CONNECT THE "DOTS": A NEW ERA IN TURKISH TUBERCULOSIS CONTROL

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Title: Connect the "DOTS": A New Era in Turkish Tuberculosis Control

This study examines how national health policy is both influenced by global health concerns and institutionalized accordingly, taking DOTS (directly observed treatment strategy-short course) as an area of observation. The research looks at how DOTS, the name given to a global treatment and control strategy for tuberculosis (TB) promoted by World Health Organization (WHO), was negotiated, taken up and translated in practice by the Turkish TB establishment and what its effects are. In fact, it is a delicate negotiation between national and global forces. Basically, it reveals how DOTS, as a part of global governance, transformed the national practice. As it constitutes a poignant example of the "globalization of health", the history of DOTS presents us with a rich account of how health policy is being shaped by globalization and, in turn, how globalization in its current form is exhibited through such health policies. The study also deals with the historical background of TB control both internationally and from the Turkish experience to trace the evolutionary stages and WHO's role as a leading global health governing body. Focusing on the reception of DOTS in Turkey, it attempts to reveal the essential conflict within the TB community and demonstrate a few manifestations of it. The conflict itself is meaningful from a sociological standpoint, to the extent that, it can be seen to be indicative of the larger conflict at work, not only in the medical realm, but also in wider economic, political and social spheres. The conflicts are in the nature of preferences of national versus global approaches.

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Başlık: DGTS Entegrasyonu: Türkiye Tüberküloz Kontrolünde Yeni Bir Dönem

Bu çalışma DGTS (Doğrudan Gözetimli Tedavi Stratejisi) üzerinden, ulusal bir sağlık programının küresel sağlık temalarıdan nasıl etkilendiğini ve ona uygun olarak nasıl kurumsallaştığını incelemektedir. Araştırma DGTS'nin -Dünya Sağlık Örgütü (DSÖ) tarafından küresel tüberküloz (TB) tedavisi ve kontrolu için geliştirilen paketin, Türkiye tüberküloz kurumları tarfından nasıl tartışıldığı, kabul edildiği ve uygulamaya koyulduğuna, ayrıca bu sürecin etkilerine bakmaktadır. Aslında ulusal ve küresel arasında kırılgan bir tartışma olduğu açıktır. Temelde, küresel yönetişimin bir parçası olan DGTS'nin, ulusal bir uygulamayı nasıl dönüştürdüğü incelenmektedir. "Sağlığın küreselleşmesi" konusunda etkiyeleyici bir örnek oluştuması açısından DGTS'nin tarihine bakmak, sağlık politikalarının küreselleşmeyle nasıl şekillendiğini ve karşılığında, bu tür sağlık politikalarında kürselleşmenin bugunkü formuyla nasıl göründüğünü göstermesi bakımından öğreticidir. Çalışma ayrıca, TB kontolünün gelişiminin ve DSÖ'nün en önemli küresel sağlık yönetişim organı olarak ortaya çıkışının izini sürmek için hem uluslararası, hem de Türkiye perspektifinden TB kontrolünün tarihi arka planına bakmaktadır. DGST'nin Türkiye'de nasıl karşılandığı üzerinde yoğunlaşarak, TB camiası içindeki özsel çatışmayı ve bu çatışmanın birkaç yansımasını açmak amaçlanmaktadır. Bu çatışma, sadece tıp alanında değil, çok daha geniş ekonomik, siyasi ve sosyal alanlardaki kapsamlı bir çatışmaya işaret etmesi bağlamında sosyolojik olarak anlamlıdır. Görülen çatışmalar ulusal/ küresel yaklaşım tercihleri niteliğindedir.

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This thesis is dedicated to AKİ who graciously gives of himself to others.

CONTENTS

GLOSSARY

Tuberculosis as an Infectious Disease: Tuberculosis (TB) is an air-born disease caused by a small, rod-shaped bacterium *mycobacterium tuberculosis*. It forms as *droplet nuclei*, which without sunny environment can suspend in the air alive for days. The common form of transmission is through the inhalation of the bacteria as a result of cough, sneeze, laugh, or even speaking of a person with active pulmonary TB (besides pulmonary TB, the only form that is contagious is larynx TB; other forms are not contagious). Transmission does not necessarily lead to the development of an active disease. To the contrary, TB bacilli can live dormant in the lugs, even not emerging once in a life-time. The most important factor determining the development of an active disease is the strength of the immune system. Therefore TB has been linked to malnutrition and the presence of immunological deficiencies-most recently HIV/AIDS.

In its commonest form, TB leads to gradual destruction of the lungs, increasing incapacity and death, if not treated or treated improperly. Before the HIV/AIDS epidemic, some 85 percent of reported cases were pulmonary TB (Gandy et al., 2003: 10).

Despite the fact that the commonest form is pulmonary, the disease can induce almost every organ or any part of the body, producing symptoms often to be confused with pneumonia, bronchitis, typhoid or number of other diseases. Major symptoms are persistent and productive cough longer then three weeks, chest pain, night sweats, appetite/weight loss and haemoptysis. Other manifestations are scrofula (glandular TB), POTT's Disease (infection of the spine), lupus (skin infections), TB

of reproductive or urinary system, and infections of the brain (tuberculous meningitis), as the bacteria eat away at human tissue.

First-Line Anti-TB Drugs: The category of drugs being used to treat drug-susceptible TB. They are very limited in number: Streptomycin, Isoniazid, Pyrazinamide, Ethambutol and Rifampin.

Second-Line Anti-TB Drugs: The category of drugs being used to treat MDR-TB when first-line drugs are ineffective. They are more expensive and more toxic: Capreomycin, Kanamycin, Ethionamide, Para-aminosalicylic Acid (PAS-1946), Cycloserine, Ciprofloxacin, Ofloxacin, Amikacin.

Multi-drug Resistant Tuberculosis (MDR-TB): MDR-TB is a dreadful form of tuberculosis and its transmission, like ordinary TB, is through the air. If bacteria are resistant to Izoniazid and Rifampycin –two of the most effective first line drugs- the treatment with first line drugs fail and the regimen necessitates the usage of second-line drugs. This picture is called MDR-TB.

MDR-TB requires treatment for as long as 18-24 months with much more expensive drugs with second-line anti-TB drugs often with harmful and permanent side-effects such as tinnitus, hearing loss, liver damage, hepatitis, kidney failures, stomach upsets, dizziness, psychosis, anorexia, hallucinations and depression. Cure rates are extremely low compared to drug susceptible TB and mortality is high.

Extensively Drug Resistant Tuberculosis (XDR-TB): It is defined by the WHO, as MDR-TB with further resistance to at least one injectable second-line drug and one

flouroquinolone. Cure rates are even lower with longer treatment periods and highly dependent on the extent of drug resistance, the severity of the disease and the strength of patients' immune system.

Both MDR and XDR-TB happen when TB control programs are poorly managed; wrong treatment mainly with wrong doses, drug misuse or mismanagement, shorter treatment period than needed, intermittent treatment, erratic or poor quality drugs, lack of patient support during the full course of treatment.

" … It happens then as it does to physicians in the treatment of Consumption[1], which in the commencement it is easy to cure and difficult to understand; but when it has neither been discovered in due time nor treated upon a proper principle, it becomes easy to understand and difficult to cure" – MACHIAVELLI

INTRODUCTION

It is my intention in undertaking this study to demonstrate how the introduction of DOTS (an acronym derived from "directly observed therapy, short course") in the treatment of tuberculosis in Turkey exemplifies on of the core dichotomies existent in both the medical and political-sociological realms of the current paradigm of globalization. Globalization has vastly impacted not only politico-economic but also socio-cultural spheres of our lives. Health care has not been immune to this influence and the global trend to Global Health Governance (GHG), as will be discussed later, epitomizes its repercussions. In a world where health is becoming less a factor influenced by political boundaries and more and more immune to such artificial lines, global programs such as DOTS are fast emerging as the first demonstrations of GHG in action. How does Turkey rise to this challenge? What are the benefits and what are the limitations? These are the basic questions that this study seeks to answer.

Within health care there is a schism between the medical/technological and public health care approaches. This ideological gap is clearly seen within the varying attitudes to the adoption of DOTS in Turkey. It is the aim of this study to clarify the results of this schism and to further demonstrate how globalization and the

[1] "Consumption" is one of the former names of tuberculosis. It most possibly derives from Greek. In Greek, the disease is called "phthisis" that refers to "wasting or decay" (Reichman, 2002; Gandy, 2003).

movement to GHG both effects and is in turn effected by the emergent political-sociological paradigm exemplified by such global approaches to health care as DOTS represents.

Background of the Study

Although tuberculosis (TB) has often been characterized as an ancient disease already eradicated from most of the world, this is a fallacy. TB is neither an ancient disease buried in the pages of history, nor is it stamped out globally. On the contrary, it is still a major global health problem that has killed more than 100 million people over the last 100 years (Iseman, 2000). It is estimated that one third of the world population, over two billion people are currently infected with quiescent but viable TB. Likewise, although it is completely curable, global analysis does not project a major decrease in its importance as a cause of morbidity and mortality worldwide. Every single year, roughly eight million people throughout the world progress to active TB, two million deaths occur, and these numbers are still growing. Literature shows that TB has retreated in certain countries, has remained at a stable stage in others, and has risen in still others, while remaining the world's leading infectious cause of preventable deaths. "More people are dying of tuberculosis today than ever before in history" (Reichman, 2002: xi). The main determinants behind this overwhelming situation are poverty, decay in public health infra structure, human immunodeficiency virus (HIV)[2] coinfection, and more importantly, inappropriate and inadequate national TB control programs (Caminero, 2003,

[2] Since TB is an opportunistic infection, HIV co-infected individuals are susceptible to progress from asymptomatic TB infection to active disease (McKenna, 1998: 1061). HIV/AIDS contributes to 10 per cent of TB cases worldwide whereas this rate is 20 per cent in Africa (Gandy, 2003).

Maurer, 2006). Particularly as a consequence of the "globalization of poverty"[3], TB has spread predominantly among disfranchised people including populations struck by poverty, substance abuse, homelessness, unemployment and among migrants and the newly immigrated (Spence et al. 1993).

The understanding and control of tuberculosis is one of the most challenging issues in world history, since it reflects, as put by Castiglioni, "the marvelous progress from demonism to bacteriology" (cited in Gandy, 2003: 15). Despite the fact that spectacular bio-medical/scientific advances have been made since Robert Koch's discovery of the causative microorganism *Mycobacterium Tuberculosis* in 1882 and the advent of Selman Waksman's "streptomycin" as the first effective antibiotic in 1943, TB has had a resurgence that has been global in scope, ranging from the New York City outbreak of the 1990s (Draus, 2004; Wallace et al. 2003) to schools in the UK (Story et al., 2003), from prisons in Russia (Farmer 1997, 2003), to refugee camps in central Africa (Packard, 1989).

Looking briefly at the history of TB control, we see that although tuberculosis emerged as a concern in the rapidly industrializing western world, it wasn't until the late 1850s and early 1860s that specialized institutions (mainly sanatoria) devoted to TB treatment made their appearances. Early twentieth century witnessed the widespread mobilization of medical forces, institutionalization and state involvement against the disease (Gandy, 2003). In the "developing world" under colonial neglect, TB continued to be ignored into the 1930s and even 1940s. In Turkey, the turn-of-the-century saw the first "institutionalization" of the disease. The two World Wars drew attention away from infectious diseases generally while providing ideal conditions for their increase. TB was no exception to this. In the post World War II

[3] "Globalization of poverty" is a concept coined by Chossudovsky (1996).

period, with the emergence of WHO, TB gained recognition as an international health problem and biomedical technologies were soon developed to combat the threat in a "scientific" way. BCG vaccination and the first pharmaceutical treatments came to Turkey immediately after they were discovered. By the 1970s tuberculosis was seen to be essentially defeated in developed nations and Turkey too. However, the unexpected re-emergence of the disease, particularly in the "developed nations" in the 1990s made the need for a global strategy ever more apparent. With this outbreak, the fight against TB came to the forefront of the global agenda. Moreover, in this century and a half, we can see a swinging of the pendulum back and forth between an emphasis on a public health approach and a medical/technological approach to TB control. This dichotomy will be further examined in a more in-depth look at the history of the disease, from both a global and Turkish perspective, in Chapter 2.

Tuberculosis is the first disease that the World Health Organization (WHO) declared a "global emergency" in 1993 (Maher et al. 2006). WHO's strategy with this declaration, was to force the international community to focus attention (WHO, 1993) on existent TB concerns that many people believed belonged to a previous era. Right after the emergency declaration the WHO adopted DOTS as a global strategy to be promoted worldwide. DOTS, in fact, was a treatment strategy tailored by the British Medical Council (BMC) and the International Union Against Tuberculosis and Lung Disease (IUATLD) in the 1970s and 1980s in order to standardize tuberculosis treatment (Enerson, 1991; Fox, 1983; Kochi, 1997; Raviglione et al. 2002). On the basis of several decades' experience but with new conceptualization, it became a global strategy in 1994 as a response to frightening outbreak (Hønneland et al. 2005).

The DOTS program aims to control TB by breaking the chain/cycle of transmission through rapid detection, identification and cure of infectious cases and thus to reduce morbidity and mortality through TB worldwide until it no longer poses a threat to public health. It is an organizational framework built on the use of specific tools for diagnosis and treatment in the shortest possible time and thereby preventing the development of drug-resistant TB and large numbers of chronic cases. It is a holistic approach both to tuberculosis treatment and to control activities, and has proven to be "cost-effective", as emphasized by the WHO (Chaulk et al. 1995; Floyd et al. 1997; Weis et al. 1993). It is claimed to be adaptable to various settings, regardless of whether a nation is "developed" or "developing"[4]. More importantly, in and of itself, it is claimed to be value neutral as it "provides a common language through which to develop national or local strategies" (Porter et al. 2002: 190). The package is based on five components:

- government commitment to sustained TB control activities
- case detection by sputum smear microscopy among symptomatic patients self-reporting to health services
- standardized treatment regimens from six to eight months for at least all confirmed sputum-smear positive cases, with directly observed treatment (DOT) for at least the initial two months
- regular, uninterrupted supply of essential anti-TB drugs
- a standardized recording and reporting system that allows assessment of treatment (WHO, 1999a: 8)

[4] It was being applied in 183 countries in 2004 (WHO, 2006)

As it constitutes a poignant example of the "globalization of health", the history of DOTS presents us with a rich account of "how health policy is being shaped by globalization and, in turn, how globalization in its current form is exhibited through such health policies" (Porter et al. 2002: 181).

As Maher and Raviglione state, "while the development of new tools, for TB control (e.g., a more effective vaccine, better diagnostic tests, and improved preventive and therapeutic approaches) holds out the prospect of dramatic progress in TB control … the DOTS strategy relies on the currently available methods of diagnosis and treatment" (Maher et al. 2006: 133). Many debates have revolved around the core of this idea, namely the lack of advanced technology and new techniques. Although while for some DOTS is a breakthrough in TB Control, for others it is viewed as backwards, relying heavily on outdated technology, and therefore designed to meet the requirements of resource-poor settings. A number of academics and researchers found DOTS too simplistic (Ogden et al. 2003)[5]. In a similar vein, WHO's stress on the "direct observation" component even led some scientists to claim that this strategy was placing primacy in "faith" over "science" as many studies showed little or no advantage from DOT in relation to cure (Garner et al. 2003). Similar debate has taken place in Turkish TB circles. Some Turkish specialists have looked skeptically upon the efficacy of DOTS, as it currently stands, claiming it to be inappropriate in the Turkish context. Others continue to advocate the effectiveness of the method. This dissension has resulted in rather interesting debate and will be further considered in the following chapters. Furthermore these discussions are also interesting in that they demonstrate the tension, if not the

[5] This argument is voiced by quite a many members of *Médecins sans Frontières-MSF* (Doctors without Borders), one of the most active NGOs specialized in medical and humanitarian aid and running many TB programs worldwide, in many congresses/conferences I participated in. They also criticize the reliability of sputum-smear microscopy.

cleavage, that has existed between the public health and medical approaches to health care for decades.

TB, as a well-documented "social" disease, is closely tied to a multitude of factors; likewise, TB control is a multi-dimensional issue that necessitates a multi-disciplinary approach. TB control is "a *process* which entails organization, perseverance, finance and motivation" (Solomão, 1999: 63). In order to deal with a disease scientifically, analysis of control structures and related activities constitutes an indispensable part. TB cannot be viewed in isolation from the strengths and constraints of national TB control as well as national health care systems. On the other hand though, in the case of TB control, national involvement without communication on a global level is not sufficient. The nature of this dialogue has a key role to play in the success or failure of national TB control programs.

As a clear demonstration of the changing trends for dealing with disease, I believe, TB control makes a fascinating model for consideration. It is the intention of this thesis to examine both the theoretical and the concrete "through fieldwork", working from the general and theoretical to the specific and factual to shed light not just upon the Turkish experience in TB control, but also to expose the socio-political assumptions underlying the current approach. The undeniable trend to globalization and the globalization of concerns formerly under the auspices of the nation-state, must firstly be considered. Perhaps no force has ever shaped our reality as abruptly and permanently as the trend to globalization that has come about from scientific and technological advances of recent decades. Considered against the backdrop of globalization and global governance – Global Health Governance (GHG) as will be explained later and its underlying assumptions are shaping disease control around the world and also, of course, in Turkey. The approach to disease control, under the

effects of globalization and the move to GHG, provides a model by which national experiences can be evaluated. Within the Turkish experience, identification of efficacious practices together with the flaws and gaps in TB control policy (that take both doctors' and patients' perspectives into account) must certainly enrich the general understanding of TB control. And as such, would have an impact on the quality of health-care delivery.

Objectives of the Study

The overall objective of my study is to show how national health policy is shaped by the concerns of global health policy. National health policy is both influenced by and influences global health concerns. In fact, it is a delicate negotiation between national and global forces. My research sought to understand how a global strategy, namely DOTS, was negotiated, taken up and translated in practice within the health services in Turkey. I tried to identify factors, which facilitate or constrain the transfer of a global policy to the national context. Looking at the historical account of the "globalization of TB Control", I attempted to show the evolution of TB control strategies at the global level at different stages: past to present. Ultimately, by comparing global experiences in TB control with that of the Turkish one, I have aimed at producing specific information on the Turkish DOTS experience in its social context with the hope that this particular experience would shed light on the transformation process of a global health policy propagated by the global initiative.

More specifically, in this thesis, I have investigated the relationship between the national and global forces involved and their interaction in the course of policy-

making. It is evident that broader social and political agendas inform the policies and social action in TB control. While new technologies play an important role, broader structural changes, social and political agendas frame health polices. In fact the very core tension/conflict between public health vs. a medical/technological approach to health care informs every policy, decision and therefore, every result. This conflict is both embodied and demonstrated by the adoption of DOTS in Turkey. Medical intervention or technological advances *per se*, I argue, are not sufficient tools in order to deal with health problems like TB unless they are backed by political and social will, decisiveness, and openness to change.

My research falls into the scope of political sociology (rather then a "sociology of health") and my major perspective is political-economical. Through such a perspective, I believe, we are more likely to see the complete picture rather than fragments. This view ensures entities (individual and/or institutions) are not taken in isolation from their surroundings, but are situated within present day realities such as poverty, social inequality, political/economic conditions, and environmental changes. The goal of my study, therefore, could be regarded as an effort to understand "health issues in light of the larger political and economic forces that pattern interpersonal relationships, shape social behavior, generate social meanings, and condition collective experience" (Singer, 1990: 181).

Methodology

I collected my data mainly through semi-structured, in-depth interviews. Since physicians have been and still are key actors and/or advocates of health reform and policy change, I conducted these interviews with medical doctors, 12 in total,

working in different health care institutions ranging from dispensaries to university hospitals, mostly in Istanbul but also in Nazilli, İzmir, Ankara and Samsun. I prioritized visibility in tuberculosis circles and an active role in advocacy and/or lobbying activities intended to rectify prevailing policies as main criteria when making my choice about with whom to speak. Most of the doctors I interviewed are members of different NGOs, like the Turkish Thoracic Society, in which they have an opportunity to raise awareness through various activities and take action as a pressure group on policy makers. I also interviewed two Directors of the *Verem Savaş Daire Başkanlığı* (Department of Tuberculosis Control) under the Ministry of Health. I consider these interviews of value insofar as they locate the "perceived gap between the 'is' and the 'ought to be', between the real and the ideal" (Rosenberg, 1992a: xxii) in the context of national policy of TB control as well as other related health care issues. I took notes extensively in the course of my fieldwork and audio-taped almost all of the interviews.

The interviews involved prior preparation of a list of questions for each individual tailored to their particular position and interests. These questions primarily concerned the ideology of DOTS and whether it was compatible with the historical approach to tuberculosis control in Turkey. Moreover, I strove to detect how practitioners perceived strengths and weaknesses of the DOTS strategy. Perhaps, most importantly, my interviews sought to uncover the institutional and psychological barriers to adopting a global strategy and applying it in Turkey. Following from the questions, interviews were allowed to develop naturally and thus touched upon a range of topics and considerations. In an almost two-year period, I attended a number of local and national congresses, press conferences (mainly the ones held in the first week of January, "TB week", and on the 24th of March, "World

TB Day"), seminars, symposia and workshops covering various aspects and dimensions of TB-control and treatment policies in different cities of Turkey. I also attended the International Union Against Tuberculosis and Lung Disease (IUATLD)'s 36th and 37th World Conference; both held in Paris, the first in October 2005, and then in October 2006. Participating in such events was quite fruitful in many ways. Aside from updating my knowledge through sharing the latest information, most importantly, I had the opportunity to meet many prominent TB experts/specialists working for international organizations, like the World Health Organization (WHO) and discussions with them enriched my vision and perspective. I also formally interviewed three such experts. Additionally, I have encountered the vast majority of actors within this relatively narrow field, particularly in Turkey.

The presence of a social science researcher was a new phenomenon for the almost purely medical Turkish TB realm. Yet, "scientism", as defined by Legett (1997), which claims that the scientific understanding of the disease is the only relevant issue (ignoring all other factors) for medical practice was not a prevalent assumption in the TB circles that I frequented. From the very beginning they were very supportive, collaborative and favorably inclined toward multi-disciplinary studies. I benefited from this very much. Without much effort, I found an opportunity to observe their approach to collaboration, problem solving techniques, points of conflict and power struggles. Finally, during the breaks from official activities, I had the opportunity to spend a lot of time with them, chatting and listening to the latest ideas and occasional gossip of this enclosed world, all of which was great value from a social science point of view. Over time and during the process of interviewing, observing and participating in what was happening, I was able to acquire an overall picture of the Turkish DOTS experience.

In addition, I took part in research run by Harvard University-Division of Social Medicine & Health Inequalities for a one-year period. The research title was "Exploring the role of community and social support networks for patients receiving treatment for multi-drug resistant tuberculosis without direct observation of therapy during the continuation-phase of treatment in Istanbul, Turkey". We conducted 16 semi-structured interviews with patients and/or patients' close family members and 3 interviews with doctors specialized in MDR-TB treatment. Since I conducted the majority of these interviews together with the principal researcher, I found an opportunity to appreciate patients' perspective. Although the focus of the research mentioned above was very specifically framed and the individual/patients' perspective is only brought sporadically, this experience opened up a new dimension to develop constructive arguments on the implementation of DOTS in Turkey.

The research also involved direct observations at points of treatment. I have spent several days in the dispensaries and hospitals, in examination rooms, waiting rooms and wards, in order to observe doctor-patient interactions, and familiarize myself with the medical context and discourse on TB and TB patients. Taksim, Ümraniye, Şehremini, Aydın and Nazilli Anti-TB Dispensaries were visited for this purpose. I have chosen these dispensaries on the grounds that they took part in the implementation of DOTS in the pilot phase. During these processes, I have come across specific problems which occurred either in the organization of different services or in current procedures of the treatment of TB. Since micro-level socio-cultural factors are of importance, observation in dispensaries and hospitals have provided clues about the practice of ongoing public health policies, the quality of the relationship between the TB patient and his/her physician/health workers, the presence or lack of social support, the design of current treatment procedures, and the

atmosphere of the unit and its surroundings. Through such observations, it was possible to gain an appreciation of the micro-level economic factors playing a part in the course of therapy, such as the presence of economic support, the opportunity cost of taking medications and transportation to the health unit, and waiting times.

I tried to be closely attentive to media, following press coverage and TV news about TB for the purpose of reaching common representations of the disease. Obviously, the media contributes in making the disease more visible in society. I also explored how it reflects the changing conception of the disease and therefore its treatment.

Structure

Following the introduction, my thesis is divided into three chapters and the conclusion. In the first chapter, I overviewed the main conceptual and analytical approaches to globalization and global governance mainly from the "health" perspective. Globalization has changed the very nature of economic realities that underlie the nature of work, the balance of wealth and the understanding of poverty both within nations and in their dealings with one another. The aim of this part of the thesis is to more deeply examine the theory behind and the reality manifested by globalization, particularly as it relates to health– or Global Health Governance (GHG). As such, I looked at various global health concerns in the light of the need for GHG.

In the second chapter, I summarized the history of the globalization of TB control and have chronologically examined Turkey's development in tandem. I have also summarized the history of DOTS, a cornerstone of global TB Control since the

mid 1990s, in light of conceptual and analytical tools mentioned in the first chapter. Part of this includes a consideration of how the fundamental schism between the public health and the medical/technological approaches to health care have influenced the design and adoption of DOTS. The history of DOTS provides a rich account of how a global health policy is formulated, how it is administered and launched world-wide as a "one-size-fits-all" package, and finally, how it is applied at national levels. Above all, the history of DOTS demonstrates WHO's overwhelming role and influence as a global health governing body transcending national spheres of health policy; in other words how national and global policies have intertwined. The history of DOTS sheds further light on our understanding of the change in policy and implementation of Turkish TB control.

My third chapter concerns reaction to DOTS in Turkey and is based primarily on my field notes and interviews. In the interviews my questions were oriented to collecting explicit, case specific examples of the application of DOTS in Turkey and more generally the overall success of TB control. Basically, I aimed to elucidate Turkey's experience with DOTS, analyzing how the theory and practice of DOTS fits in to the Turkish context, how it has been received by doctors, what the main opportunities and challenges are and what the future of TB control is likely to be.

In the conclusion I have tried to review and interpret my findings in the light of theoretical and empirical data while placing it in the perspective of the global trend to Global Health Governance.

CHAPTER I

GLOBALIZATION AND GLOBAL GOVERNANCE: THEORETICAL UNDERPINNINGS OF THE GLOBAL HEALTH TREND

The object of this chapter is to address the theoretical assumptions that underlie the emergence of global health governance. The changing socio-political realities have brought to the forefront the current dominant paradigm of globalization. Concurrent to this is the increasing call for global governance. Both of these ideas have to be further examined in order to clarify the global trends in TB control. As such, global health governance will be considered in a theoretical light here.

To that end, I shall present below a concise overview of the key attributes of globalization. The review of the complexity of the factors that shape globalization and its concomitant consequences will inevitably demonstrate the need for coordination and regulation, in short, global governance. How global governance may be applied to the field of health, and TB control in particular, is left for later explication.

Globalization

Globalization is a process involving changes in human interaction across a broad spectrum of concerns, not solely economic. Although economic globalization is "the driving force behind the overall process" (Woodward et al. 2001: 876), it also

involves political, cultural, social, institutional, technological and environmental considerations.

Globalization "refers to a historical process, which transforms the spatial organization of social relations and transactions, generating transcontinental or interregional networks of interaction and the exercise of power" (Held et al. 2002: 2). It is a paradigm involving networks of interdependence at multi-continental distances with various multiple linkages (Keohane et al. 2001). These networks can be connected to one another through flows and influences of capital and goods, information and ideas, people and force, as well as environmentally and biologically significant substances such as pathogens.

Broadly speaking, forms of limited globalization have existed for centuries, however the major shift towards this paradigm began in the 1980s with the adoption of trade liberalization, domestic deregulation and privatization policies. The process intensified in the 1990s with the more expeditious and wide-spread diffusion of technology and the removal of barriers to international trade and foreign investment. Despite the fact that contemporary globalization has some commonalities with its past, "it is distinguished by unique spatio-temporal and organizational features, creating a world in which the extensive reach of global relations and networks is matched by their relative high intensity, high velocity and high impact propensity across many facets of social life, from the economic to the environmental" (Held et al. 2002: 2).

Globalization is an extremely complex and profound issue that cannot be described in terms of black and white value judgments. It should be seen as a process through which both opportunities and threats are created. Opportunities, such as the broadening of international markets, one of the cornerstones of the globalization

process, established the foundations for increased growth in the world economy. The spread of advanced technology, communication infrastructure, and the opening of borders for free trade are also fostered by this trend of globalization. Moreover, the emergence of an increasingly widespread sensibility and awareness of what is involved in "good governance"[6] of the world and of the rights upon which international action must be based has resulted. Environmental problems, terrorism, transnational crime, migration, and epidemic diseases are among the areas that have emerged as areas of common concern. Consciousness of the need for a more precise definition of human rights, and its reflection in the human rights-based approach to health is also evidence of this sensitivity and awareness.

On the other hand, globalization has a lengthy list of potential threats and risks. True, globalization prepares a base for broadened economic growth but at the same time it hugely increases the gap between rich and poor, triggering the polarizing dynamic, which is an inherent part of market economies. Globalization of markets generated increasing inequalities within and between nations. Economies with open borders stimulate processes of economic intersection, but they also create various bases of exclusion in those areas/regions/countries that lack the instruments needed to take advantage of the spread of technological changes, which underpin such intersection. As put by Keyder, "the structural tendency toward polarization threatens to evolve into a potentially explosive situation of social exclusion" (Keyder, 2005: 124). Social exclusion has become a serious health concern and a catalyst to the spread of epidemics beyond the slums of the marginalized and disenfranchised, as well as a serious hurdle to the provision of heath care.

[6] Good governance basically refers to a set of procedural and substantive indicators by which to measure the quality of a country's governance. Procedurally it necessitates, for example, participatory, accountable and transparent governance. Substantively, it requires democracy, the rule of law, and the protection of human rights (Fidler, 2004b).

In addition, though an economy opened up to international markets has, in a way, new tools for economic dynamism, this dynamism also implies greater instability. That is to say, it is more vulnerable to speculative activities, pressures, and international market influences leading to devastating crises. As put by Waltz, "globalization is shaped by markets, not by governments" (Waltz, 1999: 694). These are dangerous risks having a potential to jeopardize social cohesion at the national level. As a result, globalization reduces regulatory activities and the scope of decision-making processes of governments/states. Basic instruments of Keynesian interventions have only limited effectiveness when an economy is completely open to international competition. Therefore, states' budgets for social welfare spending tend to be reduced and societies can become more and more unequal in terms of income distribution.

Globalization is based on a theoretical model that imposes the market as the only effective and efficient mechanism for economic distribution as well as social structure. It would not be an exaggeration to state that its ultimate aim is the existence of a single world market without any regulation or intervention in the free interaction of its constituent parts since globalizations implies homogenization. Through new governing bodies such as the World Bank and IMF, "its message to all governments is clear: conform or suffer" (Waltz, 1999: 694).

Global Governance

Governance is a term recently adopted in the political terminology within the last two decades or so. With the end of the Cold War, the term emerged in response to the need for coherent policies, and institutionalized economic and political

mechanisms to deal with the requirements of a fast-moving market economy. The concept of governance commenced to be used to describe politics that are taking place at the national, regional, and global levels. It basically denotes the new formation of political life under the conditions of globalization (Held et al. 2002).

There are various explanations put forward concerning the origins of global governance. Some political theorists have related the rise of global governance to the end of the Cold War and the accelerating interest of governments to cooperate internationally (Hewson et al. 1999; Rosenau, 1995: 17). Others underlined the importance of quantitative and qualitative growth of international institutions, rules and regulations and their long-term impacts that commenced to be felt strongly at the beginning of the 20th century (Zacher, 1992: 65). Regardless, the process to global governance has accelerated. The culmination of the impact of globalization is most visible when "internal and external actors are linked without the mediation of the state" (Keyder, 2005: 128). The Bill and Melinda Gates Foundation's spending of 2.5 billion dollars on global health directed at the world's poor, more than twice the annual budget of WHO, is a recent example in this regard (Cohen, 2002).

It seems that the sheer number of interrelated concerns has contributed to the progressive demand for global governance. The most remarkable (as well as seemingly the most innocent) cause suggested has been the emergence of outstanding consciousness and awareness of huge global problems such as environmental problems (pollution, depletion of ozone, global warming), transnational crime, international insecurity associated with drug trafficking and terrorism, epidemic diseases, natural disasters, migration, and violations of human rights which go beyond the scope of the initiative of national governments and require international collaboration (Held et al. 2002; Rosenau, 1992; Zacher, 1992). Needless to say, most

of these problems have been engendered by the process of globalization as a result of expanded transnational contacts, travel, diffused usage of advanced technology, and intensified international commerce and finance.

Essentially, governance is distinct from government. Both government and governance, have sets/systems of rules through which authority is exercised to attain desired ends. However, as Rosenau points out, "while governments generate compliance through formal prerogatives such as sovereignty and constitutional legitimacy, the effectiveness of governance rule systems derives from traditional norms and habits, informal agreements, shared premises, and a host of other practices that lead people to comply with their directives" (Rosenau, 2002: 72).

The more governments came to realize the insufficiency of their resources, capabilities, and limitations in coping with global issues, the more efficiently established were forms of networks among governmental institutions, international organizations, NGOs, and the private sector involved in global governance. Therefore, the groundwork of global governance appears to have been fostered partly by the process of globalization and partly by national governments themselves through their adoption of neoliberal policies. Despite the fact that global governance arrangements vary widely, most are however, concentrated around sets of states that share specific geographic, economic, and cultural similarities.

Governance, by definition, is fragmented. It can be understood as the structures and processes that enable governmental, nongovernmental actors and many other types of collectivities to coordinate their independent needs and interests through the implementation of policies in the absence of a unifying political authority. Consequently, the term "global governance" appears as an alternative (or appendage), to the conventional state-centric conception of world politics and world order.

According to Wilkinson, global governance is distinct in two ways. The first distinction "is a recognition that it comprises an array of actors, not only those visible aspects of world political economic authority such as the United Nations (UN), the World Trade Organization (WTO), the International Monetary Fund (IMF), and the World Bank, but also quasi-formal intergovernmental gatherings such as the Group of Seven (G7[7]) and the World Economic Forum (WEF); combinations of state and non-state actors such as The UN's Global Compact and the ILO; private associations such as The International Chamber of Commerce (ICC); mercenary groups such as Sandline International and Executive Outcomes; non-governmental organizations (NGOs) like the World Wildlife Fund (WWF), the World Development Movement and Oxfam; transnational religious bodies; international terrorist organizations (however loosely associated); transnational political movements; financial markets; global accountancy and law firms; and transnational business" (Wilkinson, 2002: 2). The second distinction is the ways in which global, regional, national, and local actors are increasingly coming together to manage a growing range of political, economic and social affairs. Global governance, Wilkinson argues, "is not defined simply by the emergence of new actors or nodes of authority; instead it comprises a growing complexity in the way in which its actors interact and interrelate" (ibid: 2).

The global trend to governance, as necessitated by globalization, must now be considered in terms of its impact on the area of health. Global Health Governance (GHG) is best understood in terms of the standardization of health concerns based upon agreed socio-economic norms.

[7] Later became the Group of Eight (G8); comprises the G7 Nations and Russia.

Global Health Governance

The purpose of this brief section on the Globalization of Health and Global Health Governance is to review the theoretical background as well as to examine the realities that have made it necessary. A historical look at the institutions of international and global health will be saved for the following chapter, as will a more in-depth look at the implications for tuberculosis specifically.

With increasing globalization, global health consequences have also emerged. With the accelerating flow of goods and people across borders, the need for a globalized approach to health has become entrenched. A global approach to health means that challenges can be met on a hitherto unimaginable scale. Moreover, coordination of approach means greater efficacy.

It is claimed that "the benefits of globalization are potentially enormous, as a result of increased sharing of ideas, culture, life-saving technologies, and efficient production processes" and yet "globalization is under trial, partly because these benefits are not yet reaching hundreds of millions of the world's poor, and partly because globalization introduces new kinds of international challenges" (WHO, 2001b: 1). McMichael and Baeghole (2000) present a comprehensive list of the primary health risks engendered by globalization. The list comprises:

- The perpetuation and exacerbation of income differentials, both within and among countries, thereby creating and maintaining the basic poverty-associated conditions for poor health.
- The fragmentation and weakening of labor markets as internationally mobile capital acquires greater relative power. The

resultant job insecurity, substandard wages, and lowest-common denominator approach to occupational environmental conditions and safety can jeopardize the health of workers and their families.

- The consequences of global environmental changes include, change in atmospheric composition, land degradation, depletion of biodiversity, spread of "invasive" species, and dispersal of persistent organic pollutants.
- The spread of smoking-related diseases, as the tobacco industry globalizes its markets.
- The diseases of dietary excess, as food production and food processing become intensified and as urban consumer preferences are shaped increasingly by globally promoted images.
- The diverse public health consequences of the proliferation of private car ownership, as car manufacturers extend their marketing.
- The continued widespread rise of urban obesity.
- Expansion of the international drug trade, exploiting the inner-urban underclass.
- Infectious diseases that now spread more easily because of increased worldwide travel.
- The apparent increasing prevalence of depression and mental health disorders in aging and socially fragmented urban populations.

In a similar vein, globalization is also held accountable for actually worsening the health picture in many parts of the world. Aside from environmental damage, health inequity has been exacerbated by the globalization trend. In a special issue of

"Development" (1999) worsening poverty, health inequity and marginalization are depicted as side-effects of globalization. Since trans-border health risks have been exacerbated by globalization (Loewenson, 2004), the emergence and re-emergence of communicable diseases and their migration from place to place are facilitated in the process[8]. Transmission time is reduced to mere hours with the ease of a passenger boarding a jet. While not a new phenomenon, the path of disease transmission and the speed to which it occurs creates a truly new and unprecedented trend tied to globalization[9]. So that, today with mobility of populations at its highest, supported by communications and media scrutiny, the globalization of health problems should be conceded.

As mentioned above, the linkages between globalization and health, in other words, impacts of globalization on health are increasingly the focus of research, debate and policy concerns at both the national and international levels. In many respects, though, the field is relatively new and necessitates empirical analysis. Huynen et al. (2005) point out the weakness in empirical links between globalization and specific impacts. The lack of empirical evidence demands an interdisciplinary approach towards understanding globalization and health, "which draws upon knowledge from relevant fields such as, for example, medicine, epidemiology, sociology, political sciences, (health), education, environmental sciences and economics". The authors further suggest the need for scenarios analysis that would allow for different future projections to be considered with alternative plans being prepared for dealing with the future reality. The approach they advocate is both

[8] For instance tuberculosis has once again emerged as a "developed-world concern" mainly due to mass immigration.
[9] The recent outbreak of SARS (Severe Acute Respiratory Syndrome) is a good example of the unprecedented speed by which new infectious diseases can spread globally.

holistic (multi-disciplinary) and is based on an acknowledgement of the huge impact globalization has had on individual health issues.

Health governance, as defined by Dogson et al. (2002: 6) is "the actions and means adopted by a society to organize itself in the promotion and protection of health of its population" through consistent and usually formalized means. Health governance can occur at the local, regional, national, international or global level. It is obvious that the nation-state concept is not yet obsolete and that our, "contemporary world order is still predominantly founded on a coalition of nation states" (Aginam, 2004). Therefore GHG can be carried out either through public or private structures and often is carried out by a combination of the two.

Health governance has a long history. Historically, it is possible to trace health governance to ancient human societies where a certain degree of consensus was reached on rules and practices concerning hygiene and diseases (Dogson et al. 2002). Early forms of International health governance, in the form of collaboration of two or more countries, span many centuries. Adoption of quarantine practices could be considered in this regard. In the 19th century more concerted efforts were made to build institutional structures, rules and mechanisms to systematically protect and promote health across national borders. With the emergence of the nation-state, health responsibility was ultimately centered at the national level, with delegation down to regional and local levels. However interaction between governmental and non-governmental bodies, as well as the private sector, has always been in play at different levels. With the onset of globalization, increasing global inequalities, poverty, trans-border health risks such as those created by global warming and a lack of good governance at national levels, brought about the need to take health governance beyond national borders and existing forms of international bodies.

Global health governance is based on the conviction that welfare and health problems in developing countries cannot wait until they are solved as a consequence of economic developments in these countries. The more national governments alone become incapable of dealing with the challenges in health that have been emerging due to globalization, the more global scale action and intervention will be needed. As Aginam (2004) points out, "the concept of state sovereignty is alien to the microbial world." The central role of health as a means of empowerment and way to contend with poverty and inequality has become increasingly clear. Therefore, this main premise of GHC is epitomized by a policy orientation towards inequalities in developed societies and to poverty in developing ones.

Upon consideration, it is clear that health issues cannot be dealt with in purely isolated terms (Zacher, 1999), that is to say, cannot be confined to national borders. This is especially so, now, when a number of health concerns are being influenced by outside pressures – trade and world economy, inter- and intra-national conflicts, criminal activity including the worldwide drug trade, and environmental depredation to name but a few (Lee, 2000). Rather governance should be established and coordinated on the global level and thus, we have the emerging trend to GHG. Also, the revolution in medical and information technology that the world has experienced over the last couple of decades is a factor not to be ignored.

Poverty and inequality provide the key context for global health problems and governance. Perhaps more than any other disease HIV/AIDS (and access to antiretrovirals for therapy) reflects entrenched and growing disparities, inequality and exclusion within and between nations. Closely related to these phenomena is the reality of underdevelopment. "New evidence has emerged linking the pernicious poverty and underdevelopment in most of the developing world with the mortality and

morbidity burdens of leading killer diseases – HIV/AIDS, Tuberculosis and Malaria" (Aginam, 2004).

From the communicable diseases perspective, regardless of historical stages in the globalization process, one thing never changed: the people most vulnerable to the spread of communicable diseases have been the poor and the disenfranchised, while the "wealthier classes have generally experienced a lesser burden of disease since they have greater mobility, along with access to more and better quality food, sanitary facilities and hygienic conditions" (Lee, 1999: 36). In the last century, both the new and reemerging diseases such as TB affected the poor disproportionately[10] in both the richer and the poorer countries of the world. Hence, we witness a vicious circle of continuing deficient, or even devolving, health care for the world's poorest. Moreover, war and unrest have brought steadily declining conditions to many populations around the world. The state of health care in Iraq and Somalia are worsening, to name but two examples.

It must be remembered that the spread of disease beyond borders is not a new phenomenon. "In the 15th century, the emergence of new diseases – smallpox, measles, mumps, chickenpox, scarlet fever – among the native populations in the Americas following their conquest by Europeans, marked what Berlinguer (1999) called the 'microbial unification of the world'" (Aginam, 2004). The response, however, was not yet adequate. In past times of limited communication and mobility, the reaction to the global spread of infectious diseases often resulted in two rather inadequate responses: the wide-spread use of antibiotics and tight control over ports. In the 19th century concerns about the spread of contagious diseases constituted driving force of some kind of transnational governance mainly by means of

[10] The association between TB and poverty is well linked and wide-spread. That is why TB programs support pro-poor strategies. For further information please see WHO's monograph on poverty (WHO, 2005b).

International Sanitary Conferences. However, these efforts were inadequate as well. Now, the area of concern is ever expanding, which implies a link between health and other facets of social development. The global health challenge represented by rapid spread of infectious diseases requires a global response that aims at controlling these diseases before they develop drug resistance and make the task more difficult. As Lee (2002: 6) suggests "the ability to communicate faster can also mean enhanced capacity to monitor and report outbreaks of disease, disseminate guidelines for controlling and treating disease, and coordinate rapid responses when needed". As will be discussed in greater detail, globalization of TB control through DOTS offers an example of this enhanced capacity to collaborate in the reporting and monitoring.

Over-use of antibiotics, as exemplified in the treatment of TB is a further concern confronting GHG as a growing resistance to antibiotics is being seen world-wide. Existing debt servicing and payment costs, and the growing privatization of health care delivery capacity under the World Bank's and IMF's structural adjustment programs jeopardize a solid and effective public infrastructural approach to public health needs in many countries. This in turn sustains irrational drug use, creating the emergence of drug-resistant strains. Overuse by certain segments of societies coupled with improperly carried-out control programs, has lead to the emergence of this threat – a threat that applies to both rich and poor, but mostly to the latter who have limited access to effective therapies. This threat, evidently, is hastening truly global health governance. The DOTS-Plus program that aims at treating Multi-drug resistant TB (MDR-TB) emerged out of this need. In addition, it has helped to intensify the understanding of connectivity crucial to a truly global approach. In this way globalization, hand in hand with the mobility it necessitates, can be seen as hastening and abetting the move to GHG. Besides, disease prevention entailing restrictions on

travel in times of crisis[11] entails global coordination. Emergency health measures and their application necessitate cooperation and compliance. In addition, accessibility to health care calls for global coordination.

Part of the effect of globalization on GHG has been the widening demand for greater accessibility to biomedical treatments for the developing world. Hand in hand with this demand has been the crucial issue of affordability. Pharmaceutical companies are being called upon to share access to patented drugs with those who often can ill afford them. The TRIPS[12] agreement signed in Marrakech in 1994 is one WTO agreement that has been revised to soften the harsh economic realities of free trade and to acknowledge the relevance of ethical questions. Article 8.1 of the TRIPS agreement allows member states to adopt measures necessary to protect public health and nutrition[13]. The WTO Conference in Doha in November 2001 presented the opportunity to openly challenge the idea of limited accessibility due to intellectual property rights. There it was adopted the Doha Declaration on the TRIPS agreement and Public Health that affirmed WTO members' right to, "promote access to medicines for all." It went on to call for "flexibility" in the means to this end – essentially suggesting the possibility of compulsory licensing and parallel importing. The pharmaceutical industry was thus forced to accept these decisions at least temporarily. As Harrington writes (2004), "much global health law is in fact (national and international) economic law."

The possible health consequences of more open global markets and the freer flow of goods and services, have not been fully addressed as of yet. Kumaranayake and Walker (2002) suggest the benefit of applying cost-effectiveness analysis (CEA) to the field of health care. They state that, "[i]n health systems policy, CEA is used to

[11] For further information please see Fidler (2004b).
[12] Trade-Related Intellectual Property Rights.
[13] http://www.iprsonline.org/ictsd/docs/trips_healthbackgrpund_cairo_univ.pdf

consider how to achieve the best gain for a given set of resources." This could be of use in bringing health policy more into line with today's tendency to put a dollar-value on intangibles like health or a clean environment. Even opponents of global warming found their arguments to be strengthened by the assigning of a (albeit) questionable dollar-cost amount to the issue. Similarly, CEA can be used to show the costs occurred in failing to meet health demands. It can also be used to determine priorities when numerous health costs compete for limited funding. And would be further useful in demonstrating economic justification in funding health care in areas where limited potential profit will not assure that the market will provide. For example, it may be seen as economically unfeasible to carry out costly treatments for multi-drug resistant (MDR-TB) or extensively-drug resistant (XDR-TB) tuberculosis[14] according to the market. However, the cost of not treating it on the long-term economy of a nation may grossly outweigh the short-term expenses.

Another approach to this comes in the form of the Global Public Goods for Health (GPGH) concept. Fidler (2004a) states that, "the 'public goods' framework arises from economics rather than rights-based discourse. In economic theory, a public good is an economic good that will not be produced without government intervention because the incentives or resources for private actors are insufficient. Put another way, public goods arise from market failures". Health as a global public good implies that health services go beyond economic concerns and if a particular government is not in a position or not willing to provide these services, global governance has to offer a solution to support adequate services through non-governmental or local bodies.

[14] For further information on TB, MDR-TB and XDR-TB please see glossary.

These emergent trends cannot readily be dealt with under the constraints of existing nation-based health systems. However, the very entrenched nature of a nation-based approach to health may make global health governance difficult. Countries often treat health care as a domestic concern and don't wish to publicly shame themselves through revelation of the true extent of problems faced. Nowhere was this seen more acutely than in many national governments' consistent under-reporting of HIV infection.

The need to address basic health determinants on a global scale, then, calls into question how exactly to attain it. Since at least the early 1990s, there has been an increase[15] in organizations with a stake in the health arena – WHO, UNICEF, UNDP, and recently the World Bank have shown a diversity of mandates within the health field. Globalization has called for even greater coordination between health authorities and the non-health oriented organizations such as the WTO. The G8 consisting of the eight economically most powerful countries in the world now concerns itself with such quasi-economic concerns as, "migration, debt, … , transnational security issues and arms control, terrorism, hunger and food safety, poverty reduction and global infectious disease challenges" (Aginam, 2004). In a Communiqué issued after the Okinawa Summit in 2002, the G8 directly linked health to economic development stating that, "good health contributes directly to economic growth whilst poor health drives poverty. Infectious and parasitic diseases, most notably HIV/AIDS, TB and Malaria, as well as childhood diseases and common infections, threaten to reverse decades of development and to rob an entire generation of hope for a better future. Only through sustained action and coherent international cooperation to fully mobilize new and existing medical, technical and financial

[15] A study shows that by 1999, the total number of international health-related organizations is over 2,600. They account for some 15 percent of the international non-governmental field by 1988 (Inoue et al.2006).

resources, can we strengthen health delivery systems and reach beyond traditional approaches to break the vicious cycle of disease and poverty."

The multiple links between trade and health are easily seen (WHO, 2002a; Brundtland, 1998, 1999). However, such interactions are still limited by the pervasive reluctance to sacrifice profits for "elusive" benefits such as health. There remain considerable barriers to fully incorporating health concerns into the economic model of globalization and seeing health reflected in the workings of the present infrastructure.

Necessary Components of Global Health Governance

First of all, GHG involves the dismantling of boundaries, both physical and psychological. While the nation state has hitherto provided the framework for political and economic action, globalization calls for the dissolution of such rigid bounds. National health systems are just one more example of this limited and circumscribed approach to public service. Moving beyond nation-bound health care is the goal. The widespread movement of people, goods and also diseases cross-border shows us the limitations of the old approach. One of the best examples for this is the presence of TB with Beijing genotype in Istanbul. Koksalan et al. (2006) uncovered the fact that the strains carried over from countries of the former Soviet Union.

Moreover, GHG involves a multi-sectoral approach to health care. That is to say, the emphasis cannot remain only on biomedical aspects to health but should expand beyond to involve a broader sociological-based understanding of health that incorporates economic, social and environmental factors (McMichael et al. 2000).

GHG also involves a more inclusive set of actors and interests. Domination by the state-driven biomedical industry must give way to a looser web of various organizations, which in term will mean ever greater need for coordination and cooperation. This is not to say that state health care will disappear, of course. But rather that it too will yield to the farther-reaching demands of globalization. The public and the private have long cooperated in the field of health. This also will continue (Chen et. al. 1999). But of necessity both public and private organizations will have to adapt themselves to the universal demands of the new world system. We see this in emerging world trends for controlling and curbing the use of tobacco. International "norms" are being established and there is greater moral pressure for their adoption. The WHO has been deeply involved in the anti-tobacco drive and this demonstrates how successful coordinated approaches can be.

Also, initiatives like the Medicines for Malaria Venture[16] show us that building partnerships with businesses can be an effective strategy. Another important player in GHG and particularly in the fight against infectious diseases is the global public-private partnership (GPPP) (Richter, 2004). The Global Fund to Fight HIV/AIDS, Tuberculosis and Malaria is the greatest single funding organization in this fight. Launched in 2002, this global partnership has financed commitments in 136 countries[17]. Recipient countries have to create a Country Coordinating Mechanism with participation of both civil society and the private sector before funds can be applied for. The Global Fund was started at the behest of Kofi Anan in cooperation with the G8 countries. It was initiated as a finance mechanism separate from the UN and WHO. This was done despite fears from some quarters that it could result in the privatization of governance. In fact, many laud the benefits of this

[16] http:// www.mmv.org
[17] http:// www.theglobalfund.org/en

separation. Either way, GPPPs have become major players in the field of GHG. U.S. contributions to the Global Fund show the extent of compromise built into diversified global health governance – especially when public opinion comes to bear.

The fight against infectious diseases in the establishment of organizations such as The Global Fund can be seen as an example of compromise in the ongoing conflicts in the right to health between more and less developed nations. Thus, health is often taken out of the hands of the state and has become a networked approach that operates on many levels with the involvement of many actors. Global health emphasizes the need for governance that incorporates participation by a global community involved in collective action.

Today's global health governance does not yet include the right to "life" and "health" as put by Hoeffe (2002), but it can be seen as a means to this end. To further this end and to "salvage our global neighbourhood, international law, especially global health law, must align with the self-interest paradigm and strive to champion the tenets of human dignity long enshrined in human rights discourses as a way to humanize the evolving structures of global health governance in a divided world" (Aginam, 2004). We are still a long way from such consensus but the very urgency of the need means that every effort to move forward to consensus and realization of such globally-recognized law is more than ever necessary. Further, Ford and Thomossy (2004) have clarified one additional gray area in the legal aspect of the globalization of the health care industry when they point out that at present plaintiffs injured in drug trials in developing countries have very little hope of redress in local courts because of bias and corruption and yet there is still no path for them to seek justice in the courts of developed nations. There is, "a dearth of sufficiently specific international law norms governing the misconduct of clinical trials" (Harrington, 2004).

The first challenge to GHG is defining the norms or standards upon which our understanding of health rests. There needs to be a kind of consensus on what health is and what ethical principles underline our definition of it and our approach to it. The Constitution of the WHO defines health as "a state of complete physical, mental and social well being and not merely the absence of disease or infirmity" (WHO, 2001a: 1). Secondly, authority needs to be established within GHG. Without leadership the endeavor will flounder. Currently it is the WHO and the World Bank, which occupy central locations as they represent the main sources of health expertise, and development financing respectively. Of course other contributors from the state to private industry to charitable trusts will also play their role. How to coordinate the many actors involved, remains a problem without a practical solution.

This leads to the next dominant concern of GHG, which is the availability of the necessary resources to ensure global health. Whether this will be left to the indulgence of voluntary contributions or be more formally based on a kind of taxation system remains to be seen. The financial challenge is a great one and not least of all because it can be "politicized".

That the move to GHG will be entirely smooth and gracefully acceded to by state mechanisms also remains up in the air. As discussed earlier, nation states have their own reasons for hiding and downplaying their health crises. How to ensure disclosure and compliance remain among the greatest concerns of GHG.

From the theoretical, or rather, conceptual bases, it is now time to turn to the historical, with a brief consideration of the emergence of global health structures – specifically the WHO and what it means for both health generally and for tuberculosis specifically.

CHAPTER II

OVERVIEW OF THE HISTORY OF TUBERCULOSIS CONTROL: WORLDWIDE AND IN TURKEY

Tuberculosis is widely held to be one of the most ancient, feared and dreaded infectious diseases human beings have encountered through history. The disease emerged as an epidemic in many industrialized countries during the middle decades of the 19th century, after which it declined[18] steadily (Grange, 1999). According to many commentators, TB was supposed to be eradicated in the 1970s. However it has rapidly become the center of global health crisis in its "new" form. The "new" TB emerged as a result of a "combination of different developments such as collapsing health care services, shifting patterns of poverty and inequality, the spread of HIV, and the emergence of virulent drug-resistant strains" (Gandy et al. 2003: 8).

As a well-known "social disease", tuberculosis, with its easy transmission, must be considered in its social context. That is to say that any consideration of the disease is inextricably tied to an understanding of the role played by poverty, availability of nutritious foods, working and housing conditions among other social factors.

A key aspect contributing to the rise and fall of public concern is that the tuberculosis epidemic did not occasion the public fear and visibility of other epidemics such as cholera and yellow fever. Comparatively, tuberculosis is a solitary and silent killer, thus failing to achieve the public outcry that leads to sudden

[18] Authors such as Thomas McKeown (1976) demonstrate the role played by improved nutrition and more salubrious living conditions in the decline of mortality rates at this time. While this is but one interpretation for the decline of tuberculosis the other social aspects of the epidemic are largely indisputable. Fur further details see Szreter (1988) and Barnes (1992).

and dramatic public health measures (Rosenberg, 1992b: 285). Contrasted with more sensational diseases[19], tuberculosis remained relatively ignored.

Further limiting its public perception as a real and viable threat is the fact that tuberculosis is largely a "poor man's disease" and as such was largely ignored in Africa and Asia by colonial rulers until the 1930s. Also for this reason, the history of tuberculosis in colonized nations prior to this time is rather sketchy[20]. The true recognition of the global nature of the tuberculosis threat had to wait for the establishment of World Health Organization (WHO) in the post-war period.

To write of the history of tuberculosis control from an international perspective, it is necessary, therefore, to consider the policies of the most influential health governing body: the WHO. The personalities and implementations behind the formulation of these policies shed further light on the development of global tuberculosis control. As do the further modifications brought about by the actual implementation of these policies at various locations throughout the world. The sum total of these interconnected threads weave a complex, though revealing, understanding of what can be called a comprehensive overview of the state of tuberculosis control at the global level.

The globalization of tuberculosis control got its earliest beginning with the establishment of the WHO. Although this is not to say that health concerns were not dealt with internationally prior to its establishment, but rather that this work was done in quite an *ad hoc* fashion. This piecemeal approach was carried out by various organizations of both a governmental and non-governmental nature. Private philanthropy played a great role at this time as well.

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[19] The bacteria that cause common infections such as *streptococcus* throat double every 20 minutes, but TB bacteria are extremely slow to grow, taking 20 to 24 hours to double (Reichmann, 2002: 6)

[20] For instance, Randall Packard's (1989) prominent work on TB in the miners of Africa is a wealthy source on this issue.

We can begin this overview by considering tuberculosis control in the wider field of international health. The history of tuberculosis control shows us how complexities of international concern combine with financial and technological realities to shape the adopted policy-of-the-moment. As such, the history can be read as a series of peaks and troughs, trials and re-trials rather than a clear, linear development. Added to this discontinuity is the continuing struggle between the "public health" approach to health care versus the "medical approach". As public health has tended to be seen as an alternative to individual-oriented curative medicine, the understanding of tuberculosis and other infectious diseases has suffered. Though public health has re-emerged in the medical conscience from time to time (alternatively called preventive or primary care), the individual patient has all too often been decontextualized and treated as a singular medical case. The rift between the two approaches is summed up thus: "Although public health has come to be identified with prevention, medicine has historically been committed to cure. Medicine is commonly associated with the care and treatment of the individual, while public health's central focus is on populations." (Brandt et al. 2000: 708)

When health was considered at the most basic level it either became one of the markers of development status or simply as a means to economic growth. For example, in its early publications WHO referred to "less developed" or "under developed" countries, thus packaging together poverty, lack of industry, high levels of mortality and morbidity, insufficient medical services, etc. The theory and practice of development only entrenched more deeply the original inequality that necessitated it. The real underlying logic of development was seen to be the promotion of health and social gains in the service of economics. Keynesian principles call for all nations to be elevated to functioning market economies in the

name of greater economic growth. As Cooper and Packard point out, the core assumptions of development demand that, " foreign aid and investment on favorable terms, the transfer of knowledge of production techniques, measures to promote health and education, and economic planning would lead impoverished countries to be able to become 'normal' market economies" (Cooper et al. 1997: 2).

In this emerging economic model, health played an ill-defined role. In one way it was widely understood that improved overall health of a population would in turn feed economic growth. W. Arthur Lewis rather painstakingly dissected the process by which this would happen in his "The Theory of Economic Growth". The first stage in reduction of mortality would result from improvements in production and/or distribution of the food supply and in the second stage, from "the adoption of public health measures … in which the great epidemic diseases are wiped out – plague, smallpox, typhus, cholera, typhoid fever, malaria, yellow fever (and eventually tuberculosis)" (Lewis, 1955: 306-307).

The greater implication of Lewis' work is that long-term social and economic development or "development" would in turn alleviate the great health problems of the developing nations including that of tuberculosis. Hence, improved health would fuel economic growth while economic growth would in turn create improved health in the general populace. Health was seen "as a tool for enabling the full utilization of human capital: healthy people are more productive people, and more productive people are more prosperous and developed" (Inoue et al. 2006: 209). A snowballing of cause and effect would overcome even the greatest health challenges.

A challenge to this view came in the form of social medicine, or a return to the public health model in another name. The first Director General of WHO, Canadian psychiatrist Brock Chisholm, wrote that, beyond simply economic growth,

the concern of social medicine is broader social development. He argued that disease was a social issue, dependent on societal conditions and gave as proof that illnesses and mortality, "show a marked tendency towards the less privileged (Chisholm, 1950)".

A complicating factor to this paradigm of health as socio-economically based, came in the post-war years with advances in bio-medical technology such as vaccines, antibiotics and the wide use of insecticides. The hitherto unseen leaps forward in health care that relatively cheap technological developments allowed, were hailed by many as a shortcut to health that would alleviate the relatively long-term requirements of economic development. Health could be cheaply purchased today without waiting for a healthy economy to assure it. This can be seen as a return to the medical model of health care. George Stolnitz summed up this view by saying that innovations in bio-technology such as antibiotics challenged the "emphasis on overall socio-economic conditions as determinants of survival levels (Stolnitz, 1955: 53)". Hence, bio-medical advancements came to be seen as the "magic bullet" that would vanquish illness.

The Cold War years further shaped the understanding of international health. Selective programs with limited scope became the focus of WHO's work which was challenged by growing fears of overpopulation and fears of a restive and politically active "Third World". Moreover, the fearful specter of Communism divided the world into cooperative friend and counteractive foe. As a result, public health officials reversed the emphasis from economics for better health, to health for better economics. This was deemed to be better justification in the eyes of the developed world (Packard, 1997). In "The Cost of Sickness and the Price of Health", Winslow argued that, "it will be easier to obtain the support needed for an effective health

program if it can be shown that such a program will … also bring to the community which invests in health tangible economic benefits (Winslow, 1951: 10)".

In order to unravel the twisted threads of the history of TB control, first of all, the WHO's first three (the fourth being the globalization of TB control through DOTS) main campaigns against tuberculosis should be considered. The first global campaign began in the 1950s and was based on a mass vaccination using BCG. The second campaign involved the trial and later implementation of newly-available tuberculosis drugs that for the first time avoided the need for lengthy[21] hospitalization. This subsequently brought to light the issue of patient compliance in the absence of hospital-stay supervision. The third phase of the fight, based on the widespread use of drug treatment, saw a lessening of public concern towards the disease. As it turned out, this relaxation of public focus was entirely out of line with the grave evidence of its significant cost in human terms in the developing world. In the first three major campaigns we see a shift between the biomedical and public health approaches to healthcare. Although biotechnological breakthroughs were often hailed as "the" means to bring TB fully under control, it can be argued that without a public health-oriented consideration of the root causes of the disease, the biomedical solutions were only successful on a limited basis.

Early History of TB Control and the Turkish Experience

To start with a broader perspective, the nineteenth and twentieth centuries saw the spread of infectious diseases with improved transportation and the increasing popularity of travel for both business and personal reasons. The cholera epidemics

[21] Advent of isoniazid and rifampin in the 1970s reduced the treatment from 18 to 9 months; and adding pyrazinamide to these drugs in the 1980s allowed cure within 6 months (Iseman, 2002).

that devastated Europe between 1830 and 1847 were a kind of wake-up call to the developed world that no country would stay immune (Evans, 1988). The first International Sanitary Convention was signed in 1892 to deal exclusively with cholera (Stern et al. 2004). This Convention led to the creation of a permanent organization for coordinating and spreading information pertaining to epidemiology. A Health Organization operating under the auspices of the League of Nations furthered the collation of knowledge of global health problems, especially of malaria.

TB control activities in Turkey date back to the late Ottoman period (late 1800s, early 1900s). Ironically, there was a real "medical" reason behind the metaphoric meaning for the Ottomans to be called "the sick man of Europe" during this period. The Empire had faced a lot of epidemic diseases like typhoid fever, typhus, dysentery, leprosy, syphilis, malaria, tuberculosis, and smallpox while cholera took first place among the others; and it suffered important losses in population due to these diseases, i.e. the 1877-1878 Russian War that caused the death of around 40,000 Ottoman soldiers was "a war lost to typhus" in reality (Yıldırım, 1985)[22]. In other words, the Ottoman State was a "sick man" not only in the political sense, but with respect to epidemic diseases as well.

The motivation underlying public health services and medical affairs in the Ottoman period, beyond the need to protect the population, was undoubtedly the tendency to move towards the West that was becoming more evident especially towards the end of the 19th century. But this tendency was not aimed so much at taking on the Western style per se or surrendering to the West; rather it was a form of collaboration that protected the Ottoman identity. The Ottomans had always approached the West in a self-possessed and guarded way in the existing climate of

[22] The metaphor, "the war lost to typhus", is borrowed from Prof. Dr. Ahmet Saltık.

slippery political conjecture. However, Western expertise in the scientific fields was accepted beyond any arguments. Developments and discoveries in the West in the field of medicine were adopted and implemented at an amazing pace. The role played by Western physicians was, undoubtedly, very important in this process. The Ottomans were very active in quickly adopting European science and scientists but they did not leave them uncontrolled and tried to steer them in the direction of their own internal and external policies. Evidently, the Ottomans saw the role of science as Europeans did and accepted it in the same way, but adapted it to their own institutions and methods within their own political and scientific understandings.

Although TB control activities date back to the late Ottoman period, the foundation of the *Veremle Mücadele Osmanli Cemiyeti* (Ottoman Association for Combating TB) under the presidency of Dr. Besim Ömer (Akalın) Pasha in 1918 can be viewed as a milestone in combating the disease decisively (Gökçe, 1968). This association, in a way, was the predecessor of the *Türkiye Verem Savaşı Derneği-VSD* (Turkish Anti-TB Association); a national NGO that maintains 91 dispensaries countrywide out of a total 265, as of today[23]. As the very first publication, they printed a booklet titled "The Danger of and the Battle against Tuberculosis[24]". In this publication the key role of dispensaries was stressed and the following goals were set: to prepare publications on TB, to open more dispensaries and one TB Hospital. More importantly, Dr. Besim Ömer stressed the importance of overall cooperation; voluntary, municipal and governmental, as the only way to succeed in the battle against TB. The activities of the Ottoman Association for Combating TB ceased on March 16th 1920 due to the occupation of Istanbul (Gökçe, 1968).

[23] The total number of dispensaries changes frequently since Ministry of Health shuts down the unproductive ones.
[24] "Verem Tehlikesi ve Veremle Mücadele".

On the World stage, philanthropy combined with governmental organizations in the pre-Second World War years to create a kind of patchwork approach to international health. For example, the Rockefeller Foundation took its health concerns abroad to Latin America to deal with such problems as yellow fever and malaria (Cueto, 1995).

In 1920, a conference on TB was convened in Paris in which 31 countries participated. Interestingly, delegates pledged "to agree on the means to fight TB, to make a consensus on the strategy, to jointly apply the most effective weapons to combat this common enemy", thus establishing the International Union Against Tuberculosis (IUAT)[25]. In the conference a team of seven representatives were present from Ottoman medical circles (Gökçe, 1974).

In Turkey the Republic administration that inherited the Ottoman "sickness", both in world affairs and with regard to epidemic diseases and insufficient health organization, recognized the need to address health issues and build services that would spread to all levels of society. This recognition is very clearly demonstrated by the creation of the Ministry of Health on May the 2nd, 1920; just 10 days after the establishment of The Grand National Assembly of the Turkish Republic on April the 23rd, 1920. Health services were governed at a level of general directorate during the last periods of the Ottoman Empire[26]. The Ministry of Health was established in place of that general directorate and its official name was *Sıhhiye ve Muavenet-i İçtimaiye Vekaleti* (Ministry of Health and Social Services[27]) (Gürsoy, 1983). The aim of the Republic was to start a major transformation in society: "it is (was) to detect and cure the defects in the society and to improve it according to modern

[25] http://www.iuatld.org/full_picture/en/about/history/history.phtml
[26] The application in Italy had been taken as the model with regard to the functions and structuring.
[27] It is very interesting to note that social services (assistance) were considered, together with health, to be a public service issue in the 1920s. It reflects a "holistic" approach to health.

requirements" (Atatürk cited in Gürsoy, 1998). But, it was first necessary to nurse the society that had been worn down during the wars and epidemic diseases of years and had become "a little weak, a little sick and a little thinned" back to its original health. This description was quite correct, because nearly half of the population of 12 million were said to be sick with malaria while there were around a million people suffering tuberculosis. (Gürsoy, 1983). Under these conditions, first priority was to be given to health issues by the state: "the first duty of the political organization in the form of a state is to realize health conditions for all the recovering individuals"[28]. The trend to public health seen in Turkey was echoed internationally at this time. Thus, it can be seen as part of wider trend of states to guide and direct the well-being of their populations.

During the years between the wars Turkey was busy setting up the infrastructure that would allow it to ensure public health. Following shortly on the closure of the first voluntary society, the *İzmir Veremle Mücadele Cemiyeti Hayriyesi* (İzmir Beneficiary Society for the Battle Against TB) was founded with the initiative of Dr. Behçet Salih (Uz) on February the 18th, 1922 after his return from Italy where he gained experience of the organization of TB control activities (İzmir Verem Mücadele Cemiyeti Sıhhat ve İktisat Mücadele Almanağı, 1931: 9). In parallel to Besim Ömer's wishes, the first aim of the society was to open up a dispensary. For this purpose, a polyclinic was founded in front of İstanköy Bathhouse (the second anti-TB dispensary in the country after the one founded in Istanbul in 1923) comprising ob/gyn, pediatrics, psychiatry, dermatology, internal medicine and otorhinolaryngology services (Gökçe, 1968). This society initiated the foundation of the Istanbul Society for the Battle against TB and Heybeliada

[28] Atatürk cited in public health course notes of Prof. A. Saltık.

Sanatorium in 1924 and in 1938, took the name *İzmir Veremle Savaş Derneği* (İzmir Association for the Battle against TB) (Gökçe, 1968). Since there were no means for therapy in these years, the main task of these societies was to console the sick, educate both healthy and sick people in order to prevent contagion and deliver spittoons and food packages (Koçoğlu, 1986: 81).

As the first Minister of Health of the Republic, Dr. Refik Saydam served a period of 14 years with some interruptions, and shaped the path of Turkey's health policies. The definition of the primary function of the Ministry of Health as "preventive health services" and the commitment to the State's disinclination to opening up institutions/hospitals for curative purposes was achieved through Refik Saydam's political determination. The State had transferred the authority to establish the curative institutions to the local authorities and had utilized their finances while retaining oversight[29]. Coordination had been implemented in the form of an administrative director for each province and a governmental physician for each district. One of the most important functions of the governmental physicians was fighting against epidemic diseases. Moreover, some organizational structures were established according to the "important diseases" that emerged in terms of public health, like malaria, syphilis, leprosy and trachoma, according to the vertical[30] organizational structuring principle. And physicians were employed in such organizations on a full-time basis with high salaries[31]. TB was not organized in the manner of these diseases until 1965 although it was regarded as one of the

[29] The Ministry of health, in the meantime, established five *Numune* (sample/model) Hospitals in İstanbul, Ankara, Diyarbakır, Erzurum and Sivas in order to train local governments/municipalities about how a hospital should be managed and curative services should be organized. These were, in a way, demonstrative hospitals.
[30] Hierarchical organization from the center to the servicing point.
[31] It was forbidden to open up private offices for the physicians dealing with important diseases. But this was not the case in other situations. For this reason, the doctors' salaries dealing with important diseases exceeded the income of the members of the parliament.

"important" diseases. On March the 1st 1923, in his opening speech at the National Assembly, Mustafa Kemal underlined the importance of TB:

> "No serious measure has been taken so far against one of the most destructive diseases of our country due to inappropriate means and conditions, however we are determined to open up a curative center for TB in Istanbul as a first attempt in our delayed action to deal with this disease and it will constitute a milestone to our new and necessary struggle[32]" (SSYB, 1973: 7).

The first out-patient clinic established to recognize the growing importance of the disease was an Anti-TB dispensary in Istanbul that was founded in 1923 in Çemberlitaş by the Istanbul City Council by the order of Ministry of Health. This dispensary was the first involvement of "state" in the battle against TB. The same year witnessed the foundation of the third society in Balıkesir on October the 2nd in order mainly to spread information on TB through propaganda activities (Gökçe, 1968; S.S.Y.B. 1964). Interestingly, we see a rather sharp distinction emerging between "preventive" (public health) and "curative" (medical) approaches in the Turkish model. This split was also seen worldwide through this period. And this schism was further exacerbated by the, "rise of the hospital, focused on acute tertiary care, as the preeminent institution of modern medicine further separated medicine from public health." (Brandt et al. 2000: 710)

In 1924 Dr. Refik Saydam allocated funding from the government's annual health budget to build a Sanatorium with 50 beds exclusively for TB in Heybeliada (Gökçe 1957:9). The opening of the Heybeliada Sanatorium was made on October the 1st, 1924 with 16 beds (Gökçe 1957: 12). TB control activities were enlarged and accelerated by the advent of this sanatorium that constituted a potent curative base for treatment of TB patients. TB was one of the major topics in the1925 and 1927's National Congress of Medicine.

[32] "Tahripkâr emrâ-ı belediyemizden şüphesiz başlıcası olan verem hastalığına karşı, şimdiye kadar ahvâl ve şerâitin mateessüf tatbikatına müsaade ve imkân bahşetmediği tedabire başlangıç olmak üzere İstanbul'da veremliler tedavihanesi açmak ve bu suretle yeni ve pek luzumlu bir mücadelenin ilk temel taşını koymak mutasavverdir".

In 1927, the fourth society but the first in a "modern sense" was founded in Istanbul under the name of *İstanbul Verem Mücadelesi Cemiyeti* (Istanbul Society for the Battle against TB). The society prioritized and concentrated on propaganda and training activities[33] emulating the great success of Americans with TB propaganda, published a magazine named *Yaşamak Yolu* (Way of Living), opened up a dispensary in Eyüp (one the poorest neighborhoods of Istanbul) in 1929 and founded a sanatorium in Erenköy in 1932 initiating a "stamp campaign" as a remarkable fund-raising activity (Yurdumuzda, Dünyada Verem Savaşı ve Düşündürdükleri, 2004: 41). It's noteworthy to mention that the patient registers in the Eyüp dispensary were exactly the same as those of the Rockefeller, used in the TB dispensaries of France (Gökçe, 1968:20). The society also lobbied the government on TB and health issues, circulated informative pamphlets and raised awareness of TB through education in school boards and elsewhere. Combined with BCG campaigns, it made a direct impact on the incidence of TB through its educational campaigns, prevention strategies and by increasing the government's involvement in and commitment to TB. Of particular concern was assuring the government's commitment to a continuing, uninterrupted campaign against TB, as it alone had the financial and human resources as well as the capacity to coordinate an organized battle.

Over 18 years, the Societies continued their activities; in short the TB battle revolved mainly around the successes of the Istanbul and Izmir Societies until the foundation of Samsun and Denizli Associations in 1944 (Gökçe, 1968). One of the most striking laws within that period was Law No. 1593, the *Umumi Hıfzısıhha Kanunu* (Law of General Hygiene) issued in 1930. The content of this Law was and still is very important, as it constitutes a cornerstone with regard to public health.

[33] One third of their budget was allocated to these activities, i.e. conferences, public lectures, film sessions, poster, flyer, hand-outs, rosettes preparations, related publications, etc. (Gökçe, 1968: 21)

As seen above, TB Control activities were "voluntary" or "charity-based" in nature during the late Ottoman early Republican periods. The activities of major organizations focused mostly on the "protection of health" through consoling, nursing and care-giving. Because the founders of these societies were also active figures in the political realm, voluntary activities were linked to the state to a certain extent. Due to economic concerns the state's involvement had been limited financially. Of note, the incredible efforts of individual doctors who closely followed developments in the international arena, together with the group of dedicated volunteers outweighed the governments' efforts and gave shape to the struggle against the disease. However, the MoH did significantly support their activities. In parallel to the world trend, voluntary organization could be viewed as the "first phase" of the TB battle in Turkey.

The rise of nationalism as seen in Turkey and its shaping of health policy in the pre-war years was mirrored throughout other nations and came to culmination in the Second World War. To combat this dreadful disease became a part of the "national" responsibility of every Turkish citizen. During this period, the adoption of pro-natalist policies was among the national priorities; increasing the population as quickly as possible was seen as critical. Birth was promoted as part of the process of creating a "new nation" and all birth control methods were prohibited. In addition, the crucial importance of keeping every single citizen healthy and alive was reiterated through propaganda. As a consequence, activities targeted at controlling TB were fraught with overwhelmingly "nationalist and modernist" messages. Just a few remarks from the *İzmir Veremle Mücadele Cemiyeti Sıhhat ve İktisat Almanağı* (İzmir Society for the Battle against TB Health and Economy Almanac) would demonstrate this: "For the sake of salvation of our race and preservation of its

mightiness and power, for the sake of saving the lives of our brothers, we have to contend with tuberculosis[34] (p.72)"; "The greatest service to our motherland is to combat tuberculosis[35] (p.19)"; "Let us not remain behind on our way to struggle against tuberculosis where civil nations have sacrificed tremendously for this purpose[36] (p.57)"; "To be strong/healthy should be an indispensable objective for every Turk[37] (p.116). This nationalistic trend favored a public health approach to health care. And the idea of health governance became firmly entrenched at the national level.

World War II and the Birth of WHO: Changing Priorities

The establishment of WHO after 1945 reflected a general outlook of concern for health on an international scale. Particularly in the disintegrating colonial world, there was seen to be a need for a responsible and systematic approach to the health problems facing the populaces. This was all part and parcel of what historian Akira Iriye called the "renewed commitment to internationalism" after the war (Iriye, 1997: 140-148). Coupled with this was a new interest in the rights of the individual, a sort of backlash against the nationalism fostered by countries in the pre-war years and practiced to devastating effect in the course of the Second World War.

In Turkey during the1940s, almost all existing resources were allocated for military purposes (in spite of the fact that the government had made a resolution not to become involved in the Second World War) and the resultant economic

[34] "Irkımızın selameti, onun kudret ve kudretinin muhafazası, kardeşlarımızın mühim bir kısmının aramızdan ölüp gitmemesini temin için veremle mücadele etmeliyiz."
[35] "Vatana en büyük hizmet veremle mücadele etmektir."
[36] "Medeni milletlerin pek çok fedakarlıklar sarfederek mücadeleye atıldığı bu mukaddes yoldan bizde geri kalmayalım."
[37] "Sağlam olmak her Türk için ihmal edilmez bir gaye olmalıdır."

difficulties worsened, among others, the health conditions of the country. During this time, epidemic diseases increased, particularly malaria[38].

The "second phase" in the fight to control TB began. The reinvigorated national involvement of the MoH in tuberculosis occurred in the mid 1940s. As Gökçe reveals tuberculosis was regarded as a national issue by the MoH by 1945. The formation of a commission comprised of medical specialists and administrators to work on different facets of TB Control was the first skirmish in the nationally planned battle (Gökçe, 1968: 25).

The WHO, upon formal creation in 1948 as a UN agency, marked a new era in international health (Inoue et al. 2006). Its constitution represented " the broadest and most liberal concept of international responsibility for health ever officially promulgated" (Allen, 1950: 30). An Executive Board oversaw implementation of assembly decisions while daily operations were left to the Secretariat, which was controlled by health professionals. In the early days the staff numbered approximately 200, including many with international experience. A loose regional structure with individual autonomy meant that areas were unevenly covered. For example, while India headquartered the Southeast Asian regional office, Pakistan opted for collusion with the Eastern Mediterranean region (Lee, 1998). Turkey formally joined WHO on January 2nd 1948.

The WHO later became the organizational center for global health governance but did not play a greatly "imposing" role. It is not simply a "conform or suffer" choice member states must make, as it has been in the majority of economic governance bodies like IMF or WB. Although WHO conventions are not binding,

[38] The "Extraordinary Malaria Control Law" was issued in 1945. This law was a watershed due to both its incentives (like "the ones gaining the marshy area will own the land") and deterrent (like "the ones involved in malaria control may enter the fields and apply pesticides without permission") sanctions in fighting against the disease.

member states must either accept or reject them formally within eighteen months of their passing. In addition, member states are expected to report on progress in health care yearly to WHO. The creation of WHO first of all demonstrates the willingness of member states to come together to create norms and standards of health and to work collaboratively in attaining them (Allen, 1950). However, the nature of the institutional development demonstrates that states are still largely unwilling to cede authority. Under the influence of WHO and other health-related international organizations, Turkish health care continued to follow a collaborationist mode in the immediate following years.

The organized battle with TB was expanded by the announcement of "TB Propaganda Week"[39] in 1947 and the foundation of the *Ulusal Verem Savaşı Derneği–UVSD* (National Association for the Battle against TB) in 1948 under the presidency of Dr. Tevfik Sağlam, one of the eminent experts and dedicated physicians specializing in TB (who would stay in the same position for the next 15 years). This Association unified all local associations under its name. One year after its establishment, UVSD became the member of IUAT (Gökçe, 1968). Law no: 5368, *Veremle Savaş Hakkında Kanun* (TB Prevention Law) was issued in 1949. The law divided the responsibility into two: TB related activities would be carried out by Anti-TB Associations[40] in cities and by the MoH in districts and villages. In 1949, the number of dispensaries owned by the state was only 8 whereas 31 were non-governmental. In 1959 these figures were reversed: 72 state dispensaries, 47 association dispensaries, 119 in total existed (Yurdumuzda, Dünyada Verem Savaşı ve Düşündürdükleri, 2004: 41). Besides the foundation of the TUVSD, in 1948 law no: 5237 was enacted stipulating municipalities must transfer 10% of their annual

[39] First week (following the first Sunday) in every January. Still in use.
[40] I will use "Anti-TB Associations" and "Associations for the Battle against TB" interchangeably in order to facilitate reading.

income gained from amusement establishments to the Anti-TB associations and in 1949 law no: 5369 was enacted for the purpose of arranging the Ministry's financial, material and technical personnel contributions to the Anti-TB Associations (Yurdumuzda, Dünyada Verem Savaşı ve Düşündürdükleri, 2004: 100). These laws strengthened the state-voluntary organizations collaboration.

In 1950, the opening of the still-existing *Tevfik Sağlam Uluslararası Eğitim ve Gösteri Merkezi* (Tevfik Sağlam International Training and Convention Center) provided Istanbul with the prestige of having the first center focused on general and staff training activities for TB. It was opened in accordance with a protocol between the WHO and the Istanbul Anti-TB Association and was financed by the MoH. According to the protocol, WHO appointed a team comprising a specialist physician, an associate physician, an x-ray technician and a social chief nurse under the presidency of Dr. Etienne Bertet (a specialist of WHO) for two years. The presidency was taken over by the Turkish team; first by Prof. Tevfik Sağlam, then Dr. Tevfik İsmail Gökçe. During 1950 and 1968, 39 course programs designed for physicians were organized with 669 participants, 99 of whom were foreigners; 30 courses targeting nurses were organized with 432 participants, 48 of whom were foreigners; and several courses were organized for x-ray and laboratory technicians. There was also a research unit. This center is considered a major step forward in battling the disease and a source of great national pride (Koçoğlu, 1986: 82; Gökçe, 1968: 28-30).

The Turkish National Association for the Battle against TB was closely collaborating with the following institutions in addition to the MoH: *Çocuk Esirgeme Kurumu* (The Institution for Child Protection), which was carrying out tuberculin testing on children in the 0-6 age group in day-care centers and kindergardens,

vaccinating children with BCG, covering the treatment cost of sick children, and doing micro-film x-ray screening; *Yardım Sevenler Derneği* (The Charity Association) which was treating the sick, and supporting them and their families with food packages, medications and clothing; *Halk Sağlığı Eğitimi* (Public Health Education) and *Halk Sağlığı Milli Komitesi* (The National Committee of Public Health) which was carrying out training activities; *Kızılay Cemiyeti* (The Red Crescent Society) in the foundation of dispensaries and construction of hospitals, covering the treatment cost of poor people and students, donating food packages, clothing, and fuel as well as financial support (Yurdumuzda, Dünyada Verem Savaşı ve Düşündürdükleri, 2004: 40-41).

Internationally, the campaign to eradicate malaria, using DDT became a foremost concern of WHO in 1955. DDT was seen as a cheap technological solution to threats to agricultural productivity. This was a logical continuation of the policy to eradicate vector-borne diseases in the years between the wars. This anti-malarial program became the model for WHO intervention, based on formulated policy that, "a particular disease was everywhere the same; that international boundaries should not be barriers to worldwide eradication of certain important diseases; and that a universal medicine based on transferable technology and knowledge was possible" (Kunitz, 1987: 382). The implications for emerging global strategies for combating tuberculosis are evident.

Meanwhile in Turkey, adherence to public health philosophy emerged. For the epitome of this in Turkey, agreed on by experts in this field, wherein public health philosophy becomes completely dominant we must look at Law No. 224 in the *Sağlık Hizmetlerinin Sosyalleştirilmesi Hakkında Kanun* (Socialization of Health Services) put into force on January 12th 1961 (Özkan, 2001). The use of preventive medicine

was a radical transformation in the health environment where hospital-style/curative medicine was dominant. Horizontal organization had been adopted for the first time and polyvalent service had been brought within a narrower region. The understanding of "service brought to the citizen" was applied for the first time. The principle of integrated and unpaid services was also applied/generalized for the first time. All the diagnoses, inspections and "life-saving" medicines were free of charge in this system operating within the public finance model.

The emphasis on technological solutions to health problems again shifted greatly in the 1970s to cheap, equitable, low-technology health care, termed "Primary Health Care" (or by another name the public health approach). This was nothing less than a revolution in the approach to global health. Spawned by attempts by poor countries to take power over their health concerns into their own hands and helped along by numerous examples of the use of lay workers over trained doctors in bringing care to poor communities, this sea change was relatively short-lived. By the mid-1980s approaches had again reverted to a greater emphasis on "professional" care supported heavily by technological advances. That is, a return to the medical model. This flip-flop occurred over the course of little more than a decade and definitely shows the tug-of-war ongoing between the public health and medical approaches that have characterized health care over the last century.

The Global Tuberculosis Campaign

The publications of WHO have provided a wealth of information on how changing medical and social knowledge have shaped public health intervention. From these records of policy meetings and field reports, it is possible to patch

together a somewhat cohesive understanding of the global campaign against tuberculosis.

In exploring the WHO's approach to tuberculosis, various factors must be considered. Firstly, the role of advancing medical technology in combating the disease must be examined to understand both the potentialities and limitations it creates in the fight against the disease. Secondly, social research has provided a bulk of information that has led to shaping policy. And thirdly, the very institutionalization of the policy under the auspices of the WHO must be considered fully if we are to construct a complete understanding of the forces that came to bear on the fight against tuberculosis.

The WHO as an institution tended and tends to bring to bear certain standardization in its approach to the fight against infectious diseases. That is to say that there is an evident continuity in the development of its programs. Just as the WHO malaria eradication scheme grew out of intra-war experiences and strategies, a century of institutional learning was applied against smallpox. But for tuberculosis there was no such precedent system to draw upon. This proved especially problematic after the advent of chemotherapy that relied so heavily upon patient "compliance".

The fight against tuberculosis and all of the shaping factors it involves, must also be considered in light of the greater political and economic paradigm of the times. To view health policy as a distinct and separate field untouched by harsh political and economic realities, would only lead to poorly circumscribed understanding of a far more complex whole. The highly politicized nature of development generally and aid work specifically reveals the truth in this.

The international tuberculosis campaign of the 1950s through 1970s was a targeted public health intervention that sought to vanquish the structural causes behind the disease – economic and social. The nature of these advances is shaped by the technologies used: namely, widespread vaccination with BCG in the 1950s with emphasis on curative chemotherapy being emphasized in the 60s and 70s. These approaches were most certainly shaped by the institutional limitations of the WHO as well as policy derived from social research in the field (Ruggiero, 2000).

Moreover, the campaign was carried out according to the constraints of the macro-political and economic realities of the times. For example, the campaign was limited somewhat in its scope by the unavailability of skilled local medical expertise to undertake its aims. With the adoption of chemotherapy in the 60s, an unforeseen complication arose in the name of "compliance". If patients could not or would not comply with the demands of the campaign, it would be doomed to failure. How to assure compliance became an obsessive consideration. In addition, affordability of the necessary drugs became a linchpin in the success of the campaign. Material constraints shaped health policy while in turn material constraints were shaped by the general socio-political outlook of the days (Ruggiero, 2000).

Unlike malaria, which has successfully become, more or less, limited to the developing world, tuberculosis by its very nature demands a globalized approach if the developed world is to be truly safe from its ravages. As Thomas Parran, Surgeon General of the United States (1947) pointed out: "No matter how effective the control of tuberculosis in a single state, the citizens are not safe until all the citizens in all states receive comparable protection. Epidemiological research on a *world* basis is essential if we are ultimately to control tuberculosis" (MacDoughall, 1949: 177). The WHO's international campaign to fight tuberculosis was the first public

sector multi-governmental effort in this area. Its global scope was also unprecedented; tuberculosis had never before fallen under the purview of international health work[41].

The global tuberculosis campaign can be said to have had three stages from 1950 till the late 1970s. The first, lasting throughout the 1950s, involved a "mass campaign (Raviglione et al. 2002)". Tuberculosis control was accorded great importance by WHO during this time and accounted for the biggest single budget allocation for disease control. The global campaign focused on mass vaccination with BCG, as well as data collection and case study. Education was also part of the focus with teams of health experts conducting demonstrations of current methods of tuberculosis control. Centers for this purpose were set up in 23 counties by 1960 (Raviglione et al. 2002).

The WHO's policy is crystallized in Turkey as well. One of the cornerstones in the organized interventions of the TB battle in Turkey was the establishment of the BCG Campaign in cooperation with the International Children's Emergency Fund (UNICEF) in 1953[42] under the direction of *Refik Sağlam Merkez Hıfzısıhha Enstitüsü* (Refik Saydam Central Institute for Hygiene). The campaign strictly followed the international regulations and standards and a statistician from WHO helped to set up a statistical bureau in order to follow up the outcomes (S.S.Y.B., 1964: 144). The teams screened Turkey 6 times in a row during the 1953-1976 period. 67 cities, 572 districts and 36,000 villages were covered under the campaign. 64,100,000 tuberculin tests, 33,160,000 BCG vaccinations were applied together with 1,600,000

[41] Basically, The League of Nations Health Organization has not taken an action in the context of public health interventions; rather its activities was limited to collecting information and expert committee discussions on health issues. To this extent, The Pan American Health Organization was a real predecessor to WHO.

[42] The agreement was signed on 22.12.1952 (S.S.Y.B., 1964: 141) and the vaccine is produced in Refik Saydam Central Institute for Hygiene. For further details pls. see ibid., pp.142-143.

revaccinations. This campaign was realized through the devoted efforts of a team consisting of only 20 doctors and 200 *sağlık memuru* (male nurses[43]) (Açan et al. 2004: 102). The incredible success as a result of relentless effort was named the *Türk Mucizesi* (Turkish Miracle) by Dr. Maher who was then the Chief of the Department of TB Control in the WHO (Yurdumuzda, Dünyada Verem Savaşı ve Düşündürdükleri, 2004: 144).

A shift in focus for the campaign came about in 1959 following trials carried out by WHO (and in cooperation with the British Medical Research Council and the Indian Government). These trials concluded that with the successes of the anti-tuberculosis drugs, nothing else was considered necessary for the treatment of advanced tuberculosis (Mahendradthata et al. 2003). With this conclusion emerged the issue of patient compliance; and how to assure this became a pressing concern. Hence, the campaign became focused on the individual rather than the broader population generally. Also important, distribution of the anti-tuberculosis drugs and how to organize it through general health services became a matter for policy development (Raviglione et al. 2002).

The third phase of the campaign saw a decline in the importance accorded tuberculosis. This seems to have arisen from disenchantment with the drugs ability to bring about the dramatic reductions in the disease earlier foreseen. Furthermore, the declining visibility of the disease in developed countries, contributed to the fall in funding. The focus shifted to global smallpox eradication. This decline was further exacerbated by the emerging emphasis on "primary health care" mentioned earlier. Treatment with the least expensive anti-tuberculosis drug – Isoniazid – replaced the

[43] In fact the literal translation for *sağlık memuru* is "health officer". However it was translated as "male nurse" in order to avoid confusion since in U.K., for instance, health officers are doctors which was and is not the case in Turkey.

previous approach stressing case study, surveillance and the use of more expensive drugs.

The Second World War provided ripe conditions for the worsening of contagious diseases with great numbers being uprooted and many more suffering impoverished conditions as a result. The incidence of tuberculosis spiked and continued through the post-war years of hardship. Generally speaking, the ravaged countries, had no facilities for handling tuberculosis cases, "and were able to do nothing" (ITC, 1951: 13). Massive BCG vaccination campaigns were launched in both Poland and Yugoslavia. By 1948, Italy, Czechoslovakia and Greece had applied for help in mounting BCG campaigns. Help was given by the cooperating Swedish and Norwegian Red Cross Societies (ITC, 1951: 14). They, together with UNICEF, created an emergency joint effort to cope with the enormous increase in tuberculosis following the war. The program became permanent and was handed over to WHO in 1951[44].

The collection and dissemination of statistics concerning the incidence of tuberculosis cases became a primary concern. Only with complete documentation could the problem be approached globally. Coordination of action became dependent on collection of raw data. Thus, from the beginning WHO, "concentrated its efforts in the field of tuberculosis mainly on collecting information about the extent of the tuberculosis problem … partly by means of short visits and partly by correspondence (WHO, 1954: 17)". The results of which were a book "Tuberculosis: A Global Study in Social Pathology" written by the WHO's chief tuberculosis officer, Dr. MacDougall. Published in 1949, it encompassed infection rates, mortality, and existing facilities for treatment in most areas of the world. The

[44] Jaap Veen, *interview by author*, field notes, Antalya, Turkey, 29 April 2005.

book also provided an exhaustive list of published literature on tuberculosis country by country. In the book, it emerged how relatively little was known of the disease in developing nations, and how under-equipped in every way these countries were for facing it. Lack of data, as well as flawed data hindered the WHO's efforts. For example, it is believed that many tuberculosis deaths in India at this time were misreported as deaths from fever and respiratory illness (MacDoughall, 1949: 67). Not having reliable networks of surveillance, diagnosis and reporting severely skewed the collected statistics.

As very few of those infected with the tubercle bacilli go on to develop the progressive disease, and yet remain a potential infectious source, any clinical diagnosis of tuberculosis will remain limited to a small number of those ultimately effected. WHO needed then an alternate means to ascertain levels of tuberculosis and found this in survey examinations of population groups (WHO, 1954: 29). Development of a tuberculin test to measure infection with the tubercle bacilli grew out of this need to document exposure in the community. This test also proved vital for the BCG vaccination campaigns for finding unexposed individuals who would require vaccination (WHO, 1965). The statistics produced, then, also allowed speculation on the potential problem in the future based on current rates of infection.

The wide-ranging tuberculin tests were to bring a new understanding of the epidemiology of tuberculosis. "More than 100 million people were tested in conjunction with the BCG vaccination campaigns. It was believed that, tuberculosis was a major problem mainly in the cities and big towns and it really was a huge problem in most countries"[45].

[45] Jaap Veen, *interview by author*, field notes, Antalya, Turkey, 29 April 2005

It was also believed that in Africa, where tuberculosis was rapidly increasing, that the disease was closely linked to urbanization which in turn was the result of industrialization. To what extent tuberculosis was prevalent in the countryside was largely unexplored. WHO experts resorted to well-known understanding of "disease of civilization" and its concomitant of industrialization and development (Harrison et al. 1997). Only later, when surveys were conducted in rural areas was a more rounded understanding arrived at. "Based on studies in Africa and elsewhere, it was concluded by 1965 that, in fact, the distribution of the disease was almost parallel in countries, regardless of socio-economic development: tuberculosis is omnipresent, and there are surprisingly minor differences between urban and rural areas"[46]. Discerning the underlying causes of prevalence and distribution called for somewhat more research than tuberculin testing could provide. A more broadly-based social model, taking into consideration movements of people and the economic causes behind them, was needed for in-depth understanding.

The Global BCG Campaign in Southeast Asia, 1950-1960

In order to understand exactly how the groundwork for DOTS was laid, it is necessary to examine two ground-breaking studies that were carried out in India. These studies proved the efficacy of the theory upon which DOTS is grounded. That is to say, that patient compliance and physician oversight are compatible and desirable with regards to tuberculosis treatment.

An on-going struggle between the need to balance the standardization of collected data so that it would be internationally comparable and the need to capture

[46] Salmaan Keshavjee, *interview by author*, field notes, Istanbul, Turkey, 29 April 2005

the individual complexities of each particular population, characterized the work of the 1950s. Sadly, much of the day-to-day details of local operations have been lost. Comparatively well-documented is the campaign in South-east Asia.

In these studies, the need in the field to adapt to difficult and changing circumstances, to "make do" with what was available and constantly to be prepared to rethink measures to fit the existing realities seems to be the precursor to the approach that would come to be known (some twenty years later) as "primary health care".

Over 418 million people – predominantly children – were tuberculin tested by 1964. Of these, more than 162 million were vaccinated with BCG. The highest percentage of these were in Southeast Asia (approximately 97 million), with the second highest in the Eastern Mediterranean region (WHO, 1965: 14). How effective BCG vaccination was in the long-term is questioned, with experts agreeing recently that it provides only a short-term and incomplete protection (Borgdoff et al. 2001: 16-18). Few would disagree that it saved young children from the most virulent form of the infection[47] at a vulnerable stage of development, however, even if they were not protected from infection occurring later in life.

We see from the WHO reports that the organization was not altogether successful at structuring its program in the most efficacious way. Problems with local staff and local conditions coupled with an, at times, ponderous bureaucracy meant that the vaccination program could not be extended to many of the neediest areas. The constraints of the developing counties' infrastructures also limited the overall success of the effort.

[47] Tubercular meningitis or milliary TB.

It was with the introduction of new and effective anti-tuberculosis drugs and the accompanying paradigm shift in theories of public health that were to take the WHO beyond the limitations of preventive vaccination. Yet, inevitably, WHO was to face new challenges in implementing the use of the new drugs.

The Rise of Chemotherapy in the Fight Against Tuberculosis: The Indian Experience

Although an effective agent for the treatment of tuberculosis, Streptomycin, emerged in 1943, the WHO did not employ it in the mass campaigns of the 1950s. It was largely felt that the use of such drugs could only succeed in controlled clinical settings. Despite this view, by the early 1960s, anti-tuberculosis drugs would become the linchpin of the WHO's policy (Porter et al. 2002). In particular, two studies carried out by WHO in India were to lead to this shift in strategy.

Research carried out in Madras (at the Madras Tuberculosis Chemotherapy Center) and Bangalore (at the National Tuberculosis Center) in the late 1950s and into the 1960s were highly influential in shaping WHO's global policy for tuberculosis control (Raviglione et al. 2002). Most importantly, the research material shows a change in the basis of knowledge of the disease itself. It also reveals local institutions' role in shaping central policy and deepens the understanding of the relationship between poverty and tuberculosis.

The Madras Center was a joint operation of WHO, the Indian Council of Medical Research, the British Medical Research Council and the Madras State Government. At the time of its creation, it is estimated that there were some 2.5 million active cases of tuberculosis in India resulting in over half a million deaths a year. At the same time there were only 23,000 available beds at sanatoria and

hospitals for the treatment of the disease (TCC, 1959). Hence, it was hoped the study would provide a solution: namely, a means to deliver effective drug-based therapy in the patients' homes. Unlike with the vaccination campaign that called for only limited patient contact, drug therapy would necessitate ongoing care and patient cooperation. Tuberculosis sufferers for the study were chosen from the poorest areas of the city, hoping that success in the study would mean success for a global campaign, even in areas of the harshest conditions. Patients were randomly assigned to either twelve months of sanatorium treatment or twelve months of in-home treatment.

The Madras Center first undertook in-depth investigations into the patients' living conditions. Such crucial factors were considered as diet, working environments, crowding in the homes and neighborhoods and financial circumstances. The goal was to consider living conditions' effect on the success of dug-based therapy delivered in the home.

The sanatorium-based patients were given the same drug therapy as the home-treated patients but in addition benefited from, "airy, well-ventilated wards" in the countryside as well as balanced diets and complete rest (TCC, 1959: 109). On the other hand, the home-based patients suffered from overcrowding (with the overwhelming majority enjoying less than 45 square feet per person in their households), poor nutrition and general economic hardship. Two of the study patients were homeless. In addition, home-treated patients were often required to work, women often in the house, and men outside to earn the family income – thus, they were deprived of adequate rest.

Amazingly, the study found that all the hardships faced by the home-based patients did not, in fact, significantly effect the outcome of the drug treatment. "…

the findings revolutionized tuberculosis treatment all over the world … led to the abandonment of the age-old concept of isolation; value of fresh air and good diet, the serious social consequences of long term hospitalization of patients and that epidemiological consequences of domiciliary treatment were similar to that of treatment in sanatoria" (Banerji, 1993). So it was concluded that home-based drug therapy was a viable alternative to sanatorium treatment.

Furthermore, the issue of compliance was addressed by the National Tuberculosis Institute in Bangalore. It had been set up by the Indian Ministry of Health with aid from the WHO in 1959. Using patient interviews to assess the impact of tuberculosis on the patient, the Institute pioneered a sociological approach to understanding disease in the developing world. To this end a "Sociological Section" was set within the center. Interviewers were trained to draw subjects out in length on the personal effects of their illness. Questionnaires were not used and any attempt to quantify answers was shunned. The first study conducted showed that 70 percent of patients with active cases of tuberculosis studied were aware of their symptoms and reported them. It also acknowledged that self-reporting of illness may be harder to elicit from some groups of society such as very old or very young women (Banerji et al. 1963: 676).

The study recommended the treatment of those requesting help and believed that successful treatment would draw many of the others into seeking it when word spread. It argued that the confidence created by new drug therapies would do more than mere health education to inspire the sufferer to seek help.

Most far-reaching of the research carried out by the Institute has to do with patient compliance. Could patients be relied upon to take their medications over a twelve month period? And what factors would lead to non-compliance? To

circumvent "cheating" by the patient random checks were instituted. Pills were counted and urine tests conducted. Interestingly, often the two did not tally – indicating that patients were at times disposing of their medication rather than taking it (TCC, 1959: 105).

The problem of non-compliance went beyond the actions of the individual patient and did not so much expose the deceitful or lazy nature of the non-compliers as it did the de-motivating influences of the poorly-organized and poorly-run drug administration program. Research demonstrated that, "taking drugs for a long time depends on the patient's motivation to do so, in the midst of conflicting motivations and in a life of other worries, which in many or most cases appear far more important to the patient than worry over his disease" (Amrith, 2004: 121). From the study's 2000 participants 18 percent failed to complete the twelve month drug regime. Of these a number had provided false addresses to participate in the study although they lived outside the city and could then not get their pills on a regular basis. Others demonstrated misunderstandings with the health visitors, such as believing that the pills would be useless unless a special diet was adhered to. The study also showed that there was no direct link between non-compliance and especially squalid and deprived living circumstances. The conclusion drawn was that the use of anti-tuberculosis drugs was heavily dependent on a sound and sophisticated treatment organization.

Despite these findings a prejudice continued to exist within the organization that the non-compliant patients were willfully so and would best respond to force (Amrith, 2004: 126). But as Paul Farmer argued, based on his experiences treating tuberculosis patients in Haiti, patient compliance can best be explained as response to

social and economic circumstances and structural pressures including access to treatment (Farmer et al., 1998).

Changes in International Policy

Central policy in WHO drew upon the Madras study to support widespread home-based drug therapy, and projects were immediately set up in Nairobi and Tunis. "The WHO's key role, then, was in 'universalizing' the particular research from Madras" (Amrith, 2004: 123). The backbone of the new international tuberculosis policy was the establishment of National Tuberculosis Programs (NTPs) throughout the world. The primary duty of NTPs was the widespread distribution of drugs. Drugs would be administered to every infectious patient (Fox, 1962). It was believed, based on the Madras Study, that patients would be willing to come long distances to the clinic six times a week for a Streptomycin shot and a dose of Pyrazinamide – under supervision of health officials. And article that appeared in 1995 by Bayer and Wilkinson suggests convincingly that the Madras study was the inspiration for today's DOTS for tuberculosis control (Bayer et al. 1995).

The drug treatment was to be undertaken without the need for any accompanying social measures (based on the Bangalore findings). And officials were confident that they could prove effective in just about any socio-economic conditions – although as noted earlier, these were concerns about the rare case of non-compliance (WHO, 1964: 3-4).

By 1964 these NTPs had been set up in thirty-four countries around the world. During this period of a shift to NTPs and drug therapy, the WHO's budget

for tuberculosis control increased 60 percent to over two million dollars (WHO, 1965: 20). It's a reflection of then prevalent "medical" paradigm.

A further change was brought about in the new approach – tuberculosis control became integrated in the general health services. The Expert Committee of 1964 called for the creation of the NTPs on a permanent and far-reaching basis based on the perceived needs of the populations and, most of all, integrated into general health services (Raviglione et al. 2002). The Indian Studies were the catalyst for a, "radical move towards the integration of tuberculosis programs into the general health services" (Raviglione et al. 2002: 776). This move from hierarchical to horizontal control was mirrored throughout the international health work of this time.

India hosted among the first attempts at wholly integrated tuberculosis control in Bangalore at the National Tuberculosis Institute. This model was then disseminated by the Indian Ministry of Health for general adoption throughout the country in 1963. The aim was to use the existing infrastructure of health care while relying minimally on expert input. Small groups of tuberculosis specialists were dispatched to aid in the general health service's chemotherapy programs and continued BCG vaccinations (WHO, 1965: 17). It was recognized that success would rest upon two key points – an assured and continuous supply of drugs and patient compliance in following the drug regime. Both aspects were to prove problematic.

It was decided that in order to assure the highest likelihood of success, the strongest available drugs should be used over the shortest period of time. In short, drug therapy needed to be, "standardized and simplified" as put by Mahler (Amridth, 2004: 129). The Expert Committee's final report in 1974 stated that chemotherapy with very high doses of isoniazid and streptomycin, administered twice weekly,

could be entirely supervised thus elimination the compliance problem entirely (WHO, 1974: 19). Yet both supply and increasing cost of the drugs were huge obstacles to the success of the undertaking. The optimal combination of anti-tuberculosis drugs was seen as prohibitively expensive. "New drugs, such as Rifampicin, were largely seen to be priced out of most developing world markets"[48]. The enormous danger in reduced treatment of infectious cases created the possibility for drug resistance. However, it was concluded that primary resistance did not pose a serious problem in any country. The regrettable decision was thus made to use isoniazid in isolation. It has been argued in recent times that this decision was the single greatest contributor to the global spread of drug resistant tuberculosis (Spinney, 1996).

The De-prioritization of Tuberculosis

Ironically, the move to the high technological chemotherapy approach to tuberculosis treatment may have been the first step in its de-prioritization as a health concern. As tuberculosis treatment was integrated into the existing health infrastructure, and case studies and surveillance were replaced by straightforward drug administration, the entire issue became supply-oriented. Provide the drugs and the problem would resolve itself, it was believed (Amrith, 2004).

In Turkey with respect to TB at this time, the period starting from the 1950s until the mid 1970s, was actually one of outstanding success. In 1963, The General Directorate of Tuberculosis Control was established under the provision of law no: 225, and in June 1965, all TB hospitals and Sanatoria were brought under the control

[48] Salmaan Keshavjee, *interview by author*, field notes, Istanbul, Turkey, 17 November 2005

of the General Directorate (Health Sector Master Plan Study: Report on the Current Situation, 1990: 146). The battle against TB had unceasingly continued through anti-TB dispensaries, preventoriums, sanatoria, chest hospitals scattered all over Turkey, and with mass microfilm screenings, microscopic examinations made in regional laboratories, and BCG vaccination campaigns. These activities involved the collaboration of Universities with the Ministry of Health and various NGOs (Anğ et al. 1998) constituted core components of the successful Control Program. However in line with world trends by the 1970s interest in TB began to lapse. Successive Governments commenced to ignore TB in Turkey in parallel to this trend. Policy makers regarded the problem as well under control. TB scarcely appeared in scientific publications. Dr. Ferit Koçoğlu, former Director of the Department of TB Control, acting president of the Federation, describes this situation as follows:

> " In 1948, the National Anti-TB Association was established. The BCG campaigns were initiated in 1953. By 1960, mobile teams had stepped in every single village and got the local people tested. Right after getting the test results three days after the test application, they vaccinated everyone who tested ppd negative. Then, mass micro-film screenings had taken place. Everything was great, but then … I clearly remember a radio broadcast in 1974. It was the first news at something like 7 or 8 o'clock. The Ministry of Health declared that TB was fully under control. In my opinion, that was the watershed commencing the downturn trend in our National TB Control.[49]"

The 80's and 90's, in general, followed the same trend started in the early 1970s. There was only one research project conducted in 1982 and it aimed at measuring the prevalence of TB countrywide. Following this study, experts came to realize that figures indicating primary and secondary drug resistance were high, and there were still many problematic issues in diagnosis and treatment of TB in dispensaries. The findings were striking and read like a confession of a failure: "65% of total patients were not subjected to any bacteriological test; the treatment success was only 19% in new cases who were given a 9 month treatment regimen; no data was

[49] Ferit Koçoğlu, *interview by author*, field notes, Ankara, Turkey, 07 May 2005

collected concerning the treatment outcomes of the patients treated outside of anti-TB dispensaries" (Ulusal Tüberküloz Kontrol Programı Değerlendirme Raporu, 2004). In spite of the findings of this study, paralleling to loss of emphasis on TB, in 1983 the "General Directorate" of TB Control was downgraded to the status of a "Department" of TB Control in the MoH. Despite the fact that the vertical structure was preserved, this clearly indicated the lessening of TB control activities and the accompanying decrease in political commitment.

The decline in importance of tuberculosis for WHO was precipitate and demonstrable. The Expert Committee did not meet after 1974. Also, tuberculosis-related activities were reorganized under the general grouping of bacterial and viral diseases. This also meant that funding would be from a general pot, rather than specifically allocated as before. Coverage in Western media evaporated and policy-makers began to consider the disease under control. Research on TB was no longer being stressed in scientific publications (Shiffman et al. 2002: 229). Coupled with a general decline in the financial support given to bacterial and viral diseases by the WHO, this reorganization had serious consequences. A general decrease in medical interest in tuberculosis is demonstrated by the fact that no new drugs were introduced after Rifampicin in the late 1960s. The bacteriological tests for tuberculosis still used today date back to even earlier times50 (Farmer, 2001). The British Medical Research Council's Tuberculosis Unit, which had been founded in response to the public interest in TB, was disbanded in 1986 by Thatcher (Shiffman et al. 2002: 229). Its specialists, following a worldwide trend, largely joined the fight against smoking-related diseases. A sudden reduction in the number of journal articles

[50] One of the best examples, as Farmer concedes, is Ziehl-Neelsen smear test. It dates back almost 100 years and is insensitive as well as non-specific. He argues that no new anti-tuberculous agents have been developed in over thirty years. He points out the logic of "problem choice" in research and strong relation to the "purchasing power of the afflicted".

related to tuberculosis echoed the near-disappearance of tuberculosis related WHO files. As Walt reveals, the number of papers published on TB dropped to almost zero by 1990, and then began reappearing again (Walt, 1999: 71). Appearance of TB in WHO's own publications dwindled to almost nothing by the late 1980s. The disease disappeared from medical school curricula and the research programs of pharmaceutical companies. By the end of the decade, the WHO's entire staff for TB control and monitoring consisted of one person (Holme, 1988).

This palpable decline in interest in tuberculosis[51], perhaps, was related to a decline in the disease's prevalence. But whether this is true is very hard to ascertain for the very reason that documentation and observation of the disease was in such decline. Reported tuberculosis cases submitted to WHO were down in the late 1970s. From 134 countries reporting cases in 1970, 1979 saw this number practically halved to 61 countries. Karel Styblo, director of the IUATLD, suggests that this reflects several million unreported cases of the disease (Bloom et al. 1992). The only indicator to measure the incidence of infection remained the tuberculin test, which was now only sporadically applied. It was found in a number of cases that infection rates had both declined only slightly and exceedingly slowly (Bloom et al. 1992).

These findings were in fact supported by the research in Bangalore, which predicted that anti-tuberculosis drugs unsupported by social measures would not greatly effect transmission rates. In fact, new infectious cases of tuberculosis frequently were latent cases reawakened. A view that was foreseen by Stig Anderson, a WHO social epidemiologist, in 1963, that removal of a current number of infectious cases by chemotherapy would not greatly effect future caseloads.

[51] One of the outstanding evidences for this decline is the lack of interest in scientific publications. As Walt reveals, the number of papers published on TB dropped to almost zero, until 1990, and then began reappearing again (Walt, 1999: 71).

Furthermore, by the time patients submitted to treatment, they were usually past their most infectious stage and the further damage had mostly been done (Amrith, 2004).

Thus, it can be understood, that far from being rendered irrelevant by chemical advances, socio-economic conditions continued to play a huge role in the advancement of the disease: diet, living and working conditions and overcrowding continued to play their role in transmission. This was a fact only heightened by the emerging AIDS epidemic of the 1980s.

The situation reached dire proportions in the 1980s with economic crises and the decline of public health in both rich and poor nations. The AIDS epidemic added to the pressures on the system. Ultimately the reawakening of the threat of tuberculosis in the public mind came about as the result of the re-introduction of the disease in the wealthy West due to the emergence of drug-resistant strains. As death rates increased in New York and London where human life is of "more value", a renewed interest in the disease came about (Farmer, 2000). The New York Times wrote that drug-resistant tuberculosis was a "new scourge" and "on every continent and probably in every country[52]".

The WHO's 1996 report "Groups at Risk" finally recognized the tuberculosis epidemic, and stated bluntly that while many were still doomed to die from this disease, treatment had been available since 1952 that would make these deaths unnecessary (WHO, 1996). This was in effect a recognition that the policy for coping with tuberculosis had largely met with failure. As Dr. Michael Iseman, an American specialist, stated: "it is sufficiently shameful that 30 years after the recognition of the capacity of triple therapy[53] … tuberculosis prevalence rates for many nations remain unchanged" (Iseman cited in Farmer, 2001: 47). As a response

[52] October 23, 1997
[53] Combination of streptomycin, para-aminosalicylic acid (PAS) and isoniazid.

to this situation a new policy, DOTS, deriving from the Bangalore experience began to be championed by the WHO. This was the new wave in anti-tuberculosis strategy: An idea crafted in the past, and projected into the future.

History of DOTS

DOTS has been termed a health breakthrough, a management package that allows for the disease to be confronted in the most logical and encompassing manner. This fits with the understanding that tuberculosis control is one of the most cost-effective strategies in primary health care (World Bank, 1993). By reducing the prevalence of tuberculosis and thus interrupting the chain of transmission, DOTS is argued to lead to a decrease in the incidence of the disease. While curing the patient remains the foremost goal of the program, other benefits are expected to follow. Drug resistance is expected to decrease, relapse to be controlled, transmission slowed, and mortality rates to drop. A study shows that following the introduction of DOTS in China relapse, indeed, fell from 17.6 percent to 6.2 percent (CTC, 1996: 358). In an American study conducted between 1986 and 1992, primary drug resistance rates fell from 13 percent to 6.7 percent, when DOTS was substituted for unsupervised treatment (Weis et al. 1993).

Drug resistance is a major concern: no new anti-tuberculosis drugs have been produced for over 30 years. If the efficacy of Rifampicin is to be protected, vigilance is called for. As drug resistance grows out of poor delivery of treatment through national control programs, a system to overcome it is crucial. DOTS appears to have provided such a system. It is thought that direct observation of treatment in combination with other strategies can best prevent resistance from occurring. Other

strategies include properly trained health personnel, use of fixed dose combination tablets available in easy to use blister packs, and restriction of use to mycobacterial cases. Lastly, supplies need to be ordered to fit demand, so as not to flood the marketplace with the drug which, then, may be misused[54].

The idea of supervised treatment of tuberculosis emerged as early as in the 1840s with the sanatorium movement in Europe (Bryder, 1988; Davies, 1994). Mountain retreats offering a combination of therapeutic regimes with "good, clean air" as a necessary component became the consumptives' treatment of choice. Writing in 1904, an advocate of supervision maintained: "In the solution of the tuberculosis program, a plan of supervised home relief must play a chief part (Philip, 1904)."

The revelation of effective anti-tuberculosis drugs in the 1940s brought about a revolution is the management of the disease. Treatment by Streptomycin and later PAS was carried out under supervision in hospitals during the early days. Doctor compliance and the strict adherence to a set prescribed regime were the factors stressed for success of the treatment.

With the Madras Studies, the conclusion was reached that it is not necessary to hospitalize people in order to treat them for tuberculosis. A shift to out-patient drug therapy followed. The Bangalore Studies while largely backing the same conclusion stressed the need for a well-organized structure to assure compliance. This involved supervision of the drug administration on an out-patient basis. Wallace Fox of the Madras Center concluded that supervised treatment was both possible and necessary (Fox, 1962). Out of the Bangalore Studies came the formulative ideas that would later become the policy basis for DOTS. Unfortunately,

[54] A contradiction of all these basic principles is brought to mind by the recent over-use of Tamiflu in response to bird flu outbreaks

initially it was only the lack of need for hospitalization that was adopted into practice on most occasions while the equally important message of the need for supervised drug taking was largely ignored.

In the West there were isolated cases of supervision of drug administration being practiced. This was largely directed towards the individuals thought most likely to non-comply, despite the findings that showed the highly unpredictable nature of non-compliance (WHO, 1974).

We next see the theory of DOTS being addressed in the Expert Committee on Tuberculosis in 1974, which called for supervised administering of Streptomycin and Isoniazid – again, to assure compliance. But the next true breakthrough for DOTS came about through a program developed in Tanzania by Karel Styblo. This Tanzania Model involved short course chemotherapy regimes given under direct supervision. It was subsequently extended to other African nations (Hopewell, 2002). It involved hospitalization of the tuberculosis patients for the intensive stage of treatment. But the reasons behind this were significantly different from the days of the sanatorium as retreat. The object was to continue a regime under supervision to assure compliance until the patient was fully cured. After the emergence of AIDS and the huge increase in the incidence of tuberculosis that accompanied it, it no longer became feasible to hospitalize patients for the duration of treatment. However, the principle of the need for supervision of drug administration has been established in the health sector.

The lessons of the Tanzania Model, in particular, were adopted by WHO and form the underpinnings of the DOTS philosophy. It has been applied worldwide in various locations as varied as New York and China. Hence, the findings of the

Indian Studies, together with Tanzania experience fine-tuned in Africa and adopted by the West as policy form the basis of DOTS.

In some areas of the world, it must be acknowledged that DOTS has been less than successful. These examples also provide useful case studies to show the weaknesses and pitfalls attached to the DOTS strategy. In Russia and the former Soviet Union, despite adherence to DOTS, drug-resistant TB has reached epidemic proportions. (Garrett, 2002: 416). Particularly, the prison system in these regions has proved a breeding ground for TB. A report instigated by George Soros' Open Society Institute in October 1999, states that drug-resistant TB has already spread around the world, showing up in over one hundred nations. It concludes, "Had DOTS been established before the emergence of resistance to antituberculosis drugs, DOTS alone might have been sufficient for TB control". And it further points out, that MDR-TB remains, "as yet unchallenged by any coherent strategy" (Garrett, 2002: 418).

There has been a number of criticisms of the DOTS approach. DOTS theory has been attacked as a means of controlling patients since it has heavily relied on "patients' compliance". Some feel that it "criminalizes" the patient and demonstrates a lack of faith in the truthfulness and intelligence of the tuberculosis sufferer. In the beginning the coined concept was "patients' compliance". Then the "patients' adherence" gained popularity and replaced the former. Since the latter implied a bond between the patient and the health-care provider on the way to cure, emphasis shifted from the patient, to both parties. In this concept, the patient is not a passive and ineffective, on the contrary s/he has agency. And recently "concordance" has been introduced stressing the partnership of equals (Fox, 1997). It is true that, "poor adherence to lengthy tuberculosis treatment has always been a major issue in control

of the disease" (Mahendradthata et al. 2003). Although this may at times be true in that it reflects the isolated views of some health professionals, it is in essence an unfair accusation. Supervision may be viewed as support for the patient at a very difficult time. Some specialists have said that DOT is something more than just a mechanical procedure of dropping medication into a patient's mouth; it is a human bond between a patient and health worker, contributing to treatment success (Garner et al. 2003). By helping the patient adhere to the drug regime, chances for a successful cure are optimized. It is, of course, in the patient's interest that any drug therapy is carried out in as meticulous a way as possible. However, more flexible supervision methods tailored to the needs of individual patient would be more helpful in assuring adherence to the lengthy treatment.

A related criticism is that DOTS will put people off the public system and result in their finding expensive though ineffective treatment in the private sector. However, this particular issue depends on the structure of health care delivery of the countries. In Turkey, for instance, TB treatment in the private sector is estimated to be minimal.

DOTS has also been attacked for lack of success. But the available statistics indicate otherwise. A recent study in China has shown excellent cure rates in both Category 1 and Category 2 regimens. The cure rates were as follows: 94 percent for new patients, 80 percent for relapse patients and 79 percent for other retreatment patients (Cao et al. 1998: 360).

The last criticism is that there are simply better alternatives to DOTS. These alternatives fall broadly into two categories: socio-economic approach and alternate interventionist approach. The proponents of the socio-economic approach stress the need to alleviate poverty and improve living conditions in order to wipe out

tuberculosis. Of course there is a lot to agree with in this approach. Without eliminating the main source of the problem, other solutions remain palliative. The problem is the very scale and scope of the problem of poverty. It can neither so easily nor quickly be eradicated. In the meantime, tuberculosis sufferers must be offered the hope of a cure to their current predicament. Rene and Jean Dubois wrote in the "White Plague" that, based on observations, it must be concluded that rapid improvement of housing, diet and working conditions in the 19th century, led to the decline of the disease in the developed world (Dubois et al. 1996). While it is true that these factors do effect the prevalence of the disease, Dr. Styblo showed that a decline due to socio-economic factors is limited to four percent a year while effective chemotherapy improved this to 14 percent (ICMR Bulletin, 2001). While socio-economic development will inevitably bring results in the future, to ignore chemical intervention at this point in time would prove disastrous. A sub-category of this criticism is that we need to deal with air quality and the environment to improve respiratory health. This argument has minimal relevance to tuberculosis, except perhaps in artificial environments such as airplanes.

The alternate interventionist argument rests on vaccination and preventive[55] therapy. These other approaches have been shown by history to have a limited effect on controlling the disease. BCG, the main vaccination, while invaluable in preventing virulent infection in children, has little influence regarding overall control. It is preventive in children but has very limited, if no efficacy, in adults[56]. However, it is one of the most frequently used vaccines in the world, "given as one

[55] Preventive or prophylactic therapy is recommended for most people with a positive PPD test. Because of an increased risk of complications, it is not recommended for those who are over 35 years old. Close contacts of a patient with active TB should be offered preventive therapy if their risk of infection is considered high or there are concerns about their immune system. For further information please visit www.postgradmed.com/issues/2000/08_00/markwell.htm

[56] There is much debate revolving around the efficacy and the use of BCG for years. In Antalya Congress of Turkish Toracic Society in 2005, Jap Veen's comment was remarkable, in a way, putting an end to much of this debate: "BCG is like a religion; either you believe it or not!"

of the six vaccines in the WHO's expanded program of immunization" (Reichman, 2002: 32). Furthermore, studies are inconclusive about the BCG vaccination's true ability to protect from disease (Colditz et al. 1994). It, alone, is not enough to stem the tide of infection. Preventive therapy has also been limited in its ability to lower transmission rates. Best used in addition to a DOTS program, preventive therapy has had some good results in countries where TB control is integrated into an effective public health infrastructure. It has proven useful when dealing with HIV positive patients, as it has in protecting child contacts of infectious cases. Though, preventive therapy in these circumstances is not without logistical difficulties.

TB: The Global Picture

As mentioned earlier in 1993, WHO declared tuberculosis a global health emergency. This was actually to help the implementation of the DOTS initiative on global level. As tuberculosis again gained priority within the WHO, a renewed effort and increased funding resulted.

As short course drug therapy (6 months) replaced the older, longer regime, directly observed treatment became ever more feasible. So it was that the USA was able to increase the number of patients receiving DOTS from 4 percent in 1990 to 70 percent in 2000 (CDC, 1999). And as a result, saw the most rapid reduction in case rates since the introduction of modern chemotherapy in 1953.

DOTS coverage in developing nations received a boost as drug costs began to fall. The cost of an effective course of treatment fell from US$40-60 in 1991 to US$10-20 in 1998. However, there is still a funding shortfall, estimated at US$300

million a year to address the tuberculosis problem in low and middle-income countries (WHO, 2002b).

Still DOTS coverage continued to lag behind expectations in many countries. The WHO convened an ad hoc Committee on Tuberculosis Control in 1998 to explore the reasons why. The various reasons identified were: lack of political will, limited human resources, inadequate funding, poor organization and management, lack of anti-TB drugs, poor information dissemination, and lack of health sector reform. In response to these on-going problems the Stop TB Initiative was launched later the same year.

The funding issue has been going on-going. Certainly, "lessons from developed and developing countries show that financial resources are a key ingredient in controlling tuberculosis"(Mahendradthata et al. 2003). Many countries continue to report a funding shortfall.

In 1998 the Stop TB Initiative for Global Action was launched. At its heart lies the DOTS strategy. High quality DOTS expansion and enhancement projects are to be undertaken as part of the strategy for future control. The goal is to dramatically reduce the world tuberculosis problem by 2015 (reduce prevalence and death by 50% compared to 1990 rates). This calls for a sustained commitment by world governments. Part of this is, of course, adequate and sustained funding (WHO, 2005a). The Global Fund to Fight AIDS, Tuberculosis and Malaria was started in 2002. This opened the way to even greater coordination of funding in the fight against these infectious diseases. To date the Global Fund has committed US$7 billion in 136 countries. These invaluable initiatives can be seen as positive steps on the road to a brighter future wherein TB Control is not only globally enabled but also well-funded.

CHAPTER III

IMPLEMENTATION OF DOTS AS A NATIONAL STRATEGY IN TURKEY

At the end of year 2002 in response to the pressures of WHO, Turkey decided to take the necessary steps towards DOTS, the globally promoted strategy. Since this process is not well documented, I will be using a series of interviews with Turkish TB experts in an attempt to shed light on the successes and failures of this process as well as the reasons for them.

One important aspect of the Turkish DOTS experience that emerges from the interviews is the existence of a fundamental schism in the approach to DOTS among Turkish specialists. There are two camps with different approaches to TB treatment and control. The first group, the National Anti-TB Associations Federation, holds a more critical/conservative approach. The second group, The Turkish Thoracic Society, is more mindful of the WHO stipulations of DOTS and advocates their adoption with fewer reservations. That the tension or cleavage existed between these two groups prior to the adoption of DOTS is indisputable. But the DOTS experience has exacerbated this split and provides an ideal model for analysis of the implications of this ideological difference.

The Turkish DOTS story begins in 2000. During this process, WHO provided much technical but almost no financial support. " I think the process started back in 2000 with a training provided in DOTS strategy for provincial coordinators following the WHO modules[57]" says Dr. Lucica Ditiu, Medical Officer of WHO-Middle and Eastern Europe Region. In the late 2002, a team from WHO

[57] Lucica Ditiu, *interview by author*, field notes, Konya, Turkey, 17 November 2006.

came to visit Turkey "to assist the National TB Programme manager with the technical preparation for the TB pilot projects in Turkey"[58]. A chest diseases specialist of former Heybeliada Sanatorium Chest Diseases and Toracic Surgery Training and Research Hospital[59] and current Süreyyapaşa Chest Diseases and Thoracic/Cardiac Surgery Training and Research Hospital[60] continues;

> "Dr. Codecasa and Dr. Migliori were part of the team. They visited Aydin, Izmir, Samsun, Ankara, and Istanbul. These cities were selected on the basis of total population, number of TB patients, laboratory network and conditions. For 10 days or so, they observed and took notes of general infrastructure, got in touch with physicians and politicians and conducted essential training on DOTS. Before they left, Turkey was told that every year a team from WHO would come to follow up the developments. Until Dr. Colombani's visit at the end of 2004, nobody from WHO showed up for this purpose. Even we heard that the original WHO team was excluded from this second mission.[61]"

Following the visit and the basic training programs on DOTS held in 2002, four pilot dispensaries were chosen. These were Nazilli, Izmir-Eşrefpaşa and two dispensaries in Samsun[62]. From 2003 onwards, DOTS commenced to be applied in these dispensaries. Between 1-8 December 2004, Dr. Pierpaolo de Colombani, medical officer from the WHO-Copenhagen accompanied by the WHO Turkey Liason Officer made a round trip to Ankara, Aydın, Nazilli and Samsun to follow up on the work going on in the pilot dispensaries. He prepared a travel report containing essential country data and discussing the advantages and disadvantages of the existing Turkish health system and infrastructure with respect to the implementation of DOTS. It appears that Dr. Colombani also requested an NTP (National Tuberculosis Program) review but the Director of the Department of Tuberculosis Control (DTC) at the Ministry of Health did not pay attention at this time. The Acting Director took this issue seriously and at last, the NTP Review was

[58] Euro-travel report summary-2002: p. 1. (unpublished).
[59] Hereinafter referred to as "Heybeliada Sanatorium" to ease reading.
[60] Hereinafter referred to as "Süreyyapaşa Hospital" to ease reading.
[61] The complete list of Turkish interviewees are presented in the appendix 1.
[62] These dispensaries were chosen as the pilot locations for implementing DOTS as of 01.01.2003. As a second pilot area, Ankara, Van, Antalya and one more dispensary in the south-eastern part of Turkey was planned to be started on 01.07.2003 but this plan was not realized (ibid; p.3).

conducted in the first half of 2006 with the efforts of a dual team staffed both from the WHO and from Turkish TB experts, and it proved to be a major agenda setting exercise.

Between 2002-2006 the DTC organized several meetings in which a number of NGOs and occupational institutions working in the realm of TB came together to address issues of concern and to exchange ideas mostly through furious debates. Great effort was devoted to standardizing bacteriological diagnosis through sputum-smear microscopy, treatment protocols and the monitoring/reporting forms countrywide in accordance with those used in every country implementing the DOTS strategy. A whole series of health staff training activities took place in different settings (mainly in Nazilli district) to raise awareness of the new program components. A wide spectrum of health workers updated their knowledge on TB as an infectious disease and came to understand the perils of interrupted and unsupervised therapy. The recording and reporting system were ameliorated allowing analysis and comparison of outcomes, which were very problematic, if not "chaotic", prior to the DOTS period. However no serious attempt was made in order to develop the insufficient bacteriology structure and quality assured microscopy network. More importantly, the government did not endeavor to integrate TB services into the existing primary health care system, which is required as a core part of "political commitment". In Turkey, TB control and primary health care services operate as separate entities. Therefore, no dispensary or chest hospital could refer TB patients to *sağlık ocakları* (health centers) for follow up. This is of importance particularly from the patients' perspective since regardless of where he/she lives there is at least one health center in the locality nearby which would be easily reachable.

The four pilots were proved to be successful with respect to "cure" rates. Nevertheless, outstanding treatment results of these dispensaries did not lead to a countrywide expansion of the DOTS program in the following years. DOTS coverage was still 3% of the total general population in year 2004 (WHO brief, 2005) and only a little more in 2005. Several incremental unorganized voluntary practices[63] did not change the overall picture until mid 2006. In the WHO Turkey Liason Officer's view "DOTS has been regarded as a 'light' package by Turkish TB specialists and politicians. It has been considered 'superficial and simple'. It was not taken seriously". Right after the joint WHO/ DTC National Tuberculosis Program (NTP) review, (though before the final draft was penned) Turkey adopted DOTS as a National Tuberculosis Program in mid 2006, and officially oriented its policy towards "globally" defined targets of finding 70% of existent cases and curing 85% of patients with active tuberculosis. The NTP review could be regarded as a watershed for DOTS in Turkey and the first systematic effort to document the strengths and weaknesses of the NTP. It appears to be generated a political momentum and the newly appointed Director of the DTC took the relevant criticism positively, but one needs time to assess its implementation.

DOTS: Proponents and Opponents

The efforts to implement DOTS in Turkey have brought to light the schism in ideology that underlies health care generally. The divide between proponents of public health and those of clinical approaches to health care is felt in every area of the health field. It combines with other considerations both philosophical and practical to

[63] Some dispensaries wanted to take part in the process voluntarily. Also, the involvement of the Istanbul Chamber of Pharmacists in facilitating DOT applications could be mentioned in this context.

result in "camps" being formed and the "other" being designated the enemy. The reactions to DOTS initiative exemplify this division and expose its hidden contradictions. The public health approach has been historically battling the richer, more influential established world of big medicine. This schism needs to be examined in the context of Turkish TB control. The Turkish MoH has lately favored neo-liberal policies as opposed to a socialized approach to medicine. This bias has influenced and informed all aspects of health care and most definitely TB control. How this schism has manifested and how it can be reconciled, then, forms the basis of the research carried out here.

In this part, I will explore exactly how DOTS was received by different groups working in Turkish TB circles. Consideration of their arguments and assumptions would be helpful insofar as they let us see the grounds for consensus and disagreement; where internal conflict, tensions, dissent and power relations exist between different groups in the Turkish TB realm. To this end, I will discuss each major consideration that has emerged from the interviews, and examine it in the light of what it implies for TB control in Turkey. Many of the conclusions are more broadly applicable to the Health care system in Turkey generally. All provide a chance to examine successes and failures in the system and, perhaps, even lead to some proposals for future improvement.

There are two main NGOs politically influential through advocacy and lobbying. The first one is the National Anti-TB Associations Federation[64]. It is an umbrella under which the majority of Anti-TB Associations (mostly the ones officially registered as "tax exempt") are affiliated. It represents the conservative

[64] For further information please visit http://www.verem.org.tr/tarihce.php.

and overwhelmingly nationalist (ulusalcı[65]) wing. The average age of this group's membership is comparatively high. Among them, especially on their social committee, are several members who are old enough to have a profound, and largely firsthand, knowledge of every aspect of historical Turkish TB Control activities. They still tend to hold with the "war against TB" spirit. The majority of these people were active then and are still so since they are deeply attached to this issue on the grounds of "national responsibility" as fostered by the Republican administration[66]. They are skeptical of novelties as they do not want to see the status quo challenged. The Federation is closer to the State[67] and receives personnel support and annual financial contribution[68]. The second NGO, the Turkish Toracic Society[69] (TTS) on the other hand, is a non-profit vocational institution founded in 1992. Mainly chest specialists, thoracic surgeons and pediatric pulmonologists but also pathologists, radiologists, specialists in infectious diseases, practitioners working for dispensaries, nurses and health workers working in pulmonary and/or infectious diseases constitute their member profile. They have many different working groups one of which is the "TB working group". They are more "science" oriented, more open-minded and forward thinking and more connected to the "global TB circles" as its members regularly attend national and international congresses and conferences.

Most of the physicians are members of both of these NGOs. However, if he/she is more active in the Federation, then he/she is more likely to be considered the "other" from the Toracic Society's perspective. It is so overt that, one physician

[65] Ulusalcılık is a kind of nationalism of people holding left-wing stance and deeply attached to Kemalist Republican values.
[66] It is noteworthy that ulusalcı TB doctors in the ethical board of Yedikule Chest Diseases and Toracic Surgery Training and Research Hospital did not accept Harvard's proposal on the grounds that there was a mention of "Kurdish" and "religious community" in it.
[67] Even an undersecretary (Dr. Cihanser Erel) was among their board members in 2005.
[68] It is very limited though. The former Director of the Department of TB Control, said that they "… have contributed only 300 billion TL. Federation's total budget was 7 trillion TL. in 2004".
[69] For further information please visit http://www.toraks.org.tr/en/

in his forties, an active member in the TTS, even described "others" as the "federation gang" since the Federation is seen to be the main hurdle or source of resistance to the modern "control" program. Sometimes their internal conflicts reach to the point of "hostility". He exemplified this case as follows:

> " After I returned from a training program on DOTS, I have made a short report, attached a media coverage and sent it to the attention of Mr. Kochi, the main architect of DOTS program in the WHO. I forgot to cc the report to Federation people and DTC. Kochi sent me a reply putting cc to these people. They came to realize that I have sent a report without informing them. They accused me of being a traitor. In their eyes, any kind of lobbying on DOTS is like a betrayal to your country ".

On the other hand, many members of the Federation consider the Toracic Society's approach as "straightforward and naïve. Their proposals are not appropriate in the Turkish context. TTS think as if DOTS is something sacred. Yet they prove cure through saliva".

An examination of the basic tenets in the difference between the two groups in their approach to dealing with tuberculosis will help us appreciate the fundamental difference in their approach to health in general. The first tension between these two groups is rooted in the conceptions of "war" vs. "control". These terms are not quite compatible. The Federation still advocates the logic of "war". In their ideological approach, it is the most common metaphor and it emphasizes, authority, discipline in eradicating health problems, as well as total commitment in the task. They hold a more paternalistic approach to medicine. War, in their view, denotes:

> " …war-like discipline in the struggle. There are predefined rules to be obeyed strictly, without questioning. This metaphor is also internalized by the general public. Everyone understands what it implies".

Or, this war connotes:

> " … a long-lasting struggle. It is just like a war in many aspects; war against the bacilli, war against the system. … It is even a war against the uncooperative patients".

TTS is in favor of the concept of "control" and associates the term with a modern and rational approach to health issues. Meaning that there are clearly

defined operations and procedures to deal with TB. Moreover, control as opposed to war thus, implies to this group a rational association between the doctor and the patient whereby clearly defined steps are undertaken as the patient under the guidance of the doctor on the basis of shared knowledge of the risks. A young associate professor working for Süreyyapaşa Hospital and an active member of TTS articulates this view appositionally from that of war;

> "We, as the TTS, prefer to name it 'control" since it is a systematical effort in which you know what and when to do, rather than 'war' in which you have no clue about what to do, when or where to do, in other words, it remains an unsystematic approach. War recalls chaos, disorder, and confusion. What we are talking about is orderly and systematic interventions. These are modern approaches. The paradigm back then was 'war'. They did not know what control is all about. Do this, do that as well, but 'with all your heart'. That's why they use drama-queen like attitudes."

In the Annual Congress of TTS in 2005, one presenter pointed out that the "war" era was over. He made his remark with a word play: "make love, not war with TB". In Federation's Congress in 2005, another presenter from TTS started his speech showing a slide of a caricature to the audience. It read: "We put an end our war against TB and declared peace".

From these comments we might simply draw the conclusion that professional rivalry plays a great role in the conflict. And this would be hard to deny. However, the ideological difference defined here is real and shows a fundamental philosophical disparity. One important implication of this how far health should be seen as a process, which is "imposed" upon the patient. In other times and places, TB treatment has been coercive and truly represented a kind of "war" perpetrated on the sufferer. More recently, this coercion has given way to a call for cooperation, coupled with a less adversarial approach to the patient. This kinder approach is closer to the philosophy embodied by DOTS, which requires the patient to be an active part of the therapeutic process.

The same tension exists between these two groups regarding the concept of what we may name as "total commitment", "dedication" or "self-sacrifice". As seen above, the history of TB Control originated in and flourished through voluntary action. Charismatic physicians with a group of dedicated volunteers from various backgrounds ready to sacrifice themselves in the name of the nation in various regions initiated the battle in Turkey, in parallel to others in the world. Theoretically this, "total commitment" or "sense of charity/philanthropy and dedication" has had a role to play in TB-related activities for people involved in this struggle regardless of whether they were professionals or not. The Federation part precisely emphasizes this concept considering the history "when TB control was mainly based on BCG vaccination and mass screening campaigns countrywide". In the actual practice the reasoning behind this varies depending upon who you speak to.

One reasoning is that TB was and still is one of the well-known social diseases and even its pathogenesis is intertwined with socio-economic conditions such as poverty, sub-standard housing, malnourishment, and the like. It is apparent, therefore, that *mycobacterium tuberculosis* is not the sole agent to be dealt with. "Social support" constitutes an essential part concomitant to medical interventions. Therefore TB doctors and health workers assess the patient within his/her surrounding. This requires hard and broad-based work compared to other fields, in which doctors expect no extra gain in terms of material interest.

The other reasoning, in blunt terms, is that conventional clinical medicine emphasizes "cure" instead of "care". When a patient goes to see a doctor, normally the physician's task ends after writing the prescription. At the end of the estimated treatment period, the patient is required to come back at most for one more check. But this is not the case at all for TB. In the long lasting treatment (ironically it is

named "short-course" denoting 6 to 8 months), care is a necessary and indispensable part of attaining sustainable "cure" rates. While doing this, physicians, health workers and patients become closer and get to know each other well. During this treatment period doctors should be patient, persistent and also remain, in a way, totally committed to their work to ensure that treatment is followed up to the end.

Another reason why physicians try to remain totally committed, stems from the fact that TB is not a "popular" disease any more[70]. The media, in general, do not publish series on and success stories of TB as it does for cancer, for instance[71]. A few lines appear only during TB week and on World TB day[72]. And, truly, the incidence is not alarming, HIV/AIDS[73] is not an emerging problem and MDR and/or XDR-TB levels are not critical[74]. Therefore the relative lack of prestige of "TB doctors" leads to low recruitment; lack of decent payment, low share from revolving funds[75] and limited incentives in the public sector which leads to less time allocated for health services. In general, practitioners appointed in anti-TB dispensaries consider the post "temporary" and spend their times working for the *Tıp Uzmanlık Sınavı* (Medical Specialization Exam) with the aim of leaving the place as soon as possible. Hospital beds allocated for TB patients are decreasing since "TB patients are not productive" in the existing revolving funds logic, in an eminent TB professor's words. The majority of practitioners hold some other jobs (i.e.

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[70] It is worth mentioning an interesting comment made by Dr. Ortakaya during the Istanbul TB Congress in 1988: "My people would like to develop cancer. Because we all know that cancer is a contemporary/modern disease. We do not want to develop tuberculosis because it is an anachronic disease that we are ashamed of. We want to be "modern" even with our diseases" (Hatun, 2002: 148).
[71] When we google *kanser* (cancer) 3,520,000 results are given. When googling *tüberküloz* (tuberculosis) there are only 341,000.
[72] Joint Press Conference of DTC and TTS on March the 23rd this year hosted only two journalists.
[73] In a study run by MoH covering the period of 01.10.1985-31.12.2006, only 2,544 HIV/AIDS patients were reported within the whole country (please see the distribution in the appendix 2). Last year, even WHO team came to admit that HIV/AIDS is not a big issue in Turkey.
[74] In fact there is no accurate data on the incidence rate of MDR and XDR-TB countrywide. There are only estimations and speculations.
[75] Revolving funds, in blunt terms, mean that doctors are reimbursed according to their billables. It is an incremental income on top of their salaries.

factory/work place doctor/medical examiner) to supplement their living. Therefore, if one lacks the sense of dedication and commitment, practice in the area of TB is "unbearable". A former board member of the Istanbul Anti-TB Association and a specialist in chest diseases working for Yedikule Chest Diseases and Thoracic Surgery Training and Research Hospital[76], emphasizes the role of total commitment in the practice:

> " Treatment is long-lasting. It is a social disease, an infectious disease. After 20 days of treatment, patients start to feel better and want to quit. Drugs have painful side-effects and these make patients feel irritated. There is a common belief that if one eats well and takes care of him/herself, he/she will recover without taking drugs. Moreover, there are Turkish movies misinforming in many ways about TB. We had to go into the family, talk to them about the dangers of irregular drug intake. We focus on women in particular in the family; wife, mother, or sister sometimes threatening them with 'if you do not follow the patient's drug intake even your children could pass away'. You have to cope with all these as a doctor. … I am also working for Istanbul Anti-TB Association as a board member. For these reasons, before hiring a doctor for our dispensary, we always ask whether he/she also considers this job in the voluntary sense. Dedication/total commitment is really important".

This approach is understandable and also valuable. Nevertheless, total commitment has negative consequences as well. This concept is used to obscure some failures, unprofessional practice or offer "pretexts/excuses" to ongoing delays or disruptions. It prioritizes "faith" over a systematic approach. Success, in general, equals the success of an individual doctor and is dependant on his/her dedication, enthusiasm, commitment and sometimes even sacrifice. This supposed "dedication" is of value, but it sometimes blocks progress and prevents questioning. Moreover, it is independent of the general system and dependent upon a single person. If particular he/she is good, the outcome is good, too.

Many doctors in the TTS accept total commitment as " but one aspect" or "a minor issues". They assert that there are far more important considerations in TB control, if our concern is a well-running and efficient system. The overall success or failure should not be dependent on the successes or failures of individuals. There

[76] Hereinafter referred to as "Yedikule Hospital" to ease reading.

should be clearly defined interventions and targets. In a young associate professor's words:

> "Dedication is a kind of masturbation. As you have noticed, in our 'scientific meetings' presenters with tears in their eyes get the loudest applause from the audience when they raise irrelevant issues. 'I embraced the patient this way, I even combed his/her hair, I worked hard despite our computers being stolen. The treatment outcomes are not satisfactory but we are dedicated, they are volunteers. No, they are not volunteers. They are expected to be professionals in the first place. OK, do whatever you do with a smile on your face but nothing more is needed. 'We have to encourage our friends, we have to encourage them to work with all their hearts. They are an army of volunteers'. No, this is not the way. Maybe it was the case in the past but not today. We have to talk through epidemiological targets, through indicators."

While we see the stress put upon this idea of total commitment by the members of the Federation, the TTS members tend to be more skeptical of its value it and often view it as a means to self-aggrandizement on the part of those who espouse it. Two issues emerge, one being the question of sincerity with regard to the concept of "total commitment" and the second, being whether it is the right approach at all or whether adequate funding and recompense are called for to replace this need for self-sacrifice.

There appears to be a certain tendency to lose sight of the immediate health goals in favor of grandstanding. If doctors are focusing their work on self-aggrandizement, then the field will suffer the consequences. There seems to be a general consensus that too much energy is being spent on "advertising" and not enough energy being spent on the more science oriented approach to actual control strategies.

This problem also explains a few voluntary attempts at DOT in dispensaries in some areas of Istanbul initiated in good-will but ended in disappointment. One of these attempts was the involvement of the Istanbul Chamber of Pharmacists in DOT follow up through a spontaneous initiative set up by the board of directors of Istanbul Anti-TB Association. Mainly in and around Taksim but also in other localities of

Istanbul, pharmacies contributed voluntarily to DOT application run by dispensaries. Dispensaries started to apply DOT voluntarily as well and directed their patients to the agreed pharmacies in the closer neighborhoods of the patients' habitual residence. Pharmacists observed and recorded the drug intake and informed the dispensaries in charge. However, the lack of a "binding" agreement or law made pharmacies reluctant to follow up after a short while. It became clear that unless these attempts are backed by political commitment, voluntary attempts do not lead to systematic and coherent interventions.

Keeping in mind these different ideological currents in approach to TB among health practitioners, we can now turn to our examination of Turkey's readiness for DOTS.

The Reception of DOTS in the Turkish TB Community

In this part, I will present the basis of argumentation of these two groups, either for or against, concerning each of the DOTS components. To recap, the strategy is divided into five components: political commitment, diagnosis through sputum smear (SS) microscopy, short-course chemotherapy using DOT, an uninterrupted supply of drugs, and finally, a reliable recording and reporting system.

First of all, whether political commitment exists, as DOTS strategy requires, is a fertile ground for debate. The Federation side claims that since the 1940s Turkey has had the political commitment to combat TB.

> "Let's have a look. There is a National TB Control Program run by The Department of TB Control under the MoH dating back to the 1940s. There is a separate annual budget allocated to TB Control[77]. There is a national guideline encompassing diagnostic and

[77] Every single physician, regardless of his/her standing, admits that allocated budget is more than enough. The only problem is its distribution. It is not effective. "65 to 70% of total budget goes to personnel salaries. The rest is for procurement of drugs, stuff and equipment, travel allowances and

> treatment procedures to be followed. There is sufficient infrastructure, a bacteriological network. There is centralized drug procurement and regular distribution. We have eminent experts dedicated to combat this dreadful disease. So what else is the political commitment?"

Former Medical Director of Heybeliada Sanatorium and the current president of Istanbul Anti-TB Association, a retired chest physician in his late seventies:

> "What is this political commitment thing? There are not many countries in the world that know TB better than us. Look at our history. We had both field experience and technology and science. We are the ones who achieved the "Turkish Miracle". We have a proud heritage of TB Control. We used to diagnose patients with TB as soon as we heard their coughs or even from the way they smell. We are far more superior than the majority. Is WHO aware of our experience? Did they ask our opinions or use our expertise before launching this strategy? Of course we have political commitment."

From the point of view of the doctors of the TTS, quite the contrary situation exists. "A bit of" everything does not translate into "political commitment". According to their view, health policy in Turkey with respect to TB is rather chaotic particularly due to the "health transformation program", which will be discussed later. Nobody knows what will happen. The future of the TB Control program and even the future of dispensaries are blurred. In an associate professor's words:

> "Political commitment refers to a nationwide, well running control program. It implies that TB is prioritized on the health agenda. In year 2002, four dispensaries were picked as pilots. The method of their selection was also problematic[78]. Anyway, from 2002 onwards nothing was done. No expansion plan was prepared. We cannot count several voluntary attempts. No scientific indicators were taken into account. No step was taken seriously to integrate primary health care services in the system. 60% of our patients are diagnosed and take the initial phase of therapy in the secondary or the tertiary step[79]. Nothing was done in order to improve the quality of the bacteriological network as well as its efficiency. We lack control and coordination. We even failed to get an appointment from the Minister for two years. Is this political commitment?"

The issue of political commitment has been a source of furious debates between the parties. In one of the doctors words "sometimes it turned out to be a

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utilities. For instance, there is no budget allocated for training activities" explains Dr. Emel Kibaroğlu. Please see the DTC's budget through years in the appendix 3.

[78] Interestingly enough, one of my interviewees told me that Samsun dispensaries insisted to be chosen claiming that "Atatürk's footsteps in Samsun initiated our War of Independence" and they wanted to initiate the new war.

[79] Stepwise approach in Turkish health system is as follows: Primary health care is given through health centers, mother and child care (AÇSAP) centers and dispensaries. Secondary step is hospitals. Tertiary step is university and training hospitals. This works through referral system.

schizophrenic debate". The reluctance of government to integrate TB services into the existing primary health care system appeared to be the focus of criticism. A prominent professor and respected figure in Turkish TB circles, was even accused of being "revisionist" since he personally initiated DOT, voluntarily, in a few Istanbul dispensaries after signing a protocol with the Istanbul Chamber of Pharmacists. His effort was regarded by the majority of TTS people, as a waste of time and to a certain extent as an action obscuring the lack of political commitment and hence, delaying the overall process.

The critical/conservative wing admits that there are problems in National TB Control. Nevertheless, they claim that a solution lies in taking some measures and making some adjustments, "there is no need to discover America again". Instead, they recommend that a number of improvements be made in the existing system to make it function more effectively. The number and location of dispensaries should be reorganized according to the number of the patients in the locality; some of them should be closed down, and new ones should be opened in highly populated areas such as large cities, particularly in Istanbul[80]. The motivation of the staff should be raised through promotion mechanisms. The unfair practice of revolving funds should be corrected. The overall quality of the laboratory network should be enhanced. Coordination and regular control should be integrated into the prevailing structure.

However, many in the TTS, did not consider making improvements in the existing system sufficient in dealing with TB, but advocated a complete shift to DOTS. To them, DOTS symbolized a rupture with the "outdated past" and the

[80] Istanbul necessitates more dispensaries since the TB burden in the city is extremely high (see Kilicaslan et al. 2003). On the other hand, however, I have met a practitioner from Muş in a training session in Nazilli in year 2005. She said that there were 3 physicians one of who was a chest specialist working for Muş dispensary where the total number of TB patients this year were only 7.

opening up of a new era with new players in TB Control. Resistance to DOTS was seen as resistance to a "new method", namely to a more "systematic" approach. In a similar vein, one doctor in Istanbul, known as an MDR-TB specialist, came up with the radical idea: "the existing so called system should be abolished. We have to start from scratch in order to apply DOTS properly".

The issue of whether to improve the existing system of TB control or to adopt DOTS as a major policy initiative appears to be related to different understandings of the rationale underlying the global DOTS initiative. Turkey's slow-moving, if not complete lack of progress, in the expansion led many physicians to believe only DOT was being applied. DOTS was meant to be five components applied all at once. Therefore, even in the four pilot dispensaries all we can talk about was DOT, not DOTS as a strategy.

The Department of TB Control announced that DOTS would be adopted as the national strategy of Turkey as of the second half of year 2006. This declaration put an end to the debate over particulars, however it could not erase the question marks about whether it was a timely decision, whether Turkey was ready to implement the required actions properly.

If we look at whether the material needs for the implementation of DOTS are being met in Turkey, we have to consider whether access to the Tuberculosis Control Program is wide enough and whether it is supported by adequate supplies of drugs and reliable laboratory work. Coverage is generally deemed adequate in Turkey and drug supplies are assured. Thus, the two problems regularly encountered in many places are avoided. But the lab work that supports DOTS – that is, sputum smear microscopy – is more problematic.

In the International Union Against Tuberculosis and Lung Diseases' Congress in 2005, *Médecins Sans Frontières* people distributed several hand-outs under the concept of "scratch to win". The one related to the sputum smear (SS) test begins with a question: "We have the tools to effectively treat TB … Or do we"? When you scratch the box down below "Are you a winner?" remark it reads: "Sorry, you have at least 50% chance of being a loser. Developed in 1882, sputum smear microscopy only detects TB in about half of all people with the disease. Children and people living with HIV/AIDS are even less likely to get lucky." Although the efficiency of sputum smear microscopy is disputable, this component is still considered an indispensable part of the strategy on the grounds that it is simple, easy and cost-effective. Disturbingly, it is often the lab work, the inadequacy of microscopic diagnosis or, the unreliability and low quality of lab work in support of DOTS that causes the biggest material "hurdle" to its successful implementation.

A number of SS tests are needed in every course of the therapy; in the beginning for examination and diagnostic purposes to judge bacillary status, in the middle to look at conversion, and in the end to close the patient's file with "cure". Particularly in the end, patients mostly get stressed when they are required to give sputum samples again. It is partly because they do not get sputum any more when they cough[81]. However, this is not an excuse for not taking sputum. A very well known proponent of DOTS, a chest diseases specialist and medical director in Nazilli pilot dispensary advocates SS test and contends that "there are no patients who are not able to giving sputum samples, but doctors who are not able to take sputum from the patients. It depends on the degree of patient-doctor dialogue". "Cure" strictly requires SS at the end of treatment. Otherwise the outcome would be "treatment

[81] Often at the end of the therapy, the cough is not productive any more.

completion[82]" regardless of whether the patient is recovered (in other words cured) or not.

SS test is but the first step. DOTS also requires a well-running and quality assured laboratory network. TB laboratory services necessitate improvement. The areas requiring special attention include national reference laboratories and external quality assurance for all laboratories. Late in 2006, a few important steps were taken in order to ameliorate and strengthen the existing structure. For instance the inauguration of the well equipped Bakırköy City Tuberculosis Laboratory on August the 24th, 2006 could be considered a move forward in this regard. However, there is still a long way to go in order to assure overall quality and reliability.

Moreover, in Turkish TB circles there is a certain reaction against DOTS based on the accumulated experience of Turkey with TB and a tendency to regard it as a package designed for countries with no such experience. The majority of TB doctors, particularly those who are working the Federation, have a skeptical and conservative tendency towards such a simplistic global package. DOTS, in their view, is "backwards"; designed for resource-poor settings mainly in third world countries. They contend that Turkey had, and still has, a far better system backed by more advanced technology in comparison to what is appropriate for DOTS. The sputum-smear part attracts the most criticism.

With respect to laboratory infrastructure and expertise, one physician expresses himself as follows:

> "We have culture tests, we do have advanced screening opportunities, we do have drug sensitivity testing. We are a rich country. Why do we have to stick with sputum-smear microscopy as an only diagnostic tool and do not perform others? It is ridiculous. If you have a resource and technical capability, why not use them? Besides, we can conduct contact tracing and chemoprophylaxis. Why should we forget all of these? … We have sent a

[82] These categories, in a way, are confusing. "Treatment success" is more likely to be referred to as far as national data is concerned. It is the sum of "treatment completion" and "cure" rates. DOTS requires a "cure" rate of 85% minimum which is far above what is seen in Turkey. However, when we talk about "treatment success", it is very close to target.

> colleague to India in recent years. He went there to get to know the practice of DOTS. Now, he thinks that we are like India. They, in India, even integrated community people in the system. We do not need to do this. We should have also sent him to the States."

Moreover, according to the old guard of the Federation, since Turkey has a remarkable history in the battle against TB, there are eminent experts with long years of experience and enough human resources that are quite capable of dealing with this particular disease in Turkey more so than in any other country. They take a reactionary position since they feel, in a way, inadequate and challenged by "a brand new practice" in which their crystallized knowledge and accumulated experience through years are disregarded.

> "This strategy was tailored mainly for Africa where TB burden is high and AIDS is pandemic. There are not separate TB Control programs in the majority of African Countries. No infrastructure. This could work well in those countries. Despite DOTS, as a matter of fact, the total incidence in the African continent was and still is increasing. But we have to design our system according to our expertise and standards."

The resistance arises partly because the doctors in Turkey, with very few exceptions, have been trained with the focus and emphasis on clinical medicine. The DOTS approach, standardizing and simplifying clinical and laboratory work and expanding the number of patients to be served, is a very limiting approach for a physician. This simplified approach made specialists the most irritated. Dr. Dermot Maher, from WHO warned the Turkish TB community: "the most difficult part of DOTS is the combat with the inflated egos of specialists". This is also the situation as far as case management is concerned. For instance, although the prescribed duration of therapy for drug-susceptible TB is 6 to 8 months according to DOTS, 9 months therapy[83] is preferred by many doctors, particularly by those who are working for provincial dispensaries, based on their "traditional" approach, or simply

[83] One of my informants explained this case giving many examples.

out of "choice". They still hold on to the "belief" that 9-months long therapy is better for patients

In addition to availability of human and technical resources, a critical issue in the DOTS program is patients' adherence. Are patients complying with the long course of treatment required of them? This is one of the central pillars of the DOTS strategy: directly observed therapy (DOT), or observation of patient's daily drug intake by medical personnel, health workers, or non-family volunteers at least for the initial phase of treatment. The reasoning behind DOT is the fact that the duration of treatment is long and patients tend to feel better directly after a few days of treatment (Styblo et al. 1993) and are, as a result, likely to give up taking medications or leave the treatment prematurely. Also important are the taste and toxicity of the anti-tb drugs. Required daily doses translate into quite a number of pills with a bitter taste. They are also difficult to swallow. Moreover side-effects of the drugs should be observed closely. Persistent side-effects can lead to modification in drug regimens. Many studies on DOTS have demonstrated that under the right conditions, the approach can bring treatment completion rates for pulmonary TB in excess of 90%, particularly when linked to incentives and enablers[84]; less intensive, non-supervised or self-supervised therapies have not been able to show similar completion rates.

Although DOT is one of the most important components of the strategy, it is *per se* not the entire philosophy behind it. Confusion between DOT and DOTS causes great miscommunication[85]. DOT is but one element in the overall strategy. However, most of the physicians assume that this is the core of overall strategy and

[84] Incentives are "small rewards" that encourage patients to complete treatment by motivating them with something they want or need. These can be bus tickets, taxi service, food, clothing, juice boxes, milk bottles, gift cards, etc. Enablers, on the other hand, help patients overcome barriers to completing their TB treatment.

[85] I witnessed a great deal of tension on this issue in many meetings. For instance a group of doctors claimed that what we were talking about was DOT, not DOTS, even in the 4 pilot dispensaries. For the others, it was the opposite. Once, both parties asked for the mediation of the WHO Medical Officer to resolve the conflict.

success or failure in the implementation is heavily reliant on this particular component.

As seen, the overall strategy is heavily reliant on patients' adherence to prescribed therapy. In other words, the patient himself/herself can become a potential threat to the success in therapy and cure for the afore mentioned reasons. Therefore, a doctor or a health worker should make sure that the patient has swallowed all the drugs in front of his/her eyes and drug intake should be recorded every single day, at least during the initial phase of treatment.

The degree of success in patients' adherence in Turkey needs to be examined, particularly in light of the resistance by physicians to DOT. In the view of the Federation, "WHO was making too much of a fuss out of DOT":

> "We have been observing our patients since the 1950s. Now we call it DOT. We have visited them on a "door to door" basis. Today it is not that simple. … It is even hard for us to get them [patients] here every week to hand over their medications, let alone everyday. We have many dispensaries that do not have a vehicle. How can you go and convince someone to take time off from his/her work and come to the dispensary every single day? Besides, you can make him/her swallow the drugs here, but he/she can go out and vomit. How do you know? No, you cannot control everything and it is not practical anyway".

According to the view of the medical director of the Şişli Anti-TB dispensary's; "DOT should not be imposed on every patient. It should be applied with problematic cases and patients with special conditions". Similar concerns exist for the majority of doctors working for anti-TB dispensaries. They are, also, skeptical mainly on the grounds that it increases the work-load of both the doctors and staff. The implications of these views for the overall success of implementing DOTS in Turkey cannot be overstated.

Those that are arguing for DOTS, however, approach the patient's adherence issue in terms of making the patient a part of the treatment process, rather than a passive recipient of medical knowledge. The director of the DTC expressed this

view at the 24th National Tuberculosis and Chest Diseases Congress[86] of the Federation: "through DOT the patient receives respect. We performed DOT on a patient within the building of the MoH. Thanks to this live experience, our ministry came to understand the benefits". Hence the MoH approach views direct supervision not in terms of its burdens on providers and patients, but rather a progressive and enlightened step.

The drug supply for National TB control is ensured through centralized procurement from national manufacturers and distribution to provinces. Everyone agrees that central procurement of drugs and uninterrupted supply has been achieved for years. In the past, a few shortages in BCG vaccine and drug supply (particularly second-line[87]) were recorded, but this is not the case any more. The first-line, as well as the second line anti-TB drugs, are widely available and, more importantly, they are free countrywide. The majority of these drugs are produced locally by the Koçak Farma Pharmaceutical Company in Turkey. Quality control criteria are taken into consideration in centralized procurement by the Department of TB Control. Quality control of drugs is performed in the Central Laboratory of the MoH[88]. Anti-TB drugs, first-line in particular are widely available in pharmacies as well. Moreover, all anti TB drugs, including second line drugs can be purchased without prescription

[86] Held between 16-18 November, 2006 in Konya

[87] A specialist doctor working for Süreyyapaşa Hospital explains as follows: "Prior to 1997 second line drugs were not available. There was no MoH support either. SSK was the sole importer and distributor. That is why we tried our best to get our patients registered in SSK then. From 2001 onwards the MoH was involved in the issue. In 2003, I remember there was a big problem with the procurement of the medications and there was also a great deal of rebellion among our patients. The Director of the DTC personally purchased drugs for each patient, packed and sent them via courier services in order to calm them down. And then, everything was fine".

[88] Former Director of DTC explained the case this way: "First-line drugs are very cheap drugs. For instance, Izoniazid, the magic bullet in TB treatment is even cheaper than Aspirin. Sometimes expenses incurred completing the quality control procedures are more costly then the total cost of drugs to be sold. In these cases, Koçak donates the drugs. Since 1999, they produce second-line drugs as well".

in most pharmacies. In fact, the lack of sales restriction in pharmacies is an issue raised by both parties.

Although drugs are abundant, fixed dose combination tablets (FDCs) are not available in blister packs. FDCs are patient-friendly, as they are easy to swallow, and psychologically, they reduce the total number of pills to be taken every day, which frightens the patient. They provide "a simple approach to delivering the correct number of drugs at the correct dosage as all the necessary drugs are combined in a single tablet" (WHO, 1999b: 5). A salesperson of Koçak Farma Company stated that FDCs had been produced in Turkey for a long time. However "in 1982 or 1983 the MoH banned this production on the grounds that Izoniazid and Rifampin" led to counter reaction. He did not forget to add that "TB is an important disease but commercially it has no value. We would like to continue to produce first and second line drugs for prestige purposes only and are not interested in making profit. We, as a company, surely also care about our peoples' health".

Documentation is an important issue in the overall administration of a TB control program. The recording and reporting system appears to have been chaotic prior to initiation of the DOTS program in Turkey. Either the patients were underreported[89] or not reported properly[90]. Starting from 2004, the system slightly improved. This effort also caused a minor increase in the incidence as expected.

The system of recording and reporting was renewed based on the models recommended by the WHO. The new forms; registers, and report forms, were

[89] Only three studies reveal the gravity of the situation. Between 1998-2001 1,793 TB+ cases were notified in Ankara 506 (28.2%) of which were not registered in dispensaries (Çiçek et al. 2003). 881 TB+ patients were found during the 1990-2001 period in Sivas 531 (60,3%) of which were not registered in any dispensaries (Özşahin et al. 2003). 32.2% of the TB+ patients undergoing treatment at Kayseri Chest Disease Hospital and Erciyes Medical Faculty Hospital were not recorded in any dispensaries (Özesmi et al. 2003). If a patient is not registered in dispensaries, it simply means that he/she is non-existent in statistics.

[90] For a long time, as most doctors I talked to agreed, default patients were not taken into account in the calculation of overall treatment outcomes.

produced and distributed to TB dispensaries and laboratories in March 2005, but without providing a proper and/or sufficient training. During the NTP Review process in 2006, the team from WHO asserts: "As a result, the forms and registers used erratically; certain information is not completed; and old forms are still concurrently used. The new reports on case-finding were only produced in about one fourth of provinces. No reports on short-term or final outcomes have as yet been produced".

In summary, we can state that the DOTS program in Turkey exacerbated the tension already existing in the Turkish TB establishment. The schism manifested itself in many ways, some of which are presented above. This newly adopted strategy faces both material and attitudinal challenges to its success. The material challenges, such as inadequate record keeping and unreliable lab work can be, perhaps, remedied more easily. Attitudinal changes manifested by certain elements of the TB establishment may require more time. Of course, different opinions are also important and helpful as they lead to fruitful discussions and broaden the knowledge of particular issues. Thus, it provides a fertile ground to rethink both the opportunities and threats. In the end, a certain consensus may be reached if ideological and egoistical motives are left behind.

Finally, the DOTS experience in Turkey clearly demonstrates that a policy transfer is a process and not a package to be imposed by policy makers. A policy is not something that exists in only one time and place and can be transferred wholesale to another time and place. Rather, those at the receiving end will not only interpret, "but also *transform* the policy in accordance with their own priorities and realities" (Schneider et al. 2003: 16).

Prospects for Turkish TB Control

In order to speculate where Turkey may be headed in the future of TB control, it is necessary to understand that one of the major determinants shaping the battle against TB has always been compromise with the characteristics of the "former" Turkish health system. The crucial link between patients with symptoms of TB and their access to the effective, free of charge treatment was laid out in a separate vertical organization. However, the health care system of Turkey is currently under a comprehensive reform, described in the Health Transformation Programme,[91] and launched by the MOH in 2003. The programme has 8 components:

1. restructuring of the MOH to enhance its core functions of developing policies, defining standards, ensuring quality and managing public health processes including preventive services;
2. introducing of a mandatory health insurance system (General Health Insurance[92]) for the whole population, with possibility of supplementary private health insurance;
3. increasing access to health care by strengthening primary health care (PHC) and family medicine, improving the referral system, co-opting private facilities where necessary, and giving institutions more administrative and financial autonomy;
4. improving training of personnel in family health care and administration;
5. establishing an institution for education on public health;

[91] http://www.saglik.gov.tr/eng/

[92] The General Health Insurance is to separate retirement and health insurance and merge the latter from three existing social security institutions; *Sosyal Sigortalar Kurumu* (Social Security Institution for Workers), *Bağ-Kur* (Social Security Organization of the Self-employed) and *Emekli Sandığı* (Government Employees Retirement Fund).

6. establishing a national institution for quality and accreditation;
7. establishing a national institution of medicine and institution of medical devices for ensuring international standards and rational use;
8. improving health information systems for integrated, standardized monitoring and evaluation.

The MoH took various steps in this regard in recent years. With the advent of the law No: 5283 enacted on Jan. 2005, health units of Social Security organizations were handed over to the MoH with all their duties, rights, and obligations as well as their movable and immovable properties. This was one of the crucial changes in the organization of TB Control. SSK hospitals, especially the ones treating TB and MDR-TB patients such as Süreyyapaşa, were transferred to the MoH.

Before implementing the new health system countrywide, Turkey decided to try pilot projects. City of Düzce was selected for this purpose and the first family medicine pilot project took place starting from the end of September 2005 when the legal arrangements were finalized[93]. However, without fully evaluating the outcomes of the Düzce and other pilot experiences and without further testing the novel elements in the system in other chosen provinces properly, the government announced that the new system would be applied countrywide.

An important obstacle to lowering TB incidence will be the quality of the primary health care system after integration. Also, with the reallocation of scare fiscal and human resources from the National Health System to the private health care sector particularly to the promotion of private insurance as a result of neo-liberal reforms, as well as the "family medicine" system, possible delays in case finding and

[93] http://ekutup.dpt.gov.tr/ab/kep/pep2005.pdf , p.99

follow-up of patients (even monitoring and reporting), may result. Recently, leading NGOs, opinion leaders and health workers have often portrayed Turkey's health reform and still uncertain health future as being in a state of crisis. Existing primary health care was and still is characterized by significant delays in diagnosis and treatment. The main tenets of TB Control are to break the chain of transmission through early case detection, cure patients after diagnosis and steadily lower the incidence and mortality rate. Increasing the work burden of those with already limited capacity, in turn, would cause even further delays. These factors have serious implications for TB Control: undiagnosed, the disease will remain contagious to close contacts of the patient with active infection; improperly managed and loosely followed, patients will leave or interrupt their long and painful treatment and, in effect, these consequences will inevitably affect the incidence adversely in the medium and/or long-term[94].

With these considerations in mind, we can be safe in asserting that the future of TB control in Turkey won't be without its problems: both ideological and tangible. Is DOTS the future of TB control for Turkey? For the moment, yes. Is it a "magic bullet" solution to the problem of TB; not entirely.

When I commenced reading about global tuberculosis control policies, it appeared to me that DOTS was a full-fledged and mature package being implemented worldwide. However, after a year and a half of research I realized that there were serious problems with this policy package. These are summarized very well by Porter et al. in their article: "the need for greater sensitivity to local contexts and needs, the problems of a narrow biomedical focus, insufficient attention to social and economic determinants of health, and exclusion of a significant groups from

[94] For a detailed and briefly comparative study on health transformation program and TB control, please see Kılıçaslan (2006).

accessing DOTS suggest that the strategy is falling short of being truly global" (Porter et al. 2002: 193). In the International Union Against Tuberculosis and Lung Diseases' (UNION's) 36th World Conference, the new DOTS strategy with supplementary five components was presented. According to the "revised" DOTS, in addition to first five components, which were also fairly modified, five more components were added. This revised DOTS' stated aim is to:

1- Pursue high quality DOTS expansion and enhancement
    a. Political commitment with increased and sustained financing
    b. Case detection through quality-assured bacteriology
    c. Standardized treatment with supervision and patient support
    d. An effective drug supply and management system
    e. Monitoring and evaluation system, and impact measurement
2- Address TB/HIV-TB, MDR-TB and other challenges
    a. Implement collaborative TB/HIV activities
    b. Prevent and control multi-drug resistant TB
    c. Address prisoners, refugees and other risk groups and special situations
3- Contribute to health system strengthening
    a. Actively participate in efforts to improve system-wide policy, human resources, financing, management, service delivery, and information systems
    b. Share information that strengthen systems, including the Practical Approach to Lung Health (PAL).
4- Engage all care providers

a. Public-Public, and Public-Private Mix (PPM) approaches

b. International Standards for TB Care (ISTC)

5- Empower people with TB and communities

a. Advocacy, communication and social mobilization (ACSM)

b. Community participation in TB care

c. Patients' Charter for TB Care

6- Enable and promote research

a. Programme-based operational research

b. Research to develop new diagnostics, drugs and vaccines.

As DOTS is revised and updated, and providing the TB community in Turkey can pull together to implement it properly, it still appears the best systematic solution. But if Turkey is to move from a stage of TB control to one of eradication at some point in the future, it is clear that new strategies will have to be developed.

CONCLUSION

Whether Turkey should "turn her face to the West" as a leading global player or seek her own path is one of the crucial predicaments confronting modern Turkey about the country's place in the world. Far from recent, though, this dilemma has been at the forefront of Turkish foreign policy for centuries. Turkey, on her path to accession to the European Union (EU), has seen a massive upsurge in contacts with the West but also a renewal of patriotic fervor and "anti-West" tendencies concomitantly. Western legal and economic policies have been eagerly and quickly adopted. However, as global corporate policy impacts upon Turkey's economy with the push towards "structural adjustment policies" and privatization, tension with and resentment of the West has also increased in the form of resurgent nationalism.

In the medical realm, the reflection of this situation can be seen in the process of adopting the WHO's DOTS program. In this research I tried to delineate the essential conflict and demonstrate a few of the ramifications/manifestations of it. The conflict itself within the TB community is meaningful from a sociological standpoint in that it can be seen to be indicative of the larger conflict at work not only in the medical realm but also in wider economic, political and social spheres. That is to say, that nationalist/conservative approaches that emphasize preventative public health care historically conflict with innovations and the root conflict between the medical "establishment" and any challenging approaches (such as a trend to globalization) are seen recurring again and again in any realm of medical sociology. These same base conflicts can be extrapolated to reflect the political-sociological

implications embedded within. These conflicts are in the nature of preferences of national versus global approaches.

I tried to show particularly that while the strategy has faced some fierce resistance mainly from the Turkish Federation establishment, many doctors of the TTS have praised it. Resistance to DOTS is considered to be related to national, institutional as well as personal pride. To the old guard, DOTS sounded like an overly simplistic "magic formula" which failed to take into account the unique situation of the country in which it was to be implemented. This insensitivity to the special nature of TB in Turkey and neglect of previous TB systems of control led, naturally, to resistance. It was claimed that a certain sensitivity to the county's traditions and cultures were over-looked by the one-size-fits-all uniformity of the DOTS strategy.

It was further argued by members of the Federation that Turkey, not being a Third World Country, should not adopt policies designed for these resource-poor places but, rather, adopt a strategy more in line with existing facilities and procedures. It is necessary to address such questions if DOTS is to be successfully accepted and applied. Moreover, the DOTS debate in Turkey demonstrates the deeper schism in the medical community between the pro-Western forces and the staunchly nationalistic rejecters of such. Simplistically put, it amounts to a fundamental disagreement over whether Turkey should adopt Western medical goals and practices wholesale or reject them in favor of finding its own way based on the country's unique political, cultural and social heritage.

The pressure on on-going EU reforms and the resentment it has engendered in certain realms has also taken its toll and added fuel to the fire of the pre-existing differences of opinion in the medical world in Turkey – that is to say between the

Westernizers and the more conservative elements. DOTS exemplifies and exacerbates this difference.

The results of the interviews with members of the Federation and members of the Turkish Thoracic Society have revealed the depth of this rift in the Turkish medical community as it pertains to TB control. The vilification of DOTS as a foreign imposition in some quarters demonstrates the very emotional nature of this schism.

The fundamental ideological difference between the two groups concerning the role of the patient was brought to light by the interviews. While the Federation retains the view of the patient as the passive recipient of a cure (the standard scientific model of doctor as expert and patient as synonymous with the disease suffered), members of the TTS stress the model of patient as an active part of the process of curing. It is the standard coercion vs. compliance understanding of the role of the patient in effecting the medical cure. DOTS most specifically favors the latter approach, with patient compliance a necessary part of the process.

Next, the interviews showed the stress placed on the total commitment needed for working with TB in Turkey is rendered obsolete by the adoption of the professional DOTS approach to disease control. In DOTS there is no place for heroism (real or imagined), merely the need to strictly adhere to the process in an unemotional and some would say, mechanical fashion.

DOTS fails to consider the role of social-support in effecting a cure. This is perhaps one drawback of the system in a country where the role of the family is of such paramount importance in individuals' lives. While the TTS is undoubtedly correct in their support of DOTS with its proven efficacy, the Federation may have a point in acknowledging cultural differences and their effects on patients and their

treatment. TB is a social disease and as such is tied to social factors such as living conditions, poverty, nutrition and the like. As such, TB control must be approached in social terms as well as clinical terms. And the role of the family in aiding and abetting proper treatment is an issue that has not been fully considered up until now and certainly calls for further investigation.

Turkey has been lucky enough to be more or less spared the more serious complications of XDR-TB and AIDS-related TB that are devastating other parts of the world. Because of this, TB has not been accorded the attention of more readily "threatening" diseases. Lack of public awareness and lack of professional prestige have resulted from this happy circumstance, however. A lack of control and coordination of the DOTS program is seen as demonstrating a lack of political commitment on the part of health authorities to the disease.

Indeed there are problems with institutionalizing DOTS in Turkey. As the study has shown, not least of these problems result from lack of integration, inadequate laboratory work and haphazard record-keeping. These administrative and supportive functions will have to be rectified if the implementation of DOTS in Turkey is to meet with further success.

Doctors' perception of the DOTS program is a further impediment, for the reasons already mentioned. The glaring ideological differences of opinion have to be addressed and the rift narrowed, if there is to be professional cooperation in TB control, rather than the competing and back-biting currently seen. In a word, the medical profession active in TB work must behave just a little more professionally.

Finally, the study has pointed out the need to empower the patient and make the patient part of the curative process rather than a passive recipient of medical expertise. This can be done through community outreach and patient education

perhaps with the active support and aid of family members. Family support is particularly crucial. Harvard University's research conducted on MDR-TB patients clearly demonstrated that the strength of "family ties" plays a major role in assuring the completion of lengthy MDR-TB treatment. We have found that there are no community support mechanisms, either in the form of religious or ethnic-based organizations, in the service of these kind of patients. The success of therapy is then solely dependent upon the presence of a caring family member, generally a female, who undertakes responsibility for the patient during the course of the treatment. However, DOTS stresses that the observer should be a health worker, a "professional" in other words. It is both "costly" from the perspective of health care delivery and also impractical considering that it takes health workers away from other essential duties. This is an area in which the current approach falls short at the moment and requires further investigation. There should be room for more flexible solutions that provide convenience to patients for completing their treatments.

What road Turkey will take in the future generally will also affect health issues, and specifically will affect DOTS and TB control. Disillusionment with the West may lead to disengagement from global initiatives. But if Turkey is to continue on its path to global integration, whether that be under the auspices of EU membership or not, than a more closely integrated approach to health will result. As globalization has shrunk the world, wholesale adoption of Western approaches (and their ideological underpinnings) has resulted. It is unlikely that this tide will be seriously challenged. In the area of health, the trend to Global Health Governance has emerged ever stronger and ever more justifiably. DOTS is one small corner of the larger picture of global health uniformity of approach. Resistance to such may be

seen as revisionist or may simply be seen as futile in the light of developing global trends.

Around the world TB is a disease of the marginalized. The poor, drug users, refugees, homeless people, AIDS sufferers, the imprisoned: these are the groups where incidence of TB peaks. In addressing the fight against TB, Turkey must address these groups in particular. As prisons and detention centers remain places of high incidence of TB infection in Turkey, we must ask what is being done to rectify this. It is in areas such as these that Turkey can make its greatest strides forward. This would take both political and financial commitment, needless to say.

What is the future of DOTS in Turkey? On the basis of experience, DOTS has proven itself to be one of the most effective and cost-effective interventions in public health ever. With an average cure rate of nearly 80 percent[95], its efficacy is undisputable. However, according to WHO no matter how perfectly applied DOTS would still miss 20 percent of TB cases globally. The continuing development of multi-drug resistant strains of TB is further worrying. Longer treatment times and more costly "second-line drugs" would strain the resources in many parts of the world. But for Turkey the outlook is not so grim. DOTS appears to be an effective tool for TB control, though not for TB eradication[96]. On the basis of this, DOTS will probably continue to be applied for the foreseeable future. Mass screenings of the population or active case finding continues to be applied in Turkey in opposition to the passive approach advocated by DOTS. But as we have already seen, DOTS as it is practiced in Turkey is not without its flaws, not without its resistance.

The WHO Turkey Liason Officer responded to interview questions by stating that WHO has not monitored DOTS in Turkey but rather left it to the MoH and TB

[95] It was 82% in the 2003 cohort of 1.7 million patients (WHO, 2006).
[96] One of the levels in the disease control. Elimination refers to a 0% incidence of a disease in a region (i.e. neonatal tetanus) and the continuity of this situation (Çalışır, 2006: 57).

health care professionals to oversee its adoption. WHO's indifference to follow-up can be attributed simply to a scarcity of resources and prioritization of other, more directly threatening potential and real crises such as the bird-flu outbreaks. Their priority is technical support including training and documentation. In an overall government expenditure of US$52 million for tuberculosis control, WHO's contribution amounts to only US$21,000. While WHO does not impose DOTS on any country, they admitted that certain indirect coercion exists in the form of denial of technical support and negative perception of those countries that resist implementation[97].

Difficulties encountered on the way to EU membership have led to a renewal of "patriotism" and "national pride", as well as resentment against the West's arrogance and superiority in all spheres. In the medical world, and in particular in the model provided by the DOTS experience in Turkey, this is no less true. Nationalism and a resentment of the WHO's failure to perceive Turkey's great successes in the past in battling TB, have led to elements in the medical community to "resist" the adoption of DOTS. The schism that has been furthered exacerbated by the adoption of DOTS should be addressed if DOTS and further aspects of global health governance are to be embraced in Turkey unimpeded. The way to reconciliation must come from within the medical establishment. If it does not, programs such as DOTS will not have sufficient medical backing to be implemented successfully. While it is clear from the age difference in the two groups (pro- and anti- DOTS) that time alone may bring major changes to the balance of power in TB circles in Turkey, as retirement claims the more elderly and conservative members of

[97] There was a rumor that the former Director of DTC lost her position due to her failure in submitting 2004 figures to WHO on time. In 2005 the Global Tuberculosis Control-WHO Report was published in which Turkey was totally "white", meaning "no data received". That was regarded as an unforgivable mistake by the health authorities of Turkey.

the community, it would be even more advantageous if members of the community were to cooperate more fully while putting aside their personal and professional rivalries. How can this change in approach be achieved? To begin with, the profession itself must be "professionalized": that is to say, medical practitioners must be adequately financially recompensed so that there is no financial impediment for them to work in the field of TB. Funding must more fairly reflect both need and effort – the current system of revolving funds discriminates against the treatment of TB and must be made fairer. Finally, the patient must be educated and become an active and complicit part of the cure. An informed and cooperative patient will be respected as part of the ongoing efforts to control the disease and will no longer be seen as either passive and ignorant nor noncompliant and obstructive.

The DOTS experience in Turkey has a very short history. Given the longer history of dealing institutionally with TB, it is to be hoped that Turkish medical and policy circles will institute a DOTS strategy that is uniquely adopted to the particular needs of Turkey, and thus also contribute to the challenges of global governance in TB control.

APPENDIX I

THE LIST OF INTREVIEWEES (IN ALPHABETIC ORDER)

Dr. Seren ARPAZ
Medical Director of Nazilli Anti-TB Dispensary

Dr. Emel ÇAĞLAR
Chief at Yedikule Chest Diseases and Surgery Research and Training Hospital

Assoc. Prof. Dr. Haluk ÇALIŞIR
Chief at Istanbul Süreyyapaşa Chest Diseases and Toracic/Cardiac Surgery Training and Research Hospital

Dr. İpek COŞKUNAL
Istanbul Anti-TB Dispensary
Former doctor of Izmir Anti-TB Dispensary

Dr. Lucica DITIU
Medical Officer-WHO Middle and Eastern Europe Region

Dr. Ahmet Vefik EREM
Chairman of Istanbul Anti-TB Association
Former Medical Director of Heybeliada Sanatorium Chest Diseases and Surgery Hospital

Dr. Feyzullah GÜMÜŞLÜ
Director of the Department of TB Control

Dr. Erhan KABASAKAL
Family Medicine-Samsun
Former doctor of Samsun Anti-TB Dispensary

Dr. Salmaan KESHAVGEE
Division of Social Medicine and Health Equalities- Brigham and Women's Hospital-Boston
Partners in Health

Prof .Dr. Zeki KILIÇASLAN
Istanbul Faculty of Medicine (Çapa), Chest Diseases
Vice Chairman of the Turkish Federation of Anti-TB Associations

Dr. Emel KİBAROĞLU
Former Director of the Department of TB Control

Prof. Dr. Ferit KOÇOĞLU
Chairman of the Turkish Federation of Anti-TB Associations

Mehmet KONTAŞ
WHO-Turkey Liason Officer

Prof. Dr. Gül ÖNGEN
Istanbul Faculty of Medicine (Cerrahpaşa), Chest Diseases
Member of the Board, İstanbul Anti-TB Association

Assoc. Prof. Dr. Şeref ÖZKARA
Chief at Ankara Training and Research Hospital
Former Director of the Department of TB Control

Dr. Filiz ÖZTÜRK
Medical Director of Ümraniye Anti-TB Dispensary

Assoc. Prof. Dr. Kemal TAHAOĞLU
Chief at Istanbul Süreyyapaşa Chest Diseases and Toracic/Cardiac Surgery Training and Research Hospital

Dr. Jaap VEEN
Royal Netherlands Tuberculosis Association (KNCV)

APPENDIX II

DAIRE BAŞKANLIGI, ZUHREVI HASTALIKLAR ŞUBESI TEL: 0312 585 14 15, 0312 585 14 14

* 01.Ekim 1985 - 31 Aralık 2006

TÜRKİYE'DE BİLDİRİLEN AIDS VAKA VE TAŞIYICILARININ YILLARA GÖRE DAĞILIMI

YILLAR	VAKA	TAŞIYICI	TOPLAM
1985	1	1	2
1986	2	3	5
1987	7	27	34
1988	9	26	35
1989	11	20	31
1990	14	19	33
1991	17	21	38
1992	28	36	64
1993	29	45	74
1994	34	52	86
1995	34	57	91
1996	37	82	119
1997	38	105	143
1998	29	80	109
1999	28	91	119
2000	46	112	158
2001	40	144	184
2002	48	142	190
2003	52	145	197
2004	47	163	210
2005	37	295	332
2006	35	255	290
TOPLAM	**623**	**1921**	**2544**

W.H.O./EURO LIAISON OFFICE
Ankara/Turkey
DATE 20.2.2007 No: 84
FILE: HIV/AIDS
TO AA

TÜRKİYE'DE BİLDİRİLEN AIDS VAKA VE TAŞIYICILARININ YAŞ VE CİNSİYETE GÖRE DAĞILIMI

YAŞ GRUPLARI	ERKEK	KADIN	TOPLAM
0	13	4	17
1-4	6	12	16
5-9	3	8	11
10-12	3	2	5
13-14	1	1	2
15-19	24	37	57
20-24	150	166	298
25-29	241	139	330
30-34	304	108	371
35-39	276	58	277
40-49	300	69	322
50-59	158	63	189
60+	76	26	86
BİLİNMEYEN	200	96	273
TOPLAM	1755	789	**2544**

OLASI BULAŞMA YOLUNA GÖRE AIDS VAKA VE TAŞIYICILARININ DAĞILIMI

OLASI BULAŞMA YOLU	ERKEK	KADIN	TOPLAM
HOMO /BİSEKSÜEL CİNSEL İLİŞKİ	207	0	207
IV MADDE BAĞIMLILIĞI	111	9	120
HOMO/BİSEKSÜEL C. İ. + IVMAD.	5	0	5
HEMOFİLİ HASTALIĞI	10	0	10
TRANSFÜZYON YAPILMASI	27	17	44
HETEROSEKSÜEL CİNSEL İ.	764	579	1343
ENFEKTE ANNE BEBEĞİ	22	21	43
NOZOKOMİAL BULAŞMA	11	3	14
BİLİNMEYENLER	599	159	758
TOPLAM	**1756**	**788**	**2544**

APPENDIX III

Daire Başkanlığımız Bütçesinin Sağlık Bakanlığı Bütçesine Oranı

Yıllar	Sağlık Bakanlığı Bütçesi	Verem Savaşı Daire Başkanlığı Bütçesi	% Oranı
1985	153.948.866.422	3.819.195.000	2,48
1986	175.316.764.000	5.511.536.000	3,14
1987	274.177.000.000	9.382.400.000	3,42
1988	547.389.000.000	18.222.800.000	3,33
1989	898.995.000.000	27.228.490.000	3,03
1990	2.633.217.000.000	54.434.000.000	2,07
1991	4.433.762.000.000	110.032.000.000	2,48
1992	9.783.005.000.000	213.687.000.000	2,18
1993	18.073.981.000.000	366.575.000.000	2,03
1994	30.456.327.000.000	592.254.000.000	1,94
1995	48.741.551.000.000	824.304.000.000	1,69
1996	98.064.401.000.000	1.376.086.000.000	1,40
1997	204.499.276.000.000	3.137.576.000.000	1,53
1998	390.961.701.000.000	6.754.915.000.000	1,73
1999	683.123.501.000.000	10.927.066.000.000	1,60
2000	1.059.825.001.000.000	16.963.050.000.000	1,60
2001	1.280.660.000.000.000	19.937.400.000.000	1,56
2002	2.345.447.691.000.000	36.049.700.000.000	1,54
2003	3.570.054.000.000.000	44.395.000.000.000	1,24
2004	4.787.751.000.000.000	64.208.500.000.000	1,34
2005	5.462.974.750	68.403.500	1,25

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