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Globalization and Health Knowledges in the Philippines:
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Mary Ann J. Ladia

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Judy F. Pugh
Major Professor's Signature

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GLOBALIZATION AND HEALTH KNOWLEDGES IN THE PHILIPPINES: TUBERCULOSIS AND THE INFECTIOUS OTHER

By

Mary Ann J. Ladia

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ABSTRACT

GLOBALIZATION AND HEALTH KNOWLEDGES IN THE PHILIPPINES: TUBERCULOSIS AND THE INFECTIOUS OTHER

By

Mary Ann J. Ladia

Allan Young (1982) asserts that "*all* knowledge of society and sickness is socially determined" and that we need "critical understanding of how medical facts are *predetermined* by the processes through which they are conventionally produced in clinics and research settings. Thus, the task at hand is not simply to demystify knowledge, but to critically examine the *social conditions of knowledge production*" (p.277). And if I may add, this is especially relevant in the era of globalization, where personal, local, national and international constructions of health are thrown into regular contact, and where actors at all levels negotiate these domains. How these diverse constructions interact and affect discourse, knowledge, and behavior is an important but not yet well-understood phenomenon.

My preliminary research in Baguio City, Philippines revealed that knowledges of tuberculosis (TB) exist at three distinct levels of the health care system. TB prevention and control has a long history in the country as well as in the cleanest and greenest city frequented by foreigners and locals from uplands and lowlands. With the recent outbreak of meningococcemia, the image of

Baguio City dramatically changed to a site of infection and the "politics of disease" began.

By focusing on two infectious diseases, TB and meningococcemia, my research shall determine the re/production of health knowledges across three levels of the health care system: 1) policy makers and program managers, 2) health providers, and 3) persons affected by TB and the lay persons. My main research questions are:

1. How are disease knowledges constructed or contested by different key actors in the health care system, and beyond?

2. How does the "politics of disease," especially infectious ones, shed light on the understanding of globalization and health?

My research methods were primarily ethnographic and qualitative. I analyzed my data by using both macro and micro perspectives. The discussion of the "politics" of meningococcemia, locally called *'meningo,'* provided an interesting lens for thinking about TB over time. Using the comparison of the two infectious diseases, I attempted to contribute to earlier theorizing about globalization and health. My research contributes to the nexus of the anthropologies of globalization, infectious disease, and public health. Apart from its contributions to anthropology, the dissertation positions basic research in anthropology at the core of contemporary scholarship.

To my generous aunt
and kind mother,
and
to the loving memory
of my cool father

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ABBREVIATIONS AND ACRONYMS

AFB	Acid Fast Bacilli
AO	Administrative Order
AHMOP	Association of Health Maintenance Organizations of the Philippines
BAHAI	Baguio Association of Hotels and Inns
BAMARVA	Baguio Market Vendors Association
BCG	Bacille Calmette-Guerin
BGH	Baguio General Hospital
BGHMC	Baguio General Hospital and Medical Center
BHD	Baguio Health Department
BHS	*Barangay* Health Station
BHW	*Barangay* Health Worker
BMC	Baguio Midland Courier
BNAO	*Barangay* Nutrition Action Officers
BNS	*Barangay* Nutrition Scholars
BSPO	*Barangay* Service Point Officers
CAR	Cordillera Administrative Region
CAVACAT	Cagayan Valley Coalition against TB
CDC	Centers for Disease Control
CESU	City Epidemiology and Surveillance Unit
CHD	Center for Health Development
CICAT	Citizens Iloilo Coalition against TB
CORCAT	Cordillera Coalition against TB
CRUSH TB	Collaboration in Rural and Urban Sites to Halt TB
CSC	Cordillera Studies Center
CSF	Cerebrospinal Fluid
CUP	Comprehensive Unified Policy
DaCiCAT	Davao City Coalition against TB
DOH	Department of Health
DOTS	Directly Observed Treatment Short-course[i]
ECC	Employees Compensation Commission
ECP	Employees Confederation of the Philippines
EO	Executive Order
EPI	Expanded Program for Immunization
FETP	Field Epidemiology Training Program
FIND	Foundation for Innovative New Diagnostics
GFATM	Global Fund to Fight AIDS, TB, and Malaria
GSIS	Government Services Insurance System
HSRA	Health Sector Reform Agenda
IEC	Information, education campaign

IDSCP	Infectious Disease Surveillance and Control Project
INH	Isoniazid
ISCC	Intermittent Short-course Chemotherapy
IUALTD	International Union Against Tuberculosis and Lung Diseases
JICA	Japanese International Cooperation Agency
KALCAT	Kalinga Coalition against TB
LCP	Lung Center of the Philippines
LGC	Local Government Code
LGU	Local Government Unit
LHB	Local Health Board
MC	Memorandum Circular
MDRTB	Multi-drug Resistant TB
MSU	Michigan State University
NCC	National Coordinating Committee
NCIP	National Council for Indigenous Peoples
NEC	National Epidemiology Center
NEDA	National Economic Development Authority
NIT	National Institute of Tuberculosis
NPS	National Prevalence Survey
NSCB	National Statistics Coordination Board
NTP	National Tuberculosis Program
OIF	Oil Immersion Field
OSHP	Occupational Safety and Health Center
OWWA	Overseas Workers and Welfare Administration
PAS	Para-amino Salicylate
PATB	People Affected by TB
PCCP	Philippine College of Chest Physicians
PCHRD	Philippine Council for Health Research and Development
PCSO	Philippine Charity Sweepstakes Office
PDI	Philippine Daily Inquirer
PhilCAT	Philippine Coalition Against Tuberculosis
PhilHealth	Philippine Health Insurance Corporation
PhilTIPS	Philippine Tuberculosis Initiatives for the Private Sector
PHC	Primary Health Care
PIAS	Philippine Islands Anti-Tuberculosis Society
PMA	Philippine Medical Association
PPD	Purified Protein Derivative
PPM	Public-Private Mix
PSMID	Philippine Society for Microbiology and Infectious Disease
PSSC	Philippine Social Science Council
PTSI	Philippine Tuberculosis Society, Incorporated
QI	Quezon Institute
RA	Republic Act

RAP	Research Award Program
RESU	Regional Epidemiology and Surveillance Unit
RITM	Research Institute for Tropical Medicine
RHU	Rural Health Unit
SLU	Saint Louis University
SR	Standard Regimen
SSC	Short-Course Chemotherapy
SSS	Social Security System
SWS	Social Weather Stations
TB	Tuberculosis
TBCF	TB Clinic Foundation
TBCS	TB Control Service
TDF	Tropical Disease Foundation
TUCP	Trade Union Congress of the Philippines
UNICEF	United Nations Children's Fund
USAID	United States Agency for International Development
UPB	University of the Philippines - Baguio
WB	World Bank
WHA	World Health Assembly
WHO	World Health Organization
WPRO	Western Pacific Regional Office

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[i] It is not an acronym anymore due to the incorrect emphasis on direct observation, rather a title provided to the TB treatment strategy (Thomas 2002). In the manual of procedures for the national TB control program, DOTS is "a comprehensive strategy to control TB" (2005: x).

PART I: The Research Background

Introduction: The Research Problem and Theoretical Concerns

Research Setting and Methods

'*Meningo*': The Infectious Other

Chapter I

INTRODUCTION:
THE PROBLEM AND THEORETICAL CONCERNS

Allan Young (1982) asserts that "*all* knowledge of society and sickness is socially determined" and that we need "critical understanding of how medical facts are *predetermined* by the processes through which they are conventionally produced in clinics and research settings. Thus, the task at hand is not simply to demystify knowledge, but to critically examine the *social conditions of knowledge production*" (p.277). And if I may add, this is especially relevant in the era of globalization where personal, local, national and international constructions of health are thrown into regular contact, and where actors at all levels negotiate these domains. How these diverse constructions interact and affect discourse, knowledge, and behavior is an important but not yet well-understood phenomenon.

Whiteford and Nixon (2000) pose the question in relation to the globalization of health:

> "Are health-care systems becoming more alike as globalization connects our economic and political systems, e-mail thrusts our communications across continents with speed, accuracy and ease, and people and pathogens fly greater distances with more frequency than even before?" (p.444)

The relationship between globalization and health may be viewed in two ways. First, many authors argue that the former affects the latter. They have determined the impact of globalization on health, specifically its implications

and challenges to public health directions (Lee 2000; Henry and Farmer 1999; Beaglehole and Mc Michael 1999) as well as to health governance (Poku and Whiteside 2002; Turmen 1999) to achieve health equity around the globe. Others (Lee 1999; Cash and Narasimhan 1999; Tolhurst 1999) have examined globalization effects specifically in the management of communicable diseases. Second, poor health is recognized as a "global problem and a global goal and globalization is seen as an asset for health" (Berlinguer 1999). Following the same vein, Daulaire (1999) argued for the recognition of globalization's opportunities and threats to the well-being of humankind.

Recently, the faster movement of people within and across borders accounts for the changing patterns of infectious diseases and reintroduces the surge of old diseases. Infectious diseases like tuberculosis (TB) pose significant challenges for public health measures designed to prevent and control their spread. TB is a global health threat to everyone: the rich who travel for pleasure and the poor who migrate for greener pastures.

TB prevention and control is a global health priority, as well as a national and local health concern in the Philippines, a country ranking seventh among the "top 22 high burden countries" for TB (WHO 2002:9). Responses to prevent and control TB, usually in the form of health programs, are supported by international organizations, and, by national and local governments that function according to geo-political boundaries. The Philippines is a recipient of grants from the Global Fund to Fight AIDS, TB and Malaria (GFATM) aimed at

reducing TB prevalence, incidence, and mortality in half by 2010. Other support to combat TB in the country comes from the so-called "international partners" like the World Health Organization (WHO), The World Bank (WB), the Japan International Cooperation Agency (JICA), Medicos Del Mundo, World Vision, United States Agency for International Development (USAID), and others. Apart from financial support, they provide technical assistance as well as participate in monitoring and evaluation activities. As technical advisors, they likewise participate in the current organizational structures of the national TB program (NTP).

While communicable diseases like TB are highly recognized for funding support by international organizations, meningococcemia[1], a reemerging infectious disease seems to be unnoticed in the global health arena as well as in the local public health sphere. In the Philippines, the sudden increase in the number of meningococcemia cases in Baguio City in late 2004 dramatically changed the responses of various sectors near or far towards the disease and illness.

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[1] Throughout the dissertation, I use meningococcemia to refer to the disease while *'meningo,'* the local term for the disease refers to the illness. According to Kleinman (1980:73), "disease and illness are explanatory concepts, not entities." He explained, "Disease and illness exist, then, as constructs in particular configurations of social reality. They can be understood only within defined contexts of meaning and social relationships. As we shall see, they are explanatory systems and social structural arrangements comprising the separate sectors (and subsectors) of local health care systems. Disease/illness can be thought of as expressing different interpretations of a single clinical reality, or

It is interesting to study both diseases, namely, TB and meningococcemia within the purview of public health during the globalization of infectious diseases.

A. Research Questions

By focusing on two infectious diseases, namely TB and meningococcemia, my research shall determine the re/production of health knowledges across three levels of the health care system: 1) policy makers and program managers, 2) health providers, and 3) persons affected by TB (PATB)[2] and lay persons in Baguio City, Philippines. My main research questions are:

1. How are disease knowledges constructed or contested by different key actors in the health care system, and beyond?

2. How does the "politics of disease," especially infectious ones, shed light on the understanding of globalization and health?

B. Highlights of Preliminary Research

My preliminary research in Baguio City, Philippines in 2002 revealed that knowledges of TB exist at three distinct levels: the programs, the providers, and the persons. I observed that health knowledges are contested or in flux. These observations have led me to a number of questions explored in this dissertation.

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representing different aspects of a plural clinical reality, or creating different clinical realities" (Kleinman 1980:73). See also Kleinman 1980 p. 77.

[2] I am using the term, persons affected by TB (PATB) to refer to the so called "TB patients" or "TB cases" on a local listing. I neither confirm nor deny their affliction with the disease. Rather, I put emphasis on their personhood.

On a programmatic level, TB is a public health issue. To the health providers, both those working in the public domain and those in private practices, TB is a disease of individuals, and must be addressed clinically. In clinical settings, TB appears greatly under-diagnosed. There has been a low case finding[3] rate in the city, with only 27 new smear positive[4] cases reported from public clinics in 2001 (Bautista and Paran 2002). Public health providers, who follow international procedures and standards, use sputum smear examination results to determine their "TB patients". On the other hand, my preliminary interviews with health personnel there indicate that private physicians diagnose the disease on the basis of chest x-ray results.

At the public level, the disease may confer a social stigma (Nichter 1997). In others, it may be a less value-laden condition, considered as simply a "lung

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[3] Case finding is "an activity to discover or find TB cases" (Manual of Procedures for the National TB Control Program, Philippines. 4th Edition, 2005:x). There are two ways namely, active case finding and passive case finding. Active case finding is defined as "a health worker's purposive effort to find TB cases (among TB symptomatic in the community) who do not consult with personnel in a DOTS facility" (Manual of Procedures for the National TB Control Program, Philippines. 4th Edition, 2005:18). Passive case finding is "finding TB cases among TB symptomatic who present themselves in a DOTS facility" (Manual of Procedures for the National TB Control Program, Philippines. 4th Edition, 2005:18).

[4] According to the Manual of Procedures for the National TB Control Program in the Philippines (2005:xi), "when a direct sputum smear microscopy (DSSM) has at least two positive results," it is called smear-positive. When a DSSM has all three negative results, it is smear-negative. It is the principal diagnostic method adopted by the NTP because: 1. It provides a definitive diagnosis of active TB; 2. The procedure is simple; 3. It is economical; and 4. A microscopy center could be put up even in remote areas (Manual of Procedures for the National TB Control Program, Philippines. 4th Edition, 2005:18).

weakness" (Nichter 1997) or *uyek* (Ilokano term for cough). Lay persons are generally not aware of the symptoms of the disease, or they may have misconceptions about its symptoms and causes, and they may understand with their own folk illness categories. It appears, then, that "patients" and providers hold varied concepts of TB and take various stances toward its diagnosis and management.

Knowledges about TB are negotiated in various contexts (the public health area, the clinic, the community) but do not seem to be shared by the key actors in the health care system including policy makers and program managers, the health providers, and PATB and the lay public.

While the TB problem spans over almost a century, the recent outbreak[5] of meningococcemia in Baguio City can shed light on examining trends in TB approach. The "politics of disease" as exemplified by the meningococcemia outbreak foregrounds my dissertation research. Furthermore, the comparison between chronic and acute infectious diseases, TB and meningococcemia respectively offers interesting perspectives towards examining globalization and health.

C. Significance of the Study

Anthropology's wide range of approaches and methods have made remarkable contributions in understanding global health issues such as emerging

and reemerging infectious diseases. The political-economic approach or critical medical anthropology, or political economy in medical anthropology, as Morsy (1996) puts it, analyzes the health care system from different levels (Baer, Singer, Johnsen 1986; Baer 1997) and is concerned about macro-level structures and processes as well as micro-level phenomena. I attempt to utilize these approaches in my dissertation.

My research contributes to the nexus of the anthropologies of globalization, infectious disease, and public health. It shall contribute to earlier theorizing about the anthropology of globalization (Inda and Rosaldo 2002) and its effects on human well-being. Anthropologists argue that de/territorialization occurs in globalization (Inda and Rosaldo 2002; Gupta and Ferguson 2002; Appadurai 1996), and there are dimensions (Lee 2000) and processes (Doyal 2002) in which this occurs. Specifically, this research uses this earlier theorizing about the globalization process within and among interconnected locations of health knowledges. It explores the issue of space and place central in anthropological theory (Gupta and Ferguson 2002) as they relate to, perhaps, difference or hybridity of knowledges about TB, a disease that knows no geographic boundaries. Thereby it contributes to further theorizing on the linkages of globalization and infectious diseases as well as to the understanding of how contemporary globalization impacts health.

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[5] I am using the term outbreak to refer to the sudden occurrence of epidemic in a relatively limited geographic area (Greenberg 1993).

The research shall also contribute to the "anthropologies of infectious diseases" (Inhorn and Brown 1997; Inhorn and Brown 1990; eg., Rubel and Moore 2001; Ito 1999; Nichter 1997; Farmer 1996; Farmer 1999; Farmer 1999; Farmer 2003) as it transects other fields of study such as public health (Hahn 1999), health social science, and epidemiology (Frankenberg 1993; True 1996; Trostle and Sommerfeld 1996). The conduct of this research, where both program and lay people's concepts and responses are taken into consideration, shall demonstrate the role of medical anthropology in the public health agenda at both local and international levels (Inhorn and Brown 1997). By understanding local perspectives, it may translate local health knowledges to public health personnel and policymakers. This could help them to be more effective in meeting their public health objectives (e.g., Manderson 1998; Farmer 1999) of encouraging a "public health *by* the public" (Hahn 1999). This work could strengthen previous studies on infectious diseases that demonstrated the effects of differences or similarities in perspectives (Nichter 1997; Garro 1986; Lazarus 1988) on the spread of infection. Earlier TB studies conducted in other parts of the country or the world (e.g., Farmer 1996; Farmer 1999; Graham 2000; Nichter 1997; Nachman 1993; Portero et al. 2002; Ito 1999; Rubel and Moore 2001) do not deal with the global and local processes of knowledge construction, contestation, and circulation. This project shall complement them in this respect.

Thus, rather than compartmentalizing anthropology, I will draw on and combine insights from the literature and advance anthropological theory and

method forward in an era of globalization of disease. I shall attempt to posit theoretical debates to each or all of them (i.e., anthropology of globalization, anthropology of infectious disease, and anthropology of public health). In addition, I hope to challenge existing boundaries of the anthropological discipline and foster alliances with other sub-disciplines or fields of study. Apart from its contributions to anthropology, the dissertation positions basic research in anthropology at the core of contemporary scholarship.

Chapter II

RESEARCH SETTING AND METHODS

In this chapter, I will discuss the research setting and methods employed in my dissertation. Chapter II covers various aspects of the research site, Baguio City, Philippines: its history, geo-political boundaries, health facilities and personnel, and disease patterns. Various images of the city as well as the prevalence of TB and the recent meningococcemia outbreak are discussed in relation to the flows of people. I will attempt to argue that Baguio City represents a space of globalization.

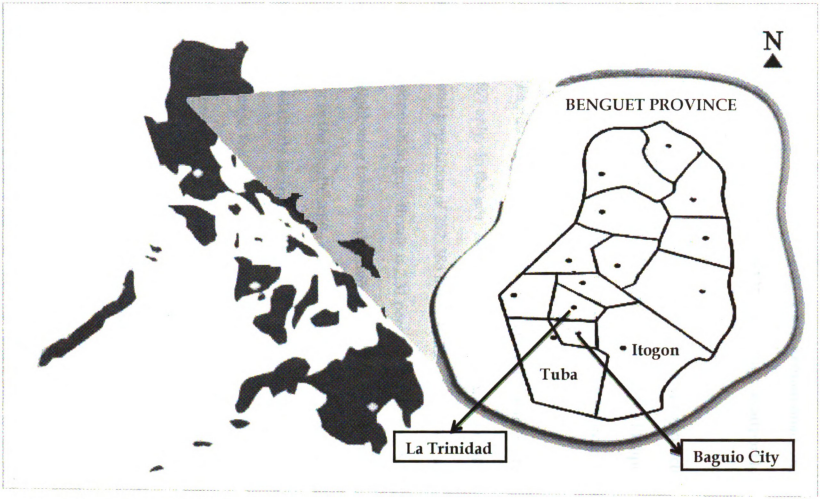
Chapter II likewise discusses the research methods employed, including sampling, and the selection and number of respondents and key informants for the overall dissertation. Each succeeding chapter describes the methods and data used specific to the chapter.

A. Baguio City: Images and Infections

Baguio City is approximately 250 kilometers north of Metro Manila. It is situated in the province of Benguet in the Cordillera Administrative Region (CAR) of northern Philippines. It is geographically bounded on the north by La Trinidad, the capital town of Benguet, on the east by Itogon, and to the south and west by Tuba as shown on Figure 1.

Road networks allow accessibility to the city for services, activities, and needs such as health, tourism, education, trade and administration. Baguio City

Figure 1. Location Map of Baguio City, Philippines



Sources: NEDA-CAR 2003
Lewis, Martin W. 1992:16

is accessible through three national roads from the lowlands, namely, Quirino Highway (more commonly called Naguilian Road), Kennon Road, and Marcos Highway. The city is also accessible by air travel through its airport located in Loakan *barangay*.

Its cool climate, an average of 24.5 degrees Celsius, is an attraction to many individuals. On the average, the "Summer capital of the Philippines" is eight degrees cooler than the lowlands. The colder months are from November to February.

Initially, Baguio City was intended for 25,000 to 30,000 individuals (Cruz and Calugan 1997) only. In the year 2000, the city with a land area of 4,893 hectares, has a total population of 252, 386 individuals or 52,302 households. The average annual population growth rate is 2.31 percent (NSCB 2002, NSO 2000). Students from neighboring towns and provinces move to the city to study in the educational center in the North, while tourists, both local and international, find recreation in the relatively temperate place most especially during summer, Holy Week, and *Panagbenga*, the annual flower festival.

Recently, Koreans in search of English teachers in the Philippines have moved to Baguio City (Inquirer.net 2007). Expatriates and foreign retirees from the United States, Australia, and Europe likewise have settled in the city (Akers and Akers 2005). Akers and Akers (2005) also noted that "as a regional center, Baguio City absorbs migrants who establish themselves as permanent residents, adding extra pressure on services such as housing, transportation, water and

sewer, sanitation, and health" (p.190). By studying the street vendors in the city they described the increased urbanization of Baguio City as well as the health risks associated with it. For example, they said that "extreme density," such as the case of sidewalk density, "can lead to the spread of airborne diseases such as bronchitis, influenza, and pneumonia" (p.193). They also described the air pollution problems and their link to numerous cases of chronic bronchitis in Baguio City, some of which resulted in death (Akers and Akers 2005).

Baguio City, Philippines was chosen as the site of the study due in part to the past and present situations in the area of infectious diseases management. Historically, it was established as a hill station to house American soldiers afflicted with TB and other diseases (Reed 1999; Bagamaspad and Pawid 1985). It was likewise observed in the early 1900s that the cold climate of the "mountain resort" lead to the recovery of TB patients (Philippine Islands Antituberculosis Society 1927). Dr. Fernando Calderon, the President of the First National Congress on TB, said in his speech:

> "... We have in the Philippines a mountain resort, called Baguio, where the climatic conditions can be favorably compared with some of the southwestern cities in the United States—San Francisco, Los Angeles, Oakland, New Mexico, and Colorado. It has been the general observation of our physicians, that patients suffering from pulmonary tuberculosis that have recovered in that mountain resort, suffer an almost immediate relapse as soon as they leave that place and trip back to the valley or the plains. If patients take the trip again in Baguio they rapidly recover and steady progress in their cure ensues. It has also been observed that patients that have recovered in Manila when they go up to Baguio for convalescence make wonderful progress in the road to complete cure. But here again, if the patients come down to Manila, five out of ten cases

> suffer some relapsing symptoms. Unquestionably, climate has something to do in the production in this phenomenon..." (1927:43 and 44).

In present times, Baguio City is also the first area in CAR that implemented the Directly Observed Treatment, Short-course or DOTS (Bautista and Paran 2002). Together with three other provinces, it was a site for the Infectious Disease Surveillance and Control Project (IDSCP), a project funded by USAID. The project was in collaboration with the U.S. Centers for Disease Control and Prevention (CDC), the New Tropical Medicine Foundation, and the local government units (LGUs) of Ifugao, Western Samar, and Sultan Kudarat in the Philippines.

Baguio City, once regarded as the cleanest and greenest city in the Philippines, has recently been viewed dramatically as the site of infections. During the outbreak of meningococcemia, locally called *'meningo,'* in 2004 and 2005, the city once frequented by local and foreign tourists was totally avoided due to scare and stigma. *'Meningo'* created new images of the city and demarcated boundaries of people flows. On the other hand, the need for TB treatment allows for more inflows and outflows of PATB in Baguio City.

Thus, Baguio City, a net in-migration area (Cruz and Calugan 1997) is not only a place; it is likewise a space where flows of people or patients, and knowledges and funding through local and global health programs intersect and overlap.

B. Data Gathering Strategies

My research methods were primarily ethnographic and qualitative. In order to represent and understand the views of the key actors in the health care system of Baguio City, I conducted the procedures discussed below.

Policy Makers and Program Managers. First, I informed concerned local, regional, national and international health institutions operating in the Philippines, specifically the Baguio Health Department (BHD), the regional and national offices of DOH, and WHO about my research.

I also provided information about my study in brochure form to the city mayor, and the *punong barangay,* the village head. The Baguio City Council approved the conduct of my study. Through letters, I also invited the mayor and the three village heads, as well as members of the local health board, for interview regarding their views about the current state of health services, the challenges of TB transmission, prevention, and control to the city, and their responses to it.

I interviewed key informants from relevant international (operating in the Philippines), national, regional and local public health organizations such as the regional health director, regional coordinators, city health officer, city coordinator, and others involved in the TB program. Overall, 15 interviews represent the policy makers and program managers.

I also conducted content analysis of operation manuals, reports, information and education campaign materials, and publications about the

various TB prevention and control programs, with a focus on their aims, policies, impact indicators and standards.

With the permission of the TB program managers, I also observed three training sessions and workshops for health professionals to determine how disease knowledges among participants are propagated, disseminated, reiterated, perpetuated, negotiated, or simply denied. The analysis determined similarities and differences between the global, national, and local TB prevention and control programs by comparing and contrasting their goals, strategies, and evaluation criteria.

Health Providers. Among health providers, I interviewed a purposive sample of private and public health practitioners in Baguio City using a semi-structured interview schedule regarding knowledges and concepts of TB. Beginning with a broad question about the five most common diseases and illnesses of their patients, I asked them about their goals, strategies, and evaluation criteria in the management of TB. I also asked them about their patients' views and categories, whether they find the need to reconcile their own view with their patients' views and how they go about this.

Interviews were conducted in public hospitals, public health clinics, private hospitals, and private clinics. I interviewed 11 physicians, 12 nurses, seven midwives and six *barangay* health workers (BHWs) representing a cross-section of the health professionals of both public and private health facilities and

a sample proportionate to their size. I analyzed the results based on hierarchical positions of the health personnel and between public and private health facilities.

PATB. I also interviewed a purposive sample of "TB patients", both from public (DOTS-enrolled) and private health facilities. I asked PATB in Baguio City to narrate their "lifecourse" experience of illness in the fabric of everyday life by focusing on their perceptions of how they acquired, treated, and endured TB and exploring factors that frame and impact their understandings and responses to the illness. To facilitate data analysis, the interview started with a general question of how they began to recognize their disease.

Subjects of the study were new sputum positive adult "patients," aged 25 years and above, for the period January to December 2004 who had taken TB medications for at least two months. Only 64 "patients", 45 males and 19 females, were considered in my sampling of PATB. In sampling six males and six females, every 7th male in the list and every 3rd female in the list were picked for interview.

There were nine male PATB and five female PATB interviewed, ten PATB from public and four PATB from private health clinics or hospitals. Initially, there should have been a comparison between PATB from public and private health facilities. It was found out during the data gathering phase that PATB often between public and private depending on their economic status during the period. Free medicines are available at the public facilities even when patients are consulting private health practitioners, they may likewise visit a public one to

avail of the free medicines. For these reasons PATB were not categorized as public or private in the final analysis.

Lay Persons. Other than PATB, I also interviewed a purposive sample of lay persons without the disease, chosen to represent a cross-section of communities, gender, ethnic, educational, and income groups. I asked initially about respiratory diseases to capture the network of folk categories, rather than just the biomedical construct of TB. After these questions, I also asked specifically about their understandings and interpretations of TB - its acquisition, transmission, treatment, prevention and control - as well as their reactions to it.

Thirty lay persons picked at random were interviewed for the survey. Each *barangay* of Baguio City was classified depending on its location and accessibility in relation to the city proper (i.e., city hall), like near, not-so-near, and far. Overall, there are 29 *barangays* near the city hall, 45 not-so-near, and 55 far from the city hall. For each category, a *barangay* or village was randomly picked. Each village was represented by five males and five females; thus a total of 30 respondents for the three villages.

Each adult aged 25 years and above was randomly picked from a list of all male (or all female) household members in every fifth household visited in the "right coverage," or always turning right. Males or females were chosen alternately using a random selection key.

C. *'Meningo'* and Me

Specifically for the inclusion of meningococcemia in the study, this section will discuss methods employed apart from those mentioned earlier. Included are my experiences both as researcher in and resident of Baguio City with another home origin, or permanent residence.

In November 2004, before I left United States for dissertation research in Baguio City, Philippines, I learned about the meningococcemia scare in the city via an e-mail message of a friend living there. I visited the city the following month and started to work in January 2005. During my first few days in the city, every single person I talked to from all walks of life told me about the second wave of the disease. Then on, I took notes of what they told me, their text messages, and e-mails. I likewise clipped local and national newspaper articles. I watched local and national news regularly from January 2005 to March 2005 to monitor the recent on-goings in the city.

I also met with Dr. Antonio B. Bautista, the head of the Disease Control Prevention Unit of the Department of Health (DOH-CAR) on February 7, 2005. He gave me an update of the health situation in the city as regards *'meningo,'* the local term for meningococcemia used widely. The team from WHO, DOH-National Epidemiology Center (NEC), and Dr. Bautista also visited the Cordillera Studies Center-University of the Philippines Baguio (CSC-UPB), where I worked on February 22, 2005. We discussed about the sociocultural

factors in regard to the spread of the disease in CAR, among other concerns, and about its prevention and control.

I also participated in a public forum, "Meningococcemia: an Educational Discussion," on January 12, 2005 held at UPB. Secondary data such as reports and statistics from the regional health department were also sought with permission to be utilized. More importantly, I did participant observation in Baguio City and its neighboring areas.

From January until July 2005, I also stayed in the city during weekdays and went back home in the lowlands during weekends. Going home provided me the experience of being treated as somebody from Baguio City where *'meningo'* prevailed. A striking incident was when I received a surprising remark from the caregiver of my father. As I approach our house, tired from my week-long work in Baguio City, he extended his arm to open the gate and said emphatically in Ilokano, "Here she comes, from *'meningo'* city!"

During *Panagbenga,* the annual flower festival in the city in February and Holy Week, two occasions where tourism is usually at its peak (except for the year 2005 due to the scare), I was in the city observing the number of residents and visitors actively participating in various activities.

Lastly, the key actors in the health care system such as the policy makers and program managers, health providers, and PATB and lay public were interviewed using semi-structured questionnaires in the third quarter of 2005.

They were asked questions about TB as mentioned earlier as well as their experiences during the outbreak of meningococcemia in the city.

D. Data Management

I assigned code names or pseudonyms or identification numbers to the interviewees. No information that could identify the respondent personally was used in any written report resulting from the research. Any information that was obtained in connection with this study that can be identified with the respondent will remain confidential and will be disclosed only with respondent's permission or as required by law. The respondent shall have the right to review tapes made as part of the study to determine whether they should be edited or erased in whole or in part. All tapes will be destroyed after their use and after this research project is completed.

Transcriptions and translations of interviews from Ilokano and/or Tagalog to English were done while on field site. The tapes and transcriptions of all interviews were stored in a cabinet that was padlocked when not in use and was accessible only to project personnel. Only I had access to the computer files in the laptop.

Data for close-ended questions about TB and meningococcemia were encoded and tabulated using Statistical Package for Social Sciences (SPSS). Simple statistics, in general, were generated by the SPSS software.

Chapter III

'MENINGO': THE INFECTIOUS OTHER?

The globalization of disease, particularly infectious ones, challenges medical anthropologists and public health practitioners. It opens up an issue of place and space when pathogens are actually situated in an individual's body who moves around places and spaces. The recent outbreak of meningococcemia in Baguio City, Philippines offers an interesting case to study the phenomenon. While meningococcemia, an infectious disease caused by *Neisseria meningitidis,* surged in specific and sporadic areas of Baguio City, the geographic space, *en toto,* seemingly among individuals living outside the place was the sole site of infection. All residents in the city, foreign and local, were identified with the dreaded disease. The epidemic created social boundaries within the city and among places.

The social constructions of meningococcemia by different key actors – media, government, business sector and health agencies - created even more images of the place and people occupying the geographic space bounded by geo-political markers. Images of Baguio City – its people and locale – are many and diverse. The confusion created by these various images of infection disrupted people's daily lives in Baguio City and other areas, near and far.

In this chapter, I will discuss how a local public health issue, confounded by economic and political concerns, created a broader public health alarm, not

only due to the movement of people with the pathogen. It was likewise caused by the proliferation of information or the lack of it, and its exaggeration or even simplification. Thus, I will argue that scenarios like this calls for even more intense public health information dissemination, not only at the city level. When the body becomes the site of infection, there is a shifting boundary of public health geography as the infected individuals move or relocate in another place or space.

The data for this chapter comes from my notes in interviews, symposia, news programs, and reports and newspaper articles from both local weeklies and national dailies of reputable journalism standards. Participant observation was likewise conducted from January 2005 until I left Philippines in January 2007. In presenting my arguments, I will organize my data not in terms of the social constructions of the disease by key actors. Rather, I will outline the themes of debates along the areas of epidemiological and public health concerns about the epidemic of infectious disease. Thus, I will discuss the market or Baguio City as both space and place of infection and then show public health responses of different stakeholders to a "new social variant."

A. *'Meningo'* or 'Praninggococcemia': From Disease to Health Identity

Meningococcemia, locally called *'meningo,'* is an old disease. Biomedically, it is defined as a case having fever and hemorrhagic purpuric or ecchymotic skin lesions greater than three millimeters in diameter. Other cases

included those with meningitis and/or non-fulminant septicemia (DOH-CAR 2005). There are five antigenic groups: A, B, C, Y and W135. They are delicate microorganisms that do not survive for more than 30 minutes at 40 degrees centigrade, and are sensitive to sunlight and changes in temperature (Bautista 2005).

The bacteria, *Neisseria meningitidis*, reside in the nasopharynx, located above the palate and behind the nose. "When someone who has the bacteria sneezes at you, or kisses you on the lips, or drinks from your cup or straw, or does something where respiratory droplets or secretions from the nasopharynx are transmitted, then you have a chance of acquiring" the disease (PDI, January 15, 2005: B2-4). Transmission is only from person to person, by direct droplet spray, not by food, air, or water; not by touch or casual contact. In my interview with Dr. Antonio B. Bautista, the senior health official of DOH-CAR, he said that the chance of acquiring the disease is one in 175,000 population.

The signs and symptoms of meningococcemia described in flyers from the Baguio City government and in cooperation with the City Health Response Team were the following:

a) fever and chills,
b) headache,
c) neck stiffness,
d) neck and back pain going down to lower extremities,
e) nausea and vomiting,

f) petechiae[6], and
g) seizures.

The investigation team composed of technical staff from the DOH-CAR, DOH-NEC, BHD and WHO Western Pacific Regional Office (WPRO), agreed on the following epidemiologic definitions of meningococcemia cases (DOH-CAR 2005; see also interview with Dr. Bautista and his presentation in CD, and Dr. Alcala's presentation in CD):

1. **Suspect**: Acute fever with haemorrhagic rash and/or meningeal signs.

2. **Probable**: A suspect case with turbid cerebrospinal fluid (CSF) OR gram negative diplococci from CSF, blood or skin OR close contact with a confirmed case during the previous 10 days.

3. **Confirmed**: A suspect case with *N. meningitidis* isolated from a sterile site (CSF, blood, skin) OR presence of *N. meningitidis* DNA from a sterile site (CSF, blood, skin)

A **close contact** of a case of meningococcal disease includes:

1) persons living in the same household of a case, including visitors who have stayed overnight in the 10 days preceding the onset of the case's illness;
2) persons who share sleeping arrangements with the case;
3) persons sharing the same dormitory, military barrack or hostel bunkroom of a case;
4) persons who have direct contaminations of their nose or mouth with oral/nasal secretions of a case (e.g. kissing on the mouth, shared cigarettes, shared drinking bottles); and
5) children and staff in child care and nursery school facilities.

A **primary** case is one that occurs in the absence of previously known close contact with another case. A **secondary** case is a close contact of a primary

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[6] Rash of small red and purple spots; does not disappear when pressure is applied; occur in 50 to 75% of cases; rashes may progress to larger red patches or

case who develops illness more than 24 hours after the onset of illness in the primary case. A **co-primary** case is a close contact that develops illness within 24 hours of onset of illness in the primary case. In my interview on February 7, 2005 with Dr. Bautista, he said that there are more primary cases (97 percent) than secondary ones in Baguio City. Also, 90 percent of cases were septicemic rather than meningitic.

The increase in meningococcemia cases in Baguio City, Philippines started on September 27, 2004, the onset of illness in the first case. The following month, DOH records showed that there were three cases and a lone fatality. In November, there were 13 cases and seven fatalities. It was observed that sporadic cases continued to occur first week of December 2004 and with increasing frequency towards the end of the year. From September 1, 2004 to January 31, 2005, the total cases of meningococcemia in Baguio City were 43: 30 suspect, five probable, and eight confirmed. Sixteen[7] persons died of the disease. The city had a 37 percent case fatality rate (Bautista 2005). As cases continued to occur in succeeding months, "praninggococcemia" ensued. This term was coined from "praning", or street speak for "paranoid" (PDI, 10 January 2005: A17) and meningococcemia that describes the paranoia of people against Baguio City residents (PDI, 29 January 2005: A17; PDI, 10 January 2005: A17). Frank

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purple lesions.

[7] From March to December 2004, 18 out of 20 cases of meningococcemia in 20 villages in Baguio City died of the disease (PDI, 8 January 2005: A8; PDI, 7 January 2005: A15).

Cimatu, a local journalist, aptly described the situation: "The deadly meningococcemia has mutated into a new social variant, "praninggococcemia" (PDI, 10 January 2005: A17).

The movement (or lack of it) of people from one space to the other is determined by the socially constructed images of the place and people moving. The boundaries of flow of people (and objects) are demarcated by the social construction of the infectious disease (i.e., *'meningo'*). Since the pathogen is lodged in the human body, the person's physical and social location becomes the new marker of infection. Health identity, real or unreal, (dis) allows physical human contact and imposes the shifting borders of globalization.

B. Market and Baguio City: Space or Place?

During the outbreak of meningococcemia in 2004 and 2005, Baguio City, once frequented by local and foreign tourists, was totally shunned. Then clean and green, Baguio City, specifically the marketplace, allegedly became the site of infection. *'Meningo'* created new images of the city and demarcated boundaries of people flows.

According to then Secretary of Health, Dr. Manuel Dayrit: "The Baguio City market was the primary source of the series of cases of meningococcemia" (PDI, 14 January 2005: A17; BMC, 2 January 2005: 8; PDI, 29 January 2005: A17; PDI, 6 January 2005: A2). This idea seated well with the residents of Baguio City. Many of them avoided the city market and crowded areas. It was likewise

observed that Baguio City residents did not have contacts and interactions with friends and relatives as they used to. In the evenings, there were fewer people downtown than before the outbreak of meningococcemia. After office hours, employees immediately went home to avoid contracting the disease.

Local tourists and shoppers who used to frequent the market place also refrained from going there, if not the city as a whole, due to the *'meningo'* scare. There was a 90 percent decline in tourist receipts and the city lost 52 to 80 million pesos per week. The Baguio Association of Hotels and Inns and the Baguio Market Vendors Association claimed for "*meningo*-derived bankruptcy" to seek cuts in their business renewal taxes.

Baguio City offers locally made clothes and locally produced vegetables. It is also famous for "*ukay-ukay,*" or shops for used branded clothes from abroad like Levi's, Nike, and Adidas, to name a few (Milgram 2004). "*Ukay-ukay*" shops, a source of livelihood for many individuals, were even identified as possible sources of contamination, implying that the dreaded disease originated from outside. The shops frequented by local tourists have been there for many years and no disease was found then, so other people argue.

Likewise, demand for locally made delicacies for *pasalubong* or gifts from Baguio City, decreased. One entrepreneur claimed they had to cut down on production for a month as sales were very low. Thus, her employees who earned their living on a daily wage basis did not have money for that month. She added the *Panagbenga,* the annual flower festival, and Holy Week (March 20-27, 2005),

two occasions where the number of visitors in Baguio City is usually high, did not attract more visitors to the city. She then again halted production. She also said that she received checks with closed accounts from fellow businessmen. Overall, she had losses due to the disease scare. The city, in general, had likewise economic losses due to the outbreak of meningococcemia.

Since the city market was identified as the site of infection, there was a call for its closure for 10 days. The vendors reacted, *"Hindi kami mamamatay sa 'meningo'; mamamatay kami sa gutom!"* (We will not die of 'meningo'; rather, we will die of hunger!) Officials saw no need for the market's closure: "They stress, it is not the place, and certainly not the food sold in the market, but the people who cause the spread of the disease" (PDI, 7 January 2005: A15).

Believing that infection is in a particular place, several cleanup drives were conducted in the market area and around the city (BMC, 16 January 2005: 2). "As part of the cleanup drives, illegal structures in the market would be torn down" warned Vice-Mayor Peter Ray Bautista. He added: "cleaning up the market would not only prevent the spread of meningococcemia, but other diseases as well" (PDI, 7 January 2005: A15). In this instance, health, in general, was associated with a clean environment.

Another view came from Dr. Bautista, who believes that the market is a space where people interact. "The disease," according to him "is transmitted by people and not by their environment" (PDI, 9 January 2005: A15). The market area was the convergence point for people. In my interview with Dr. Bautista in

February 2005, he said there were three jeepney waiting stations in the market area. Even then Health Secretary Dayrit said: "Going to the market will not make a person acquire meningococcemia" (BMC, 2 January 2005: 8).

Meningococcemia, according to Dr. Bautista, is a form of meningococcal infection whose foci is man. In my interview with him, Dr. Bautista added, "*Meningo* bacteria lodge in the throat. They can be transmitted only if an infected person coughs at close range and directly at another. The chances of getting the disease are one in 175,000 population" as mentioned earlier. "But Bautista clarified, it is not the entire city that is affected but only 20 barangays" (PDI, 7 January 2005:A15; Interview, 7 February 2005). Dr. Bautista stressed in interviews conducted by journalists that Baguio City and the Cordillera do not have the monopoly of the disease (PDI, 7 January 2005: A15; PDI, 6 January 2005: A2). "Meningo's presence is felt nationwide" confirms a national newspaper (PDI, 8 January 2005: A8). "Latest reports said suspected meningococcemia cases were recorded in Metro Manila, Dagupan City, Quirino and Negros Occidental" (PDI, 6 January 2005: A2), an earlier news item pointed out.

Members of the newly established command post for meningococcemia, irked by discrimination, strongly defended the residents of Baguio City. "Not all cases should be attributed or traced to Baguio. There will always be other cases in other parts of the Philippines," reiterated Dr. Luningning Villa, the spokesperson of the command post and program manager of the emerging and

reemerging infectious unit of DOH's National Center for Disease Prevention and Control.

Dr. Hitoshi Oshitani, the WHO regional adviser for communicable disease surveillance and response, likewise added, "Meningococcemia is an endemic disease not only here but in other countries" (PDI, 10 January 2005: A17). Seemingly, a more popular notion of the risk of infection is attached to geographic locations and demarcated by local, regional, or national borders. This is in contrast to the 'individual' emphasized earlier.

Apparently peeved by outsiders' attitudes, Baguio City residents and about 250 foreign students including local media personalities wore T-shirts bearing the message, "I'm from Baguio City, Do you have a problem with that!" (PDI, 14 January 2005: A17; BMC, 16 January 2005: 14). Meningococcemia, the life threatening infectious disease had metamorphosed into a "new social variant," branding Baguio City residents as the infectious Other or the survivor.

Local businessmen and artists capitalized on the emergence of the disease by selling t-shirts bearing "Meningo Survivor" at 250 pesos (or approximately US$5) during the *Panagbenga* and continue up to the present time. The shirt, which comes in two lengths, long and short, says, "Outlive, Outspread, Baguio City Outbreak." The shirt claims that the meningococcemia outbreak existed and the user survived the life-threatening disease and the stigmatizing *'meningo'*. The t-shirts' messages seem to portray what Castells (2004) describes as "*the exclusion of the excluders by the excluded,* that is, the building of defensive identity

in the terms of dominant institutions/ideologies, reversing the value judgment while reversing the boundary" (p.9).

C. To Whom It May Confuse

In reality, there were contrasting social constructions of meningococcemia. While the then Secretary of Health Dayrit, announced on television that the Baguio City situation was "technically an outbreak," a couple of days later, WHO said there was "no outbreak." Rather, it was a "meningococcemia alert based on WHO standards," Dr. Villa said.

In a national newspaper, the WHO regional adviser for communicable disease surveillance and response was quoted as saying: "We are still assessing the situation. We need more information so it is difficult to say (PDI, 9 January 2005: A15, see also BMC 9 January 2005: 1). Below, however, is a WHO Disease Outbreak News item from the internet:

> 11 January 2005
>
> The Ministry of Health, Philippines has reported a total of 33 cases and 19 deaths, case fatality ratio of 58%, of a meningococcemia-like illness in Baguio City. A total of 8 cases has been confirmed by blood culture as *Neisseria Meningitis* A. However, the clinical presentation and the high case fatality ratio observed are unusual in epidemic meningococcal disease. Therefore, further epidemiological and laboratory investigations are needed to better characterize the cause and extent of the outbreak.
>
> An expert in meningitis from WHO will be assisting the Ministry of Health in its investigations. He will be joined by a laboratory expert epidemiologist from the Global Outbreak Alert and Response Network.

At a later date, media interviews with the then Secretary of Health were shown in an early evening television show. The program presented his statements in regard to the health condition in the city as confusing. However, the senior health official of DOH-CAR strongly believed that, "there is no outbreak nor epidemic because cases could not be confirmed to institute medication. From literature, it is difficult to get epidemic from *'meningo.'* It needs to be in a clustered setting: prison, school or community." He affirmed this in my interview with him. In his press release statement, he was quoted as saying, "Despite the cases, the disease is actually contained, and health authorities are on top of the situation. It is not an epidemic..." (PDI, 7 January 2005: A15). The term *'meningo'* alert, a less threatening description, was widely used later.

The media played a major role during the outbreak of meningococcemia in Baguio City and CAR. When cases started to be reported in November 17-19, 2004 national media outfits came to DOH-CAR for a statement and were instead referred to BHD. No statement was issued. DOH-CAR asked the media people to refrain from using the term "epidemic" until all concerned people will have talked, but they used the term just the same. This information was from my interview with a senior regional health officer.

During the outbreak of the disease, I observed that the daily evening television news, featured cases as well as reactions of health providers and public health officials, local or national. To the print and media people, however, there

were no categories of meningococcemia cases - whether suspect, probable, or confirmed. Classifying cases exhibiting only clinical symptoms of the disease did not allow a more objective assessment of the situation. Dr. Charles Cheng, a doctor and journalist shared his observation about media reports in his article dated 23 January 2005 (BMC, p. 36) as follows:

> Case 1, was male featured in local and national TV where the brother of the patient stated that he died of meningococcemia. The patient happened to be my patient and his death was due to heart failure secondary to chronic lung disease. It was not a case of meningococcemia.
>
> Case 2, a male from Buguias was alleged to have died from meningococcemia because he had headache and vomited blood. Upon inquiry, the patient had a history of peptic ulcer. The night before he died, he had a drinking spree with his friends. Late in the night, he vomited massive fresh blood and when brought to a physician who noted of the signs - headache, vomiting and dizziness - he requested the patient to be brought to Baguio for further management. Admitting the patient, upon learning the history of vomiting blood, the doctors diagnosed it as meningococcemia. The patient died and the driver who brought the patient to the hospital was given massive doses of antibiotics who had dizzy spells and body malaise. Rumors and text messages indicated that he also died of meningococcemia, which was farthest from the truth.
>
> Case 3, a waitress who died a few hours after admission. She was also diagnosed of meningococcemia due to her sudden death. Further inquiry from the employer showed that she had a long history of congenital heart disease.

The media's failure to classify cases and follow through a reported suspected case scared more people in Baguio City as well as other people who might visit the place or come in contact with people from the city. The media's portrayal of the health situation was blamed for the current economic downfall

of the city by various sectors. Losses in the business sector were attributed to news sensationalization.

As observed, there was a proliferation of news about the disease – report on the number of cases, signs and symptoms, statements from the health department, etc. in January 2005. News articles tapered off through time as meningococcemia cases appeared to decline but the news media timed its periodic announcements. One television company reported a new meningococcemia case the night prior to the annual celebration of the *Panagbenga* while another agency covered the festivities during the flower festival in February 2005. Sometimes print and broadcast media did not necessarily make the same statements. Such was the case with the "state of calamity" issue in Baguio City (see BMC, 9 January 2005: 1; BMC, 16 January 2005: 6 and 30). The Baguio Midland Courier's headline on January 9, 2005 clearly stated: "Mayor, DOH claim Baguio not in a state of calamity" while early evening news on television featured the mayor making pronouncements. This issue, however, should not be held against the media outlets.

Flow of information is also dependent on media and their perspective of dissemination. DOH-CAR gave data to media for information dissemination, but according to the senior regional health officer, conversion (or interpretation) is dependent on mediamen; "*maraming magagaling dito sa Baguio*" he said in my interview, which means there are many know-it-all here in Baguio. In March 2005, mediamen were gathered for a discussion on journalism and health.

The Baguio Midland Courier (BMC), a local newspaper, reported that the mayor told reporters in a press conference: "The city is not under the state of calamity" (9 January 2005: 1). However, the city government, according to a national paper, declared Baguio City a calamity zone on January 5, 2005 in order to access P12 M in calamity funds to combat meningococcemia (PDI, 6 January 2005: A2). A local television company even showed city mayor Braulio Yaranon saying that Baguio City was under a state of calamity (see also BMC, 16 January 2005: 6 and 30). A political foe interviewed by the same media outfit disagreed with this declaration due to its ill effects to Baguio City's reputation. Several days later, the city council reported that the city was not under a state of calamity. Calamity funds, though, were tapped to address the then public health situation. Another report said that vice-mayor Bautista, who ran under an opposing party, "reflected on the city government's decision to declare a state of calamity in a press conference on Jan. 5, but Yaranon immediately disowned that declaration" (PDI, 10 January 2005: A17; see also 16 January 2005: 6 and 30). Below is an excerpt of a letter of the city secretary who set the record straight. It was published by BMC in their "Week's Mail" column on January 9, 2005:

> "What the city council did was to 1) authorize the use of the calamity fund to purchase a carbon dioxide incubator and sufficient supplies of prophylactic antibiotics and other medicines needed under any contingent situation that may be brought about by the disease, and 2) declare public interest as the legal basis for charging the amount against the calamity fund... The amount needed was not included in their (City Health Services Office) budget proposal. And it will take some time before the city ordinance will be approved. The use of calamity fund was suggested... The local finance officers present at that time however

> believed that there might be a need to specifically declare a state of calamity fund for the purpose... The city council... on December 10, 2004... adopted Resolution No. 350, series of 2004 saying thus: ...
>
> "to authorize the purchase of a carbon dioxide incubator, its initial reagents and supplies, at the cost of P1,413,620, and sufficient supplies of prophylactic antibiotics and other medicines needed under any contingent situation, at the estimated cost of P600,000, the funds thereof to be charged against the Reserve Fund (Calamity Fund) of the 2004 Annual Budget of the City of Baguio."...
>
> "to declare public interest as the legal basis for charging the funds thereof against the Reserved Fund (Calamity Fund) to prevent any calamity from occurring rather than keeping the funds in reserve to repair the damage that may be caused in the event of calamity"...
>
> ... Nowhere in the resolution does it state that the existence of a state of calamity has been declared..." - RONALDO B. PEREZ, City Secretary

To contain trauma and hysteria brought about by meningococcemia, the city government also initiated a series of park concerts at the city plaza on Sundays (PDI, 10 January 2005: A17). However, the lifting of the *'meningo'* alert was a crucial factor in the celebration of *Panagbenga*, as scheduled, on February 26 to 27, 2005. On January 15, 2005, the city mayor said he will abide by the DOH decision to lift the *'meningo'* alert in Baguio City. This would eventually help him to decide whether or not to continue with the annual flower showcase. On January 23, 2005, mayor Yaranon declared the *Panagbenga* will proceed as scheduled. Dr. Florence Reyes, the city health officer, announced the disease alert has been lowered. Early on, Dr. Reyes likewise said (PDI, 18 January 2005: A14): "The risk of developing the disease is very low from activities like tours, marketing, festivities, seminars, trainings and school classes. There is no reason

to ban travel to Baguio City. Residents and visitors may go on with their daily routine."

Interestingly, on the next day, January 24, 2005, then Health Secretary Dayrit said the city was free from *'meningo'*. Thus, the *'meningo'* alert was officially lifted, which paved the way for the holding of the 10th *Panagbenga* festival that draws thousands of local and international tourists every year. The floral street and floral float parades were festive, as usual, but this time with fewer visitors and lesser economic returns for the city. Indeed, the observation that the situation was not only a health issue but also political, was true to form.

D. Public Health Responses: Global and Local, then and now?

Health agency experts from various parts of the city, nation and the globe synergized their efforts to contain the spread of meningococcemia. However, various ideas and differing thoughts about public health measures within and among them were observed creating confusion. For instance, there were issues on the use of antibiotics, the wearing of masks, and vaccine use.

In November 2004, a team from the DOH-NEC came to assist the Regional Epidemiology and Surveillance Unit (RESU) and City Epidemiology and Surveillance Unit (CESU) in case investigations, contact tracing and subsequent treatments. The WHO was likewise informed of a suspected meningococcal disease outbreak (Bautista 2005). Experts in meningitis and a laboratory epidemiology also assisted. Additionally, experts from the Research Institute on

Tropical Medicine (RITM) and DOH central office assisted local health officials validate records of patients. Experts from RITM worked closely with the BGH in improving its diagnosis.

In December 2004, the City Health Response Team, composed of doctors from various hospitals in Baguio City, was created "to allay fears of Baguio citizens, to investigate and conduct surveillance to determine source, cause and actual situation during reported disease outbreaks, and to report out proper prevention and treatment" (BMC, 19 December 2004: 7).

Consistent with their mandate to protect the health of the public, DOH officials tried to stand firm on the statement, *"Ang negosyo, kung babagsak babangon pa rin; ang tao kung namatay hindi na makakabangon!"* (When a business falls, it will rise up again; when a person dies, he/she will not rise again!) It was in response to pressures to proclaim Baguio City as "*meningo*-free" to rebuild its economy. Although according to a senior regional health officer, admittedly they are caught between the city government's announcements and everyone's concerns about decline in tourist arrivals as well as slow business in the city.

In response to increasing numbers of cases in December 2005, BHD conducted mass treatment with Ciprofloxacin in the market area, the alleged site of infection, reaching 26,000 people. Three thousand people received treatment from December 23-24, 2004 while 23,000 received prophylaxis from December 28-31, 2004. On the use of antibiotics, the then Secretary of Health said: "But if you're worried, take antibiotics if you want. Although you don't really have to,

especially if you've had no contact with an infected person" (PDI, 9 January 2005: A2).

Drugstores, however, gained from the *'meningo'* scare. Individuals bought Vitamin C and antibiotics to guard themselves from contracting the disease. Prophylaxis such as Ciprofloxacin and Rifampicin, the anti-TB tablets, were sold in pharmacies as over-the-counter drugs. In a television news January 5, 2005, the then Health Secretary issued a warning that those who overprice the medicines will be penalized.

During the first wave of antibiotics distribution, beneficiaries such as market vendors, jeepney drivers, and passengers refused to take prophylaxis. Dr. Bautista, who became popular due to his television exposure, explained that the great majority "refused to believe the gravity of the meningococcemia crisis." The succeeding antibiotic campaign, however, was successful, with 99 percent of vendors and drivers taking the medicines (PDI, 8 January 2005: A8). 'Anti-TB' tablets were used for prevention of meningococcemia because they were effective against *N. meningitides* and not necessarily because they work against *M. tuberculosis*. Note that no less than the then Health Secretary said that if there was no contact with an infected person, taking antibiotics was not imperative (PDI, 9 January 2005: A2).

Apart from the use of antibiotics, vaccination was resorted to by the affluent few. The regional health department, however, did not recommend vaccination as a public health measure. It was an option as a personal protection

measure (Bautista 2005). Posters in English language, distributed widely, carried the same message. The vaccination takes effect ten[8] days after injection and lasts only for 2 ½ years[9] (Interview, 7 February 2005). The poster reproduced by DOH-CHD-CAR said vaccination is 85 percent to 95 percent protective. It is not protective for children aged less than two years.

In a press briefing, the senior health official was also quoted saying: "We have enough money. Health Secretary Manuel Dayrit gave Baguio P2.7 million (to implement meningococcemia containment protocols), but vaccines have become scarce and the Baguio government is hard up (purchasing supplies)." According to PDI, he said reports about meningococcemia have scared private hospitals into buying most of the meningococcemia vaccines (PDI, 6 January 2005: A2). Vaccines cost a minimum of PhP 1,500.00 (or approximately US$30). This was prior to mass vaccination conducted free of charge the following year, 2006.

Masks were also out of stock by early January 2005. I observed there were about three out of ten individuals wearing face masks along Session Road, the main thoroughfare in the city. I saw three men in a television network vehicle with masks around their necks. Personnel of a speed mail center were not wearing masks during a visit on January. In my second visit on January 5, 2005, they were already wearing masks, apparently due to the reported escalating

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[8] Poster reproduced by DOH-CHD-CAR states that vaccination starts to be protective after five days from injection.

numbers of mortality and morbidity cases. Bank tellers also attended to clients wearing masks (PDI, 7 January 2005: A15). There was a high demand for masks but given the limited supply, prices were raised. Students were absent from their classes and elementary pupils wore masks in their classrooms.

My interview results with the key actors in the health care system regarding their reactions are summarized in the table below.

Fifty-one percent among PATB and lay persons were not scared of meningococcemia as was portrayed in the media during the upsurge of the disease. Media people and outfits exaggerated their news to the point of sensationalization. Instead of being scared, PATB and the lay public realized the health news became media hype. Also, differing views and public health announcements probably had made them feel secure rather than scared, depending on who they believe.

Table III.1
Percentage of Key Actors and their Reactions
During the Outbreak of Meningococcemia in Baguio City

	Key Actors		
	Policy Makers and Program Managers (n=9)	Health Providers (n=35)	PATB and Lay Persons (n=44)
Scared	86	83	51
Received antibiotics	43	80	35
Wore mask	14	37	21
Vaccinated	43	71	2
Affected lifestyle	57	74	51

[9] Up to 3 years according to the poster reproduced by DOH-CHD-CAR.

Among policy makers and program managers, 86 percent were scared as were 83 percent of health providers. Policy makers and program managers, for instance, at a very limited time, had to study the disease and health situation carefully to come up with a sound public health measure to combat a disease that takes life in matter of days. No less than the then Secretary of Health provided varying pronouncements about the presence or absence of an outbreak. The city mayor was likewise in a dilemma on whether or not pursuing the flower festival in its original schedule. The city council also clarified calamity funds were used to prevent and control meningococcemia. However, the city was not under the state of calamity.

Health providers, especially those in the public sector, who were at the forefront of preventing disease transmission, were scared during the height of meningococcemia. Doctors, nurses, midwives and even BHWs provided antibiotics to immediate family members and neighbors of meningococcemia patients. Thus, health providers were prioritized to avail of free antibiotics to guard themselves from contracting the disease as they uphold public health. Eighty percent of health providers interviewed had taken medicines during the height of the disease scare while less than 50 percent of the other key actors in the health care system did. Only 43 percent of policy makers and program managers and 35 percent among PATB and lay persons took antibiotics. At that time, a shortage and an increase in prices of antibiotics were noted.

Few wore masks as protective measures during the upsurge of meningococcemia: only 14 percent of policy makers and program managers, 37 percent of health providers, and 21 percent of PATB and the lay public. A greater psychological distance is produced between two individuals when masks are used. This, I believe, was a major reason why only a few wore masks. Besides, it was emphasized then that meningococcemia was not airborne but was transmitted via intimate contact.

Vaccines were not affordable by many at that time. Among key actors in the health care system, 80 percent of health providers were vaccinated. Forty-three percent of policy makers and program managers were likewise vaccinated, while a measly two percent of PATB and lay public availed of vaccines. It should be noted that, during this time, DOH claimed vaccines can be used as a personal protective measure.

Several months later, however, a massive campaign for free meningococcemia vaccination was launched in Baguio City and nearby provinces of Benguet, Ifugao, and Mountain Province. Announcements and provisions of free vaccines, apparently from international organization, in the city and provinces were observed in the churches, offices, and schools. In a DOH-CAR report (2005), children aged from two to eight years were the most affected age group, thus were prioritized for free anti-meningococcal vaccination. This commenced on October 26, 2005, barely four days after receipt of vaccines from the central office of the health department.

As expected, the lives of most health providers (74 percent) were affected by the compelling health situation in the city during the meningococcemia outbreak. In interviews, they claimed they had additional work, serving districts beyond their own areas of assignments. Likewise, lives of 57 percent of the policy makers and program managers were affected during the meningococcemia outbreak in 2004-2005. Lives of 51 percent of PATB and lay persons were affected. In general, people from other places ostracized these key actors in the meningococcemia scene. Personal contact was avoided for fear of contracting meningococcemia.

E. Concluding Remarks

The rise of meningococcemia in Baguio City in 2004 created new and fluid social boundaries that change each time a person moves. While globalization "pulverized" geographic demarcations, diseases like meningococcemia, and most especially its social constructions, produced a strong, fluid social boundary. The dynamic flows of people, to and from Baguio City as well as within the city, were disrupted due to the '*meningo*' scare.

This chapter clearly illustrates the "politics of disease" and the production of disease knowledges associated with social conditions and individual positions of the time. It likewise provides an interesting lens for viewing TB over time. Comparing the two infectious diseases together, they may shed light on understanding issues of globalization and health.

PART II: TB Prevention and Control in the Health Care System

TB Prevention and Control in the Philippines: An Overview

TB in the Health Care System in Baguio City

"Find TB, Cure TB"

Chapter IV

TB PREVENTION AND CONTROL IN THE PHILIPPINES: AN OVERVIEW

A local private organization started the national TB prevention and control almost a century ago. At present, more coalitions against the disease are formed locally at various levels, while financial support from abroad is abundant and available. TB prevention and control measures likewise have continued to change through time as they adapt to international public health agenda.

Chapter IV outlines TB control and prevention efforts of various sectors through time. Focusing on the Philippines, initiatives of private and public agencies on TB control and prevention are discussed to set the context of TB in the health care system. The chapter enumerates the strengths and weaknesses of the NTP of the DOH as it has developed into its current state. The implementation of DOTS, locally referred to as *"Tutok Gamutan,"* [10] its current primary strategy, supporting policies as well as the proliferation of coalitions against TB at the national and local levels are presented. This chapter highlights the continuous challenges and intense desires of various stakeholders to combat the infectious disease by adopting organizational as well as technical strategies.

The chapter is organized chronologically in terms of significant periods in the history of TB prevention and control in the Philippines at the national level. Working mostly on secondary data, I present briefly milestones in each two-

decade period starting from the founding of the earliest organized initiative on TB prevention and control in the Philippines in 1910 and tracing important efforts up to the present time.

It should be noted, however, that prior to 1910, the first preventive regulations in the form of ordinances were enacted by the Municipal Board of the City of Manila. Also, Philippine representatives to the Sixth International Congress on TB convened in Washington on September 1908 and presented resolutions adopted in the Congress to the people of the Philippines. These representatives made recommendations which "may be considered as the very foundation of the crusade against tuberculosis in the Philippines" (Calderon 1927:37).

1910-1929: A Private Organization in the Dark. The first meeting of the Far Eastern Association of Tropical Medicine was held in Manila and its closing session in Baguio City and adopted the following resolution on TB (Calderon 1927:38):

> "The association will exert all its influence to form an "Antituberculosis Society" as a political entity representing the Far Eastern Association of Tropical Medicine. This society is to be organized and patterned similarly with other institutions of the same kind existing in the world."

The Philippine Islands Anti-Tuberculosis Society (PIAS), a government-assisted private organization, pioneered nationwide TB control (HealthBeat 2004, Dayrit, et.al., 2002). Now called the Philippine TB Society, Inc. (PTSI), it was

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[10] *Tutok Gamutan* is a Tagalog phrase which literally means focused treatment.

founded on 10 July 1910[11] (HealthBeat 2004) in a resolution by the Far Eastern Association of Tropical Medicine hosted by the Philippine Islands Medical Association (Dayrit, et al. 2002). In 1918[12], PTSI established the Santol Sanitarium, the largest hospital for TB patients in the nation. Case finding and in-patient services were the thrusts of the TB control program at that time. Bed rest, isolation, and hospitalization were available but there was no specific treatment regimen available then (HealthBeat 2004), or "there was nothing with which to cure TB" before World War II (Dayrit, et al. 2002:183). Robert Koch discovered tubercle bacillus in 1882 for which he won a Nobel Prize in 1905. Waksman discovered streptomycin in 1946 and Domagk discovered thiacetazone (TB 1) in 1946 but their curative effects against TB were proven only after several years (Dayrit, et al. 2002).

To help fight TB, the late President Manuel L. Quezon organized the Philippine Charity Sweepstakes Office (PCSO) to provide funding for the TB Program of PTSI and to build the Santol Sanitarium. The Santol Sanitarium was later renamed Quezon Institute (QI) in his honor (Iglesias 1995; HealthBeat 2004, Dayrit, et al. 2002). The late President Quezon, who was afflicted with the disease, was the patient of Dr. Andreas Trepp, a Swiss physician who headed the TB hospital. Also named after him is the recent "Manuel L. Quezon DOTS

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[11] Dayrit, et al. 2002:28 states that PTS was formed on 29 July 1910, not 10 July 1910 as stated at HealthBeat 2004.

[12] According to Dayrit, et al. (2002), the Santol Sanitarium was opened in 1912 (p.28)

Achievers Award" to honor an outstanding DOTS facility, a treatment partner, and a cured TB patient in the public and private sectors in each region (WHO Report 2006).

Table IV.1
Discoverers of Pathogens, Drugs, and Vaccines

Year	Discoverer	Antipathogenic Treatment
1890	Robert Koch	Tuberculin
1924	Albert Calmette & Camille Guerin	BCG vaccine from living virulent bovine tubercle bacilli
1944	Selman Waksman	Streptomycin from cultures of S. griseus active against TB (Nobel Prize 1952)
	E. Merck (1936) Merck (1939)	
1954	American Cyanamid	Pyrazinamide
1958	Distillers Co, Ltd.	Isoniazid
1960	Sensi (1967 Lepetit)	Rifamycins
1961	Wilkinson	Ethambutol

Source: Dayrit, et al. 2002: 390 & 391

Through the years, QI has established a specialty clinic on MDR-TB and has wards for both infectious and non-infectious cases (PTSI 2001). At present, QI is more than just a TB hospital; it is one of the main divisions of PTSI. PTSI's continuing needs, however, are as follows:

- First line anti-TB drugs for DOTS program
- Second line anti-TB drugs for MDR-TB treatment program
- Service vehicles
- Mobile x-ray units
- Laboratory equipment in micro bacteriology, supplies and reagents
- Training and educational materials and equipment
- Training and development of human resources (doctors, nurses, medical technicians, and health workers) in terms of technical research capability
- X-ray machines

PTSI's role to assist and complement NTP continues through its 52 chest clinics and microscopy centers (PTSI 2001).

PIAS organized the First National Congress on TB on December 13-18, 1926. Interestingly, the Congress also became a venue for politics, as may be gleaned from the speeches of dignitaries.

At the inaugural session, the presidential address of Dr. Fernando Calderon, entitled "Tuberculosis in the Philippine Islands," claimed the TB problem in the country required more than "charity work" from the government. Dr. Calderon stressed:

> "We might be wrong in our appreciation; but we believe that, the tuberculosis problem in the Philippine Islands is not yet being considered by the Government as an enterprise, that should primordially receive a careful consideration for an adequate appropriation. This is demonstrated by the fact that about 80 percent of the antituberculosis activities are undertaken by the private association, known as the Philippine Islands Antituberculosis Society" (1927:48).

In response to this comment to the government, Manuel L. Quezon, then president of the Philippine Senate and Honorary President of the Congress, said during the closing session: "I have no hesitancy in stating that the Philippine Legislature will be glad to appropriate reasonable amount of money that the Department[13] may ask for this purpose" (1927:603). He added, however:

> "It seems, however, that, in the opinion of the extra official adviser of the Governor-General on health matters, that is not what primarily needed in the solution of the problem. Major Hitchens

[13] Manuel L. Quezon was referring to the Department of Public Instruction that supervises then Philippine Health Service in "fighting" TB in the country.

> has discovered the principal cause for the spread of tuberculosis in the Philippines and that is what he terms the policy of non cooperation... The policy of noncooperation, according to Major Hitchens, is responsible for the lack of development of the commercial and industrial resources of this country, which lack of development is, in turn, responsible for the poverty of our people and which poverty makes them the ready victims of the plague" (1927:603).

Early on, Major A. Parker Hitchens, the representative of the Governor-General explained the high mortality rate from TB in the country:

> "The Filipino people are dying of tuberculosis because they are undernourished; they are undernourished because they are poor; they are poor because the great resources of their beautiful islands remain almost totally undeveloped...
>
> The reason the natural resources of these Islands are undeveloped is that a policy of noncooperation is keeping out foreign capital. If foreign capital were permitted, rather induced, to come in and develop the industrial and commercial resources of the various provinces, the economic conditions of the people would be better, their resistance to tuberculosis increase, their death rate from tuberculosis would go down..." (1927:56).

There seems to be disagreement in terms of allowing "American capital" inflow in the Philippines, and the rest is history. With today's DOTS strategy, one of its five elements is a strong government commitment to fully implement and sustain the TB control program. Contrary to the past, I observed in a TB conference I attended that, participants acknowledge TB afflicts both rich and poor. To help lessen the stigma of the disease, some health practitioners even mention that no less than Manuel L. Quezon, then president likewise suffered from the disease. To date, international health institutions are the country's TB program partners.

1930-1949: The National Government Scratches the Surface. In 1932, the Act No. 3743 created the TB Commission under the Philippine Health Service. The following year, its powers and duties were transferred to the Bureau of Health. In 1934, the Sweepstakes Law or Republic Act (RA) 4130 established the PCSO primarily to fund PTSI's operations. The establishments of chest clinics in selected in the country also increased in-patient activities (HealthBeat 2004).

QI was destroyed during the Japanese Occupation, but it was reopened January 2, 1946. Under its new operations, training for doctors and nurses was included and health education as a preventive measure became a policy. A pavilion was likewise reserved for public school teachers who were considered prone to acquiring and transmitting TB (Iglesias 1995). In 1949, streptomycin injection was partly used for the first time as treatment for TB (HealthBeat 2004).

1950-1969: BCG and Triple Therapy as Prevention and Control if You May. As a preventive measure, the Bacille Calmette-Guerin (BCG) vaccination program was introduced in the Philippines for the first time between 1951 and 1952. The United Nations Children's Fund (UNICEF) provided assistance (HealthBeat 2004).

In 1954, Congress passed the Anti-TB Law or RA 1136 that became the basis for the creation of the Division of TB under the Secretary of Health. This law established the National TB Center of the Philippines at the DOH Compound in Tayuman, Manila and collaborated with the TB ward of San Lazaro Hospital (HealthBeat 2004 and Iglesias 1995). Available services included

chest x-rays, sputum and bronchial washing examinations, and case holding. Apart from streptomycin injection, plus oral para-amino salicylate (PAS) tablets were used for TB treatment.

RA 1136 mandated the provision of funds and acknowledged the domiciliary/ambulatory approach (i.e., home-care approach) as an alternative to the institutional or hospital approach to the control of TB (WorldBank 1992:92 as cited by Iglesias 1995). Triple therapy, consisting of the following drugs, also started in 1954: isoniazid (INH), PAS, and streptomycin (HealthBeat 2004).

In 1964, the Minglanilla Prevalence Survey conducted in Cebu Province showed 4/1000 smear positive cases. The QI was then operating with 1,350 beds, its largest capacity (HealthBeat 2004). In 1968, the NTP was established allowing acceleration and expansion of TB control services of the RHUs that were recognized under RA 1086 (HealthBeat 2004 and Iglesias 1995) thus lessening the burden of QI. The Institute was then severely lacking in spaces for confinement and was also understaffed. Under the NTP, only emergency and serious cases were admitted at QI. This paved the way for the nationwide implementation of the NTP (Iglesias 1995).

1970-1989: Public and Private Partnership Begins. During the martial law years in the Philippines in the seventies, cases of TB and malnutrition were underreported to improve the image of the country in the so called "New Society" of then President Ferdinand E. Marcos. Disease rates, however, increased, as was shown when true data of epidemics were revealed by bold

newspapermen and by "disease detectives," individuals trained by the Field Epidemic Training Program (FETP)[14]. FETP in the Philippines was patterned after the Epidemiology Intelligence Service of the US Centers for Disease and Control (CDC) at Atlanta, Georgia (Dayrit, et al. 2002).

The Philippine College of Chest Physicians (PCCP), a non-governmental organization (NGO) accredited by the Philippine Medical Association (PMA), was organized in 1973 with TB control and prevention as one of its primary goals. In the mid seventies, TB control efforts became the responsibility of the RHUs. The domiciliary care program of PTSI launched in 1973 resulted in the reduction of beds at QI to only 700; admissions were then limited to seriously ill TB cases. The partnership between DOH and PTSI intensified and emphasized the following:

1) importance of BCG vaccination,
2) case finding through sputum microscopy, and
3) case holding[15]/treatment through domiciliary means.

Likewise, the partnership, in cooperation with the WHO and UNICEF, fostered the establishment of the National Institute of TB (NIT) in 1976. It was intended for human resource development, and thus it undertook operational

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[14] Dr. Thelma Tupasi, then director of the Research Institute for Tropical Medicine (RITM) spearheaded the establishment of FETP in 1987. Dr. Manuel M. Dayrit, a graduate of London School of Hygiene and Tropical Medicine managed the program and later became the Secretary of DOH.

[15] Case holding is "an activity to treat TB cases through proper treatment regimen and health education" (Manual of Procedures for the National TB Control Program, Philippines. 4th Edition, 2005:x).

researches and trained local and foreign health workers on TB control using the primary health care (PHC) approach (HealthBeat 2004).

Also in 1976, Presidential Decree (PD) 996 for mandatory BCG vaccination of children aged eight years and below became a prime component of the Expanded Program for Immunization (EPI) (Health Beat 2004 and Iglesias 1993). It should be noted that "the first BCG immunization was a failure," according to Dayrit, et al. (2002:77). Due to lack of personnel, the vaccination was given only to children entering school at seven years old where 15 to 20 percent of them were already tuberculin reactors. With the Fully Immunized Child Program of 1979, BCG immunization, together with DPT and oral polio vaccines, was provided at six weeks of age. Dayrit, et al. (2002) observed that "definitive beneficial effects were noted, not so much against the common pulmonary type, but against the severe meningitic and military types as well as the extra pulmonary TB" (p.77).

In 1978, NTP became nationwide in scale (Auer 2003). PTSI likewise started to adopt NTP policies and guidelines in its catchment areas (HealthBeat 2004). A national TB Control Program was again launched in 1980 by then DOH Secretary Enrique M. Garcia, former QI director. With the assistance of Dr. Priscilla J. Tablan, then QI chief of medical services, the program prioritized controlling the spread of the disease by treating infectious TB cases using most of the government's limited resources. Infectious TB cases are individuals with bacteriologically positive sputa estimated to be 6.6/1000 or a total of 430,000

cases to a population projected at 65 million. Survey results in 1997 by Dr. Thelma Tupasi revealed that the program failed primarily due to "poor patient compliance with the long and expensive therapeutic regime" (Dayrit, et al. 2002: 77).

With assistance from WHO and UNICEF, the NIT conducted the first National TB Prevalence Survey (NPS) from 1981[16] to 1983, nearly two decades after the Minglanilla survey (HealthBeat 2004; Iglesias 1993; Manual 2004). NPS results became the basis for modifications of the policy and strategy of TB prevention and control that was implemented in the second half of the 1980s. For instance, it prompted the DOH to mobilize BHWs for TB case finding in 1985, and thereby significantly increased the number of sputum examinations (Iglesias 1993). The Lung Center of the Philippines (LCP) was likewise established as a tertiary hospital during the early eighties (Manual 2004).

Prior to 1986, prevention was the main TB control strategy in the Philippines. However, from 1987 to the present, both preventive and curative aspects have been equally emphasized in the Strengthened NTP launched in 1986 (Iglesias 1993). The Short-course Chemotherapy or SCC, a new treatment regimen highlighting the use of Rifampicin, 2HRZ/4HR was introduced. Though more expensive than the standard regimen (SR), SCC has a shorter treatment period of six to eight months. Also, SCC is taken orally hence, it is

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[16] The Manual of Procedures for the National Tuberculosis Control Program in 2004 claims to have started in 1982.

home administered (Iglesias 1993 and HealthBeat 2004). For the intensive phase, in-patients at QI use a fourth drug, either streptomycin or ethambul (HealthBeat 2004).

After the People Power in 1986 ended the Marcos dictatorship through peaceful means, the Ministry of Health was renamed DOH. It was likewise reorganized under E.O. 119 creating the TB Control Service (TBCS) under the Office for Public Health Services (OPHS). TBCS provided a PhP 200 M budget for TB drugs and SCC was adopted nationwide (HealthBeat 2004). Various TB drugs were contained in blister packs to ensure treatment compliance. Later, neighboring countries followed suit.

In 1988, the first Manual of Procedures of the NTP was revised and marked the adoption of SCC (Manual 2004). Included in the revision of the manual was the provision of SCC treatment for sputum positive (+) and cavitary cases and SR, for the infiltrative ones.

In the private sector, PTSI adopted the expanded community-oriented TB control program in 1987. Chest clinics replaced TB pavilions, except the one in Cebu. Microscopy centers were also established in many provinces of the country.

1990-2006: The More, the Merrier? In 1990, under the five-year Philippine Health Development Project, the NTP received financial and technical support from the Italian Government and the WB.

The Local Government Code (LGC) of 1991 devolved health services from DOH to the LGUs allowing them to manage the TB program and deliver its activities to their respective constituencies. The LGUs, thru the RHUs and the *barangay* health stations (BHSs), were the implementors while DOH was in-charge of policy development, regulation, and provision of technical assistance (Manual 2004).

In 1993, an external evaluation of NTP noted tremendous improvement in case finding activities and continuous case holding problems. Thus, in 1995 the DOH issued Administrative Order (AO) No. 1-A series of 1995 to address case holding concerns. The AO revised policies and guidelines on the diagnosis and management of TB which "mainly adopted the WHO recommended policies" (HealthBeat 2004: 15). "The devolution/decentralisation of health services in the early 1990s complicated full implementation of the NTP" (Auer 2003:33). The external evaluation likewise revealed the following: 1) inadequate budget for drugs; 2) poor quality of diagnostic process; 3) irregular programme supervision and monitoring; and 4) poor patient adherence to treatment (Philippine Department of Health, 1993; Philippine Department of Health, 2001, p.2 as cited by Auer 2003:33).

Most especially in the nineties, various TB-fighting sectors formed groups based on their active interactions. The Philippine Coalition Against TB (PhilCAT) was organized in 1994 to serve as coordinating body for government

and non-government agencies, private sector, academe and other organizations concerned with the prevention and control of the disease (HealthBeat 2004).

Sometime in 2004, the Cordillera Coalition against TB, or CORCAT, was organized by private health practitioners, mostly from Baguio City with few from other provinces in CAR. In my interview with the regional TB program supervisor, he noted that CORCAT is composed of 95 percent physicians and five percent non-medical people who do not represent their own institutions or groups. Thus, if issues come up, he anticipated that members will not be able to answer for their respective groups. CORCAT is functional; it is recognized by PHILCAT, but to him, it has no vision, mission, and goals.

In a Baguio Midland Courier (BMC) article penned by Dr. Charles Cheng, he said: "CORCAT's mission is to help control the spread of TB in the region with a vision of setting up a target of five-year program of intensive information and education campaign (IIEC), direct observation treatment, laboratory sputum examination and follow-up" (2004:5). Interestingly, the following year, the province of Kalinga also created its own coalition against TB called the KALCAT or Kalinga Coalition against TB. Local coalitions were likewise formed in other areas including Cagayan Valley CAT (CAVACAT), Citizens Iloilo CAT (CICAT), and Davao City CAT (DaCiCAT). Undoubtedly, there will be more coalitions against TB to be organized, not only in the CAR but in every city, province, or region in the country.

In 1996, NTP officially adopted DOTS as a strategy per issuance of AO No. 24 s., 1996. WHO recommends DOTS as the most efficient and inexpensive strategy to fight TB. It involves effective diagnosis by microscopy, a standardized drug regimen, intermittent therapy, and direct observation of the patient by a trained health worker. It is a comprehensive strategy endorsed by the WHO and the International Union against TB and Lung Diseases (IUATLD) to detect and cure TB patients. DOTS need to fulfill five elements:

a) political commitment[17],
b) quality sputum microscopy for diagnosis,
c) regular supply of anti-TB drugs,
d) standardized recording and reporting of TB data, and
e) supervised treatment by a treatment partner.

DOH piloted DOTS[18] in three areas in the country, namely Iloilo City, Antique and Batangas through the "C.R.U.S.H. TB" or Collaboration in Rural and Urban Sites to Halt TB Project. Results of the pilot project allowed replication and expansion of the new NTP and nationwide implementation of DOTS (HealthBeat 2004, Manual 2004).

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[17] Political commitment is "the act of pledging or giving an obligation among Local Chief Executives, such as Governors, Mayors, and other government officials" (Manual of Procedures for the National Tuberculosis Control Program, Philippines. 4th Edition, 2005:xi).

[18] Auer (2003:10-31) discussed the implementation history of DOTS as a control strategy in the world including the challenges in TB control and responses to them. Limitations of DOTS are likewise revealed. Farmer (2003) states: "DOTS is a good therapy for pan-susceptible TB, but its success depends on the efficacy of antibiotics used" (p.124). See also key concepts on pages 180-182. See also Dr. Thuzar Han's dissertation entitled, "Evaluation of Treatment Outcomes of Smear-Positive Pulmonary TB Patients Receiving DOTS in Yangon, Myanmar," September 2005. Ph.D. La Trobe University.

DOTS or *Tutuk Gamutan* was implemented in Baguio City in 2000. It has been implemented continuously throughout the nation, allowing access to 95 percent of the population by the end of 2001. Access is limited in some remote and not-so-peaceful areas. An increased case detection rate was targeted with PhilCAT spearheading several initiatives (Auer 2003). PhilCAT organizes the observance of national (19 August [Proclamation No. 840 in 1996]) and world (March 24) TB days and annual conventions. Also, under the auspices of PhilCAT, a new consensus on TB diagnosis, treatment, and control, was formulated in 1999 through a consultative process coordinated by the Philippine Society for Microbiology and Infectious Disease (PSMID), PCCP, and DOH (HealthBeat 2004).

In 1997, Dr. Thelma Tupasi conducted the second NPS was conducted. Christian Auer summarizes the main results as follows (Tropical Disease Foundation 1997 and Tupasi et al. 1999 as cited in Auer 2003:32 and 33):

- Approximately 18% of the surveyed population older than 19 years were considered TB symptomatics[19] and would have been qualified for case finding as defined in the national TB programme.
- Only 57% of these respondents took action: 32% self-medicated, 12% consulted a private practitioner, 7.5% a public health facility, 4.5% a (mostly private) hospital and 2% a traditional healer.

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[19] A TB symptomatic is a term to connote "any person exhibiting symptoms or signs suggestive of TB, in particular cough of long duration (two or more weeks), and with or without one or more of the following symptoms: fever; chest and/or back pains not referable to any musculo-skeletal disorders; hemoptysis or recurrent blood streaked sputum; significant weight loss; and other symptoms, such as sweating, fatigue, body malaise, and shortness of breath," (Manual of Procedures for the National TB Control Program, Philippines. 4th Edition 2005:xii).

- The prevalence of active TB was 42/1000 population. The corresponding rate for culture-positive TB was 8.1/1000 and for smear-positive TB 3.1/1000.

- The annual risk of infection was 2.3% (the annual rate of infection was 2.5% in the 1981-1983 national tuberculosis prevalence survey; Philippine Department of Health, 1984). Also when comparing other figures of the two prevalence surveys only a minimal decrease of tuberculosis since 1983 can be found.

- Among respondents of urban poor areas of Metropolitan Manila and two other cities (a sub-sample of the surveyed population), the rate for culture-positive TB was 12.4/1000 and for smear-positive TB 5.6/1000, and the annual rate of infection was 6.5% (Tupasi, et al. 2000)

According to the NPS, most TB patients belong to the economically productive age group, 15-54 years old (TB Network n.d.). The survey likewise revealed that the NTP relaunched in 1980 was a failure primarily due to "poor patient compliance with the long and expensive therapeutic regime" (Dayrit, et al. 1980:77).

Dr. Rodrigo Romulo, then president of the TB Clinic Foundation (TBCF), observed:

> "One of the main things this study has told us is that it is just as bad now as it was when the last survey was conducted in the early 1980s. Any TB control efforts undertaken in the interim did not have any impact" (Easton 1998:557).

In September 1998, the NTP became one of the flagships of DOH and the topmost priority health program of the LGUs per Memorandum Circular (MC) No. 98-155 issued by then Secretary of the Department of Interior and Local Government (DILG) and now Philippine President Gloria Macapagal-Arroyo. The said circular likewise prescribed the DOTS strategy (HealthBeat 2004). The

NTP reflects the government's commitment to address the TB problem in the country. Its objectives are to detect active TB cases (at least 70 percent) and cure them (at least 85 percent).

Then Secretary of Health Dayrit announced that one of the top six priority programs of his administration was the NTP. It was likewise the top priority among the public health programs of the DOH in 1999, when the health department likewise embarked on the Health Sector Reform Agenda (HSRA). HSRA clustered various public health programs, merged offices, reduced manpower and renamed regional offices as Centers for Health Development (CHD) (HealthBeat 2004).

The current TB program is in collaboration with other government institutions and key private agencies to unify TB policies for implementation in both sectors. To integrate the private sector and even government departments into the overall goal of controlling TB, the DOH and PhilCAT organized various stakeholders to develop a Comprehensive and Unified Policy (CUP) for TB Control in the Philippines. During the World TB Day in March 2002, a MOA was signed by each stakeholder to express support and involvement in the policy formulation process. Two working groups were formed. The first[20] was tasked to develop the guidelines for the implementation of NTP in government agencies

[20] The first group is composed of the departments of Health, Education, National Defense, Interior and Local Governments, Justice, Agriculture, Agrarian Reform, Social Welfare and Development, Science and Technology, the National

other than the health department. The second group,[21] composed of representatives from public and private sectors, established policies formalizing TB control involvement of physicians in the private sector. Thus, the following policies were formulated: 1) Guidelines for Implementation by Government Agencies; and 2) Guidelines for Implementation by Private Physicians. The first, with regard to NTP policy, formalizes and operationalizes the collaboration between DOH and other public offices while the second provides clinical management of TB directions to private practitioners. The "TB Benefits Policy of the SSS/GSIS/ECC" has synchronized the respective agencies' policies in line with the NTP, including PhilHealth's "TB Outpatient Benefits Package". The package covers TB diagnosis and treatment. Each TB patient who consults a public or private clinic certified as DOTS-ready by PhilHealth can avail of PhP 4,000 (or approximately US$ 80).

The CUP for TB control was ratified by 22 leaders of major government, non-government, professional and corporate organizations during the National TB Summit on March 7, 2003. The Philippine TB Initiatives for Private Sector

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Economic and Development Authority (NEDA) and the National Council for Indigenous Peoples (NCIP).

[21] The second group is composed of representatives from the following public and private sectors: Social Security System (SSS), Government Insurance System (GSIS), Employees Compensation Commission (ECC), the Philippine Health Insurance Corporation (PhilHealth), the Philippine Medical Association (PMA), Association of Health Maintenance Organizations of the Philippines (AHMOP), Employees Confederation of the Philippines (ECP), Trade Union Congress of the Philippines (TUCP), Occupational Safety and Health Center (OSHC), and the Overseas Workers and Welfare Administration (OWWA).

(PhilTIPS), a USAID-funded project and partner of PhilCAT, provided logistical and technical support. To support the CUP, President Arroyo issued EO No. 187 on March 21, 2003 instructing government agencies to disseminate CUP and conduct training on implementing its provisions. Full cooperation from the non-government agencies was also enjoined.

In 2003, the GFATM Project granted assistance to the Philippines in the amount of US$11.3M. One of the sub-components of the TB program is the Public-Private Mix DOTS (PPMD) where 70 units - 12 privately initiated and 58 publicly initiated - would be established across 14 regions in the country by 2007 (PhilCAT Newsletter 2005). PPMD is a response to the 1997 NPS and other local researches showing significant numbers of TB patients seeking care from the private sector (Manual 2004). PPMD's overall goal is to increase TB case detection, improve cure rate[22], and synchronize the management of TB in the public and private health sectors. In collaboration with DOH and WHO, PhilCAT, recipient of the GFATM grant for TB, implemented the activity in July 2003. As of April 2005, there were 27 PPMD[23] units installed nationwide (PhilCAT Newsletter 2005) or 38 percent of PhilCAT's target.

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[22] Cure rate is defined the "number of new smear-positive pulmonary TB cases registered in a specified period who were cured divided by the total number of new-smear positive pulmonary TB cases registered in the same period multiplied by 100" (Manual of Procedures for the National TB Control Program, Philippines. 4th Edition, 2005:x).

[23] WHO Report (2006:114) states that 131 public and 41 private facilities are certified by the National Coordinating Committee (NCC) for PPMD; 41percent

PPMD units are certified to provide quality DOTS services to TB patients. PhilCAT, in collaboration with DOH and with financial support from the USAID through CDC, developed five PPMD models in early 2001 that are now being implemented. These are as follows:

1) Hospital-based DOTS,
2) Private Physician-Government Health Center Model,
3) Private DOTS Model,
4) DOTS in the Workplace, and
5) Family-based DOTS among Patients of Private Practitioner.

The first document outlining a countrywide strategy for the establishment of public-private mix strategy is entitled "Empowering the Private Sector in the Control of TB in the Philippines in a Strengthened National TB Program." Endorsed by the DOH and WHO, this document co-authored by PhilCAT paved the way to a grant of US$1.5M to the Philippines by the Geneva-based Drug Facility. The award is to be used for a complete course of TB medication for 130,000 TB patients over a three-year period.

In time with the World TB Day in March 2004, TB Network, the official communication handle of NTP, was established. TB Network is described as follows (La Puebla 2004:34):

1. a revitalized campaign to promote quality treatment services through the DOTS in all health centers nationwide; and

2. a brand name for the needed collaboration and partnership among the DOH, LGUs, PhilHealth, and the PhilCAT.

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also accredited by the Philippine Health Insurance Corporation (PHIC). This figure is more than the target of 70 units.

Prior to CUP, management of TB cases by public and private sectors in the country was not standardized and was less effective. With TB Network, the practitioners in the private sector and the social insurance sector agreed to use microscopy as diagnostic tool and DOTS as treatment procedure as it highlights the role of frontline workers. The network encourages patients to complete their treatment regimen and involves family members[24] and caregivers to be treatment partners. Lastly, the public's attention is called to the symptoms of the disease and to seek treatment with the experience of cough lasting two weeks or more, especially with other TB symptoms (La Puebla 2004:34)[25]. This is true to their motto: *"Lahat magkakampi laban sa TB"* in Tagalog which literally means "All in collaboration against TB" in English.

While the program for TB in adults was envisioned to stop transmission of the disease to the younger population, the 1997 NPS results prompted the DOH to initiate the formation of a Task Force on Childhood TB in 1998. The survey showed that a considerable number of TB cases existed among children. Seven percent of children aged zero to four years were infected with the disease and 16 percent among five-to-nine year olds. Based on the 2005 population, approximately 2.2 million children were infected and five percent (109,000) were foreseen to develop the disease. When they are not properly treated, they will add to the infectious pool.

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[24] In Baguio City, family members are discouraged as treatment partners according to my interviews with public health providers.

In October 2004, DOH A.O. 178 was signed detailing the Guidelines for Implementing TB Control Program in Children. With the availability of logistics, the program was finally implemented in 2006 in selected cities in the country. Initial implementation in CAR was done in the only city in the region, Baguio City. The training in the program for TB control among children was conducted in two batches. The first was trained on August 22-25, 2006 and the second on September 5-8, 2006. In my informal discussion with a national official of infectious disease on August 2005, he said there should be no prevalence of TB among children with a successful program among adults. The NTP for adults in Baguio City should first be in place before starting the program for children, he said. However, the results of my survey among key actors in the health care system in Baguio City showed a preference for a TB program for children. This will be discussed in the next chapter.

Lastly, the NTP is upgrading the various TB Reference Centers to improve their microscopy components and their undertaking of the nationwide drug resistance survey.

Concluding Remarks

The chapter on the overview of TB prevention and control in the Philippines contributes to the understanding of the unending modification of measures to fight the disease. Fueled by financial aid from international sources,

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[25] See also http://www.doh.gov.ph/tbnetwork/index.htm

TB prevention and control continues to have different targets and beneficiaries depending on the agenda of the foreign funding institutions and the capability of the local agencies to promote the program. Add to this the political will and priorities of the heads of the institutions. TB prevention and control in the Philippines unfolds in time with the inflow of resources from external sources. With these grants in multi million US dollars, new modes of knowledges about the disease in the form of researches, manuals, guidelines etc. are produced and reproduced, although unevenly disseminated, neither widely accepted. Proliferation of coalitions from various sectors, such as the government, academe, etc. on national and local levels, is likewise noteworthy. The success and sustainability of current efforts seem to depend highly on the availability of funds from international health organizations. The measurements of success of the TB program also seem to be set by foreign institutions.

However, as TB prevention and control measures continue to improve and expand through the years, the lay public's conceptions of the illness remain misunderstood. Local disease categories need to be understood together with the views of other key actors in the health care system. No matter how sincere the TB program may be, it is bound to fail when TB knowledges of key actors in the health care system -- policy makers and program managers, health providers, PATB and the lay public -- are not reconciled. This will be discussed further in the next chapter.

Chapter V

TB IN THE HEALTH CARE SYSTEM OF BAGUIO CITY

Arthur Kleinman (1980), in his book "Patients and Healers in the Context of Culture," characterized the health care system in every culture as the totality of systematic interrelationships of "illness, the responses to it, individuals experiencing it and treating it, and the social institutions relating to it" (p.24). The health care system's basic components are the patients and healers "embedded in specific configurations of cultural meanings and social relationships" (pp.24-25). He added: "They cannot be understood apart from this context"(p.25).

The health care system, according to Kleinman (1980), is "a conceptual model held by the researcher" (p.25). In this chapter, I will draw on Kleinman's model of the health care system to understand TB in the health care system of Baguio City, Philippines. Locally, how are disease knowledges negotiated in the various contexts such as in the public health, in the clinic, or in the community?

Chapters V and VI will present the global and local interactions of TB knowledges across three interconnected levels of the health care system: policy makers and program managers, health providers, and PATB and the lay public. I will compare their knowledges and perceptions about TB and NTP, including their roles in the program, specifically in DOTS implementation. The key actors'

views about acquisition, transmission, diagnosis, treatment, prevention and control of TB will be examined in their social and cultural settings.

In this chapter, I will describe the health care system in Baguio City by discussing the structure and available health services and their providers. Following the section about the health care system is a presentation of TB in the local health records of the public health sector. Lastly, I will compare the key actors' perceptions of TB by using interview results.

A. Health Care System of Baguio City, Philippines

At present, the health needs of the city are served by public and private institutions. In the government sector, BHD health facilities include the main building, eight district health centers, ten satellite health clinics and the city hall employees' clinic. There are 11 clinics and services located in the main building that are open from Monday to Friday from 8:00 a.m. to 5:00 p.m. Among the 14 basic services BHD provides is the implementation of the National TB Control Program. An anti-TB scheme is integrated in the community health structure to control the disease in a "systematic and sustainable management." Services include sputum microscopy, case finding, and treatment of TB. The main public health department has four medical technologists, who among other tasks conduct sputum microscopy in their respective catchment areas or assigned districts. The medical technologist in the regional health department validates their results.

In general, the district health centers are staffed with a medical officer (assigned to two district health centers), nurse, midwife, dentist, sanitation inspector, population worker and day care worker. There are two public hospitals operating in the city, one tertiary and the other secondary. The tertiary hospital is under the supervision of the national government.

Table V.1
Number of Government Health Professionals in Baguio City, 2003

Health Professionals	Field Health Services	Hospitals	Total
Physician	15	173	188
Nurse	27	186	213
Midwife	17	76	93
Rural Sanitary Inspector	7	2	9
Dentist	4	4	8
Nutritionist	1	6	7

Source: 2004 Regional, Social and Economic Trends
National Statistical Coordination Board - CAR

Table V.1 shows the total number of government health professionals in the field health services and hospitals in Baguio City in 2003. Other public health personnel include 80 BHWs, 120 *barangay* nutrition scholars, 120 *barangay* nutrition action officers, 86 *barangay* service point officers, and eight health and sanitation teams.

In the private sector, there are five hospitals (one tertiary and the rest, secondary). Although data is unavailable, the number of private clinics (254) can be derived from the list of PhilHealth -Accredited physicians presently practicing in the city (Regional Health Insurance Office-CAR). The official website of

Baguio City lists seven "private clinics" referring to major health centers and laboratories, one of which specializing on the lung.

In 2003, there were 762 authorized beds. The government or public hospitals had 450 beds while private hospitals had 312 (NSCB-CAR 2004). In my interview with the city mayor in 2005, he said the Baguio General Hospital and Medical Center (BGHMC), more popularly known as Baguio General Hospital (BGH), is a national hospital under the jurisdiction of the national government, not the city. Thus, patients from all areas, with all kinds of illnesses (including TB) are accepted; doing so is legally allowed and socially permissible. Patients from upland and lowland areas seek treatment for TB and other diseases due to the availability of relatively more advanced health facilities in the city. Public and private health providers strongly believe that TB cases from other places come to the city to seek medication. Thus, the official website cites Baguio City is "now gaining prominence as a regional center for health services in the Cordilleras." Public health providers I interviewed cite stigma as a reason for the inflow of people seeking health care service in Baguio City. Chapter VIII will discuss the issue of stigma and its relationship to the movement of people or the lack of movement.

In connection with the LGC of 1991 allowing the devolution of health services in the Philippines, the 2001 NTP Manual of Procedures states:

> "Direct delivery of NTP services to the clients is now the responsibility of the Local Government Units (LGUs) in accordance with the devolution of health services as mandated under the LGC

of 1991. However, the DOH Regional Office (RHO) now known as the Center for Health Development (CHD) still retains the function of formulating and monitoring the program plans, policies and guidelines including the provision of technical services, anti-TB drugs and other NTP supplies" (p.1).

B. TB in Black and White

In 2002, the Baguio City public was warned about the increase in TB cases (Codamon 2002). However, Table V.2 below shows interesting data on TB morbidity and mortality rates for 1998 to 2003. Morbidity rates fluctuate while mortality rates range from eight to 12 percent. Morbidity (48 percent) and mortality rates (eight percent) were lowest when the public was warned.

Table V.2
Morbidity and Mortality Rates of TB in Baguio City, 1998-2003

	1998		1999		2000		2001		2002		2003	
	No.	Rate	No.	Rate	No.	Rate	No.	Rate	No.	Rate	No.	Rate
Morbidity	208	81	226	85	141	56	131	51	127	48	173	64
Mortality	29	11	31	12	24	10	28	11	28	8	28	8

Source: Baguio Health Department

Local health records reflect TB as one of the top ten causes of morbidity and mortality in Baguio City, as it has been through the years especially in 1998 until 2002. However, in 2003 and 2004, TB was no longer among the ten leading causes of deaths and sicknesses in the city (Vital Health Statistics Annual Report 2004). Nonetheless, TB still ranked 8th in morbidity rate and 9th in mortality rate from 1998 to 2002. The five-year average morbidity rate was 64 percent while the mortality rate was ten percent per 100,000 population. This was the scenario even when low case detection was reported as a concern in Baguio City (Bautista

and Paran 2002). Records from most private health facilities do not form part of the statistics even up to the present. Note further that it was only in 2004 when statistics from BHD categorized "patients" and their areas of residence: either residents of Baguio City or "transients" to mean those residing in other areas who availed of free government health services in the city. Thus, TB as constructed in black and white in Baguio City is neither consistent nor complete through time. It is worthy to note, however, that the new recording system of determining patients' residences (i.e., from Baguio City or transients), is useful information especially with the devolution of health services and in relation to infectious diseases.

In July 2005, the DOTS Center Certification[26] was awarded to the private clinic of Texas Instruments, a microchip technology firm located in the city. The award came for the first time since 1992 when DOTS was implemented in CAR (BMC, 31 July 2005: 16 and 42). DOTS certification, applied to both public and private facilities, is renewed every two to three years.

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[26] "DOTS certification is a process that secures minimum standards for DOTS implementation by a health unit, including facility, laboratory, and health personnel standards that lead to Quality DOTS Services" (Paper presented by Michael N. Voniatis, MD, MA entitled "Quality Assurance and Sustainability for PPM DOTS" at the Regional Advanced Training Course on TB conducted on December 11 to 14, 2006 in Manila, Philippines). Other facilities certified in CAR include the RHUs of Buguias and Mankayan in Benguet Province and Bucay, Abra.

In my interviews with health practitioners of private hospitals in Baguio City, I learned that there are two such private hospitals that do not cater to infectious cases, TB in particular. One of the interviewees said they do not admit TB patients. TB suspects, according to him, are accommodated as outpatients. They are not admitted in the hospital for treatment because there is no facility for them, unlike before when there was a room or unit for confinement. He added that patients found to be positive for TB were incidental cases and did not visit the hospital for treatment, rather for other health reasons. In a year, he estimated ten out of 5,000 patients who went to their hospital were TB positive cases. He surmised health practitioners in their hospital may not even remember a TB case. He added TB positive cases are referred to government health centers for treatment and to avail of free medication.

Meanwhile, the college of medicine of a prestigious private university attempted to put up a TB or DOTS center. It was one of the seven nationwide grantees of Master TB Educator in 2004. The TB center was to be located in a private area in the university's hospital and its operations are intended to be "independent" from the hospital's. The one million peso grant from PhilTIPS covers the following objectives: 1) development of a curriculum; 2) conduct of research (i.e., evaluation of the curriculum, research about case finding, and community research); and 3) the set up of a DOTS center.

Another interviewee claimed the private university hospital, at present, is not dealing with infectious diseases. She observed that patients who present

themselves for treatment of other diseases may also have TB. A TB patient is admitted as long as he is willing to be isolated in a private room. If and when this happens, the doctor is informed the patient has TB. More often than not, the patients have already been treated for TB from six months to a year, thus, admitting them is more acceptable.

The informant added that when a TB patient is admitted (due to other health reasons) in a pay ward to share space with seven other patients, health practitioners in the private hospital talk this over. The TB patient is eventually transferred to a private room. He cannot be in the same room with other patients. She added that it is very clear they have to segregate TB patients and private room accommodation is allowed. This is the hospital's provision for infection control.

It seems that the infection control policy of the hospital is the reason for making the TB Center "independent" from the university hospital. (Stigma of the disease is discussed in the later chapter of the dissertation.)

The city government also highlighted TB prevention programs through increased awareness in line with the national TB day observed August 19, birthdate of former President Quezon who died of the disease. Whether such efforts are demand driven or not are uncertain, considering available or unavailable local statistics from record keeping systems, not to mention the low case finding rate noted earlier. It is observed, however, that the inflow of

international grants for TB program in the Philippines is occurring as well around this period.

The NTP TB Register of BHD for 2004 lists 87 TB cases enrolled in DOTS. Sputum examination results, prior to treatment, show there were 44 percent negative results with six percent having no record of sputum smear results. There were two cases of relapse[27] and 85 new cases[28]. In terms of treatment outcome, 22 were cured[29], 56 completed treatment[30], two died[31], one failed[32],

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[27] Relapse is defined in the Manual of Procedures as a type of TB case where "a patient previously treated for TB, who has been declared cured or treatment completed, and is diagnosed with bacteriologically positive (smear or culture) TB" (Manual of Procedures for the National Tuberculosis Control Program, Philippines. 4th Edition, 2005:30).

[28] "A patient who has never had treatment for TB or who has taken anti-TB drugs for less than one month" is considered a new type of TB case (Manual of Procedures for the National TB Control Program, Philippines. 4th Edition, 2005: 30).

[29] Cured is defined as "a sputum smear- positive patient who has completed treatment and is sputum smear-negative in the last month of treatment and on at least one previous occasion in the continuation phase" (Manual of Procedures for the National TB Control Program, Philippines. 4th Edition, 2005:50).

[30] Completed treatment refers to "a patient who has completed treatment but has not met the criteria for cure or failure." This treatment outcome includes 1) "a sputum smear-positive patient who has completed treatment without DSSM follow-up during the treatment, or with only one negative DSSM during the treatment, or without DSSM in the last month of treatment;" and 2) " a sputum smear-negative patient who has completed treatment" (Manual of Procedures for the National TB Control Program, Philippines. 4th Edition, 2005:50).

[31] Died is "a patient who died for any reason during the course of treatment" (Manual of Procedures for the National TB Control Program, Philippines. 4th Edition, 2005:50).

[32] Failed as a treatment outcome refers to 1) "a patient who is sputum smear-positive at five months or later during the treatment; or 2) "an initially sputum smear-negative patient before starting treatment who becomes smear-positive during the treatment (Note: This case will be re-registered as Other with a new

three lost[33], one transferred out[34], and two stopped using the TB kit. Thirteen cases, six males and seven females are aged below 25 years. Thus, excluding cases with relapse, deaths, transfers, lost and stopped using TB kit and below 25 years of age, only 64 patients (45 males and 19 females) were considered in my sampling of PATB.

BHD records for the first five months of 2005 show there were 28 DOTS-enrolled PATB. Twenty or 71 percent were males and eight or 29 percent were females. Sputum smear results, as shown in the NTP register prior to treatment, are provided in Table V.3.

Table V.3
Sputum Smear Results Prior to Treatment
January to May 2005

Sputum smear results	Number of cases	Percentage
1	5	18
2	8	29
3	7	25
Negative	5	18
Positive	1	4
no record (blank)	2	7
Total	28	101

Source: Baguio Health Department

TB case number)" (Manual of Procedures for the National TB Control Program, Philippines. 4th Edition, 2005:50).

[33] Lost cases are not defined in the manual. Apparently, it refers to those DOTS-enrolled TB patients whose whereabouts are unknown.

[34] "A patient who transferred to another DOTS facility with proper referral slip for continuation of treatment and whose treatment outcome is not known" is categorized in the treatment outcome as transferred out (Manual of Procedures for the National TB Control Program, Philippines. 4th Edition, 2005:50).

The Manual of Procedures for the National TB Control Program of 2005, on the other hand, provides the following results and interpretation of slides: 0 – No acid fast bacilli (AFB) seen in 300 oil immersion field (OIF), +n – 1-9 AFB seen in 100 OIF, 1+ - 10-99 AFB seen in 100 OIF, 2+ - 1-10 AFB/OIF in at least 50 fields, 3+ - more than 10 AFB/OIF in at least 20 fields.

BHD uses notations for sputum smear results (i.e., 1, 2, 3, negative, and positive) other than the guideline in the Manual of Procedures for the National TB Control Program of 2005 released in early 2007.

Forty percent of the PATB in 2005 are aged between 30 and 39 years. Less than 20 percent are below this age range while more than 42 percent fall above the thirties range.

PATB, as constructed in BHD NTP records, comprise individuals who are DOTS-enrolled. "DOTS," according to Paul Farmer, "has proven to be a very effective strategy for controlling tuberculosis and also for preventing the emergence of MDRTB strains. But the two drugs on which the DOTS strategy is based are the very two to which all MDRTB patients are, by definition, resistant. Thus recommendations that *all* patients with active tuberculosis receive DOTS should not be made with any confidence in the middle of an epidemic of MDRTB" (2003:181). Based on the current BHD NTP records, there seems to be no evidence of MDRTB in Baguio City as yet.

C. TB from the Key Actors' Point of View

In this section, I will compare the TB concepts and ideas of key actors in the health care system of Baguio City, specifically whether the disease is curable, preventable, or contagious. I also asked whether chest x-ray or sputum smear was the method for TB diagnosis. I also inquired who may be at risk of infection in terms of class, gender, or age. Lastly, I probed if the key actors, namely, the policy makers and program managers, the health providers, and the PATB and lay persons, believe there should be a separate TB program for children. I used common closed-ended questions, and I have summarized their responses in a table using percentages. The following section examines the similarities and differences of knowledges about TB among the key actors.

First, it is worthy to note that, while both policy makers and program managers, and health providers have heard about NTP, only 46 percent of PATB and the lay public have. This result reflects the limited circulation of information about TB, considering the public health efforts made by private and public institutions since 1910. Yet more than half of the supposed beneficiaries have not even heard that a TB program, launched and re-launched, exists. Knowledge about the NTP seems to be compartmentalized.

With regard to the disease, a great majority of all key actors in the health care system believe that TB is curable, as shown in Table V.4. Ninety-seven percent of health providers learned that TB is curable. Among PATB and the lay

public, majority (90 percent) perceive TB as curable. This result provides a possibility for better patient adherence to the implementation of the TB program.

Table V.4
Percentage of Key Actors Who Said TB is Curable, Preventable, or Contagious

Is TB _____ or not?	Key Actors		
	Policy Makers and Program Managers (n=9)	Health Providers (n=35)	PATB and Lay Persons (n=44)
Curable	100	97	91
Preventable	100	94	89
Contagious	100	97	91

The key actors, in general, believe TB is preventable: 100 percent of policy makers and program managers, 94 percent of health providers, and 89 percent of PATB and the lay public. Majority of the key actors also think TB is a contagious disease.

Table V.5
Percentage of Key Actors and TB Diagnostic Method

	Key Actors		
	Policy Makers and Program Managers (n=9)	Health Providers (n=35)	PATB and Lay Persons (n=44)
Chest x-ray	71	91	86
Sputum Smear	71	84	42

Table V.5 shows that 71 percent of policy makers and program managers think TB can be diagnosed through chest x-ray and sputum smear. The table likewise shows that 91 percent of health providers think TB can be diagnosed

through chest x-ray. Sputum examination, according to 84 percent of health providers, can also serve as basis for TB diagnosis.

Sputum examination, the DOTS measure for TB, is a form of TB diagnosis, according to only 42 percent of PATB and lay persons. In fact, 44 percent gave no answer when asked if TB is diagnosed using sputum smear, understandably because more than half of them are uninformed of NTP using the DOTS as a strategy. According to 86 percent of the PATB and lay public, chest x-ray is the more popular (then and now) TB diagnostic method used by public and private practitioners in the Philippines. Private health practitioners use chest x-ray to diagnose the disease, and their TB case records, except for Saint Louis University (SLU) hospital, do not form part of the total number of TB cases in Baguio City. A person diagnosed with TB who used antibiotics will not have a positive sputum examination result, and hence will not be DOTS-enrolled in settings where TB medication is free.

"Reliable diagnostics that provide rapid and accurate indicators of disease can be as important as drugs in savings lives and reducing mortality," says the head of the TDR diagnostic team (TDRnews 2007:6). Its report, "Diagnostics for TB: Global Demand and Market Potential," was released in October 2006 by WHO/TDR and the Foundation for Innovative New Diagnostics (FIND). Findings include the following:

- 1.7 million people die each year from TB, many because diagnosis occurs too late or not at all.

- Most people who have TB, or who live in TB risk areas, do not have good access to rapid and accurate testing.
- One third of the world's population is infected with latent TB, at risk of developing the active disease. HIV is fueling TB epidemics in many countries and multi-drug resistance is a growing threat.
- The global market for TB diagnostics is more than twice that of the market for drugs for treatment. Worldwide, about US$ 1 billion is spent on TB tests and evaluations, while about US$ 300 million is spent on drugs for TB treatment.

"Of the estimated 9 million people who develop active TB every year, most still do not receive a laboratory-confirmed diagnosis. Only about 2.2 million TB cases annually are diagnosed and reported with sputum smear microscopy, the most widely available test" (TDRnews 2007:6-7).

Baguio City's health care situation is no exception. It has only one microscopy center located in the center of the city. Other *barangays* may not have easy access to the facility. PATB may need to take a ride or two requiring out-of-pocket expense to reach the place. It was recommended that at least three microscopy areas in strategic locations in the city be in place to provide easy access to sputum examinations.

The centralized microscopy area located at BHD in Lucban has four medical technicians in charge of all laboratory needs of city residents and other people who come to Baguio City for health care needs. Results of sputum smear, according to a medical technician I interviewed, are usually released only after four working days due to their heavy workload. Validation of sputum examination results is conducted at the regional level. Fortunately for Baguio City, the health regional office is located in the city proper and is, therefore,

accessible. However, there is only one microscopist in charge of all samples coming from various CAR municipalities.

Table V.6 shows a general trend among key actors in the health care system with regard to who may be at risk with the disease. Fifty seven to 70 percent believe TB is not associated with socio-economic class. Both rich and poor, according to 57 percent of policy makers and program managers, are at risk of the disease. Among health providers, 60 percent think the same way, as well as 70 percent of PATB and lay persons interviewed.

Table V.6
Percentage of Key Actors who Think Risk is Associated with Class, Gender, or Age

	Key Actors		
	Policy Makers and Program Managers (n=9)	Health Providers (n=35)	PATB and Lay Persons (n=44)
Poor and rich	57	60	70
Men only	57	69	37
Men and women	14	29	35
Children	71	100	67

On gender as a risk factor, 69 percent of health providers believe only men are susceptible to TB. Fifty-seven percent of policy makers and program managers likewise think only men are at risk of the disease. For PATB and lay persons, thirty- seven percent think only men are at risk, while another 35 percent think men and women are. Except for the group of PATB and lay public, the general view is that only men are at risk.

In terms of age, 100 percent of health providers think children are at risk of the disease. Seventy-one percent of policy makers and program managers also noted children are at risk, while 67 percent of PATB and the lay public think the same. Thus, majority of the key actors in the health care system recommends a TB program for children: policy makers and program managers (100 percent), health providers (94 percent), and PATB and lay public (97 percent).

The nurse in-charge of "TB cases" at BHD, whom I will call Mrs. Magdalena Hernandez, observed that, among 25 to 30 "TB patients" in a year, adults from lower classes are usually afflicted with TB. Due to the adult focus of NTP, it is interesting to note that this view is limited only among adults. As discussed in the previous chapter, the implementation of the TB program for children has just started in some areas in the country, including Baguio City.

Considering the different views of key actors on the disease, I asked whether there was a need to reconcile these views. All of the policy makers and program managers believe there was a need to reconcile views of health providers and PATB and the lay public. Eighty-four percent of health workers likewise agreed for reconciliation of views among them and the PATB and lay persons. Only 67 percent among PATB and lay persons believed they should reconcile their views with health providers.

D. Concluding Remarks

The health care system of Baguio City is served by the private and public sectors. Local records of TB patients, in general, do not seem to reflect the total number of patients because most private health practitioners do not report their cases. Neither is the local recording system consistent through time, although it is improving in capturing the "transients" or those non-Baguio City residents who avail of health services. Thus, neither the health care system nor the local health recording system is geographically defined. The points of view of key actors in the health care system, likewise, suggest a plurality of perspectives that need to be reconciled as suggested by most of the key actors.

Chapter VI

"FIND TB, CURE TB"[35]

In 2005, WHO adopted the theme "Find TB, Cure TB." But what is considered a TB case, and how does one find and cure TB? Chapter VI compares the international standards and actual local procedures in the management of TB. I organized Chapter VI, first, by providing a section discussing a case of TB and the international standards for its diagnosis, treatment, and public health responsibilities. Then actual procedures of identifying a TB case and delivering service locally are described from the point of view of health workers. To describe the process of finding and curing TB in Baguio City, I used interviews with health practitioners from the city and regional levels.

A. TB from Biomedical Standpoint and Public Health Perspective

A "case"[36] of TB, according to K. Toman (1979)," is an individual discharging tubercle bacilli" (p.4). Transmission of the disease occurs when a contagious patient coughs, spreading numerous *Mycobacterium tuberculosis* organisms, a rod-shaped bacterium or tubercle bacilli (in secretions from the lungs or larynx) in the air to the persons sharing the same enclosed space. A

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[35] Entitled using the WHO's theme in 2005.

[36] K. Toman said that there is no agreement in the definition of a TB case as each medical branch has their own methods and criteria but the introduction of chemotherapy an "antibacterial treatment acting chiefly against tubercle bacillus" for the purpose of controlling TB made clearer what is a "case" (Toman 1979:4-5)

relatively long time exposure, several hours or days, is required to allow infection to occur through airborne route.

Thus, according to CDC, "there is virtually no danger of its being spread by dishes, linens, and other items that are touched, or by most food products. However, it can be transmitted through unpasteurized milk or milk products (e.g., some cheeses) obtained from infected cattle" (CDC 2007). The CDC health advisory states, "An important way to prevent the spread and transmission is by limiting an infectious person's contact with other people... placed on treatment and kept isolated until they are no longer infectious" (2007).

According to WHO, "drug resistant TB is caused by inconsistent or partial treatment, when patients do not take all their medicines regularly for the required period because they start to feel better, because doctors and health workers prescribe the wrong treatment regimens, or because drug supply is unreliable" (WHO 2007).

Multi-drug resistant (MDR) TB is a form of TB resistant to at least two of the most effective drugs, namely INH and rifampicin or the so-called first-line drugs. Extensively drug-resistant (XDR) TB is resistant to the first-line drugs, at least, and three of the six second-line drugs used to treat the disease.
Below are international standards for TB care from the TB Coalition for Technical Assistance (2006:6-9).

Standards for Diagnosis:

1. All persons with otherwise unexplained productive cough lasting two-three weeks or more should be evaluated for TB.

2. All patients (adults, adolescents, and children who are capable of producing sputum) suspected of having pulmonary TB should have at least two, and preferably three, sputum specimens obtained for microscopic examination. When possible, at least one early morning specimen should be obtained.

3. For all patients (adults, adolescents, and children) suspected of having extrapulmonary TB, appropriate specimens from the suspected sites of involvement should be obtained for microscopy and, where facilities and resources are available, for culture and histopathological examination.

4. All persons with chest radiographic findings suggestive of TB should have sputum specimens submitted for microbiological examination.

5. The diagnosis of sputum smear-negative pulmonary TB should be based on the following criteria: at least three negative sputum smears (including at least one early morning specimen); chest radiography findings consistent with TB; and lack of response to a trial of broad spectrum antimicrobial agents. (NOTE: Because the fluoroquinolones are active against *M. tuberculosis* complex and, thus, may cause transient improvement in persons with TB, they should be avoided) For such patients, if facilities for culture are available, sputum cultures should be obtained. In persons with known or suspected HIV infection, the diagnostic evaluation should be expedited.

6. The diagnosis of intrathoracic (i.e., pulmonary, pleural, and mediastinal or hilar lymph node) TB in symptomatic children with negative sputum smears should be based on the finding of chest radiographic abnormalities consistent with TB and either a history of exposure to an infectious case or evidence of TB infection (positive tuberculin skin test or interferon gamma release assay). For such patients, if facilities for culture are available, sputum specimens should be obtained (by expectoration, gastric washings, or induced sputum) for culture.

Standards for Treatment

7. Any practitioner treating a patient for TB is assuming an important public health responsibility. To fulfill this responsibility the practitioner must not only prescribe an appropriate regimen but, also, be capable of assessing the adherence of the patient to the regimen and addressing poor adherence

when it occurs. By so doing, the provider will be able to ensure adherence to the regimen until treatment is completed.

8. All patients (including those with HIV infection) who have not been treated previously should receive an internationally accepted first-line treatment regimen using drugs of known bioavailability. The initial phase should consist of two months of INH, rifampicin, pyrazinamide, and ethambutol. The preferred continuation consists of isoniazid and rifampicin given for four months. INH and ethambutol given for six months is an alternative continuation phase regimen that may be used when adherence cannot be assessed, but it associated with a higher rate of failure and relapse, especially in patients with HIV infection.

   The doses of antituberculosis drugs used should conform to international recommendations. Fixed-dose combinations of two (INH, rifampicin, and pyrazinamide), and four (INH, rifampicin, pyrazinamide, and ethambutol) drugs are highly recommended, especially when medication ingestion is not observed.

9. To foster and assess adherence, a patient-centered approach to administration of drug treatment, based on the patient's needs and mutual respect between the patient and the provider, should be developed for all patients. Supervision and support should be gender-sensitive and age specific and should draw on the full range of recommended interventions and available support services, including patient counseling and education. A central element of the patient-centered strategy is the use of measures to assess and promote adherence to the treatment regimen and to address poor adherence when it occurs. These measures should be tailored to the individual patient's circumstances and be mutually acceptable to the patient and the provider. Such measures may include direct observation of medication ingestion (directly observed therapy-DOT) by a treatment supporter who is acceptable and accountable to the patient and to the health system.

10. All patients should be monitored for response to therapy, best judged in patients with pulmonary TB by follow-up sputum microscopy (two specimens) at least at the time of completion of the initial phase of treatment (two months), at five months, and at the end of treatment. Patients who have positive smears during the fifth month of treatment should be considered as treatment failures and have therapy modified appropriately. (See Standards 14 and 15.) In patients with extrapulmonary TB and in children, the response to treatment is best assessed clinically. Follow-up radiographic examinations are usually unnecessary and may be misleading.

11. A written record of all medications given, bacteriologic response, and adverse reactions should be maintained for all patients.

12. In areas with a high prevalence of HIV infection in general population and where TB and HIV infection are likely to co-exist, HIV counseling and testing is indicated for all TB patients as part of their routine management. In areas with lower prevalence rates of HIV, HIV counseling and testing is indicated for TB patients with symptoms and/or signs of HIV-related conditions and in TB patients having a history suggestive of high risk of HIV exposure.

13. All patients with TB and HIV infection should be evaluated to determine if antiretroviral therapy is indicated during the course of treatment for TB. Appropriate arrangements for access to antiretroviral drugs should be made for patients who meet indications for treatment. Given the complexity of co-administration of antituberculosis treatment and antiretroviral therapy, consultation with a physician who is expert in this area is recommended before initiation of concurrent treatment for TB and HIV infection, regardless of which disease appeared first. However, initiation of treatment for TB should be delayed. Patients with TB and HIV infection should also receive cotrimoxazole as prophylaxis for other infections.

14. An assessment of the likelihood of drug resistance, based on history of prior treatment, exposure to a possible source case having drug-resistant organisms, and the community prevalence of drug resistance, should be obtained for all patients. Patients who fail treatment and chronic cases should always be assessed is considered to be likely, culture and drug susceptibility testing for INH, rifampicin, and ethambutol should be performed promptly.

15. Patients with TB caused by drug-resistant (especially MDR) organisms should be treated with specialized regimens containing second-line antituberculosis drugs. At least four drugs to which the organisms are known or presumed to susceptible should be used, and treatment should be used, and treatment should be given for at least 18 months. Patient-centered measures are required to ensure adherence. Consultation with a provider experienced in treatment of patients with MDR TB should be obtained.

Standards for Public Health Responsibilities

16. All providers of care for patients with TB should ensure that persons (especially children under 5 years of age and persons with HIV infection) who are in close contact with patients who have infectious TB are evaluated and managed in line with international recommendations. Children under 5 years of age and persons with HIV infection who have been in contact with an infectious case should be evaluated for both latent infection with *M. tuberculosis* and for active TB.

17. All providers must report both new and retreatment TB cases and their treatment outcomes to local public health authorities, in conformance with applicable legal requirements and policies.

B. Finding and Curing TB in Baguio City

In Baguio City, the public health worker, usually a BHW identifies symptomatic cases in the *barangay* and are referred for microscopic sputum test. According to BHD-based TB Point Person, Mrs. Hernandez, midwives in the area can perform a sputum test. TB symptomatic cases are referred to her and she prepares request slips for the sputum test of "TB patients" at the BHD laboratory. Although there is a chief medical technologist, Mrs. Hernandez or *Manang*[37] Magda, as she is fondly called, coordinates quality assurance of microscopic readings by validating results of sputum tests. As she said in our interview, she does a random sampling of slides from a monthly submission of microscopic readings, while the chief medical technologist validates smears performed by the microscopist. Mrs. Hernandez said that there have been no cases of slides wrongly read, such as a positive case that became negative (the so called false

[37] *Manang* is Ilokano word for older women or sister.

negative) or a false positive case where a negative case became positive. She associates clinical symptoms such as coughing, signs of weakness, etc. with the test results of the patient. Most sputum positive cases are likewise thin and weak, and cough with difficulty, she said. Some do not fit the description of the typical TB patient but are positive for the bacteria, with the disease just starting, according to her.

The information education campaign (IEC) starts when Mrs. Hernandez explains the test results to the PATB. She inquires if the PATB resides in Baguio City. If so, initial treatment starts. If not, he is referred back to medical facilities in his area of respective residence. This information came from an interview with a member of DOH-CAR TB Program whom I will call Mrs. Sandra Amogawan. Mrs. Hernandez allows the PATB to choose between free or purchased medicines. After initial treatment, the PATB is referred to the district health center nearest his residence for continuing treatment. A treatment partner of the patient's choice can be a nurse or midwife in the locality, a BHW or a family member. However, family members are discouraged, since patients may not heed their advice. In addition, Mrs. Hernandez said a PATB under treatment undergoes further sputum tests to determine whether to continue the intensive phase treatment or to reduce medication.

Ideally, with the implementation of the PPM, a WHO initiative of addressing the issue of private health sector involvement in TB control, a PATB who consults a private health practitioner should be referred to BHD for sputum

tests. He is asked whether he prefers to receive treatment at BHD where medicines are free or to go back to his private doctor. Mrs. Hernandez said some PATB choose the former.

In an interview with the city health supervisor, she said that, with PPM, private doctors are told "not to touch" suspected TB patients. If PATB are sputum positive 2, measures is adopted: either the PATB is referred to public doctors for treatment, or medication is given to the private doctor who will oversee the progress of the patient.

Mrs. Amongawan said, a doctor administrator in a private hospital still refers his patients to BHD even if DOH-CAR has trained a staff to do laboratory work for TB diagnosis. As part of quality control, a medical technologist from SLU hospital also underwent a training to standardize TB microscope reading among medical technologists in Baguio City. An orientation on quality assurance standards for TB microscopic reading mostly for medical technologists from Benguet Province was conducted February 22 to 23, 2005.

Mrs. Hernandez said PPM's advantage is that BHD had a high TB detection rate, from eight percent in 2003 to 12 percent in 2004, because of the referrals from private clinics or hospitals. The disadvantage of having more referrals from private health sector, she said, is that the cure rate of diagnosed sputum positive cases drops. She cited sputum positive cases, who seek treatment at BHD, and are asked if they are Baguio City residents. She has to take the word for those who acknowledges this. If they are, treatment

commences. But there are instances when she finds out that some PATB go home to their provinces and discontinue treatment. "The cohort analysis," she said "is distracted". The cure rate was from 82-83 percent, in 2003, it was only 69 percent. The national target then was 85 percent in consonance with the global TB control targets set by World Health Assembly (WHA).

According to Dr. Charles Yu, then 2005 PhilCAT President, on the national level, "The Philippines has now achieved an 88% cure rate and a detection rate of almost 60%" (tb.ehealth.ph 2/16/2005). WHA's target case detection rate is 70 percent.

The city health supervisor, on the other hand, believes DOTS, together with the PPM strategy, is working favorably in the treatment of PATB. This is compared to the situation before 2003, when it was difficult to give medication to "second-hand" PATB, who seek treatment from private physicians and transfer to public care when they run out of money to purchase medicines. Treatment then from a public facility was not possible because these PATB would show negative sputum results due to initial treatment from a private doctor. To be enrolled in DOTS where treatment is free, they should have a positive sputum result. Private practitioners rely on chest x-ray results to diagnose a case. However, Mrs. Hernandez claimed the DOTS program uses sputum smear as it is more reliable. It carries with it information on the bacteria, she added. Thus, patients referred to BHD undergo sputum smear before they are enrolled in DOTS, where the six-month short course chemotherapy is provided free.

Dr. Mario Mendoza, a young doctor in a private clinic, shared his dilemma in referring his TB patients to BHD:

> "I screen out patients who are sent at BHD based on their financial capability. Sending them away questions our competence. *Yung iba, walang confidence na sa amin dahil kung marunong ka lang sana, ginamot mo kami.* (Others have lost confidence in us believing that if I was good, then I would have treated them.)...In a government health facility, waiting time is long. There are patients who would rather pay than wait... We refer them if they cannot afford the medicines... I have this attitude not to refer patients because the government, usually, are *ningas cogon*[38]; and our patients return to us complaining that they were not given medicines because they were told that they have negative sputum smear result."

The health department's IDSCP and the Baguio-Benguet Medical Society, with funding support from the USAID, launched the PPM initiative to fight TB in a meeting at the Baguio Country Club in November 2003. With PPM, the private practitioners will report cases they are treating to the BHD. The cases will then be included in the DOH surveillance, treatment, and monitoring list. Even then, the current BHD list of cases does not include reports of every private health facility in Baguio City.

Coordination between BHD and DOH-CAR is being strengthened, according to Mrs. Hernandez. DOH-CAR is BHD's source of reagents and other chemicals as well as the source of quarterly reports.

DOH-Manila personnel and regional counterparts, Dr. Carmelita Luna, the regional TB coordinator's pseudonym, and Mrs. Amogawan provide

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[38] *Ningas cogon* literally means "grass flash-fire." This Tagalog expression refers to people's initial enthusiasm that fades easily, thus, like the dry cogon grass, when set on fire, blazes intensely yet immediately turns into ashes.

medicines, supervision, and technical services as well as oversee implementation of the TB program in the Cordillera region.

C. Concluding Remarks

International health agenda and standards seem to overlook the particularities of the place, including local relationships and affinities important to individual choices and preferences for health care services.

PART III: Bodies and Boundaries

Human Bodies: Social Boundaries of Globalization

Stigma and Spaces of No Flows

The Anthropologies of Epidemic Diseases: The Challenges to Global Health

Summaries, Conclusions, and Recommendations: The Making and Remaking of Public Health Geography

Chapter VII

HUMAN BODIES: SOCIAL BOUNDARIES OF GLOBALIZATION

Starting from this chapter, I will attempt to argue that human bodies are sites of infection that other people avoid in order to minimize their chances of becoming infected. Thus, human bodies, perceived to be bearers of pathogens, serve as markers of the shifting borders of globalization. While globalization "eroded" geographic boundaries, epidemic diseases like TB set new demarcations of human physical interaction.

To pursue my argument, Chapter VII will describe the lives of the social boundaries of infections. The data comes from interviews of nine male and five female "TB patients" in Baguio City, who are so identified by a particular TB record at a given point in time and not necessarily according to their own point of view. Neither do I claim that they were/are nor do I confirm the list. I will only attempt to characterize the so called "TB patients" according to their socio-economic status and how it affects their help-seeking behavior from public and private health professionals. Considering the number of interviews conducted, the generalizability of this section is very limited. The results, however, are significant in understanding what Farmer (1996) calls the "pathogenic roles of social inequality."

Chapter VIII will illustrate how stigma of TB patients originated. Furthermore, it will support the argument that human bodies with the

pathogens, in the context of stigma of disease, serve as markers of flows or lack of flows.

A. "TB Patients" and their Daily Lives

The socio-economic profile of 14 PATB interviewed is summarized in Table VII.1. Usually, they average 57 years of age, with low educational attainment, finishing only vocational courses (2), some elementary (3), some high school (1), some college (2), or no schooling at all (6). They have lived in their residences for 20 years with at least three other household members (11), usually their spouses and young children. Three of the 14 interviewees live with extended families which include their daughters' husbands and their grandchildren.

Five, three males and two females, have no jobs and are supported by other household members, usually their spouses or their children who earn daily wages from farming or selling. Other family members work as either as technician or machinist. Two male PATB, including their children, who have irregular employment, are supported by their wives, who earn monthly salaries locally or abroad.

Nine PATB are engaged in blue-collar jobs such as driving, vending, gardening or carpentry, where they earn wages amounting to PhP 300 (or approximately six U.S. dollars) per day. Others have occupations that are likewise blue-collar (i.e., aide or laborer), but they are paid monthly salaries of

PhP 2,000 (or approximately US$ 40) and PhP 6,000 (or approximately US$ 60) by agencies they work for. NSCB recorded the poverty threshold in the Philippines for a family of five in 2005 at PhP 5,916 (or approximately US$ 118.32) and PhP 6,003 (or approximately US$ 120.06) in 2006. Thus, most of the PATB fall under the conservative estimate of who are considered "poor." Families in urban areas in the Philippines like Baguio City need to spend 20 percent more than the families within the poverty threshold in rural areas. Put differently, in terms of meeting their basic food needs for the year, urban area residents are expected to spend 20 percent more than their rural area counterparts. This conservative model-based estimate of NSCB partly explains why some succumb to "all around" jobs.

Table VII.1
Socioeconomic Profile of 14 Interviewed PATB

Age	range	28-80 years
	median	57 years
Length of stay at present residence	range	3 mos.-66 years
	median	20 years
Number of household members	mean	4 persons
	<4 members	11 PATB
	7-10 members	3 PATB
Occupation	none	5 PATB
	blue-collar job	9 PATB
Monthly income	variable depending on availability of jobs	
Educational attainment	generally low or even none	

An illiterate male PATB I interviewed, whom I will call Victor, described his job as "all around," meaning he does any work assigned to him, like cooking, gardening, cleaning and other household chores. The 55 year-old widower joked, he was *"tigasin!,"* a Tagalog word that connotes a macho image, of strength and the ability to do stereotyped women's roles in the Philippine setting like cooking or washing clothes. *Tigasin* is also coined from two words: *"tiga"* or somebody who does something and the chore, for example, *"saing"* cooking rice or *"laba,"* washing clothes.

Even with the dire circumstances, many find time to joke about their predicament. A 65 year-old man supported by his children did not categorically say he was illiterate. Rather, he jokingly said he was an "elementary under graduate." Joking, it seems, is a very convenient defense mechanism to save face from their helpless situation.

With regard to medication needs, ten out of 14 PATB interviewed said free medicines are available at BHD and eight availed these. Thirteen out of 14 interviewees said they took their medicines regularly.

Nine out of 14 PATB said that they do not have a treatment partner. DOTS require a treatment partner, "a responsible person," to ensure regularity of medicine intake among TB patients. The Manual (2005) says, "any of the following could serve as treatment partner: a) DOTS facility staff, such as midwife or nurse; or b) a trained community members such as the BHW, local government official, or former TB patient" (p.30).

Three out of four who have treatment partners revealed in our interviews their spouses or even their live-in partners, usually females, served as their treatment partners. The Manual (2005) also states: "A member of the patient's family may not be as reliable as a health worker in serving as treatment partner, but he/she may be assigned as treatment partner during weekends and holidays" (p.30).

A success story dwells on the cure of a male PATB who had his wife, a BHW knowledgeable about the DOTS program, as treatment partner. By following the DOTS strategy and procedures, the TB patient was cured. The wife successfully performed her roles as a trained community member and dutiful wife to his sick husband.

Eight out of 14 PATB interviewed said the disease should be treated by a physician. In the public sector, TB patients of physicians in the health districts are referred to the main health district located in Lucban. Mrs. Hernandez, a nurse, follows up the progress of these TB patients. Patients of private health physicians referred to her for DOTS enrolment may choose to continue being managed by their private doctor. This arrangement is encouraged by PPMD. This will be discussed further in the next sub-section of this chapter.

Eleven of the 14 PATB interviewed in Baguio City have not heard of MDR-TB, a possibility should they discontinue treatment. Only one heard about the multi-drug resistant strain of the fatal disease.

B. Breaking the public-private line

The NTP encourages the PPM, where patients may, after getting free medication for TB from the BHD, remain to be supervised by their private doctors. This is should they want a public health provider to manage their disease. Almost half or six interviewed PATB did not shift health providers. Among the seven who shifted health providers, four or more than half of them went to a private from a public health practitioner. Bautista and Paran (2002) reported that "TB patients" originally seek the services of the private sector when they still have the finances to do so. Later, they shift to the public sector where medicines are free and they have lesser resources to pay for such expense.

In other Asian countries like India and urban Pakistan, patients being treated in the public TB program originally sought professional health services of those in the private sector as well (Brugha and Zwi 1999; Prathasia et al. 1997; Marsh et al. 1996 as cited by Auer 2003:93).

This observation that patients shift from private to public health providers, as indicated in previous studies (Brugha and Zwi 1999; Prathasia et al. 1997; Marsh et al. 1996 as cited by Auer 2003:93), does not seem to be the scenario in Baguio City, based on interviews with 14 PATB. In part, the previous chapter discussed the factors of patient-doctor bond and individual preferences in relation to choice of health provider.

In Table VII.2, ten PATB claimed to have undergone chest x-ray, a diagnostic method for TB detection usually used by private health practitioners

in Baguio City. Of this group, five or half, said they did not know the result of their examinations. Four said the results of their chest x-rays were positive for TB, while the remaining PATB said their results were negative.

Table VII.2
Forms of Diagnoses and Results Known to 14 Interviewed PATB

Forms of Diagnoses and Results	Number
Chest x-ray	10
Positive chest x-ray result	4
Negative chest x-ray result	1
Unknown chest x-ray result	5
Sputum smear	8
Once	4
Thrice	1
several times	1
refused/no answer	2
No sputum smear	5
Positive sputum smear result	-
Negative sputum smear result	1
Unknown sputum smear result	4
No answer	2

Auer (2003) interviewed private physicians in Malabon, Metro Manila, Philippines and asked them about their diagnostic practices. He found out that 93 percent of 45 private physicians relied on the clinical presentation of TB and the result of the patient's chest x-ray to determine whether or not to start anti-TB treatment (p.96). He, too, observed this procedure deviates from standard guidelines.

Sputum smear examination, the determining factor for enrollment to DOTS, was also administered to eight of the PATB interviewed. Of those who underwent sputum smear examination, four PATB went through it once while two refused to answer the question, probably embarrassed to reveal the frequency of the unwanted experience. According to Auer (2003), "Sputum microscopy is cumbersome and giving sputum is perceived by some patients to be embarrassing"(p.20). Fifteen of 40 BHWs interviewed by Bautista and Gervacio (2003) noted the difficulty of some patients to expectorate.

Only one PATB underwent sputum smear thrice, the standard number of times to determine the presence or absence of the TB pathogen. It is worthy to note that four of eight PATB in Baguio City who underwent sputum smear examination did not even know of the results. Five of the PATB interviewed did not undergo a sputum smear examination.

Bautista and Gervacio (2003) comment on the lessons learned from sputum smear as a requirement for free medication:

> "A dilemma in relying on sputum smear as a basis for inclusion in prioritization for support by the national government is ruling out those who have defaulted in taking the medication but do not register as sputum positive. These patients only register as problematic in x-ray examination and their condition could be worse off, and necessitate immediate attention" (p.153).

As noted earlier, those who underwent chest x-ray did not know the results. These interview findings suggest a gap in health communication in more ways than one.

C. Concluding remarks

In this chapter, I started to pursue my argument that infected human bodies are the social boundaries of globalization. I noted there seems to be certain socio-economic characteristics of those afflicted with the infection. Worse, they do not seem to be aware of their disease and the required procedures to transcend their predicament. Most of them want to free themselves from the illness by making a difficult choice of seeking treatment from either a public or private health service. In general, interviewed PATB represent the marginalized sector of society trapped in public health.

Chapter VIII

STIGMA AND SPACES OF NO FLOWS

Chapter VIII discusses the implications of the stigma of disease. I will attempt to trace the history of the TB stigma and the notions about the stigma of infectious disease. Previously, I posited that PATB serve as markers of shifting boundaries of globalization. In this chapter, I will attempt to argue the stigma of TB creates spaces of no flows between persons. I will use data from my interviews with PATB and private health providers as well as health survey results conducted previously by other institutions in the Philippines.

Parker and Aggleton (2003) put together Goffman's classic conceptualization of stigma, "that attribute that is significantly discrediting" (1963) and Foucault's work on knowledge/power to arrive at a conceptual framework for stigma:

> "Within such a framework, the construction of stigma, (or, more simply, stigmatization) involves the marking of significant differences between categories of people, and through such marking, their insertion in systems or structures of power. Stigma and stigmatization function, quite literally, at the point of intersection between culture, power and difference --- and it is only by exploring the relationships between these different categories that it becomes possible to understand stigma and stigmatization not merely as an isolated phenomenon, or expressions of individual attitudes or of cultural values, but as central to the constitution of the social order" (p.17).

The NPS conducted in 1997 revealed that 50 percent of patients with TB-like symptoms do not seek medical help. This is partly due to stigma attached to

it, according to Dr. Rodrigo Romulo, then president of the TB Clinic Foundation (Easton 1998). "TB is often viewed as a shameful and unclean disease" (Easton 1998:557).

According to public health providers interviewed, PATB from other places seek medication in Baguio City due to stigma. As noted earlier, most who shifted moved from public to private health providers rather than vice versa. Eight of 14 interviewed PATB recommended that TB should be treated by a physician. The nurse is the health provider in charge of medications for "TB patients" in the public sector.

The 1997 NPS revealed that it is common for PATB "to pay for the same drugs from a private clinic in the belief that they are somehow better and stronger than government drugs" (Easton 1998:557). From interviews, private doctors in Baguio City provide good service thus are being sought by "TB patients" from the city and other areas, not because patients want to hide their disease due to stigma. This is contrary to the view of public health practitioners.

A private physician, Dr. Christian Santos, narrated with delight and pride, his experience of being sought after by patients from other regions:

> "I have a patient coming all the way from Ilocos... *'Pagkinwento mo yan* (diagnostic and treatment procedures) *sa taong galing* Ilocos, I get referral patients from Candon... I tell them, *may mga* doctor *naman dun...* they really come for their monthly check-up. *Alam mo, talagang dinadayo ka* - from Pangasinan, Tarlac - *nakakatuwa naman.* I myself tell them... I will give you the option... You know what, *may kakilala akong* doctor *diyan na pwede mong puntahan...* Doc, *mas gusto ko dito.* (so the patients answer) *Ay ganun ba? Nakakataba ng puso! Di ko mapigil... galing* Manila? *yung galing* Tarlac, *tatawag muna yan..."*

> "I have a patient coming all the way from Ilocos... If you narrate that (diagnostic and treatment procedures) to a person from Ilocos, I get referral patients from Candon... I tell them that there are also doctors there... they (patients) really come for their monthly check-up. You know what, they really seek you - from Pangasinan, Tarlac - It is really delightful. I myself tell them... I will give you the option... You know what, I know of a doctor there that you may visit... Doc, I prefer here. (so the patients answer) Oh, really? It is heartwarming! I can't help it... from Manila? The one from Tarlac makes an appointment."

Another private doctor, Dr. Mario Mendoza said majority of the patients in the private clinic he shares with another lady doctor are Cordillerans. "*Hiyang*[39] *sila kay doctora,*" he said, meaning the patients are comfortable or agreeable with the senior lady doctor, also of Cordillera descent. He continued: *"Hindi lang paulit-ulit na bumabalik; buong angkan pa"* (Not only do they come back over and over again; the whole clan does).

Thus, the perceived better health care provided by private health practitioners in Baguio City, not avoidance of stigma, increases inflows of "TB patients" in the area. Likewise, the importance of the bindings of relationships between patients and health providers is passed down from one generation to the next. So, what causes TB stigma and how does it come about?

According to Parker and Aggleton (2003) "Goffman's framework has been appropriated in much research on stigma ... as though stigma were a static attitude rather than a constantly changing (and often resisted) social process..."

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[39] *Hiyang* is a Tagalog word and is not equivalent to the term agreeable. (see also Hardon 1992).

(p.14). "'Correct' as opposed to 'incorrect' beliefs thus becomes the defining cause of stigmatization ..." (p.16). They proposed:

> "... we need to reframe our understandings of stigmatization and discrimination to conceptualize them as social processes that can only be understood in relation to broader notions of *power* and *domination*... stigma plays a key role in producing and reproducing relations of power and control. It causes some groups to be devalued and others to feel that they are superior in some way... stigma is linked to the workings of *social inequality* and to properly understand issues of stigmatization and discrimination... requires us to think more broadly about how some individuals and groups come to be socially excluded, and about the forces that create and reinforce exclusion in different settings" (p.16).

Social stigma of TB causes patients to hide their conditions, which leads to depression (Macq as cited in Lab Business Week 2005). Macq's study on TB stigma concluded: "Analyzing TB-related social stigma as a social process enabled us to better understand some key social structural factors of the health care system's organization and identify locally acceptable interventions to reduce such stigma" (Macq as cited in Lab Business Week 2005).

Herek et al. (2003) argued: "When a disease is stigmatized, public health policy can help protect those who are ill from popular prejudice, or it can promote discrimination against them"(p.533).

The three key causes of TB-HIV stigma, according to Bond and Nyblade (2006), are: 1) judgement, blame and shame, 2) fears of TB transmission, and 3) TB public policy and practice. Contact with sputum and bodily fluids of TB patients are believed to transmit TB infection. Furthermore, the non-legitimate fear of contagion is reinforced by unnecessary preventive messages about TB

such as avoiding having sex, sharing a toilet, clothes, utensils and food (Bond and Nyblade 2006).

Historically, TB was socially constructed as the ailment of the "refined and the genteel" (Keller 2007:1). "Consumption,"[40] TB's nickname was referred to as the "artists' affliction and the poets' plague" (Keller 2007:1). TB was likewise the subject of "fine historical books" (Davenport-Hines 1999:209) joined by Thomas Normandy's "The White Death: A History of TB" (1999).

Julia Keller (2007) writes:

> "The early romantic image of TB was fed by ignorance, of course. Until 1882, when Robert Koch discovered the tubercle bacillus, no one could say why some people seemed more delicate than others, why they fainted a lot and sometimes coughed blood into lace handkerchiefs. Nowadays, we know that germs cause infectious diseases and that antibiotics and chemotherapy are effective against TB. The mystery is gone" (p.1).

At the end of the 19th century, the building of sanatoria for tubercular patients was part of a strong movement that was intended "both to improve patients' chances of survival and to isolate them from healthy population" (Davenport-Hines 1999:209). In the Philippines, the Santol Sanitarium was built in 1918 for bed rest, isolation, and hospitalization. No treatment regimen for TB was available then. Baguio City was likewise established as hill station to house American soldiers with TB (Reed 1999; Bagamaspad and Pawid 1985).

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[40] At the end of the 19th century, consumption was renamed TB (Davenport-Hines 1999).

Emily Lantin of PIAS, Manila, in her speech, "Care of a Tuberculous in the Home," delivered during the First National Congress on TB in 1926 discussed the rationale for the admission of a TB patient in a sanatorium:

> "... By the admission of the patient to a sanatorium, it does not only relieve the family of the difficulties as to the care of the patient, but we find also opportunities to control the disease, and isolating the focus of infection. The patient on the other hand, is given the greatest possible chance of cure. He will learn the value of simple pure food. He will learn that sanatorium cures the disease independent of the climate and with little medicine. Then when he returns home, he tries to live up to the precautions taught in the institution, setting thereby an example to his family and neighbors. In this way, they help also the community..." (1927: 573).

While Ms. Lantin's speech was eight decades ago, the official CDC Health Advisory dated May 29, 2007 states:

> "The risk of acquiring any type of TB appears to depend on several factors, such as extent of disease in the source patient, duration of exposure, and ventilation. The transmission has been documented in association with patients who have lung disease, and bacteria seen or cultured in sputum. Persons who become infected usually have been exposed for several hours (or days) in poorly ventilated or crowded environments. An important way to prevent the spread and transmission is by limiting an infectious person's contact with other people. Thus, people who have confirmed diagnosis of TB or XDR TB are placed on treatment and kept isolated until they are no longer infectious."

In May 2007 the news reported the quarantine by the US government of the first infected person since 1963 when a small pox patient was then isolated. The quarantine order was issued under CDC's administrative powers (Stobbe 2007, Associated Press 2007, and Davenport 2007).

Apparently, the idea of isolation of PATB, including their eating utensils, originated from the erection of sanatoria at the end of the 19th and early 20th centuries in the case of the Philippines. The stigma to PATB continued despite the discovery of new drugs.

Mrs. Hernandez revealed that "TB patients" in Baguio City are told not to be ashamed because their disease is curable. "It is better to be sick with TB ten times than to suffer from cancer" so she would convince her "TB patients" during counseling sessions.

Table VIII.1
Top Five Popular Perceptions/Misconceptions of Filipinos on How a Person could Acquire TB

Perceptions/Misconceptions	Percent
Too much smoking	32
Heavy drinking	26
Sharing of utensils	12
Over-fatigue	10
Living in dirty environment	8
Hereditary	8

Source: Social Weather Station Survey (March 2004) as cited at HealthBeat (July-August 2004:16)

Previous surveys conducted in the Philippines reveal that household members segregate the eating paraphernalia of relatives with TB. The Social Weather Station (SWS) survey showed that it is one of the top five popular misconceptions of Filipinos as shown in the table above. Women and men alike believe sharing utensils facilitates transmission of TB (2003 Philippine National Demographic survey as shown in Table VIII.2).

Table VIII.2
Means of TB Transmission as Perceived by Men and Women

Means of transmission of TB among those who heard of it	Percent	
	Women (n=13,270)	Men (n=4,766)
Airborne when coughing	52.4	46.3
Sharing eating utensils	79.1	72.4
Touching a person with TB	5.5	6.6
Sharing food	0.6	0.9
Other	1.9	1.6
Does not know	4.8	7.8

Source: Philippine National Demographic and Health Survey, 2003:192

A 2003 study in the Philippines by Christian Auer (2003) revealed:

> "The advice of health workers influenced many of these behavioral changes. Fifty-one percent of the 172 respondents who separated the kitchen utensils from others in the household said that they were told to do so by health centre personnel (based on misperception that TB bacilli are spread through eating utensils). In the FGDs[41], the supposed role of eating utensils in spreading TB was mentioned at least twice in each group" (p.54).

Through the years, the perception that sharing utensils is a mode of transmission continues to surface in several health surveys by various outfits in different regions in the Philippines.

In Baguio City, this idea holds, partly because it is reinforced by those in the health sector.

> *Kuna ni Doctora Magdalena idi, ilasin diay panganan na, diay usaren na, haan nga agkaiwara.* According to Doctor Magdalena, separate his/her eating utensils, his/her things; do not leave them lying around.
>
> Salvador, 57 years old

[41] FGDs refer to focus group discussions.

Ti usaren, ilaslasin. What is used should be segregated.

Nelson, 32 years old

I used separate utensils and kept a distance when talking.

Jaime, 48 years old

Several PATB interviewed believe there is no stigma because their utensils are not segregated. Rosa, a 58-year old housekeeper said, in Tagalog, *"Hindi naman hiwalay yung pinggan ko sa kanila!"* (My plate is not segregated from theirs!)

"Belief in the social isolation of TB patients to prevent infection is common, even among TB patients who detailed many unnecessary prevention measures... Ultimately, the TB patient - and not TB control measures -is made to feel responsible for preventing the spread - or relapse - of TB" (Bond and Nyblade 2006:458). Such is also the case for PATB in Baguio City:

Haanak rinumrumuar... Haanak unay rumrummuar; baka adda maalisan. I did not go out... I do not go out a lot; somebody might be infected.

Nelson, gardener

Haanak rumrummuar ditoy balay. Adda ac lang ditoy kwarto. Haanak makisasao. I do not go out of the house. I am always in my room. I do not talk to anyone.

Merlita, 65 years old

I took precautions so I will not infect my family. I used separate utensils and kept a distance when talking.

Jaime, laborer

While interviewed PATB in Baguio City continue to believe there is no stigma when their eating utensils are not segregated, others label their health condition as *"ubo lang,"* a simple cough, or *"nakaro nga uyek,"* an intense cough:

"Hindi naman TB ito, ubo lang!" This is not TB, it is simply a cough!
Merlita, 65 years old

Ta napigsa ti uyek ko, isunga kunada nga TB. My coughing is intense so people think it is TB.
Rosendo, taxi driver

A study conducted among the Subanums of Mindanao, Philippines, analyzes the diagnosis of disease in Zamboanga Peninsula. Frake (1961) states:

> "Every case diagnosed by Western criteria as tuberculosis will not receive the same Subanum diagnosis. Furthermore, a Subanum category such as *peglekebuun* 'chronic cough,' which sometimes matches with tuberculosis, will not always do so. The criteria and cues of the diagnostic systems are too disparate for one-to-one or one-to-many matching. The problems presented to the analyst by this overlapping of categories in the two systems are compounded by the superabundance of information encoded in a Western diagnostic category" (p.124).

Also, less stigma-loaded terms for TB are common in the Philippines as well as in Vietnam and Columbia (Auer 2003). In Vietnam, "lung disease" means TB, while "illness of the lungs" (*enfermo de los pulmones*) is the term used in Columbia (Auer 2003). Nichter's study in the Philippines (1997) found out that "weak-lungs" is used both by physicians and the lay population. He wrote:

> ""Weak lungs" is a "specific ambiguous" illness term (Nichter 1989). It is used to (1) identify a state of health associated with a variety of attributes ranging from failure to thrive among children and weakness in adults, to chest or back pain, low-grade fever, or wheeze; (2) label an ARI condition which is persistent or recurrent; (3) describe a state of perceived weakness or vulnerability; and (4) call attention to a state of ill health linked to tuberculosis while deflecting attention from the stigma of this disease. Multiple agendas underscore use of the term "weak lungs" by doctors and the lay population alike" (p.290).

In Aceh Province, Sumatra, Caprara et al. (2000) found out that different terms exist namely, "wet lungs," "dirty lungs," and "lung ulcer," to denote TB and vary according to context.

Other PATB interviewed simply deny they are infected due to stigma. Jaime, a laborer, said: "No one else knew. I never told my friends and office workers. I am aware of the stigma associated with TB so I never told them." Twenty-eight year old Juan likewise said: *"Walang nakakaalam, ikaw pa lang ang pinagsabihan ko"* ("Nobody knows; you are the only person who knows.") According to Parker and Aggleton (2003), "Stigmatization devalues relationship" (p.14).

Table VIII.3
Knowledge of the Cause of TB by Women and Men

Knowledge of the Cause of TB	Percent	
	Women (n=13,270)	Men (n=4,766)
Microbes/germs/bacteria	23.6	17.2
Inherited	16.1	11.2
Lifestyle	14.2	14.7
Smoking	47.2	57.1
Alcohol drinking	35.3	47.2
Fatigue	34.0	32.7
Extensive coughing	0.9	0.0
Other	4.9	4.4
Does not know	8.4	9.3

Source: Philippines National Demographic and Health Survey, 2003:191

Heredity, smoking, and drinking are likewise believed to be the causes of infection among the interviewed PATB. It should be noted that previous surveys in the Philippines reveal the same as shown in Table VIII.3. Thus, these are

widely held ideas in the Philippines in 2003, even when NTP has been in existence for so many years. However, from the biomedical standpoint, heredity is not the cause of TB, although relatives who live with an infected person, especially in a congested place for a long period of time, are more likely to be infected than others.

Even more alarming is when a PATB thinks TB as "normal". Rosa narrates how she acquired TB and how she interacts with her immediate family and neighbors. I have included her doctor's advice:

Namatay ang nanay ko dahil sa sakit na TB. Maaaring namana ko ito sa kanya... Siguro, namana rin niya sa aking lolo at lola. Sana nga hindi namana ng mga anak ko dahil mahal ang gamot.

My mom died of TB. Maybe I inherited it from her... Maybe, she herself inherited it from my grandfather and grandmother. Hopefully, my children did not inherit it (from me) because medication is expensive.

*Yung mga anak ko, normal naman ang trato nila sa akin. Yung panganay ko, yung anak niyang bunso ay nagka-*primary complex. *Niloko niya akong nahawa ko raw yung anak niya. Pero pinapaalaga naman niya sa akin. Itong iba ko pang apo ay may* primary complex *pero sabi ng mga anak ko na normal lang daw na magka-*primary complex *yung mga anak nila. Sabi nila, normal daw. Ako pa nga ang nag-aalaga sa mga anak nila.*

My children treat me normal. The youngest child of my eldest had primary complex. He/she joked that I infected their child. But then he/she still asks me to take care of his/her child. My other grandchildren have primary complex as well but according to my children, it is normal for their children to have primary complex. They say that it is normal. I even take care of their children.

Noong una akong maospital, sinabi sa aking humiwalay, eh sinong mag-aalaga doon sa mga maliliit kong anak? Hindi naman humihiwalay yung mga anak ko sa akin. Kahit sa pagtulog, tumatabi naman yung mga anak at apo ko. Hindi naman hiwalay yung pinggan ko sa kanila.

The first time I had been in the hospital, I was advised to isolate, but who would take care of my small children? Neither did my children separate from me. Even during sleeping time, my children and my grandchildren still sleep beside me. My eating plate is not separated from theirs as well.

Yung isa pang sinabi sa akin, bawal tumabi sa maraming pasyente at magkakahawaan. Yan ang sinunod ko.

I was likewise advised to stay away from many patients as contagion may arise. That I heeded.

Sabi ng doctor na nakakahawa ang sakit na TB kaya hindi ako masyadong nakikiusap sa ibang tao. Kapag pinapansin nila ako, ngumingiti lang ako.

The doctor said that TB is contagious so I refrained from talking to other people. When they acknowledge me, I simply smile.

Wala namang sinasabi ang mga kapitbahay namin. Normal ang pakikitungo nila sa akin. Kahit noong nagtitinda ako ng barbecue *eh bumibili naman sila sa akin... Hindi naman ilag ang mga kapitbahay ko, lagi nila akong kinukumusta.*

My neighbors are not talking about it. They interact with me in a normal way. They used to buy barbecue when I was still selling them... My neighbors are not aloof either; they always ask how I am doing.

While the disease may be cured, stigma persists:

> "Where such repair is possible, what often results is not the acquisition of fully normal status, but a transformation of self from someone with a particular blemish into someone with a record of having corrected a particular blemish" (Goffman 1963:9).

In the case of "TB patients," although they are cured, they have not acquired a "fully normal status," but a "transformation of self from someone with" TB or the "TB patient," in biomedical terms, "into someone with a record of" being sick with TB or being a TB survivor, if you may.

Concluding Remarks

The stigma of TB has apparently had long historical underpinnings and seems to be perpetuated, at present times, by the health providers and institutions in their management of the disease. The prevailing notion of segregating patients' utensils to prevent the spread of TB, both from the point of view of the PATB and the health providers, further complicates the understanding of TB from the biomedical perspective. Seeking health care services from private health providers due to stigma does not seem to seat well with the experience of private practitioners.

The stigma of TB is individual, not collective. Even then, it likewise limits physical social interaction and demarcates spaces.

Chapter IX

THE ANTHROPOLOGIES OF EPIDEMIC DISEASES: THE CHALLENGES TO GLOBAL HEALTH

Chapter IX will compare risks and responses to epidemic diseases with a focus on TB and meningococcemia in Baguio City. It will consider the common sets of questions raised in various fields of study including epidemiology and public health, and the challenges they pose to global health.

First, I will discuss globalization in general and focus on globalization and health, in particular. In the discussion, I will outline common themes in the definition of globalization of some theorists as well as present briefly previous works (Scholte 2000; Croucher 2004) along these lines. Based on my review of literature, I will also attempt to assess the available literature about globalization and health.

Second, I will compare TB and meningococcemia. Using the comparison of two infectious diseases, I will attempt to contribute to earlier theorizing about globalization and health. I will conclude this chapter by suggesting future directions to address the issues of globalization and health.

A. Globalization: Common Themes in the Literature

The degree of space, place, people (identity) isomorphism, a long held assumption of anthropologists in the study of culture, has been challenged (Gupta and Ferguson 2002) in the 20th century. Having a homogeneous group of

people occupying a particular space or locale is becoming rare. Even more interesting is, even when they are set apart, technological means allow them to be interconnected in different processes of exchanges of capital, goods, images and ideas. While interconnectedness can be traced back in the late 15th and early 16th centuries, current advancement in technology has allowed the realities of the globe today. The flow of knowledge, be it health related or otherwise, from one side of the world to the other, or from one healing tradition to the rest is faster than ever. Whether knowledge is accessible and acceptable to the healthy or the sick, if need be, is another story.

In the global era marked by advanced technology, the world is characterized in its reorganization of time and space. It is moving at a faster rate, shrinking as well as expanding, creating complex interlinkage known as globalization. It "refers to the intensification of global interconnectedness, suggesting a world full of movement and mixture, contact and linkages, and persistent cultural interaction and exchange" (Inda and Rosaldo 2002:2)[42].

The world is in motion. There is speeding up of flows of people, machinery, money, images and ideas according to Appadurai (1996). The five dimensions of cultural flows were termed as "ethnoscapes," "technoscapes," "financescapes," "mediascapes" and "ideoscapes" (Appadurai 1996:33-36).

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[42] Anna Tsing's article (2002) contrasted definitions of Hannerz (1996), Kearney (1996) and Appadurai (1996). Sheila Croucher (2004) likewise provides a compilation of definitions of globalization by various authors.

The route of circulation or flow is no longer from west to east, as it once was. Rather, more important is how people and goods are dislocated and relocated, in what Inda and Rosaldo (2002) call "de/territorialization". It is "the lifting of cultural subjects and objects from fixed spatial locations and their relocalization in new cultural settings" (Inda and Rosaldo 2002:12; see also Appadurai 1996:37-40; Gupta and Ferguson 2002:76-77). It is no longer a westernizing affair, rather customizing foreign goods and ideas according to the situation of the receiving end offshore. Appadurai (1996) states boldly that "the central problem of today's global interactions is the tension between cultural homogenization and cultural heterogenization" (p.32).

The world is unevenly interconnected. Boundaries have been eroded in the globalization process. The notion of "time-space distantiation" of Giddens (1990) describes "the conditions under which time and space are organized so as to connect presence and absence" (Giddens 1990:14 as cited by Inda and Rosaldo 2003:8; Mendoza 2001) either on a face-to-face contact or through remote encounters (Mendoza 2001). Giddens defines globalization "as the intensification of worldwide social relations which link distant localities in such a way that local happenings are shaped by events occurring many miles away and vice versa" (Giddens 1990: 64 as quoted by Inda and Rosaldo 2003:8; Mendoza 2001). Inda and Rosaldo (2002) argue, however, that "the experience of globalization is rather uneven process" (p.4). While the globe is in intense

mobilities and interlinkages, there are places and people who may not be as active in their experience of movements and connections.

The world is shrinking. The world becomes smaller as the local and global interlock. David Harvey's "time-space compression" characterizing the globe refers to "the manner in which the speeding up of economic and social processes has experientially shrunk the globe, so that distance and time no longer appear to be major constraints on the organization of human activity" (Inda and Rosaldo 2002:6; see also Gutierrez and Kendall 2000).

The world is dislocated. "Dislocation," a term borrowed by Inda and Rosaldo from Ernesto Laclau (1990), refers to the "structures whose center has been displaced – displaced in such a way as to be supplemented not by another center but by a plurality of them" (Inda and Rosaldo 2002:26). Both Appadurai and Kearney likewise reject center-periphery frames (Tsing 2002:468). Mendoza (2001) argues that globalization "is not a unitary process tending in a single direction. It is omni-directional, bringing about a complex set of new order, the local and the proximate, as standpoint, loses its privileged character and becomes decentered" (p.56). Typography of definitions of globalization by Jan Aart Scholte (2000:15-17) is shown in Table IX.1.

Sheila Croucher (2004) observed the wide range of definitions of globalization as well as the various emphases of the term. Her book, "Globalization and Belonging: The Politics of Identity in a Changing World," treated globalization as "a cluster of related changes that are increasing the

interconnectedness of the world" (p.13) such as economic, technological, cultural and political.

Table IX.1
Typography of Definitions of Globalization

Category	Description
Globalization as internationalization	Globalization is viewed 'as simply another adjective to describe cross-border relations between countries,' describing the growth in international exchange and interdependence
Globalization as liberalization	In this broad set of definitions, 'globalization refers to a process of removing government-imposed restrictions on movements between countries in order to create an "open", "borderless" world economy' (Scholte 2000:16)...
Globalization as universalization	In this use, 'global' is used in the sense of being 'worldwide' and 'globalization' is 'the process of spreading various objects and experiences to people at all corners of the earth'. A classic example of this would be the spread of computing, television etc.
Globalization as westernization or modernization	Here 'globalization' is understood as a dynamic, 'whereby the social structures of modernity (capitalism, rationalism, industrialism, bureaucratism, etc.) are spread the world over, normally destroying pre-existent cultures and local self-determination in the process.
Globalization as deterritorialization (or as the spread of supraterritoriality)	Here 'globalization' entails a 'reconfiguration of geography, so that social space is no longer wholly mapped in terms of territorial places, territorial distances and territorial borders.

Source: Jan Aart Scholte (2000:15-17)

Competing definitions of globalization pervade the academic literature, challenging scholars to arrive at a common perspective. Anthropologists have continuously argued that globalization is an issue about space, place, people (identity) due to movement and circulation in an increasing velocity and

complicated by territories within and beyond traditional boundaries as earlier discussed.

Friedman (2004), however, argues for the "kind of analysis" that "is not about crossing borders but about the ways borders are formed and transformed and the way in which they disappear" (p.233). Most especially in the globalization of health, the conceptualization of borders is crucial in this state of affairs. Air-borne infectious diseases such as TB and its spread creates a venue to understand the interlinkage of geographic, economic, social, and political borders about the disease. The outbreak of meningococcemia, an acute infectious disease, and the "politics of disease" likewise provide implications for understanding certain aspects of globalization and health, particularly infectious diseases.

While many have discussed and examined globalization, only a few have studied the phenomenon in relation to health. Literature about globalization and health focused mostly in the area of public health.

B. TB and Meningococcemia

My comparison of the two infectious diseases in Baguio City – TB that has been prevalent over a long period of time, and meningococcemia that arose unexpectedly - shall complement or contradict a few notions of globalization. In this section, I will use the results of my study discussed in the previous chapters, first, to compare and contrast experiences in public health on chronic and acute

infectious diseases; and second, to attempt to theorize about globalization and health.

Body as Boundary. For both communicable diseases, TB and meningococcemia, the pathogen is lodged in the mobile human body, although not on all bodies, however. The likes of Victor and *Manang* Rosa provide names and faces in the case of TB. They have their own social constructions of the disease as well as social location that put them in their place. The risks from infectious diseases have not been shared equitably, with certain individuals and groups more vulnerable than others.

During the *'meningo'* scare, from the outsider's point of view, Baguio City residents collectively had the pathogen in their bodies. Baguio City, allegedly the space for deadly infection, was likewise a place where there were no flows. Thus, interaction with the people was avoided; crossing the geographic boundary was unpopular. It is interesting to note that human bodies with infection, imagined or real, serve as markers of the shifting borders of globalization.

Contrary to earlier theorizing on globalization where geographic boundary is said to be "pulverized" or "eroded," infection in marginalized human bodies set a fluid demarcation of people flows. This is exemplified in the current outbreak of meningococcemia in Baguio City as well as the stigma of the TB disease that affects only the patient.

Flows that Never were. When do borders appear or disappear? In terms of epidemic diseases, stigma of the disease, whether collective in the case of meningococcemia or individual in terms of TB, seems to demarcate spaces of people flows. Healthy individuals distance themselves from those who are perceived to be sick and even the patient from the other.

Interestingly, in the case of meningococcemia, as perceptions of *'meningo'* became inextricably linked with Baguio City residents, the stigma of the disease becomes attached to themselves. Such marking increased the solidarity of the Baguio City community demarcating its boundary and identity.

No Border, More Burden. If people with the pathogen are the shifting or fluid borders, then the overall health burden of disease increases. Pathogen knows no boundaries while people, when able, move in different directions around the globe and at a faster rate. Hence, the globalization of disease, especially infectious ones, poses severe challenges to international public health. It is an interesting issue for public health governance.

When the public health service was devolved under the LGC, borders of health service disappeared in the case of the meningococcemia outbreak and TB health service delivery. Patients from other areas sought medication from private health providers in Baguio City.

The health care system in Baguio City or even the country is likewise "disrupted" because NTP supposedly allowed PPM. Other health concerns do not necessarily provide a public-private interaction in terms of disease

management unlike TB. TB prevention and control attempt to unite strange bedfellows in the health care system. However, there are particularities in the place that may not warrant the success of a homogeneous global health agenda.

On the other hand, management of meningococcemia allowed instant cooperation from the private health sector to ally their efforts with the public health sector to control infection during the outbreak. With the meningococcemia epidemic, the Baguio City health care system was, wittingly or unwittingly, centralized almost automatically, with the public sector in command. Experts from international organizations were likewise contributory to the success of controlling meningococcemia.

Flows of Knowledges, Increases in Funds, and Diseases Directions. Interestingly enough, while TB prevention and control grants overflow, the PATB and the lay public who are the target beneficiaries do not seem to be aware of NTP goals and activities. Only policy makers and program managers and health providers are aware of the foreign funded and internationally influenced NTP. There seems to be compartmentalization of TB knowledges among key actors in the health care system in Baguio City.

With the meningococcemia outbreak, coupled with the *'meningo'* scare, the lay public in general was aware of the implications of contracting the acute disease. TB is chronic so people seem to be less scared of the disease and its implication, which is also death. Policy makers and program managers and health providers from public and private sectors were able to control disease

spread due in part to the lay public's cooperation. This is despite being caught by surprise with the sudden upsurge of the disease.

Public Health Implications. The long battle with TB in Baguio City, coupled with the sudden fight against meningococcemia, awakens us to the complex public health reality. Global public health agenda seems to provide a better opportunity to learn unique local situations to achieve a common goal rather than to impose a universal approach congruent to none.

C. Future Directions

The sustainability of current public health efforts on prevention and control of infectious diseases continues to unfold with the present trends of the time. The call to explain the connectivity of people and health care systems around the globe reminds us to determine the unique as well as the universal.

Chapter X

SUMMARIES, CONCLUSIONS, AND RECOMMENDATIONS: THE MAKING AND REMAKING OF PUBLIC HEALTH GEOGRAPHY

The last chapter of my dissertation enfolds three major sections such as the summaries of the different chapters, overall conclusions, and various recommendations. The objective of this chapter is to pull together various strands of thoughts in relation to insights and issues of infection impacting global public health.

First, I will highlight salient points of each of the previous chapters as I attempt to argue towards my recommendations for academic and practical endeavors. Second, drawing from the various chapters, I will present the general conclusions of the study of the globalization and health knowledges of TB. Lastly, I will attempt to provide recommendations in relation to the following: 1) prevention and control of infection, 2) theory-building and analysis of global public health, and 3) conduct of global health research.

A. Summaries

The site of the study, Baguio City in the Philippines, offers an interesting scenario to represent a space of globalization. Its role in terms of TB control and prevention in the past and at present times as well as the recent outbreak of meningococcemia provide various images of the city.

Using primarily ethnographic and qualitative methods, I interviewed 95 key actors in the health care system composed of policy makers and program managers, health providers, and lay persons and PATB.

Meningo scare disrupted people flows to and from Baguio City. Infectious diseases like meningococcemia may produce a strong, fluid social boundary. The outbreak of the disease and the politics thereof provided an interesting lens to study TB prevention and control over a period of time.

TB prevention and control in the Philippines traces its long history in Baguio City when it was used as a hill station in the early 1900s. While local initiatives from the private sector spearheaded the TB prevention program in the past, current efforts depend greatly on the availability of external resources and international standards in combating the disease.

The plurality of health knowledges within and among the key actors in the health care system seems to require reconciliation of perspectives for TB public health measures to succeed. Apparently, there are basic assumptions of international health agenda (i.e., recording system, availability of personnel, resources and facilities, etc.) that may not be present in a given local setting such as in the case of Baguio City. Particularities of the place as well as local relationships need to be understood prior to adoption of global public health standards.

Infected human bodies who usually come from marginalized sector of society serve as social boundaries of globalization. They do not seem to be aware

of their disease and the internationally prescribed procedures and standards. Even when PPM is promoted, most of them make a difficult choice between the free services provided by the public health agency and the paid services of the private health sector.

The stigma of TB originates from the erection of sanatoria for tubercular patients at the end of 19th century and seems to perpetuate even at present times. Segregating TB patients' eating paraphernalia is still believed to prevent TB spread, both from the points of view of the PATB and the health providers.

Comparing two infectious diseases, TB and meningococcemia, in the socio cultural context contradicts a few notions of earlier theorizing about globalization. In terms of globalization and infection, geographic boundaries are formed by marginalized bodies that bear infection. Human bodies set strong fluid demarcations for people flows due to stigma of the disease. Thus, the globalization of disease is a major challenge to international public health as well as public health governance. Global public health agenda may need to consider local peculiarities in achieving universal public health goals and thereby sustaining global health.

B. Conclusions

While TB prevention and control in the Philippines started in early 1900s, combating the disease continues as a challenge at present times. The enormous financial resources available from international sources seem to propel the

activities and endeavors in addressing the infectious disease. The local health care system's record is improving yet incomplete as some of the private records do not form part of the official record from the public health system. Key actors in the health care system hold various views about the disease that are both similar and different. Locally, there are nuances in finding and curing TB. PATB usually come from low social economic status. Stigma of TB is individual, not collective although it still sets the limits of physical interaction demarcating spaces between humans and providing spaces of no flows.

The anthropologies of infectious diseases raise various questions to different fields of study such as epidemiology and public health, and likewise provide a new dimension in globalization literature. Together, at the end of the day, they have to answer the question, "Is it stigma or public health failure?"

C. Recommendations

In this concluding section, I will attempt to forward recommendations in relation to better prevention and control of infection, theory-building and analysis of global public health, and the conduct of global health research.

1. Prevention and Control of Infection

Infectious diseases, like TB and meningococcemia, are not contained in specific geographic area. People's movements, at a faster rate and in various directions around the globe, expand the possibility and velocity of spread of infection. The adoption of a relevant unit of analysis in public health that

transcends political boundaries may address current limited views on prevention and control of infection. Public health requires a shift in mindset from primarily national unit of analysis.

While global health agenda on prevention and control of TB infection may prove worthwhile in some countries, there is a need to critically assess existing public health models and their underlying assumptions vis-à-vis the local setting's health care system. Views of the key actors in the health care system need to be reconciled in order for public health measures of TB or other diseases to succeed. Both health providers and lay persons and PATB should attempt to understand the biomedical as well as the cultural dimensions of the disease including various misconceptions. There is likewise a need for health providers to explain to PATB the rationale and results of diagnostic procedures as well as treatment of TB. Determining disease terms used by lay persons and PATB as well as health practitioners, and understanding the relationship among illness categories, knowledges, and behaviors may improve existing public health interventions.

Eliminating the stigma of the disease through educational campaigns may likewise improve responses of lay people to TB prevention and control measures. Invention of less intrusive diagnostics and therapeutics may also allow cooperation and adherence from various key actors in the health care system most especially the PATB.

2. Theory-building and Analysis of Global Public Health

The current study attempts to shed light on understanding globalization and health, specifically on infectious diseases like TB and meningococcemia. It hopes to inspire or ignite theory-building along the lines of global public health where poverty of sound analysis prevails. As observed, most literature on global health seems to portray that within nation, there seems a homogenous experience of health and illness locally undermining the differences in terms of socioeconomic status, gender, and other important axes. As mentioned earlier, the utility of national unit of analysis may need to be examined further in accordance to the current trends of immigration and infection.

Multi-level analysis may allow unpacking of broad array of factors and forces affecting health condition and help seeking measures as well as the distribution of infectious diseases like TB and meningococcemia.

3. Conduct of Global Health Research

Global health research often assumes consistency and completeness of comparable public health records within and across nations. My research reminds us that it is not necessarily so. Thus, it is not advisable to assume comparable data in the conduct of global health research.

Medical Anthropology crosses disciplinal divide with epidemiology and public health necessary to address problems posed by infectious diseases like TB. The diversity of perspectives in the field of medical anthropology accorded itself at the forefront of addressing significant global health issues like TB. Singly or

combination of its approaches has illuminated a better understanding of the disease burden and human suffering. With its collaboration with epidemiology and public health, they have more effective means of prevention and control of infection. The translation of transdisciplinary research into public health policies that transcend geographic, political, and economic boundaries is highly recommended for the fight against TB to succeed.

APPENDIX

Appendix 1. Probability Respondent Selection Key
(Lay Persons)

Establish probability respondent based on household members then interview the probability respondent.

(Prelist odd-number questionnaires for male interviews; even-number for female.)

INTERVIEWERS:
Assign numbers from 1 to N (from the oldest to the youngest) for each qualified member aged 25 years and over in the "No." column of the table. Then in the "QM" column, draw a horizontal line under the number corresponding to the last qualified member. Locate the household number of this interview in the row of numbers from 1 through 12 at the top of the chart. Then look down at the column of figures below the household number and encircle the number in this column which is opposite the number of the last qualified member. Finally, locate this encircled number in the "No." column. The qualified member corresponding to this number is your probability respondent.

( ) Male ( ) Female Names	Age	No.	QM	HOUSEHOLD											
			No.	1	2	3	4	5	6	7	8	9	10	11	12
			1	1	1	1	1	1	1	1	1	1	1	1	1
			2	1	2	1	1	2	2	1	1	2	1	2	2
			3	3	3	2	2	1	3	3	3	1	2	2	1
			4	4	1	3	4	3	1	2	2	1	2	3	4
			5	1	1	5	3	2	2	4	5	4	1	3	5
			6	6	4	1	5	4	1	2	6	3	5	2	3
			7	5	2	3	1	7	7	3	2	6	4	4	6
			8	2	5	4	1	1	3	5	4	8	7	6	3
			9	3	4	6	7	5	8	1	9	2	6	7	2
			10	7	8	3	2	4	1	6	1	5	9	5	10
			11	11	10	9	6	8	5	3	3	7	2	1	4
			12	1	3	7	5	6	4	8	10	12	9	11	2

Name of Probability Respondent _____ Age ___ Sex ___

Relation to household head _____
( ) Original ( ) Substitute Probability Respondent

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