insurance coverage, full implementation and enforcement of legislation for tobacco control, investment in health infrastructure and has led to a remarkable reduction of out-of-pocket payments for health care services and medicines. The increase in funding coincided with the implementation of the Health Transformation Program.

**It is difficult to assess how the priorities identified in high-level strategies are reflected in the allocation of the health sector budget.** The process for setting the overall government budget for health, or for determining how the available budget should be allocated is not completely clear. There does not appear to be an explicit process for basing budgetary allocation according to the burden of disease. In practice, it seems that the budget is largely allocated on a historical basis, according to the allocations of the previous year. This is at odds with the budgetary allocations specified in the Health Strategic Plan 2013–2017, which outlines the budget allocated to each strategic priority for each year until 2017.

**There does not appear to be an explicit process to decide what share of the health budget is allocated to population-based versus individual services.** In the absence of criteria to ring-fence a certain proportion of the health budget to population-based prevention, there is a risk that increasing demand for expenditure on health care services will consume all available budget. No country in the world can afford to treat its way out of the NCD burden. A sustainable and effective approach to NCD prevention in Turkey will require a strategic balance between population-based prevention and individual services. There does not appear to be an explicit method to allocate budget according to different levels of population deprivation or need. There is increased scope to include considerations of burden of disease, cost–effectiveness and equity as criteria for priority setting and budget allocation. It will also be important to have clearer mechanisms for linking budget allocation with the priorities outlined in the national health strategic plan, to ensure the impressive vision in this strategy can be realized.

### **Challenge 3. Strengthening interagency cooperation**

Effective and equitable NCD prevention and control require actions across the whole of government, including improvements to living and working conditions, and the distribution of money, power and resources – the social determinants of health (SDH).

#### ***Coordination between health and other sectors***

The Government of Turkey has recognized the critical importance of cross-sectoral action to prevent NCDs and to address the SDH.

The need to implement multisectoral actions is articulated numerous times in the Health Strategic Plan 2013–2017 and in other Ministry of Health strategic documents related to NCD risk factors. Agencies outside the Ministry of Health are listed as responsible for key actions on these strategies. For example, the Ministry of Health's Obesity Prevention

and Control Programme 2010–2014 lists a range of other agencies as the lead agency responsible for particular actions in the plan, including not only other government ministries such as the Ministry of Food, Agriculture and Livestock, but also local government, academic institutions, the food industry and other private sector partners. It is important that responsibility for these activities is clearly articulated, but it is not clear how the non-health and nongovernment bodies can be held to account for delivering these activities.

Similarly, the Health Strategic Plan 2013–2017 recognizes that action on the SDH is a priority objective for achieving health equity, and that a key objective for the strategy is: “to carry out effective actions on social determinants of health by mainstreaming health in all policies” (Ministry of Health, 2012b). PHIT is named as the responsible agency, with other directorates of the Ministry of Health listed as supporting agencies. Performance is monitored by the number of multisectoral actions completed, an indicator which rightly reflects the performance of all government departments. The question remains how the PHIT can effectively mainstream health in policies of other sectors, and whether the agency has sufficient authority or leverage with other government agencies to convene stakeholders, drive policy changes, or be accountable for this objective in the strategy.

In Turkey, the usual process for multisectoral NCD prevention policies (for example, tobacco and alcohol) has been for the Ministry of Health to draft legislation, which is then presented to the Grand National Assembly of Turkey. All sectors are represented and can debate legislation in this forum. Once a law is passed, it provides a high-level multisectoral mandate, and then the Ministry of Health develops an implementation plan. The process seems to lead to a disconnect between the high-level endorsement and the willingness of other sectors to implement it. Mechanisms such as pooled/joint budgeting, shared/aligned planning processes between ministries and holding multiple ministries accountable for the same target have not yet been explored in Turkey.

Multisectoral action is more likely to happen when the mandate and accountability are at the highest possible level of government, ideally outside the Ministry of Health, and in addition, there needs to be a clear mechanism for how actions across sectors will be coordinated. Other countries have responded to this difficulty by placing accountability for multisectoral action on SDH or NCD prevention at a supra-ministerial level, for example, with a deputy prime minister or the Department of the Prime Minister. Then, to facilitate policy development and implementation, various forms of intersectoral committees have been convened, usually chaired by the high-level official with ultimate responsibility. The number and scope of intersectoral committees need to be carefully considered, for example, instead of a committee for each NCD risk factor, Turkey could consolidate the committees into a single high-level committee for NCD prevention and control. The mandate of the committee could include actions to address the social determinants of NCD. Then, for each specific area of work requiring more detailed discussion between certain ministries, the committee could convene a subworking group to make progress in a particular area while still maintaining oversight/responsibility of delivery of the objectives. Turkey has successful experience with this type of a high-level committee (e.g. the intersectoral committee on family planning).

### ***Coordination within the health sector***

In addition to having good mechanisms to work across multiple government ministries, successful NCD prevention and control requires coordinated action in multiple parts of the health system. Like many countries, Turkey is struggling with a fragmented approach to NCD prevention and control, even within the PHIT.

The Health Strategic Plan 2013–2017 outlines multiple programmes for NCD prevention and control, including:

- Prevention and Control Programme for CVDs
- Prevention and Control Programme for Diabetes
- Prevention and Control Programme for Chronic Respiratory Diseases
- National Cancer Control Program
- National Tobacco Control Programme and Action Plan for 2013–2017
- Alcohol Control Programme of Turkey
- Healthy Nutrition and Active Life Program of Turkey (2010–2014)
- 8th Programme for the Reduction of Excessive Salt Consumption in Turkey (2011–2015)

As NCDs share common risk factors, and many people have multiple NCDs, considerable overlap exists between the programmes, both in relation to the prevention strategies required, but also in the approaches to strengthening the role of family medicine in early detection and treatment. One way to streamline the approach, and reduce duplication and improve coordination within the Ministry of Health, would be to develop an integrated NCD action plan, involving all of these programmes. Within the PHIT, multiple departments have been established with responsibility for different aspects of NCD prevention and control. The development of an integrated NCD action plan would need to work across boundaries between departments at the PHIT, to consolidate and coordinate action within the PHIT. It is also important to consider the effects that multiple programmes have at provincial level where the structures are replicated but workforces are smaller. Having multiple committees dealing with different aspects of NCD prevention and control places a heavy workload demand on a smaller group of individuals working at provincial level.

The Ministry of Health has recently undergone restructuring, and the affiliated agencies (including the PHIT) have only been recently established. The newness of the changes means that roles, relationships and ways of working are still being formed, and it is difficult to make a thorough assessment of how agencies work together. However, key responsibilities for NCD prevention and control clearly lie not just with the PHIT, but also with a number of general directorates of the Ministry of Health. It is not clear how the PHIT and general directorates will work together to avoid duplication and ensure a coherent and consistent approach.

The Health Policy Board is one structure in the Ministry of Health organogram, which links the PHIT and the general directorates of the Ministry of Health. The board is not yet fully operational, but will be made up of all undersecretaries for health and a number of topic experts appointed by the Minister of Health. The Board reports directly to the Minister of Health and will provide expert advice and reports on topics as requested, either by the Minister or other officials of the Ministry of Health. There does not currently appear to be any function in the terms of reference of the board that relates to coordination between different Ministry of Health departments or affiliated agencies. But the function is needed to ensure a coordinated and efficient response to NCD and could come from either expanding the mandate of the Health Policy Board, or from another senior official in the Ministry of Health with authority to convene action across all the involved directorates and agencies under the Ministry (e.g. undersecretary or deputy undersecretary).

Efforts to address NCD and the SDH in Turkey could be enhanced by improving coordination in three main areas:

1. coordination between health and other sectors;
2. coordination between the different agencies and directorates of the Ministry of Health;
3. coordination and consolidation of work on NCD prevention and control within the PHIT.

## Challenge 4. Enhancing population empowerment

**Turkey has a remarkable commitment to empower citizens, improve health literacy and involve patients in decision-making about their care.** A number of examples reflect this commitment. Citizen and patient satisfaction regarding various aspects of the health system and reforms are measured regularly and reported publicly (Ministry of Health, 2012a). Turkey has a charter of patient rights, and hospitals have patient rights units with free hotlines for citizens with any health concern. There are designated hospital units for patient reporting of adverse events and the strong presence of consumer associations, NGOs and patient networks. For example, the HIV-NGO community is a strong advocate for pharmaceutical needs, and the diabetes network is engaged in policy dialogue, with marked improvements in recent years. The Strategic Plan calls for a systemic response in engaging the public and patients (strategic goal 3) and for concerted efforts to further empower patients in managing their health, for example, through support resources and access to information (strategic objective 1.3) (Ministry of Health, 2012b). The effectiveness and equity of these efforts could be enhanced by developing measures to build health literacy in Turkey's most marginalized economic and social groups.

**Citizen empowerment and bottom-up approaches have been critical for implementing successful tobacco control measures and will remain so for alcohol- and nutrition-related interventions.** The most cost-effective interventions for NCD prevention often require legislation or policies that affect the whole population. As a result, public support and readiness to accept these policies are important to their successful implementation. There was a strong Turkish civil society movement for tobacco control, which facilitated broad public acceptance of tobacco control policies. Both top-down government leadership and bottom-up public concern were important for Turkey's success with tobacco control. These are also likely to be important for implementation of strategies related to obesity, physical activity and hazardous or harmful alcohol consumption. Strengthening health literacy to build public concern about NCD risks in the environment as well as empowering citizens to engage in health policy issues and promote change are needed to support the Turkish Government to successfully implement measures to control population NCD risk factors.

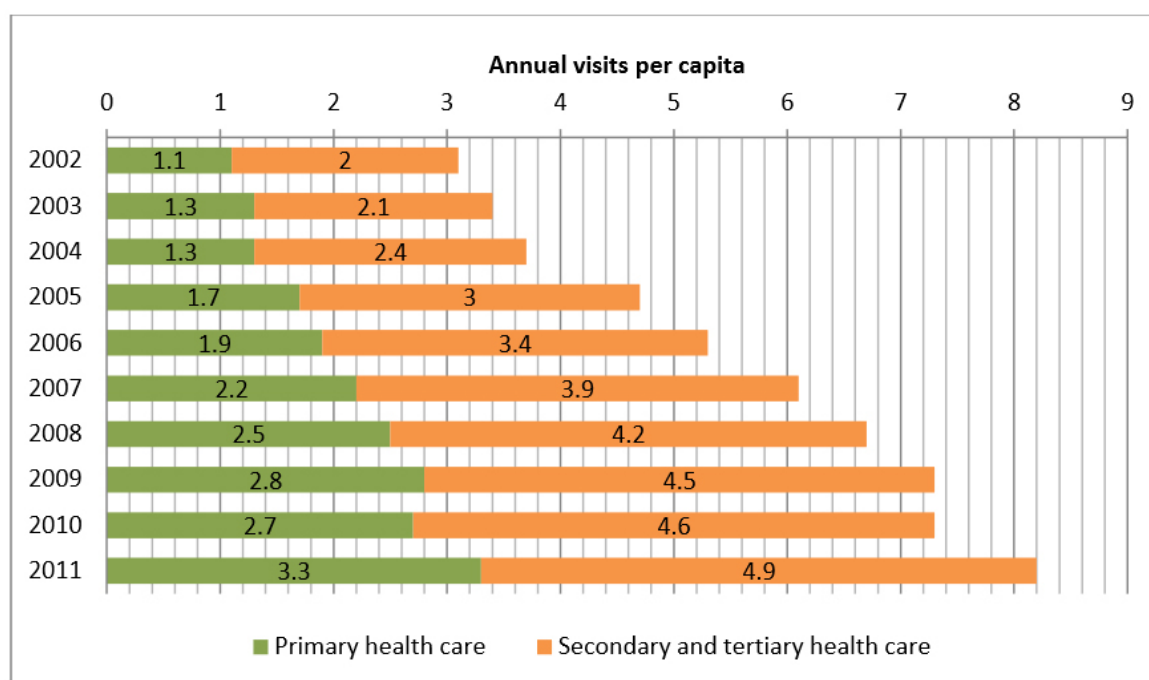
**Similarly, citizen involvement and health literacy will become crucial as family medicine takes on a greater role in detecting and managing NCDs.** Family medicine already plays a significant role in enhancing patient knowledge, awareness and involvement for various conditions related to pregnancy, child birth and child health, including breastfeeding. This is done through the collaboration between CHCs and family medicine centres as well as by a clearly defined role for nurses. The same model can be used to introduce patient self-management of NCDs.



## Challenge 5. Model of service delivery

**Turkey has built the foundations of a strong family medicine-based primary care system, which provides geographically accessible care free at point of use, and has ongoing plans for strengthening it further.** The number of doctors providing primary health care services increased from 12 183 in 1995 to 20 809 in 2012, as family medicine practice was implemented throughout the country. The Ministry of Health plans to increase the number of family doctors to 40 000 by 2023, which will reduce the population-to-family doctor ratio from 3500 to 2000 or less. The volume of primary care consultations increased around five-fold from 1995 to 2010 (Akdag, 2011). Total outpatient consultation rate for primary care and hospital outpatient combined is now over eight visits per capita per year – well above the OECD median of 6.4 – ranging from 6.4 in the Mid-eastern Anatolia Region to 9.2 in the Eastern Black Sea Region. Primary care consultation rates have been steadily rising for over a decade and now account for 40% of total outpatient contacts, up from 35% in 2002. The public sector accounts for 98% of primary care consultations, and the public sector also dominates outpatient visits at secondary and tertiary health levels at 92% (Ministry of Health, 2012a). The strengthening role of family medicine is also seen in declining rates of referral from FHCs to hospital (from 22% in 2002 to 0.7% in 2011) (Fig. 7).

**Fig. 7. Annual doctor visits per capita for public and private sectors**



Source: Ministry of Health, 2012a.

Nationwide implementation of family medicine reform was achieved by the end of 2010. All family doctors received adaptation training, and in-service training is provided through distance learning modules. Practices are organized as autonomous entities (instead of civil service employees in health centres and health posts), with a registered patient list, and are paid under a capitation plus pay-for performance (P4P) contract. Patients have free choice of practice and doctor. Until now, family medicine performance targets focused on maternal and child health and communicable disease control, but work is ongoing to design a P4P scheme incorporating NCD targets. Family doctors employ one family health officer (nurse, midwife, paramedic) per doctor and may employ

additional practice staff, such as midwives and receptionists. Turkey plans to raise family medicine skills by continuous in-service training of existing family doctors and steadily increasing the number of family medicine specialists. Some health centres in remote and less developed areas lack a trained family doctor. However, medical cover is achieved by mandatory two-year rural service for doctors after graduation, combined with mobile services. The Central Appointment System was introduced to family medicine in July 2013, but is not compulsory. However, FHCs commit themselves to acceptable waiting time standards (e.g. 20 minutes), which are posted in facilities, and manage queues with a numbered-ticket system.

Family medicine teams see on average almost 50 patients per doctor per day and carry out on average one to two home visits. Family doctors work on average 46 hours per week (WHO Regional Office for Europe, 2008). Workload appeared manageable in the clinics visited by the WHO team, though a number of key informants expressed concern about the high patient-doctor ratio and overcrowding in some clinics. However, the average daily number of consultations is similar to that of general practitioners (GPs with family medicine specialist training) in the United Kingdom, where the average patient-to-GP ratio is 1600 (United Kingdom National Statistics, 2012). The factors that may enable family medicine practices in Turkey to cope with much higher registered patient population than most European Union (EU) countries with a family medicine model include a relatively young population (7.3% of Turkey's population is over the age of 65, compared to more than 15% of the United Kingdom's population), a much greater role for hospital specialists in providing first-contact care for adults, a higher ratio of non-doctor health professionals in primary care teams, and a substantial volume of very short consultations. One evaluation of family medicine practices found that between 12% and 21% of family doctor consultations are less than 5 minutes long, and 36% of consultations are between 6 and 10 minutes long (WHO Regional Office for Europe, 2008). The purpose for many short visits appear to be to obtain a prescription refill from a family doctor for drugs originally prescribed by a hospital specialist; prescription renewal is required in order for patients to get free outpatient drugs, which are reimbursed by the Social Security Institution.

Family medicine practices operate from public clinics and FHCs, which are supported and supervised by a network of CHCs. There is one CHC in every district. The CHC-FHC network is part of the family medicine division of the provincial public health directorate. CHCs work at local level with the NCD departments in the provincial public health directorate in implementing the community-based programmes and patient education for risk factor reduction under the Prevention and Control Programme for CVDs in Turkey, Strategic Plan and Action Plan for the Risk Factors (Ministry of Health, 2009). CHCs, together with the provincial public health directorate, provide laboratory diagnostics and logistics support to FHCs, and also carry out community population health interventions for disease prevention and health promotion. CHCs manage home health services and mobile health services in remote areas.

**The Ministry of Health's strategy calls for family medicine to play the lead role in screening for CVD risk factors and type 2 diabetes mellitus, and in mobilizing and following up their patients for future cancer screening. Over time, the intention is also for family doctors to develop greater capacity to manage primary and secondary prevention of common NCDs and to coordinate follow-up care after hospitalization. However, the vision for systematic implementation is currently in the planning stage.** The family doctors interviewed by the WHO team were all ready and willing to take a more proactive role in NCD care. FHCs are equipped to measure



blood pressure, monitor BMI and test for blood glucose. Family doctors are permitted to prescribe antihypertensives (except for angiotensin receptor blockers), though they only prescribe cholesterol lowering drugs after specialist diagnosis and recommendation. They are permitted to prescribe anti-diabetic medicines, but not insulin. However, Information provided to the WHO team in stakeholder workshops and field visits suggests that the majority of CVD risk factor detection and primary and secondary prevention, and the overwhelming majority of diabetes take place in hospitals. For cancer screening, the main roles of family medicine practices are to mobilize patients for referral to KETEMS for screening, and communicate results to their patients who test negative on screening. CHCs in coordination with local government play a role in organizing patient transport to KETEMS.

**Fig. 8. Rural Family Medicine Centre in Malatya Province with a disabled ramp and queuing system**



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Provincial public health directorates also manage some dedicated units for NCD screening and management, which now form part of the network of primary and community health facilities. KETEMS are present in all provincial health directorates. They are managed by family doctors or general practitioners with additional in-service training in cancer screening and management, together with nurses and diagnostic imaging technicians. Diabetes centres or polyclinics have been established in 15 provinces since 2003. The centres provide training for family medicine doctors, and their staff provide community services for management of some diabetes complications, such as tissue viability (Akdag, 2011). Some provincial public health directorates (e.g. in Izmir) intend to expand the work of its centre to other chronic diseases. The Ministry of Health plans to further develop home health care services to support increased primary care involvement in provision of palliative care and end-of-life care for patients with cancer, and expand this over time to other conditions. Some provincial public health directorates operate small integrated hospitals that provide non-acute care for patients who cannot be supported at home. Specific barriers to family doctor prescription of opiate pain relief for palliative care patients were noted. Development of hospital-based and community-based palliative care is underway but at an early stage. There is not yet a regulatory basis or financing system for hospice care in Turkey.

The major factor that limits the family medicine system from playing a key role for NCDs, as identified in workshops and field visits by the WHO team, is that Turkey has not yet implemented a gatekeeping or mandatory referral system. This has also been highlighted in a previous analysis of policies for control of CVD and diabetes mellitus in Turkey in comparison with three other Eastern Mediterranean countries. (Phillimore P, Zaman, Ahmad, et al., 2013). There is not yet confidence that the family medicine system has sufficient workforce or skills training to cope with such a requirement. Patients are free to self-refer to any hospital specialist outpatient clinic and, for NCDs, this seems to be the preferred choice for most patients. In the tertiary university hospital visited by the WHO team, between 30% and 40% of outpatients are self-referred, some from long distances, though most have seen another doctor first. State hospitals charge a modest co-payment no matter if the patient is referred or not. University hospitals charge somewhat higher co-payments for outpatient consultations, whereas family doctor consultations are free. But the fees are very affordable and do not provide a strong disincentive for self-referral. Patients can also self-refer to private hospitals and receive care, which is reimbursed by the Social Security Institution.

Other factors identified that limit development of the family medicine role in NCDs include continued public preference for hospital specialist care. Although the status, training and remuneration of family doctors have improved markedly, more time is needed to build up public trust. In addition, hospital specialists usually prefer to provide follow-up consultations and disease management after initial diagnosis and treatment. There is no obligation or guideline for hospitals to transfer patients back to their family doctor for ongoing care, and hospital specialists receive financial incentives to conduct their own follow-up care. There is a perception that patients also prefer to receive follow-up care from specialists, even choosing to rent accommodation in the city where they receive hospital treatment for cancer or CVD for the duration of any follow-up care.

**Table 3. Family medicine network in 2011**

	Number
FHCs	6367
FHC medical examination rooms	20 216
CHCs	961
Population per family doctor	3500

Source: Ministry of Health, 2012a.

**Table 4. Hospital network in 2011**

	Facilities	Beds
Ministry of Health	840	121 297
University	65	34 802
Other public (military)	45	6757
Private	503	31 648
Total	1453	194 504
Beds per 1000 population	2.6	–
Hospitalizations per capita per year	0.15*	–

\* Calculations based on Ministry of Health, 2012a.

Source: Ministry of Health, 2012a.

**Table 5. Ambulances at a glance in 2011**

Ambulances	Number	%
112 emergency	2766	69
Other	1159	29
Obesity ambulances	45	2
Population per 112 ambulance stations	43 698	–

Source: Ministry of Health, 2012a.

In the absence of a gatekeeping and referral system, university and state tertiary teaching hospitals provide the full spectrum of individual services for NCD patients, from screening and primary prevention to tertiary interventions, coordination and provision of follow-up care. In tertiary facilities, cardiologists and endocrinologists provide screening and primary care disease management. State secondary care hospitals provide primary and secondary care for NCDs. Because of staffing constraints, secondary hospitals make less use of subspecialist staff, and relatively greater use of internal medicine specialists and general surgeons in diagnosis and management of NCDs. Hospitals, including tertiary care facilities, have been mandated by the Ministry of Health to establish chronic care units providing assessment and education for patients with a range of chronic diseases, and separate patient education units for diabetic patients and metabolic syndrome patients at risk of developing diabetes. Some hospitals are establishing obesity clinics. Some public hospitals also have home care units to manage post-discharge care for patients diagnosed and treated in hospital.

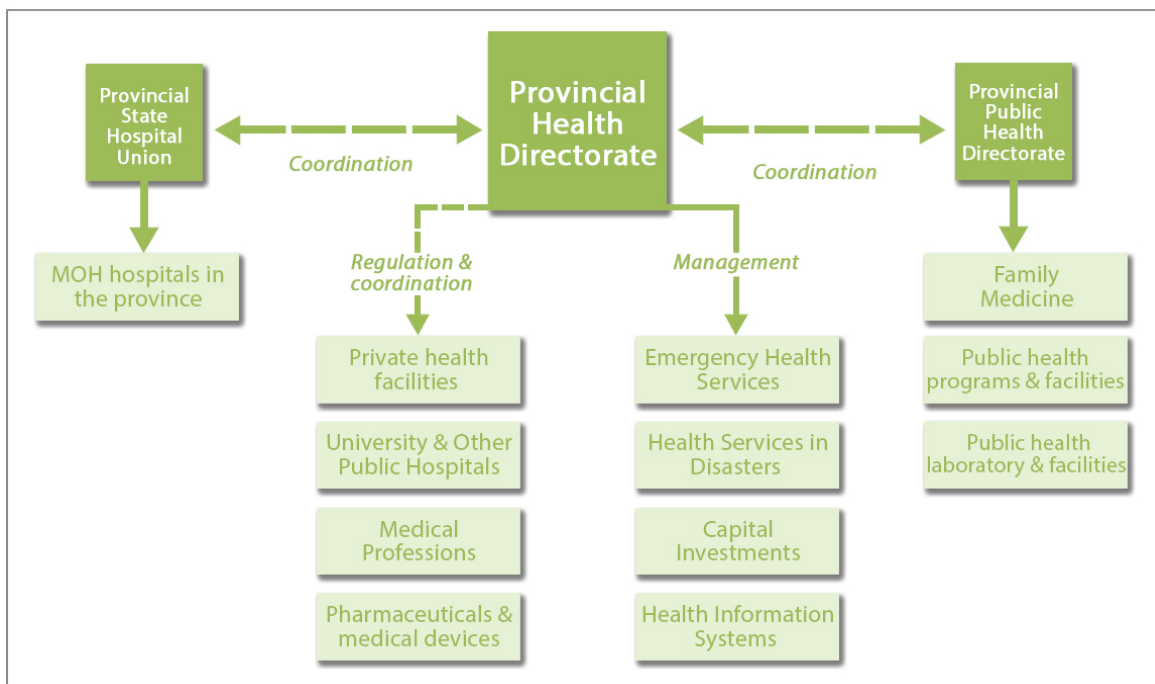
## Challenge 6. Coordination across providers

In every province, the Ministry of Health put in place a new formal structure to coordinate across providers under Decree Law No. 633 in 2012. The new provincial health directorates are responsible for coordination between the provincial public health directorate (managing primary care); the provincial state hospital union (managing Ministry of Health hospitals); university, private sector and other government hospitals; and health services. They manage the 112 ambulance service for each province. The Provincial Health Directorate is also responsible for local cross-sectoral and cross-government coordination. This coordination role is new and unfamiliar, so it would be premature to assess it. However, until now, the strategy-formulation and planning processes for the service delivery system for NCDs and for the health facility network are centralized in the Ministry of Health, with the provincial directorates' role confined to coordinating bottom-up input into central plans and decisions. For the time being, university hospitals, state hospitals and the family medicine network tend to operate with vertical lines of accountability and control upward within their own agencies (Fig. 9).

The placement of family medicine within the provincial public health directorate has the advantage of facilitating coordination between the NCD control programme staff and the family medicine network. This coordination has been effective in the past in embedding the maternal and child health strategy and targets into policies for family medicine. At service delivery level, coordination is visible and effective between FHCs and other services managed by the provincial public health directorate, such as the KETEM and community health and education programmes, home health care, diagnostic laboratory services and information systems. The provincial public health directorate operates a

specimen collection system from FHCs for laboratory diagnosis so that family doctors have very good access to a high quality laboratory, which has capacity to efficiently provide a wide range of tests.

**Fig. 9. Provincial health service coordination structure**



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Cancer services are in the lead in coordination of treatment, care-planning and information systems for NCDs, as described further in the next section. There are established processes of coordination between provincial public health directorates, KETEMS, FHCs, and secondary and tertiary hospitals. However, for other NCD services, the ability of patients to self-refer to any level of care is a barrier to coordination of care for chronic disease patients across hospitals, and between hospitals and family medicine practices. Coordination of care for chronic disease patients is mainly achieved within a single health facility. There is not yet a systematic requirement for hospitals to send a discharge report or letter to the patient’s family doctor after hospitalization or specialist outpatient diagnosis, though some provinces have initiated this. Patients themselves may provide this information to their family doctor. FHCs’ information systems enable them to see when their patients have attended a hospital, but they are not able to access diagnostic or patient treatment and care plan information from hospitals. The Ministry of Health plans to develop a form of summary electronic patient record accessible by family

doctors that would enable them to track hospital admissions and the use of other health services (such as screening) by their registered patients, though this system does not have the capacity to provide a shared electronic patient record for clinical care.

For patients needing home care, public health directorates operate phone lines or call centres to coordinate care, and these services play a role in tracking patient care and coordinating between hospital, hospital-provided home care services and CHC-provided home care services. Public health directorates also coordinate with social services, principally provided by the Ministry of Family and Social Policy and, to a varying extent, by municipalities.

## **Challenge 7. Regionalization, economies of scale and specialization**

**There is not yet a clear policy or plan defining the respective roles of primary, secondary and tertiary care in management of all NCDs, except for cancer treatment and care guidelines, which define the level of facility for referral of diagnosed patients for treatment. This type of guideline is not yet formalized for CVD and diabetes mellitus.** There is, in practice, substantial overlap in the roles of family doctors, and secondary and tertiary care hospitals in detection, risk factor management and routine treatment for CVD and management of its risk factors, diabetes mellitus and metabolic syndrome. The Ministry of Health and professional bodies are investigating international evidence on standards for cardiovascular services and centres, and propose to develop their own standards within the next year.

**Standards have been developed and adopted in 2011 to define evidence-based treatment guidelines for minimum staffing and volume criteria for hospitals conducting open cardiac surgery and percutaneous coronary intervention (PCI).** The proposed guidelines define minimum catchment population and recommended volume per open heart surgery unit, minimum capacity in intensive care units of defined levels, and minimum volumes of supervised interventions for training cardiologists performing PCI. Guidelines were informed by American Heart Association guidelines, with some adaptation for local conditions. A transition period of three years has been allowed for hospitals to comply. Currently, 51 university hospitals, 40 state hospitals and 2 military hospitals perform cardiac surgery and interventional cardiology, between them performing 68 000 cardiac surgeries per year. There is recognition of the need to increase quality in existing hospitals and not to increase the number of hospitals performing cardiac surgery. There is also recognition of the need to increase the percentage of revascularization for acute myocardial infarction cases performed by PCI, rather than coronary artery bypass graft surgery (PCI share was 74% in 2011, up from 66% in 2009). Compliance with guidelines is a particular challenge for the 230 private hospitals, which offer cardiac surgery and interventional cardiology.

**Mapping of existing capacity for major cardiac interventions has been carried out to identify which areas of the country lack access to PCI and cardiac surgery and intensive care units within two hours travel time.** This mapping is being used to set priorities for investing in additional public sector cardiac surgery and cardiac catheterization units. Training of cardiologists from these regions to meet the new standards is already underway. Most cardiac surgery is currently carried out in four provinces (Istanbul, Izmir, Adana and Ankara) with many patients travelling from far away to receive care. Handover of follow-up care to cardiologists in patients' own provinces is not yet well established or accepted. Nor are there systems for patients to remotely consult the treating doctor (telemedicine consultation).



**The 112 emergency number ambulance service has well-developed coordination mechanisms within the province, agreed protocols for call handling, patient transportation to the appropriate facility for major emergencies, and coordination of availability of intensive care beds and other critical capacity.** Training and vehicle standards are defined for different categories of ambulances. Response time targets are defined and monitored. In one province visited, patients with acute coronary syndrome are transported directly to the nearest state facility with capacity to perform PCI, even if this is not the nearest hospital. In another province visited, the 112 ambulance service transports patients to the nearest state hospital, although this facility currently lacks capacity to perform PCI while a nearby university hospital has this capacity. Patients also arrive at hospital via taxi, private vehicle or private ambulance services. There is not yet systematic monitoring of quantitative data on the share of patients transported by different means. One barrier to optimal care for patients with acute myocardial infarction is that paramedics are not permitted to prescribe thrombolytics. A pilot project to equip ambulances to transmit electrocardiogram readings to a cardiologist via satellite communication and obtain remote cardiologist prescription is being piloted, though the cost of scaling up this initiative may be prohibitive. Another pilot has initiated ambulance communication of information on patient status to the emergency room to enable rapid handover and intervention on arrival in hospital. A university hospital visited by the WHO team had instituted internal performance targets (30 minutes) for time from hospital admission to PCI.

## Challenge 8. Incentive systems

**The design of the current capitation plus P4P payment mechanism in family medicine has been well aligned with the priorities of the reform and provides an effective basis for enhancing the role of family medicine in NCDs.** Payment mechanisms in family medicine are based on capitation payment with a negative (up to 20% penalty) P4P element. (For an extensive and nuanced review see (World Bank, 2013)). Family medicine doctors are contracted by provincial public health authorities to deliver a full range of services including prevention, health promotion, disease management, etc. The pay of family physicians is based on certain components.

- The monthly base payment for family physicians is based on the number of assigned/enrolled population with higher adjustment coefficients for pregnant women, prisoners, children under 4 years of age, and elderly over the age of 65 years.
- The monthly base payment is adjusted by the socioeconomic development index of the district of practice. The adjustment can be significant in some of the most underserved areas and has greatly contributed to the ability of Turkey to close the gap in staffing ratios across the country (see human resources).
- An additional lump sum payment is assigned if the family medicine centre carries out home visits, and the payment is calculated for every 100 persons who receive mobile services.
- Family medicine centres are classified from A to D based on 30 criteria such as the characteristics of its infrastructure, convenience of its opening hours, etc. In addition to the monthly base payment, lump sum payments are made to cover operational costs, which are linked to the grade of family medicine centres. This provides incentives and resources to improve service conditions.



- Finally, primary care facilities are budget holders for laboratory tests, which are organized and managed by the Public Health Authority.
- The performance element of the payment mechanism is a salary deduction, which is applied to family medicine physicians as well as nurses. The deductions are linked to three service coverage indicators:
  - ≈ immunization coverage rate (BCG, DPT3, Pol3, measles, HepB3, Hib3);
  - ≈ pregnant women with a minimum of four antenatal visits according to the schedule; and
  - ≈ follow-up visits of registered babies according to schedule.

**Payment mechanisms can be further strengthened to support family medicine in playing a greater role in diagnosing and managing NCDs.** In terms of the capitation payment, the greatest adjustment is provided for pregnant women, while the lowest adjustment is for the elderly over the age of 65. While this was appropriate in the phase of extensive focus on maternal and child health, it is unlikely to reflect true resource intensity once family medicine is also involved in detecting and treating NCDs. Some analysis and possible adjustment of the adjusters to better reflect resource intensity are in order. Second, the performance component could be expanded to cover NCD-related conditions. Typically, P4P mechanisms are helpful to increase coverage rates for well-defined services such as detection of HTN, diabetes and cancer screening, as well as for a number of services linked to disease management (e.g. regular eye and foot exam among diabetics).

**The Ministry of Health (PHIT) is planning to revise the P4P scheme to incorporate targets for three cancers (cervical, breast and colorectal cancers), HTN detection, diabetes mellitus and obesity,** with the aim of introducing the new indicators nationwide in 2014. Indicators have not yet been selected but are anticipated to include mobilization of patients for cancer screening, screening for other chronic conditions and perhaps some targets related to management and control of some conditions. There are some challenging decisions to be made related to the design of the scheme, in particular whether to add the additional indicators to the existing P4P penalty scheme, which has a statutory maximum of 20%, or alternatively to add a P4P bonus to family doctor remuneration (which has budget implications).

Hospital staff also receive P4P from the hospital revolving funds, which are funded by revenue from social health insurance and co-payments. Well over half of the remuneration of hospital specialists is derived from the P4P scheme, along with around 20% of the remuneration of nurses, other health professionals and administrative staff. The size of the bonus pool for hospital staff is determined on the basis of a set of hospital-wide performance indicators in the case of state hospitals. University hospitals have greater freedom to decide on the size of its bonus pool. The share of the bonus pool paid to individual hospital specialists is based on their activity. A Ministry of Health regulation specifies a point value for each of 4000 types of medical activity, such as outpatient consultations and diagnostic and surgical interventions, and the point values are mandatory in both state and university hospitals. This P4P scheme generates financial incentives for individual hospital specialists to maximize patient contacts and interventions.

**As such, the P4P scheme creates strong financial incentives for hospital doctors to attract and keep their own patients, and a disincentive for hospital doctors to hand patients back to family doctors for follow-up care after initial diagnosis and treatment in hospital.** The incentives were identified by many interviewed during the

mission as a significant barrier to the Ministry of Health's strategy of strengthening the role of family medicine in detection and management of care for patients with NCDs and all chronic conditions. The Ministry of Health is at the early stages of designing modifications to the hospital P4P scheme to introduce clinical quality indicators, including a number of indicators related to evidence-based management of a range of common NCDs, such as diabetes mellitus, stroke and ischaemic heart disease. Details of the scheme and its effects on incentives for individual hospital specialists are yet to be worked out.

## **Challenge 9. Integration of evidence into practice**

**Turkey has made great efforts to ensure that family medicine practice is evidence based and existing approaches can be easily expanded to incorporate key NCD conditions.** Thus far, efforts focused on developing guidelines for pregnancy management and a number of child health conditions in line with the objectives of the Health Transformation Program to make headway for these outcomes. The development of the guidelines followed a structured process under the leadership of the Ministry of Health with key academic and other stakeholders. International evidence was reviewed and guidelines were adopted. In terms of NCDs, national guidelines exist for cancer screening but not yet for cardiovascular conditions and diabetes. Interviewed family medicine practitioners highlighted how helpful guidelines would be due to the complexity of these conditions. They would also welcome visual aids or the use of the family medicine information system to facilitate clinical decision-making, similar to the pregnancy flow charts and vaccination calendars. The process developed for disseminating guidelines and pathways for pregnancy management and child health can provide a useful and already tested vehicle to roll out implementation of new guidelines for NCDs. The distance learning implemented through an online platform provides an efficient way of continuous medical education training.

**A structured and standardized external audit process functions effectively and can provide an important tool for monitoring the expansion of the role of family medicine in NCD detection and management.** The Provincial Health Directorate carries out audits of family medicine centres twice a year. The audits combine analysis of the family medicine database on coverage of key services such as pregnancy follow-up, vaccinations and other child health conditions; review of the physical conditions of the premises; review of network connections; and review of charts randomly picked during the audit meeting. The audits have focused so far on pregnancy management, vaccination and child health conditions. The nature of the audits is typically supportive problem solving rather than punitive, although there are financial penalties attached to not meeting certain indicators (see "Challenge 8. Incentive systems"). Once the approach to NCD detection and management in family medicine is developed, the external audits can be easily expanded to broaden focus on key NCD conditions.

**Quality improvement for family medicine appears to be fully reliant on external instruments (financial incentives, external quality improvement), and internal facility-level quality improvement processes are absent.** Internal facility-level quality improvement carried out by teams of family medicine doctors and nurses, possibly with participation of CHCs, could provide a helpful instrument for NCDs where local innovations and change of practice patterns are important. The approach would facilitate a team-based analysis of performance problems and find joint solutions to problems. The internal quality review would not have financial implications. Structuring such a process and demonstrating its effectiveness, possibly through pilots, could be an important role for professional associations.

## Challenge 10. Human resources

**Turkey has made great strides to increase health worker coverage, particularly for family medicine physicians and nurses/midwives, and to reduce previously large regional inequalities. Turkey's health worker coverage is now in line with that of upper-middle-income countries.** The number of all types of health personnel increased significantly during the Health Transformation Program, including family medicine physicians, specialists, and nurses and more so in previously underserved provinces (Ministry of Health, 2012a). Increasing the number of family medicine physicians specifically was an important instrument in the Health Transformation Program to expand access to care: the number of family medicine physicians per 100 000 population reached 53 by 2011 varying from 42 in Istanbul to 64 in the Eastern Black Sea Region. Vacancies in family medicine physician positions have been nearly eliminated.

**Turkey has adopted a comprehensive approach to increase staffing ratios, in particular in family medicine,** including a balanced mix of organizational and financial instruments, which are listed in Box 1.

### Box 1. Instruments to increase staffing ratios in family medicine

- Employment of family physicians was moved from civil service to contractual basis to provide more flexibility in hiring.
- A transparent and objective hiring and staff allocation process was put in place reducing reliance on individual decisions.
- The volume of medical school graduates was increased with attention not to compromise the quality of medical education.
- Former district physicians were retrained in family medicine and gradually moved to a distance learning platform with continuing training education.
- Salaries for family medicine physicians were significantly increased.
- Subsidized compulsory mandatory service for medical school graduates was improved from previous practices to make it more acceptable by offering higher payment in deprived regions.

**Although there are plans to further increase the ratio of family doctors to population, there appears to be room to expand the task profile of family doctors even with the current staffing ratios.** It was frequently mentioned by several stakeholders that the current ratio of family medicine physicians to population is still low compared to EU countries. This was viewed as an important factor that needs to be addressed for expanding the task profile of family physicians for NCDs, and this is in line with the plans of the Ministry of Health to significantly increase the number of family medicine physicians over the coming years. Indeed, the average population enrolled with a family physician is 3500, which is on the high side by international comparison. Nevertheless, when making comparisons of staffing to population ratios between Turkey and EU countries, it is important to note that the population age structure in Turkey is significantly younger than in the EU. A younger population means a lesser workload for primary care health workers, and thus, Turkey can possibly continue to make progress in expanding the task profile for NCDs without waiting for full implementation of increased staffing. This suggestion was confirmed during the site visits to a number of family medicine facilities where the mission did not observe crowded waiting rooms, health workers did not complain about unreasonable workload, and some of the observed visits

were fairly short consisting of writing a prescription. The observations are consistent with a comprehensive review conducted in the early phase of implementing family medicine in 2007 and observed that 16% of visits were less than 5 minutes and 52% of visits were less than 10 minutes long (WHO Regional Office for Europe, 2008). While the conclusions require further systematic investigation, based on currently available evidence and observations, there appears to be scope for expanding the staff profile in family medicine under current conditions.

**To further alleviate pressure on the need to increase staffing with physicians, rethinking the service delivery model for NCDs provides an opportunity to review and revisit the vision and plan for physician/nurse roles, especially in family medicine.** Currently nurses in family medicine centres are actively involved in several aspects of pregnancy and child health care but they have a limited engagement for chronic care. Many countries at the forefront of effectively addressing NCDs through primary health care also allocate a significant set of tasks to nurses. For example, nurses can routinely measure blood pressure to all above the age of 18 who come to the clinic, fill out cardio-metabolic risk assessment charts prior to the session with the physician, take samples for blood test, get involved organizing patient education on smoking, nutrition and exercise and participate in home visits. The comprehensive NCD platform Turkey aims to create provides an opportunity for Turkey to leapfrog a stage of development for human resources by revisiting the doctor-nurse roles for NCDs.

## Challenge 11. Access to quality NCD medicines

**Turkey's social health insurance system reimburses the cost of hospital inpatient medicines and outpatient prescription drugs for medicines that are essential for the prevention and treatment of NCDs.** Hospital inpatient medicines, all cancer medicines and medicines prescribed by family doctors are free of charge to the patient. Other outpatient prescription medicines prescribed by hospital specialist are subject to an affordable co-payment. Around 78% of expenditure on medicines is from public sources, though around 41% of out-of-pocket expenditure is spent on medicines. Availability and physical access to medicines are assured by a system, which reimburses private retail pharmacies for dispensing outpatient prescription medicines. In remote areas without a private pharmacy, mobile pharmacy services are provided under contract by private retail pharmacies.

It was beyond the scope of the WHO mission to carry out an in-depth analysis. However, the Ministry of Health has longstanding concerns to improve rational use of medicines. Issues regarding appropriate use of medicines and prescribing of generics have been noted in previous assessments (Tatar, 2007; OECD & World Bank, 2009). The lack of availability and use of up-to-date evidence-based guidelines and decision support for management of common NCDs are barriers to rational use of medicines. Examples were cited of barriers to family doctor prescribing of some medicines needed for primary care management of NCDs, for example statins, insulin and opiate pain relief. Hospital specialist consultation is currently required for prescription of these medicines. Turkey's Social Security Institution has an outstanding information systems platform for monitoring and management of the use of prescription medicines. Currently, this is used primarily for control of expenditure and claims, but the potential exists for harnessing the system to encourage rational and cost-effective prescribing for NCDs in the future.

## Challenge 12. Health systems management

This health system feature was not assessed at sufficient depth during the review.

## Challenge 13. Information solutions

As described in the second section, **significant progress has been made to improve birth and death registration in Turkey**, which will allow more exact tracking of health outcome trends including NCDs. Turkey has made a number of major improvements in recent years to improve the coverage of vital registration, and reduce the number of children born who do not receive a national identification card. From 2008, the changes have meant that virtually 100% of babies born are recorded and given a national identification number. Between 2010 and 2012, an estimated 85% of deaths were recorded, with a cause of death specified in 90% of those cases. It is mandatory to include place of death and residence in the forms, but fields on other socioeconomic variables (e.g. education, work) are optional.

**A further challenge is to have more sophisticated information on health inequalities.** Ensuring that everyone “is counted” in national statistics is a fundamental prerequisite for addressing health inequities, as it is often the most marginalized social groups who are most likely to miss out and not be recorded in official statistics. Turkey already has a multidimensional index used to rank provinces according to level of socioeconomic development, composed of 61 parameters from population-based surveys. This index could provide a starting point to measure and report health indicators by socioeconomic level – alongside work to further disaggregate to provide information at subprovincial level. There is also a classification of socioeconomic status at neighbourhood level provided by the Turkish Statistical Institute, at least in Ankara, which could be used to monitor socioeconomic inequalities in health indicators.

At the level of individual health services, Turkey has a sophisticated information system and data platform, which can be further enhanced to provide decision support for health care staff as well as strengthen the continuity of care.

## Challenge 14. Change management

This health system feature was not assessed at sufficient depth during the review.

## Challenge 15. Access to care and financial burden

**Due to the consistent vision to expand health coverage with the Health Transformation Program, access to care has dramatically improved, regional inequalities have declined, and financial burden has reduced. Access and financial burden do not present any barriers at the present time for scaling up core NCD interventions and services and can be viewed as enabling factors for such scale up.** Many examples of improved access and increased regional equality in access are provided in an article recently published in the Lancet and in the Ministry of Health statistical yearbook (Atun R, Aydin, Chakraborty, Sümer, Aran, Gürol et al., 2013; Ministry of Health, 2012a).

In terms of inequality, measures have so far focused on improving geographic equity in access to health services, achieved through the development of a family medicine network. There is now scope for Turkey to focus more on the other dimensions of access to make progress to measuring and reducing inequities in health between rich and poor, between men and women, and between groups of different education level. It is important to remember that equity in access to health care services is only one of the determinants of broader health equity. Reducing inequities in NCDs in Turkey will require action to address inequities in the social determinants of health as well as inequities in health services.



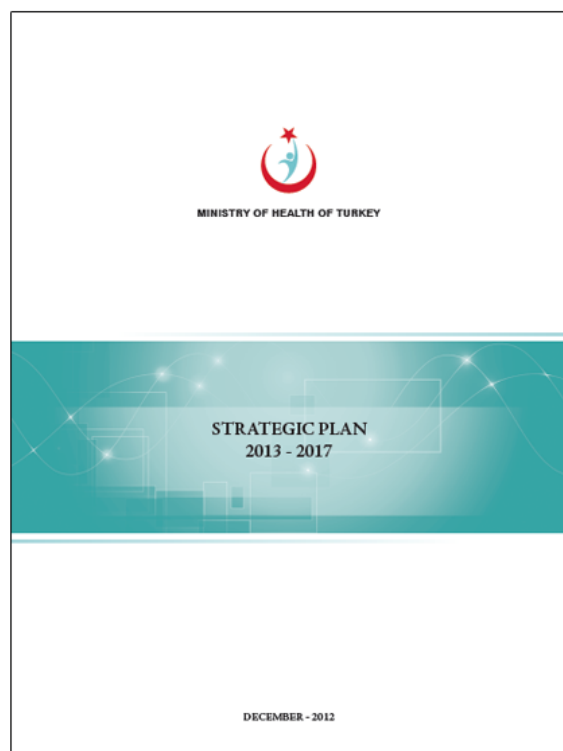


## 4. Innovations and good practices

There are many inspiring examples from the past 10 years of Turkey's health system reform for other countries. Many of these have been documented in recent years. For instance, as mentioned extensively in this report, Turkey has been a global best practice on tobacco control (WHO Regional Office for Europe, 2012b). As the recent Lancet article highlights, Turkey has made enormous progress towards universal health coverage with a commitment to public funding (Atun R, Aydin, Chakraborty, Sümer, Aran, Gürol et al., 2013). Turkey has also rolled out family medicine with a strong results orientation (WHO Regional Office for Europe, 2008). This section highlights two additional directions, which can be considered innovation and good practices for other countries.

### 4.1 Embracing Health 2020

**Showing impressive commitment to health, health equity and social determinants, Turkey is one of the first countries in Europe to embrace the new European health policy, Health 2020** (WHO Regional Office for Europe, 2013a). Health 2020 was endorsed by all 53 Member States of the WHO European Region at the sixty-second session of the WHO Regional Committee for Europe in September 2012. Turkey's new Health Strategic Plan 2013–2017 is based strongly around a Health 2020 framework. The strategic priorities of Health 2020, including strengthening participatory governance, increasing capacity to act on social determinants of health, promoting health across the life-course, creating supportive environments for health, and developing more people-centred health systems all feature prominently in the design of the Turkish Strategic Plan. Many other countries in Europe will be watching Turkey, as an early adopter of the Health 2020 approach, to see how this pioneering vision contributes to improved levels of health and health equity for the Turkish population. The key challenge will be for Turkey to build upon the work and engagement with over 4000 stakeholders in interpreting this vision, to ensure it is translated into action and tangible benefits for the population. The recommendations of this report will not only assist Turkey prevent and control NCD, but also improve its capacity to implement the impressive vision of Health 2020 that is articulated in the Health Strategic Plan 2013–2017.



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## 4.2 Coordination among service providers for cancer screening

**Although coordination is often highlighted as a challenge in Turkey due to the complex institutional structure in the health sector, coordination and collaboration for cancer screening presents an impressive success story.** Cancer services are in the lead in coordination of treatment, care-planning and information systems for NCDs. Provincial public health directorates work with FHCs to mobilize patients for screening and arrange transport to KETEMs. KETEMs communicate screening results to patients' family doctors. KETEMs coordinate with the hospitals that host them for cytology services and referral of patients with positive screening findings. There are guidelines for referral of patients to secondary or tertiary care as appropriate for treatment. Hospitals plan patient treatment and also coordinate home care teams. Some are beginning to develop palliative care. The cancer registry information system captures information from hospitals and KETEMs, though there is more work to do to address data privacy and confidentiality issues before data could be shared with family doctors. As the challenges of coordination for other NCDs are worked through, it is important to build on the experience and know-how already developed for implementing wide-spread cancer screening.



## 5. Policy recommendations

It is now widely recognized in Turkey that the next generation health challenge is to tackle NCDs. There is impressive commitment and leadership to tackle this challenge in a comprehensive and systematic manner over the coming years. The vision and strategies put forward are fully in line with WHO recommendations and Health 2020, and the key challenge is to effectively implement them. This section focuses on a number of policy recommendations that can contribute to this dialogue and form the basis of an integrated NCD action plan, which could serve as an integrative platform for the current multiple national programmes on discrete NCDs and NCD risk factors.

Based on this assessment and the discussions at the final workshop with key stakeholders, policy recommendations are grouped around five main themes.

1. Strengthen coordination and governance mechanisms.
2. Accelerate action on obesity and nutrition risk factors for NCD.
3. Increase the role of family medicine in NCDs.
4. Mainstream equity and social determinants of health into action and reporting.
5. Analyse to build the case for change and refine NCD plans.

### 5.1 Strengthen coordination and governance mechanisms

As highlighted in the fourth section, “Health system achievements and challenges”, coordination has been raised as an important challenge to scale up population interventions and individual services for NCDs. This is due in part to the complex institutional structure in the health sector where new roles and relationships have not yet fully developed. Thus, a key recommendation of this mission reflecting views of key stakeholders as well is the need to strengthen coordination and governance mechanisms. The following concrete directions can be considered.

- **Set clear targets for NCDs.** Use a results-oriented approach for NCDs similar to what was done for maternal and child health, with monitoring and incentives throughout the system.
- **Make a more explicit connection between strategic objectives, resource allocation and implementation.** The development of the Health Strategic Plan 2013–2017, in line with Health 2020, is a momentous achievement and sets a strong basis for further health improvements in Turkey. To realize the immense potential of this strategy, it will be important to put in place strong processes to clearly connect the objectives in the strategy to health resource allocation and implementation.
- **Enhance accountability for SDH and Health in All Policies (HiAP).** The PHIT does not have the cross-government authority and coordinating power necessary to achieve Turkey’s objective on SDH and HiAP in the Health Strategic Plan 2013–2017. Accountability for action on SDH and HiAP needs to sit with a higher authority, capable of convening multiple government ministries, and holding them to account. Accountability for SDH and HiAP could even be combined with a single intersectoral committee on NCD prevention.

- **Provide an intersectoral mechanism for NCD prevention and control.** In order to develop and coordinate whole-of-government action on NCD prevention, responsibility needs to sit with the highest possible authority, ideally above the Ministry of Health. This high-level accountability needs to be supported by a coordination mechanism, such as a high-level intersectoral committee, that oversees the implementation of multisectoral activities.
- **Improve coordination within the Ministry of Health.** A coordination mechanism could be used to fill the gap between Ministry of Health general directorates and affiliated agencies. Responsibility for aspects of NCD prevention and control sits with multiple directorates and multiple departments of the PHIT. Good coordination between the multiple agencies is essential to take a more effective and efficient response to NCDs. The Health Policy Board could be redefined to take on a coordinating function, or a new body could be established. There is also a need to break down some of the silos between departments in the PHIT. Consolidation of multiple NCD programmes into a single action plan will help, but changes to the structure and function of the departments of the PHIT will also be required if collaborative working is to be achieved.

## 5.2 Accelerate action on obesity and nutrition risk factors for NCDs

The high burden of obesity and high salt intake in Turkey mean that great gains can be achieved by accelerating Turkey's response to these issues. Turkey's experience with tobacco and alcohol prove that bold and strong government action on NCD risk factors is possible when high-level political commitment is present. National legislative action on trans fat and salt, along with measures to reduce marketing of unhealthy food and beverages to children would be key measures to implement. Fiscal policies to encourage healthy eating could also be considered.

## 5.3 Increase the role of family medicine in NCDs

**There is considerable consensus within the health sector in Turkey on the desired future service delivery model for NCDs to address the expected increase in the burden of disease from chronically ill elderly patients with multiple morbidities. This vision involves an expanded role of family medicine in detecting and managing NCDs, and further development of coordinated community-based rehabilitation, long-term care and end-of-life care.** FHCs are seen as the right setting to manage cancer, CVD and diabetes by:

- mobilizing patients for cancer screening and managing end-of-life care for patients with less complex needs in coordination with community home care services;
- screening and assessing patients for CVD risk factors; advising patients to quit smoking, lose weight and exercise; referring patients for counselling; controlling HTN and blood cholesterol for primary prevention; monitoring and providing routine care for secondary prevention of CVD after hospitalization;
- screening, monitoring and coordinating routine care for patients with type 2 diabetes;
- referring patients with complications and acute exacerbations to hospital.

**There a number of features of the organization of family medicine and community health services within provincial public health directorates in Turkey that create a strong platform for detection and management of chronic conditions.** These include the link to CHCs and mobile services, effective organization of laboratories, information systems that have the potential to aid clinical and non-clinical management, and mechanisms to monitor performance and link payment to performance. In addition, interviews confirmed that there was support from family medicine doctors and nurses to take a more proactive role in detecting and managing NCDs.

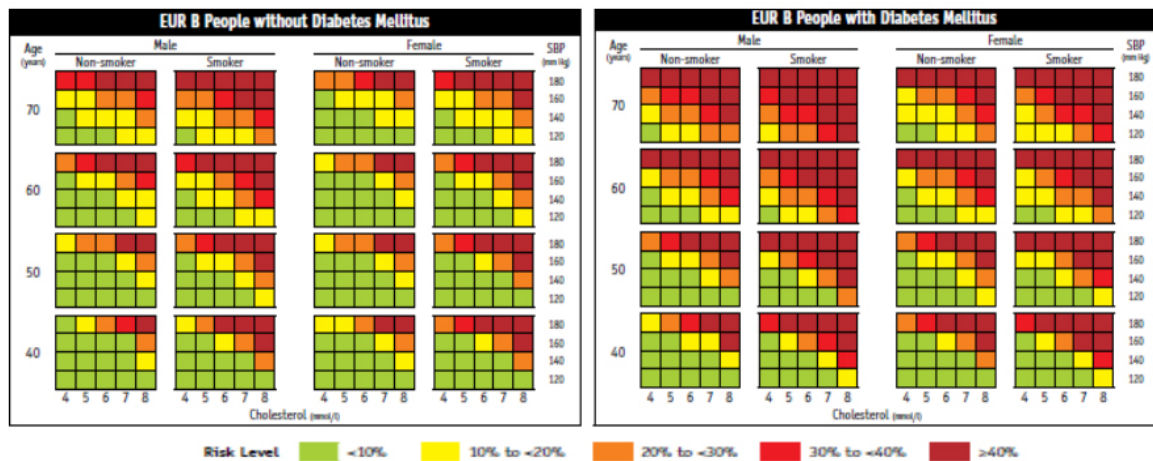
**However, there is a recognized need for step-by-step implementation of this expanded role for family doctors, complemented by the planned expansion of the primary care workforce.** To achieve this, a number of factors were identified as enabling conditions.

- Targets and directives set by the Ministry of Health were mentioned as needed catalysts.
- Clinical practice guidelines and visual decision aids for primary care screening, treatment and referral would be welcomed due to the complexity of conditions; this would also increase the confidence of hospital specialists to transfer chronic disease patients they diagnose back to primary care for ongoing management.
- Training programs based on new guidelines were needed.
- Staffing ratios need to be increased with attention to nurse roles as well as family doctors, though there is scope to begin expanding primary care roles with existing workforce.

**An important starting point would be to integrate comprehensive cardio-metabolic risk assessment into family medicine.** As reviewed in the section entitled “Coverage of core services”, currently many NCD conditions are diagnosed and managed at the level of specialists. For patients with co-morbidities, different specialists may participate in providing their care without formal and systematized communication between them. Integrating cardio-metabolic risk assessment into family medicine would provide an important first step to move towards a more comprehensive and patient-centred approach.

**Several tools are available to support the integration of cardio-metabolic risk-assessment in family medicine.** The risk-prediction charts developed by WHO and the International Society of Hypertension provide a good place to start and many countries are using these as the basis of guidelines after adaptation with specification of different treatment approaches for individuals with different risk. The risk prediction charts can also serve the basis for developing visual aids and can be integrated into the family medicine information system to support clinical decision-making (Fig. 10).

**Fig. 10. WHO/International Society of Hypertension risk prediction charts (EUR B)\***

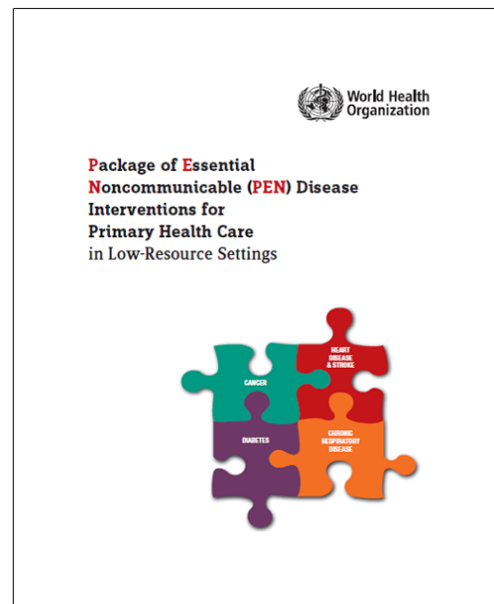


Source: WHO, 2007

\*The charts present the 10-year risk of a fatal or non-fatal cardiovascular event by gender, age, systolic blood pressure, total blood cholesterol, smoking status, and presence or absence of diabetes mellitus. The risks have been estimated for EUR B countries defined as countries with low infant and child mortality but high adult mortality.

The WHO guide, *Package of Essential Noncommunicable (PEN) Disease Interventions for Primary Health Care*, is a useful resource and provides:

- a tool for assessment of capacity and utilization of primary care;
- a tool for assessment of population coverage of NCD care;
- evidence-based protocols for essential NCD interventions for primary health care;
- core lists of essential technologies and medicines;
- tools for cardiovascular risk prediction;
- tools for auditing and costing; and
- tools for monitoring and evaluation (WHO, 2010a).



**Aligning the incentives of family doctors and hospital specialists with the new service delivery model is a critical enabling factor for expanding primary care management of NCDs.** The Ministry of Health has already recognized the need to incorporate NCD indicators into the P4P scheme for family medicine practices. In the design of this scheme, to encourage an integrated approach to NCD management, it would be desirable to use indicators of comprehensive cardio-metabolic risk assessment for patients at risk of CVD and type 2 diabetes mellitus, as discussed above, rather than indicators for single risk factors such as HTN. Changes to the indicators in the family doctors P4P scheme pose some new risks and challenges, which can be mitigated by so-called road-testing new indicators with a willing sample of family health centres before implementation. The process used in the United Kingdom National Health Service for testing Quality and Outcomes Framework indicators in their primary care P4P scheme provides a good example. The shift to the future NCD service delivery model also has implications for hospitals and hospital specialists. There is a need to identify a way of reducing or eliminating the financial incentives hospital specialists have to manage CVD



risk factors and type 2 diabetes mellitus in hospital outpatient clinics. There is also a need to create incentives for hospital specialists to hand over routine management of care for NCD patients to family doctors, and to improve information flows and communication about patient care plans between hospitals and FHCs.

**Implementation of a family doctor gatekeeping role and a referral system is identified by many stakeholders as a key action needed to expand the role of primary care in NCD management. Step-by-step development of the referral system may be more achievable and acceptable.** Alongside the steps listed above for increasing the capacity and confidence of family doctors to manage priority NCDs, it would be possible to gradually phase in a referral system, in line with the desired future service delivery model. An early step could be to require hospital outpatient clinics to refer back to the family doctor patients diagnosed with a list of NCDs, which should be monitored and managed in primary care. The list of conditions could be expanded gradually, in step with implementation of guidelines and training for family doctors in management of priority NCDs. This could be accompanied by reform of provider payment incentives and hospital specialist P4P incentives to reduce the level of payment or incentive for follow-up outpatient consultations for these conditions.

## 5.4 Mainstream equity and social determinants of health into action and reporting

Great gains have been achieved in improving geographical access to health services. National datasets have also been improved. Turkey is now well placed to take a more sophisticated analysis of health inequalities, in pursuit of the government's overarching goal for "health for all".

A detailed national study of social inequities in NCD risk factors and outcomes could be undertaken, to guide policy responses and to determine which social inequities are of greatest magnitude/concern and should be included in routine monitoring.

Improving the degree to which routine data can be disaggregated by socioeconomic status, education level, gender and place of residence is crucial to guide progress in reducing inequities in health. **Turkey has good data to compare outcomes between provinces and is now well placed to move to measuring differences within provinces.** In addition to strengthening the degree to which routine health data can be disaggregated by equity dimensions, Turkey's multidimensional index, used to rank provinces according to level of socioeconomic development, could provide a starting point to measure and report health indicators by socioeconomic level – alongside work to further disaggregate to provide information at subprovincial level. There is also a classification of socioeconomic status at neighbourhood level provided by the Turkish Statistical Institute, at least in Ankara, which could be used to monitor socioeconomic inequalities in health indicators.

In addition to having data capability to measure inequities in NCD risk factors and outcomes, reducing inequities needs to be included in reporting and supported by clear accountability. This would include including dimensions of equity in routine performance reporting, at FHC, district, provincial and national levels. Accountability for improving equity in performance needs to be clearly specified, if effective action is to be taken. Further down the track, reducing inequities could be linked to performance payments or incentives, to further incentivise action.

## 5.5 Analyse to build the case for change and refine NCD plans

Successful NCD strategies have been accompanied by robust analysis as a basis for formulating realistic, specific, time-bound plans for action based on evidence in each of the major disease areas. **Population needs assessment** forms the starting point, to develop a comprehensive national and provincial picture of the distribution of NCD risk factors and burden in the population, including demographic and socioeconomic risk factors, and to serve as a basis for identifying specific target groups and appropriate interventions.

A strong NCD control strategy ideally should include estimates of resource requirements for achieving population coverage and outcome targets. This includes financial resources, human resources, infrastructure and technology required. A desirable starting point is a quantified mapping of the current resource allocation and population coverage for priority conditions such as CVD, cancer and diabetes, disaggregated across the continuum of care: population measures, primary and secondary prevention, treatment of the disease and complications, rehabilitation and palliative care.

Population needs assessment and analytical work to estimate the additional financial cost and workforce requirements for scaling up population coverage with evidence-based interventions can help to build the case for changes in resource allocation where this is needed. It will also ensure the strategy achieves maximum impact with available financial and human resources.

Given the sophisticated Turkish health system, many government ministries and agencies at national and provincial levels have information needed to contribute to a strong analysis and implementation strategy for NCDs. An institution with convening power may ensure that available information from relevant stakeholders is channelled into policies and builds a virtuous cycle for refining plans and improving implementation.



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	İsmail ÖNDAP	Association for the Rights of Patients and Relatives
	İlhan YETİŞKİN	Association for the Rights of Patients and Relatives

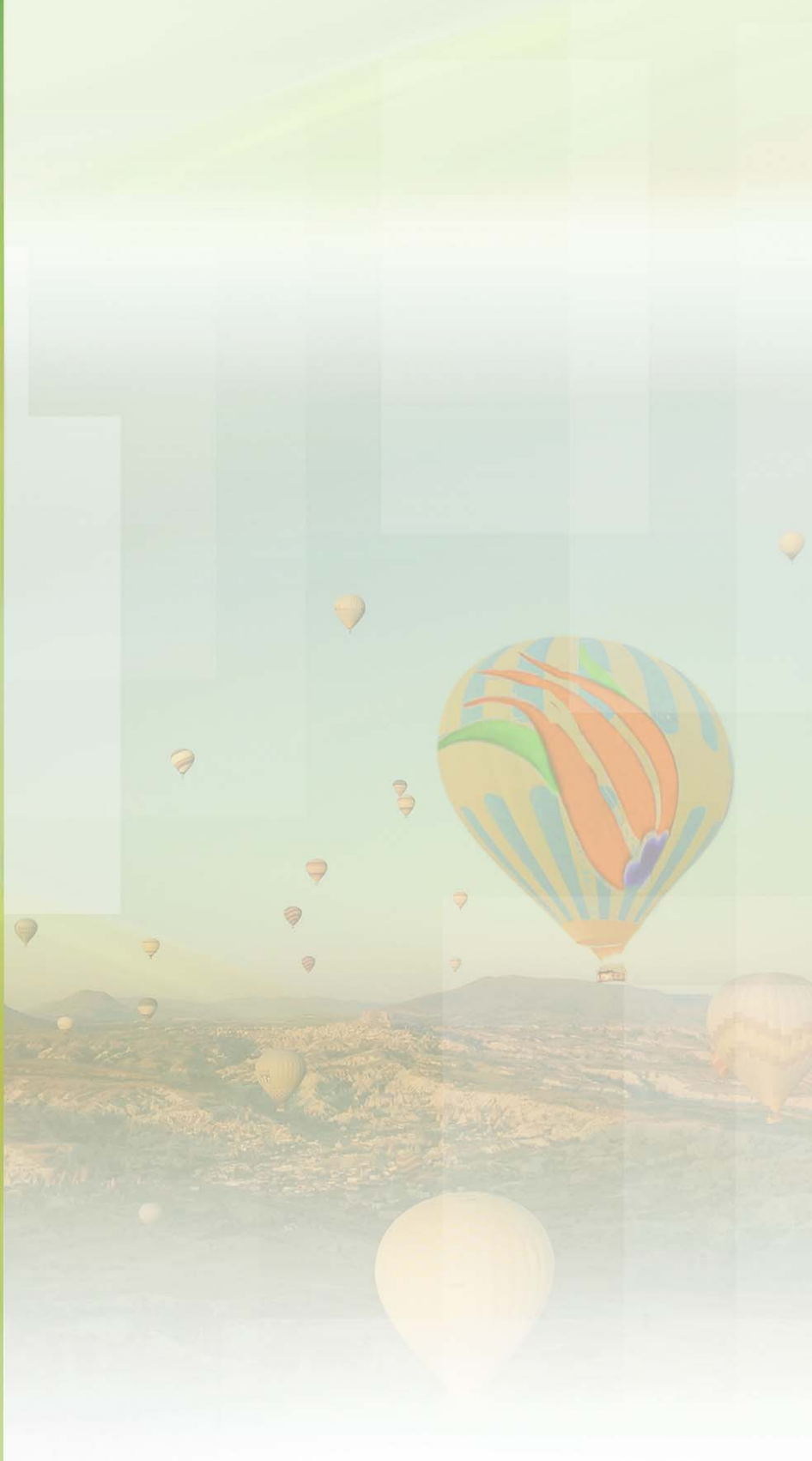


## The WHO Regional Office for Europe

The World Health Organization (WHO) is a specialized agency of the United Nations created in 1948 with the primary responsibility for international health matters and public health. The WHO Regional Office for Europe is one of six regional offices throughout the world, each with its own programme geared to the particular health conditions of the countries it serves.

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