

# Health policy analysis for prevention and control of cardiovascular diseases and diabetes mellitus in Turkey

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## Abstract

**Objectives** Current capacity of the Turkish health system is reviewed to evaluate and develop appropriate policies for cardiovascular diseases (CVD), diabetes mellitus (DM) and related risk factors.

**Methods** This paper qualitatively evaluates existing policies; interviews with key informants (KIs); and rapid appraisal fieldwork in clinical settings about CVD–DM through the framework of Walt and Gilson (Health Policy Plan 9:353–370, 1994).

**Results** Document review shows that prevention and control of CVD–DM were strongly addressed in Turkey, yet no document mentioned country-wide early detection or screening programs. KIs indicated over-fragmented management of CVD–DM by the Ministry of Health (MoH). Coordination among the MoH, organizational structure at provincial level and civil society organizations

are poor where mutual trust is a significant problem according to KIs. Clinical setting findings point to a complete lack of a referral structure and a lack of follow-up, compounding the absence of functioning health information systems for patient records.

**Conclusions** Primary care services for CVD–DM require urgent attention, focusing particularly on the training of staff in public facilities, the integration of patient data, referrals and follow-up across all levels of the health system.

**Keywords** Cardiovascular diseases · Diabetes mellitus · Document analyses · In-depth interviews · Policies on noncommunicable diseases · Qualitative study

## Introduction

During the last few decades, cardiovascular diseases (CVD) and diabetes mellitus (DM) have become major public health challenges in Turkey, increasing steadily over time, as the country moved to the third stage of demographic transition. The population over 65 years now amounts to 7.7 % of the total population in 2013 (Turkish Statistical Institute 2014), with life expectancy at 76 for women and 71 for men in 2010 (World Bank 2012). As a result of this elderly population (5.9 million), and because of the rapid changes in lifestyle in Turkey, the rate of chronic diseases has started to rise. A summary of the epidemiological picture in Turkey shows ischemic heart disease as the number one cause of death, accounting for 22 % of all deaths (Akgun et al. 2007). Among the 20 major diseases that cause DALY at the national level, ischemic heart disease occupies second place (8 %) overall, and first place for men

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(Unuvar et al. 2006). According to latest Turkish data on diabetes, the prevalence of DM was 16.5 % (undiagnosed 7.5 %) in 2010, indicating 6.5 million adults with DM (Satman et al. 2013). When compared with an earlier national survey, prevalence of DM, impaired glucose tolerance and obesity increased in Turkey by 90, 207, and 40 %, respectively, between 1998 and 2010 (Satman et al. 2011). DM is tenth in the national list of major diseases causing years of life lost within all age groups, rising to sixth position in the 60–69 age group, and fourth over the age of 70 years (Unuvar et al. 2006).

This paper aims in evaluating current policies for managing the growing burden of CVD–DM, and related risk factors, in the Turkish health system. This aim is a step towards developing appropriate policy recommendations and feasible interventions about CVD–DM in the Turkish health system.

## Methods

This study is part of a larger European Union funded research project titled MedCHAMPS that took place across four countries, discussed in the introductory article of the special supplement. The research design has been presented in Maziak et al. (2013), Phillimore et al. (2013) and Bowman et al. (2012). This study evaluates the Turkish national situation of CVD–DM at three levels: The first level is an extensive document review, to ascertain existing policy frameworks and treatment guidelines as well as organisational structures. The second level involved interviews with the key informants (KIs) are to detect awareness of and commitment to health policies on CVD–DM. The third level involved brief observation and rapid appraisal fieldwork in several clinic settings to examine patient consultation, record keeping and clinical equipment. While it has become relatively common to combine the first two, the addition of the third level is unusual. The purpose here was to enable researchers to observe how policies are translated into practice.

**Level 1: review of existing policy frameworks and organizational structures**

In total, 17 documents were analyzed. The research team chose these texts to encompass a variety of documents providing information about the policies and strategies to manage CVD–DM. We compared these documents to identify major themes, consistencies and discrepancies. Therefore, national policy documents, national strategies, legislation, diagnosis and treatment

protocols, and some national survey results were analyzed.

**Level 2: key informants' awareness of and commitment to CVD–DM**

In total, 11 KI interviews were carried out in three largest cities in Turkey (Istanbul, Ankara, and Izmir): three “decision makers” from the Ministry of Health (MoH) responsible for the management of chronic diseases, two “health directors” who organize and apply primary health care services, two academics, two representatives of NGOs, a representative of one pharmaceutical company, and a representative of the media with specialist interest in health and medicine. Because the headquarters of the MoH is in the capital, interviews with those KIs were carried out in Ankara. Health managers were selected from Provincial and District Health Directorates from Izmir. KIs representing NGOs, the media and the pharmaceutical sector were selected from Istanbul (center of private sector and drug companies). All interviews were carried out at the KIs' workplace, lasted 60–120 min and were taped with permission. All tape recordings were transcribed, prior to analysis and coding. General codes used during analysis were initially proposed by the central research team and were finalized after discussion with partner teams. Data analysis was done using qualitative data analysis software Atlas.ti 6.2. Data collection is realized in 2009–2010 and analysis was completed in 2011. The project was approved by the Izmir Clinical Researches Ethical Committee (28.09.2009/09-9/15).

**Level 3: observation and rapid appraisal fieldwork in clinic settings**

Four health facilities were selected for observation in and around Izmir. Izmir is one of the more affluent cities yet it is in many respects a microcosm of Turkey with many immigrants from the middle, east and southeast regions of the country, and is the third largest metropolitan city in Turkey, with a population of nearly four million. While selecting the clinics we sought to reflect differences between urban and rural, primary and secondary/tertiary levels, and public and private provisions. Thus in principle we identified four categories of facility: urban public, urban private, rural public, and rural private. Because there were no private institutions in rural areas, in practice we included two private urban institutions. Each health institution was observed twice, and on average the duration of observation visits were 2 h.

This paper is largely based on the data from 1st and 2nd level. Only partial data from 3rd level has been used which will be dealt with in another paper. Despite the diversity of

the Izmir population, we recognize that it may be difficult to generalize our results beyond the relatively affluent western portion of the country, given the large regional variations within a country as large as Turkey. The novelty of this approach lies particularly in establishing a framework that can usefully be replicated in other parts of the country.

## Results

The results are presented according to the “Policy Triangle Framework” proposed by Walt and Gilson (1994) and Walt et al. (2008), adapted in Phillimore et al. (2013). The framework provides four broad categories within which the policies are formulated; namely content, context, actors and process. Content refers to policy goals, strategies, action plans, and scientific evidence. Actors refer to individuals and groups who have a role in policy formulation and implementation. Context denotes the political, economic, socio-cultural and demographic context in which the policy formulation takes place. Finally, the process refers to the nature of interactions between the actors in terms of agenda setting, planning, implementation, and monitoring.

### Content

Our findings show that global strategy for the prevention and control of CVD–DM was strongly addressed in all strategic documents in Turkey (Erkoc and Yardim 2011; Ministry of Health of Turkey 2011; Akdag 2009). Turkey signed the “Tobacco Control Framework Agreement” prepared by WHO in 2004 and initiated National Tobacco Control Program in 2007 (Akdag 2009). According to the current smoke-free legislation, there are serious bans on tobacco advertising, promotion and sponsorship since 2009. The importance of the law concerning a ban on smoking in public spaces was reiterated by all documents and KIs. Food and physical activity are also given high importance in the documents. A whole section in the strategic plan is devoted to physical activity related targets and strategies (Ministry of Health of Turkey 2010a, b).

Documents and KIs agree on the lack of reliable standardized data on major NCDs and risk factors (Turkish Cardiology Association 2008:12). Moving recently to an automated health information system and the launch of a new electronic online system, were regarded as important although the system is not yet considered by KIs to be reliable.

KIs argued that there is as yet an inadequate national research agenda for CVD research promoted by the MoH (Ministry of Health of Turkey 2009) and an urgent need for

large scale studies to accurately determine the number of deaths and distribution of risk factors. Documents analyzed suggest deployment of new research areas for an accurate indication of CVD mortality, and the potential reduction in the rate of heart attack, stroke and related deaths if risk factors were to be controlled, cost-effectiveness studies and identification of CVD genetic risk factors (Turkish Cardiology Association 2008:12).

### Actors

The MoH is primarily responsible for making health sector policies, implementing national health strategies through programs and directly delivering health care services including preventive care. However, there is evidence of a lack of communication between CVD–DM divisions in the MoH.

*“There are many departments under the same general directorate doing the same work. They must work together. There is obscurity about their purposes. Regarding coordination there are problems even within the General Directorate. Sometimes without our knowledge another unit conducts the same study we initiated” (Manager, MoH-National Level).*

In the last 10 years, a new actor, Social Security Institution (SSI) has started to play a big role in the sector by controlling finance. The KIs repeatedly stressed that the main reason for the attention to CVD–DM by the MoH and SSI was cost reduction. Approximately, 40 % of the yearly health expenditures, which is financed by SSI, are for the drugs, the remaining 60 % is for the hospitalization, which is generally for NCDs (Social Security Institution 2012; Sonmez 2011). In the last 2 years, to decrease total health expenditures, SSI implemented new medical practice regulations by defining a pre-approved drug list for reimbursement as well as co-payment limits. As one KI in the pharmaceutical sector bemoaned:

*“Now the only approach used in this regard, I mean as social security system’s reimbursement, is medical practices regulations. It is a deficient approach. Because it is only related to drugs, not monitoring or controls”. (Manager, Drug Company).*

International institutions and charity organizations are rare in Turkey. Other actors, which have a role in making policy and implementing for CVD–DM are universities, private health sector, Turkish Medical Association, health workers’ unions and some municipalities. For effective application of policies, the importance of intersectoral cooperation between municipalities was underlined. In addition, our informants both in central and provincial roles emphasized the

importance of drug companies given their role in doctor training regarding new drugs.

## Context

There has recently been a major transformation in the context of the Turkish health system (Health Transformation Program) in the last 10 years (Atun et al. 2013). At the primary level, a new family doctor system started in 2006 for primary health care based on a per capita service principle (Akdag 2009). Family doctors are responsible for the people who enrolled on their lists, with salaries based on the numbers registered with them. Every family doctor works with a nurse or midwife at the Family Health Centers. This system has been attributed a very significant role in the prevention, appropriate diagnosis and treatment of NCDs.

At the secondary level, state hospitals with 50–100 beds and basic clinic branches deliver curative health services. At tertiary level, university or specialty hospitals provide training and research services in addition to curative services. Hospitals belonging to the Social Insurance Organisation (146 hospitals) integrated with MoH hospitals in 2005. Performance based payments started in the hospitals in 2007 and in the primary health care services in 2010. The main resource for health expenditures is the general budget and SSI (Savas et al. 2002; Atun et al. 2013).

At the central level, MoH recently revised its institutional structure in 2012 (after our research ended). The Turkish Public Health Institution and a number of new departments which are associated with the NCDs were brought together. Some of these new departments are about obesity, diabetes, metabolic syndrome, mental health and tobacco control. In provinces, those departments are represented in separate units, except in the smaller provinces. These departments make projects and prepare materials to educate the community about NCDs and aim to increase the health awareness of the public. Obesity clinics were also established in some Community Health Centers.

According to KIs, there is no real problem with the funds allocated to CVD–DM treatment. The treatment at MoH institutions is free to all (in the limitation of insurance coverage). However, patients are required to pay the prescription amount not covered by SSI (active workers 20 %, retired 10 %).

Another problem is out of pocket health expenditures that the ratio within total health expenditures increased from 16 to 26 % (Yardim et al. 2014). Thus, the main financial concerns raised by this study pinpointed firstly the inadequate budget for preventive health expenditures and secondly the escalating burden of out of pocket expenditures, despite the extent of insurance coverage. Out of

pocket health expenditures consist of mainly medications and private health sector applications.

The performance-based payment system, where health personnel salaries depend on service quantity, was often raised. It was argued by some that this system perversely discourages dealing with chronic diseases that take time, and require long-term and lifelong management for “results” can not always be shown, and thus count toward the performance score, especially in primary care.

*“I am sure that there will be some problems with family doctor system in the future because of the belief that DM patients take a lot of time. Family doctors will not want to examine and follow-up DM patients in the future” (Academician, University).*

## Process

Representatives of MoH, universities and specialty associations especially underlined the importance of cooperation between their institutions and society while forming national policies. However, KIs also suggested that there was a “trust” problem between institutions which were expected to cooperate.

*“They are supposed to work together but there is no close relationship between them. The relationships often depend on personal connection. There is no institutional culture of cooperation. There is a perpetual mistrust”. (Manager, MoH-Provincial Level).*

*“We have negotiations with MoH time to time. We gave these protocols to them. They say they will use it. But in practice what do they do? I do not think that they have done anything with it till now”. (Board Member, NGO).*

KIs and an NGO member also acknowledged that the MoH policy for CVD–DM did not always translate into actions at the local level.

*“In the documents of Provincial Health Unit, the struggle against CVD is not mentioned. In my opinion Provincial Health Unit is not interested in policy making in this area. I partly hear about the policies formed on this issue at national level. The news reach here, and I obey the policies” (Manager, MoH-Provincial Level).*

One academician even thinks that there is actually no health policy in Turkey regarding diabetes:

*“Does Turkey have a national health policy regarding diabetes? Actually it does not. But when you ask MoH, they say there is” (Academician, University).*

This is to note that although Turkey is going through an epidemiological transition, communicable diseases, vaccinations and maternal-child health are still regarded as priority problems in the country in many provincial areas. This disconnect between the central and provincial government levels in the MoH is reflected in the comment by one MoH official:

*“Of course one of the things we care much about on this issue is preventive health services. Here the most important departments are communicable diseases, maternal-child health and family planning” (Manager, MoH-Rural Level).*

Another problem is the shortage of general practitioners (GPs) and specialized staff such as dieticians, diabetes nurses, psychologists, public health specialists with important roles in managing CVD–DM. Moreover, too often personnel with appropriate qualifications were in positions where they can not use their skills. In addition, the role of nurses in the management of NCDs is disregarded by physicians and health managers.

In the observations and rapid field appraisals we found that treatment guidelines and protocols are not used in clinical practice. Although the significance of protocols is well recognized at the national level, protocols regarding CVD–DM diagnosis and monitoring are not used at all at clinics. This has to do with the role of medical practice regulations which list the drugs to be included in repayment system by SSI and the lack of training in services.

Another major problem revealed in this study was the lack of a referral system. Patients can directly visit secondary or tertiary facility ignoring the primary level. There is no communication or information sharing between the levels which makes patient monitoring virtually impossible. Owing to the lack of a referral system, all public hospitals had problems with appointments. The clinics in public hospitals were very crowded, resulting in short examinations, and frequent expressions of frustration by patients and staff.

A lack of reliable data on CVD–DM and associated risk factors, was often cited as a major issue. We observed the new registration system at the clinics. Newly automated health information system is regarded as an important development but it is not yet reliable. Just as importantly the new system has no CVD–DM module. According to one KI:

*“There is an improvement, but there are also problems; repetitive data entry, inaccurate diagnosis codes, such as differences in initial diagnosis and final diagnosis” (Manager, MoH-Provincial Level).*

## Discussion

In this research, MoH and SSI are recognized as the main actors in health policy making in Turkey (Atun et al. 2013). At the level of “content” health policy documents highlighted the importance of the growing burden of NCDs and proposed preventive measures. However, this study shows that the main problem in Turkey lies in shortcomings in the ways that such policies are implemented (the levels of ‘context’ and ‘process’). Furthermore, while the MoH described the strategies and specific roles for primary, secondary and tertiary health care facilities, we heard of serious concern regarding the adequacy of coordination and cooperation among various actors and especially within the MoH. As a result, KIs noted (and local observation bore out) a key policy framework has hardly been translated into practice.

The importance of a multisectoral approach and collaboration has been highlighted in policy documents (Turkish Diabetes Foundation 2010). However, one review of low and middle income countries shows that only 32 % of 61 countries refer to policies to facilitate multisectoral action (Mendis and Chestnov 2013). Gyberg (2011) and Stuckler and Siegel (2011) have also documented the problem of coordination at health institutes in the developed country context. There is evidence from Germany and France regarding how initiatives were formalized under new legislations to bring together all initiatives under a single “health networks” umbrella, aiming to strengthen the coordination and interdisciplinarity of health care provision (Nolte et al. 2008). The Turkish government should take notice to facilitate a network among all levels and clarify various tasks and responsibilities at the provincial level. Apart from these coordination and cooperation issues, contextual issues also hinder NCD prevention policies in Turkey. Monitoring and control of CVD–DM is almost completely lacking, which inhibits strategic planning at the provincial level. In addition, none of the documents mentioned country-wide early detection and screening programs for CVD–DM risk.

In Turkey, medical practice regulations and performance based payment systems are the main determinant factors introduced by MoH and SSI recently. However, there are various concerns regarding the repayment and reimbursement system and a number of KIs argued that planning was not based on the proper economic analysis. There is a further concern about the performance-based payment system, as well because of “potential negative effects” in the managing of NCDs, as it could introduce perverse incentives for doctors to choose not to treat patients who are time consuming and cannot ‘recover’. It



was suggested that modifications should be introduced into the performance system to correct these effects along the lines of adjustments made in several western countries (Serumaga 2011; Van Herck et al. 2010).

At the clinical level, our evidence shows that people with chronic diseases use primary health care services mostly to renew prescriptions, which underscores the well-embedded public perception of the role of primary health care services. Plans by the MoH and policy makers to enhance a preventive role in NCD diagnosis, screening and treatment have not yet to be realized. Additionally our findings suggest that there were no standard procedures for managing the CVD–DM. Actions for failure to attend follow-up visits are very weak. There are no regular follow-up programs for CVD–DM, and such a program should be planned (Turkish Diabetes Foundation 2009). Consultation on lifestyle changes, including smoking cessation, diet and physical activity should be embedded more satisfactorily for the patients at first level. Another important issue is to meet the training needs of first level doctors regarding CVD–DM. Some effort has been undertaken unless a protocol is not followed, doctors can not singlehandedly change the situation.

The lack of a referral and appointment system is a crucial finding of this study. The clinics in public institutions are very crowded and time devoted to examination is not enough. This makes it difficult for patients to “adapt to the treatment”, therefore dealing with the disease becomes harder. Examples from South Asia also show barriers against access to diabetes care which is provided in specialized facilities, where appropriate referral systems are lacking (Beran 2013). For NCD care, there is also a need to reorient health care delivery from acute care to long-term care for Turkey which is mentioned by Stuckler and Siegel (2011).

The study also shows a considerable gap in terms of CVD–DM mortality–morbidity and risk factors data in Turkey. There is poor data integration and monitoring of the NCDs and surveillance systems. The quality of existing data is not good and current data collection tools are not appropriate for NCDs.

Lack of health manpower is another important problem for Turkish health care system. Turkey performs poorly in terms of numbers of GPs, specialists and nurses (0.5, 0.9 and 2.5 per thousand people, respectively) in the WHO European Region (Basara et al. 2013). Health providers generally do not receive additional training for management of CVD–DM (Turkish Diabetes Foundation 2009). More specialists at national and provincial levels are needed. We observed a lack of teamwork where the role of the nurses is disregarded. Multidisciplinary team model should be strengthened as a first step. Nurses should be an integral

part of the prevention and treatment of CVD–DM, especially in consultations for diet and physical activity and such a model has been successfully implemented in countries like England, Sweden and the Netherlands where primary care is based largely on multiprofessional teams (Nolte et al. 2008).

In this research, we analyzed the health policy of CVD–DM in four main components as content, actors, context and process. The limitation of this discussion is the lack of monitorisation of health outcomes for CVD–DM. There were also relatively small number of interviews but, qualitative studies cannot claim the big numbers as quantitative studies as can and we aimed for depth of information rather than breadth.

## Recommendations

Turkey has a sound strategic and operational planning for the prevention and control of CVD–DM. However, there is a need to reorient health care delivery for CVD–DM from acute care to long-term care in Turkey. Primary care services for CVD–DM in general require urgent attention, focusing particularly on the training of health personnel in public facilities, the integration of patient data across all levels of the health system, and the formulation of an integrated framework for patient referrals and follow-up. Country-wide early detection and screening programs for CVD–DM risk should be established. It is important to “catch opportunities” to effectively manage CVD–DM at the first level. Primary health care services should be empowered for prevention, early diagnosis, screening and treatment for CVD–DM. Multidisciplinary team model should be strengthened and the role of nurses should be improved. Establishment of a proper referral system between the first level and hospitals and feed backs should be supplied from upper levels to lower levels.

Government and policymakers should improve the intersectoral collaboration among universities, municipalities, ministries and specialty associations to establish “trust”. MoH should intervene in “coordination problems” among the newly established divisions while also establishing specific units for management of NCDs at the every provincial level.

Finally, CVD–DM mortality–morbidity and risk factors data should be in the national health information system and established national registries. NCD surveillance system should be properly maintained. Financial aspects, i.e., the performance-based payment system, will likely negative affect the managing of NCDs and should be re-regulated. Payments system can be rearranged for CVD–DM to include long-term follow ups and in-service training and research like some western countries.

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