Between two borders: Social vulnerability and risks to health among undocumented Central American immigrants in México

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A thesis submitted in partial fulfillment of the requirement for the degree of Master in International Health

By

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Thanks to all the Central American friends and aquitances who inspired me to accomplish this work.

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Abbreviations

CA Central America

CNDH Comisión Nacional de Derechos Humanos

CONAPO Consejo Nacional de Población

GBV Gender Based Violence

GDP Gross Domestic Product

DHS Department of Homeland Security (US)

HDI Human Development Index

ICMW International Convention on the Protection of the Rights of All Migrant Workers and Members of Their Families

IMF International Monetary Fund

INEGI Instituto Nacional de Estadística y Geografía

INM Instituto Nacional de Migración

INMUJERES Instituto Nacional de las Mujeres Affairs

INSP "Instituto Nacional de Salud Pública

IOM International Organization for Migration

LA Latin America

LSTM London School of Tropical Medicine

MOH Ministry Of Health

NGO Non-Governmental Organization

PAHO Pan American Health Organization

PTSD Post Traumatic Stress Disorder

SAPs Structural Adjustment Programs

SEDESOL Secretaría de Desarrollo Social

SEGOB Secretaría de Gobernación

SDOH Social Determinants of Health

SGBA Sex and Gender Based Analysis

SINAIS Sistema Nacional de Información en Salud

SRE Secretaría de Relaciones Exteriores

SS Secretaría de Salud

UNDP United Nations Development Fund

UNFPA United Nations Population Fund

US United States

VAW Violence Against Women

WB World Bank

WHO World Health Organization

Abstract

This study analyzed the individual characteristics of Central American trans-migrants relevant to their socio-economic background, sex and age, combined with other societal, environmental and structural factors, identified from literature as potential sources of social vulnerability and ill health, that are attributable to their transit through México.

The findings showed that traveling undocumented through Mexican territory has a direct negative effect in the health and wellbeing of individual trans-migrants. Recommendations to further health-related research among this population group were provided by the researcher.

Chapter I. Introduction, background and problem statement

During my time in Guatemala where I was working as Programme Officer for the Joint United Nations Programme on HIV/AIDS, I was confronted with numerous stories of migration toward the United States. These stories made me aware of the challenges and human drama experienced by those who make this journey. As a Mexican woman, I felt ashamed when I heard about the harsh experiences faced by these trans-migrants during their transit through México. As a social justice advocate, I was angry and felt compelled to learn more about the situation so that I could contribute to making the experience of trans-migrants in my country safer and more just.

This thesis, part of the Masters Programme on International Health, offered me a great opportunity to begin to accomplish that goal by shedding light on evidence, which can be used by advocates and policymakers in the region. In order to do this, the study presents an overview of the global debate on migration and health and, within that context, a more specific analysis of the sources of vulnerability to ill health among Central American trans-migrants en route to the United States. The study concludes with insights and recommendations intended to further health research, policies and programmes towards safer mobility in the region.

I.2 Background

México is a country located in North America. It has a population of 112,336,538 (49% men and 51% women) distributed in a territory of 1,964,375 sq km (INEGI, 2005). Is bounded to the north by the United States (US) and to the south by Guatemala and Belize. Geography within the country varies from dry dessert, to mountains and jungle, and a vast coastal area creating a wide bio-diverse environment.

México is a middle-income country. It has a Gross Domestic Product (GDP) per capita of USD 874.9 billion) It is ranked #56 (of 182) on the Human Development Index (HDI) (UNDP, 2009). By 2009, 18.25% of its population was living bellow the national poverty line (UNDP, 2009) Wide inequalities are found among geographic areas and population groups. *(For health indicators and description of health system organization in México refer to annex 1)*.

Ongoing economic and social concerns include low real wages, underemployment, inequitable income distribution and growing violence due to organized crime (e.g. drug cartels). These problems are shared among neighboring countries to the south, in Central America, and -to some extent- have promoted the flight of individuals towards the United States in search for better job wages and life opportunities (Hammill, 2007). Annual remittances from immigrants in the US provide collectively more than 20 million USD to their families in Mexico, making these, the third largest source of revenue for the national economy (2.9% of GDP in 2006), (Foreign and Commonwealth Office, 2011), after the oil and tourism. In neighboring countries from Central America (CA) the economic dependency to migrant's remittances is more evident. In Honduras, these represent 24.8% of the GDP; 18.2% in El Salvador; and 10.1% in Guatemala (FIDA, 2006).

México plays a key role not only as primary source of emigrants to the US (Hoefer, 2010), with currently, 12 million, from which half are unauthorized (Hoefer, 2010), but also as the main transit route for Central Americans who migrate without the required documentation. Migrants trying to reach the US without documents are known as "trans-migrants" (SRE-SEGOB, 2010). The United Nations (UN) estimates that up to 1.5 million migrants under this category are arrested annually at the México-US border (more than 70%, are coming from México and Central America) (Pardinas, 2008).

I.3 Migration, migrant categories and global estimates

Over the past 30 years, the process of systematic globalization has increased the process of population mobility in the world. Migration is defined as "*The movement of a person or group of persons from one geographical unit to another across an administrative or political border, wishing to settle definitely or temporarily in a place other than their place of origin*."(IOM, 2003).

The term "migrant" does not specify directionality of movement, therefore, the term "emigrant" is more accurately used when referring to any person who leaves his or her country of origin with the intention to reside in another (IOM, 2011). Once in the country of destination -or transit when applies- this person will be considered as an "immigrant" (IOM, 2011).

Migration estimates are often imprecise due to the diversity of definitions and the difficulty of counting some categories of migrants, such as those who are in an irregular situation and thus, beyond official registers (Zimmerman, 2011). Despite limitations, the International Organization for Migrations (IOM) estimated that, by the year 2010, 3.1% of the world's population (approximately 214 million) was living temporarily or permanently outside their countries of origin (IOM, 2011). From the total number, 60% were living in developed regions (Europe 56 million; Asia 50 million; and North America 41 million) (IOM, 2011). Migrant women represent 49% of the world's migrant stock since the decade of the 60's (IOM, 2011). *(For description of categories and estimations refer to table 1)*

Table 1
Selected migrant categories and global estimates

Migrant category	Definition	Estimates
Internal migrants	Individuals moving within the borders of a country, usually measured across regional, district and municipal boundaries. (UNDP 2005)	Approximately 760 millions 2000-2002, UNDP
International migrants	Individuals who stay for at least one year in a country different than their usual, which involves the crossing of one or several international borders. (IOM, 2011; UNPD 2009)	213, 943, 812 (Females 49%; males 51%) UN Population Division, 2009
Irregular migrants (Undocumented or illegal migrants)	Individuals who enter a country, without the required documentation, or who overstay the authorized length of stay in the country (UNFPA 2005)	20 to 30 millions by 2005. UN Population Division (2009)
Trafficked	Individuals who are coerced, tricked or forced into situations in which their bodies or labor are	Unreliable estimates

persons	exploited, which may occur across international borders or within their own country.	
International labor migrants (flow)	Individuals engaged in a remunerated activity in a state of which he or she is not a national, including persons legally admitted as migrants for employment	Total: 27,390,884 Among countries with sex disaggregated data: 3,037,335 (female 45%; male 55%) ILO,2006

Made with information from:
Zimmerman (2011)
IOM, Facts and Figures [Online] 2011 Available at: http://www.iom.int/jahia/Jahia/about-migration/facts-and-figures/lang/en [Accessed on March 10, 2011]

From a legal standpoint, an important distinction has been made for documented and undocumented migrants, often referred to in literature as regular or irregular migrants; or authorized and unauthorized respectively. Despite the scope of irregular migration, it remains difficult to quantify due to its very nature of illegal and clandestine, UN estimates suggest that undocumented migrants accounted for 20 to 30 million by 2005, comprising 10% to 15% of the world's immigrant stock (Cortéz, 2005). More recent estimates indicate they account for one third to one-half of new entrants to developed countries, representing an increase of 20% over the past ten years (IOM, 2003; IOM, 2010).

I.4 Immigration in México

Migration across the Mexican south border has been common practice over the last 40 years (Pardinas, 2008). Rooted in the background of ongoing armed-conflict in Guatemala, Nicaragua and El Salvador during the decades of the 70's, 80's and 90's, which averted development, and pushed millions outside the region for survival reasons. Later in time, the migratory dynamic was sustained by the high poverty levels in the Central American region, and the strong migrant networks established across the migratory route (Massey, year), which Brown (1991) labeled as the migration chain effect, "*the tendency of current migrants to follow the paths of relatives, friends and acquaintances, who have moved earlier*" (Brown, 1991).

I.4.1 Irregular immigration in México

Most reliable estimates are collected from migratory stations managed by the National Institute of Migration (INM). The records of total detentions and expulsions of undocumented immigrants are the most quoted source and provide a general idea of the size. *As shown in table 2,* the total number of unauthorized immigrants increased during the first half of the last decade (from 150,530 in 2001 to 216,695 in 2004), followed by a notable decline in 2006 (INM, 2007). The descending trend, which continued for the following years, is associated with the global economic crisis in 2009, which affected the global labor market generating changes in the dynamics of population mobility in the region.

Table 2
Unauthorized immigrants detained in México disaggregated by sex

	2001	2004	2006	2008	2010
Total number	**150, 530**	**216,695**	**182, 705**	**94, 863**	**69, 903**
Men	No data	No data	No data	77, 311	59, 515
Women	No data	No data	No data	17, 552	10, 388

Table made with data from:
INM (2007) Boletines estadísticos. Available from:
http://www.inm.gob.mx/index.php/page/Boletines_Estadisticos [Accessed on march 02, 2011]

Despite data collected by the INM, Non-Governmental Organizations (NGOs) (Sin Fronteras, 2007; Rigioni, 2003) and Human Rights bodies (CNDH, 2011) insist, official estimates remain far from representing the magnitude of the phenomena, as many undocumented immigrants, specially those en route to the US, manage to move across the country without being intercepted by authorities.

I.4.1.1 Central American trans-migrants in México

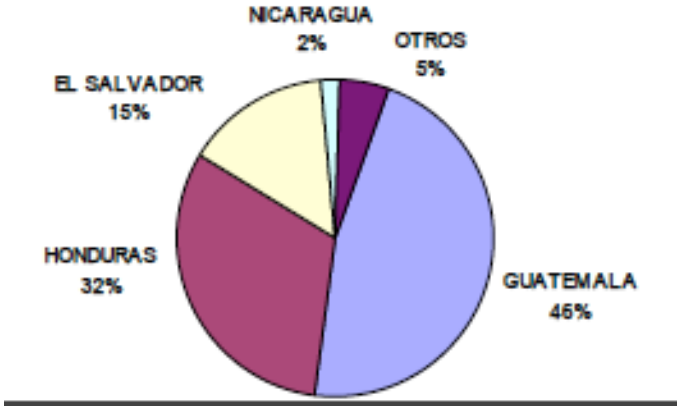
This particular migrant group presents four characteristics: (1) They are irregular immigrants, which means they enter Mexican territory without the required documentation or permits; (2) their goal is to reach the US in search for better jobs and life opportunities, thus their stay in México is temporary; (3) the journey is made by land, and the trajectory involves a well established migratory corridor that runs from Central American countries to the United States, where México is an obligatory transit space; (4) the migration pattern is circular, as they travel from their home countries to the US, back and forth, several times during their life time (Díaz and Khuner, 2007;Hoefer, 2010).

According to Vega and Ilescas (2009), the transit of Central American trans-migrants over the Mexican territory has become more evident only in the last decade. This is consistent with official data in the US (DHS, 2010), reporting that the number of unauthorized immigrant population coming from México, Central America and the Caribbean increased from 6.1 millions in 2000 to 8.5 millions by 2009.

Guatemala, Honduras, El Salvador and Nicaragua comprise the main source of undocumented immigrants detained by the Mexican authorities (95% of the total number of detentions) (Casillas, 2008; INM, 2010; Díaz and Khuner, 2007; Hoefer, 2010), *as shown in figure 1.*

Whereas not all of them can be considered trans-migrants, the same countries consistently emerge as the main source of undocumented immigrants in the US (Hoefer, 2010), *as indicated in table 3.*

Figure 1
Main nationality of immigrants in detention in México, 2008



Source: INM, Informe de estaciones migratorias 2007

Table 3
Leading source countries and estimated population of undocumented immigrants living in the USA*

Country	Estimated population			
	2000		2009	
	Total	% of total	Total	% of total
México	4,680,000	55%	6,650,000	62%
El Salvador	430,000	5%	530,000	5%
Guatemala	290,000	3%	480,000	4%
Honduras	160,000	2%	320,000	3%

Table made with data from:
US Department of Homeland Security [Online] Available from: www.dhs.gov/xlibrary/assets/statistics/.../ois_ill_pe_**2009**.pdf [Accessed on March 13, 2011]
*No gender disaggregated data found.

I.5 Problem statement and justification

Irregular migrants are commonly identified as the most vulnerable group of migrants (Pitkin, 2007; UNDP, 2009; IOM, 2011a; WHO, 2003). They often flee from poverty, violence, persecution or environmental disasters, which as a hitherto have an effect in their physical, mental and social wellbeing. While they carry with them health profiles that reflect their underprivileged social and economic origins, they are also confronted with situations during all phases of the migratory process that can exacerbate their condition or present little opportunity to transform it.

Particular difficulties lie in assessing the mortality and morbidity associated with them. Research across the world (WHO, 2003;UNDP, 2009; Naik, 2008; Pitkin, 2007) has

shown that their living conditions are often poor; they have limited access to health and other social services (OIM, 2011; WHO, 2003); face discrimination, violence, and often find themselves in working conditions that are exploitative (Salgado *et al*, 2007). Their irregular status makes them difficult to seek for legal protection and health care, as they are usually afraid of being detained and deported.

Cornelius (2007) cited in Vega (2009, p. 5) explains that a variety of factors, including geographical, environmental, educational, political and social, interact to influence the health of those who migrate. Basur (2003), Bierman (2007), Salgado *et al* (2007) agree, and suggest the duration of the journey, the nature of transportation, and the experience of migrating itself, will contribute to determine their health status (Basrur, 2003 health Canada towards a migration health framework; Salgado *et al,* 2007; Bierman, 2007).

Irregular migration thus, is a complex phenomenon and perhaps the most challenging in terms of global democracy and social justice. In words of van Krieken (2001), "… t*he health protection and medical treatment of irregular migrants… touches upon legal, medical, ethical, social, financial and humanitarian aspects, which as an issue has hitherto been neglected and which requires a multi- and interdisciplinary approach.*" (van Krieken, 2001)

Central American trans-migrants en route to the US are irregular migrants too. Whilst they may not stay in Mexican territory for too long, their journey through México has been identified as one of the most dangerous transit routes in the world (Ruíz, 2001; Pardinas, 2008; Martínez, 2003) due to the harsh environmental conditions that surround the crossing of the two borders (jungle, rivers and dessert), and the dangers associated with criminal groups taking advantage of them (Diaz and Khuner, 2007).

During the last Global Forum on Migration and Development celebrated in México in November 2010, it was highlighted the urgency of studies aiming to understand the reality of regional migration patterns as they exist today, as this evidence, represents the best instrument for advocacy and provides the basis for policy design. The present study aims to contribute in bridging this knowledge gap by analyzing the sources of vulnerability to ill health among Central American trans-migrants in México.

Chapter II. Objectives and methodology

II.1 General Objective

To identify and analyze the factors which increase the vulnerability to adverse physical, psychological, and social health outcomes among Central American trans-migrants in México, in order to make recommendations that further research and policies towards safer mobility

II.2 Specific objectives

- To review current approaches to the study on migration-health and relevant frameworks, and determine a conceptual framework for the exploration of factors increasing vulnerability to ill-health among Central American trans-migrants in México
- To describe and analyze individual characteristics which determine the epidemiological background of Central American trans-migrants
- To examine factors influencing adverse physical, psychological, and social health outcomes among Central American trans-migrants, that are specific to the transit phase of the migratory process (societal, environmental and structural)
- To formulate recommendations that further migration-health research and policies towards safer mobility of Central American trans-migrants in México

II.3 Search strategy and selection criteria

To accomplish the thesis objectives, I conducted a desk review. Relevant literature was covered from material published in English and Spanish between 2000 and the present. The information gathered was organized in chapters and analyzed topic areas according to the specific objectives.

To address specific objective one, theoretical frameworks for the study of migration-health were revised, including those derived from developmental studies, population health research, human rights and vulnerability literature. Reference list and the library database at the Bergen University and the Royal Tropical Institute (KIT) were mainly used. Sources of information included book chapters and electronic articles retrieved from academic search engines such as Redalyc, the engine for scientific journals from Latin America and the Caribbean, Google Scholar, SciELO, Scopus, and Science Direct.

For specific objectives two and three, quantitative data on selected countries was gathered from national census and surveys (when available). For information on Central American immigrants in the US, the US census bureau was the main source; for information on migration dynamics in selected Central American countries, I consulted available national surveys, such as:

- EMIF-SUR 2005 (Survey on migration dynamics in the México-Guatemala border);
- *EHPM* 2009 (Household survey for multiple purposes) El Salvador

Additional contextualized information was collected from online documents from the Mexican Institute for Migration (INM) and Mexican Population Council (CONAPO), as well as reports by national human rights bodies and non- governmental organizations working on the topic.

The study also included online consultation of websites from relevant international institutions such as, the IOM, WHO, UNDP, WB, MPI, CEPAL, PAHO, and UNHCR

II.4 Key words and search terms

'Migration' combined with 'vulnerability', 'women', 'health', 'determinants', 'human rights', 'México', 'Central America' and 'United States'

II.5 Applicability of results

Insights and recommendations provided by this study intend to further health research, policies and programmes towards safer mobility in the region. These could be useful for the Mexican Institute of Migration and other migration governance actors in the region.

II.6 Limitations

The main limitation is the dearth of quality data in the area of irregular migration:

- Worldwide, estimates are often imprecise due to the diversity of definitions and the difficulty of counting this population group, as they often remain beyond official registers;
- In México, information on migration mainly focuses on Mexican emigrants to the United States and roughly touches upon irregular immigrants in the country;
- In Central America, information on the topic varies wildly, depending on the country and the institution collecting the data;
- The absence of gender-sensitive data is noticeable; and
- There is scant empirical evidence on migration-health in the specific context of Central American trans-migration to the US

Chapter III. Migration-health: Global debate and conceptual framework

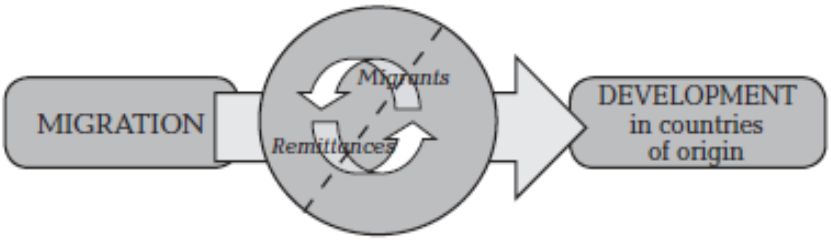
In this chapter, I introduce three approaches to the study on migration and health, which are at the core of the global debate: (1) developmental approach; (2) human rights; and (3) public health. Relevant concepts and frameworks will be revised to provide the ground for discussion and development of the conceptual framework for this thesis. The latter, will guide the exploration of different health risks and challenges, and sources of vulnerability to adverse physical, psychological, and social health-outcomes, that are faced by Central American trans-migrants during their trajectory through Mexico. The results will be presented in chapter IV.

III.1 Main arguments on migration and health

III.1.1 Developmental approach

In literature, the dominant approach to migration emerges from developmental theories. These are founded on economic conceptualizations crafted by institutions like the World Bank and the International Monetary Fund (van Krieken, 2001), and constitute the basis for policies that stimulated flows of population mobility from south to north in the decades of the 70's and 80's (Brown 1991, p.42). Although their proponents do not look directly into the links between migration and health, they suggest migrant's remittances further economic growth *as illustrated in figure 2*; and imply a positive impact at all levels of human development, including health indicators (Brown, 1991; DIFID, 2000; UNDP, 2009; WB, 2011).

Figure 2
Dominant view of the link between migration and development



Source: Delgado *et al* (2010)

Despite the well-established relationship between migration and economic growth, Delgado *et al* (2010) affirm this vision is limited as it disregards the health of individual migrants, including the risks and adversities encountered at different stages of the migration process (for example, living conditions in transit and receiving countries), as well as the social toll migration has on sending countries. Contradictions exist, since empirical evidence has shown remittances do not radically transform poor areas, nor have a direct effect on the health status of migrants themselves (de Haan, 2000).

III.1.2 Human Rights

Health is a fundamental human right to be enjoyed by everyone without discrimination. Nonetheless, migrants often face serious obstacles to realize this and other human rights (like the right to education), which have been associated with discriminatory laws and practice, and deep-rooted attitudes of prejudice and xenophobia (WHO, 2003). Therefore, within this perspective, the focus is placed on the highly vulnerable nature of some groups of migrants (e.g. refugees, asylum seekers, undocumented, women and children migrants).

International organizations and human rights advocates insist on the realization of the right to health entitled by all migrants, irrespective of their legal status. At the national level, they lobby for the creation of public health policies and measures that ensure access to heath assistance, health education and health promotion to all migrant populations (IOM, 2011). At international level, supporters also promote the signing of regional and international treaties[1], which lay out lists of rights for migrants and their families (including the right to health and health care, the right to freedom of movement and the right to equality and non-discrimination, among others), and set guidelines for State's obligations, such as the systematic monitoring and reporting of migration managing systems.

Main criticisms to this approach, consider the extension of certain rights to all migrants, specifically those who are undocumented, as a way to promote irregular migration and encourage migrant's violations to national immigration laws (Yau, 2005). Van Krieken (2001) also brings up the financial implications of granting rights of equal access to economic, social, and cultural benefits to all migrants, concluding that such measure is unrealistic due to the elevated costs it would imply. He also raises the question of whether government's obligations cease and migrant's responsibilities (as individuals) begin (van Krieken, 2001).

III.1.3 Public Health

Traditionally, from a public health view, the main concern was to protect the health of host populations by preventing the introduction and re-emergence of infectious or communicable diseases associated with mobility of people, such as -but not exclusive to, HIV, TB or SARS (OIM, 2011a).

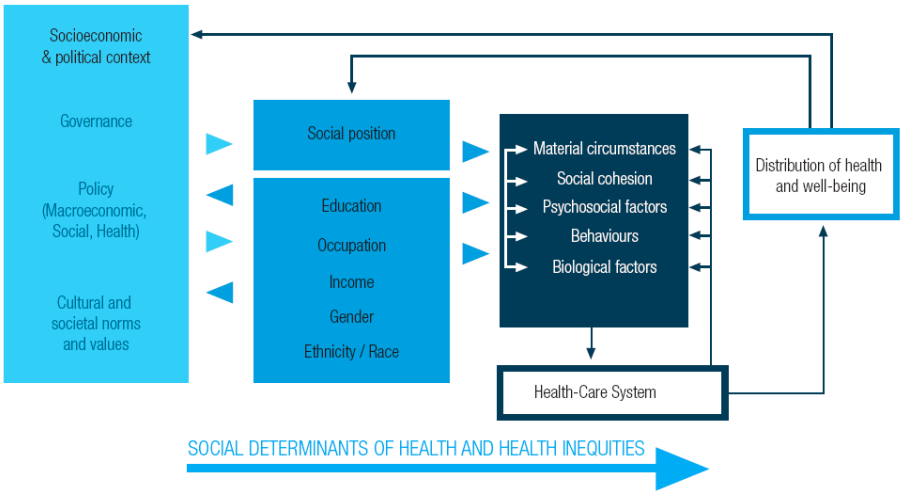
Over the time, however, particular attention was placed on studying the health inequities among different groups of migrant populations (for example, between regular and irregular migrants, or between male and female migrants) (Hamilton, 2010; Ingleby, 2009) in relation to multiple factors that lie beyond the health sector. These

[1] For instance, the Universal Declaration of Human Rights which affirms that: "Everyone has the right to a standard of living adequate for the health of himself and of his family, including food, clothing, housing and medical care and necessary social services" (UN,); the International Convention on the Protection of the Rights of all Migrant Workers and Members of their Families (ICMW) (OHCHR, 2007); and the Convention on the Elimination of Discrimination Against Women (CEDAW) (UN, 2009).

factors have become known as the Social Determinants of Health (SDOH) (Marmot, 2008)

SDOH refer to the conditions in which individuals are born, grow, live and age, which are shaped by social, political and economical forces interacting in various layers of people's life (Marmot, 2008) *(See figure 3).*

Figure 3
Commission on Social Determinants of Health Conceptual Framework



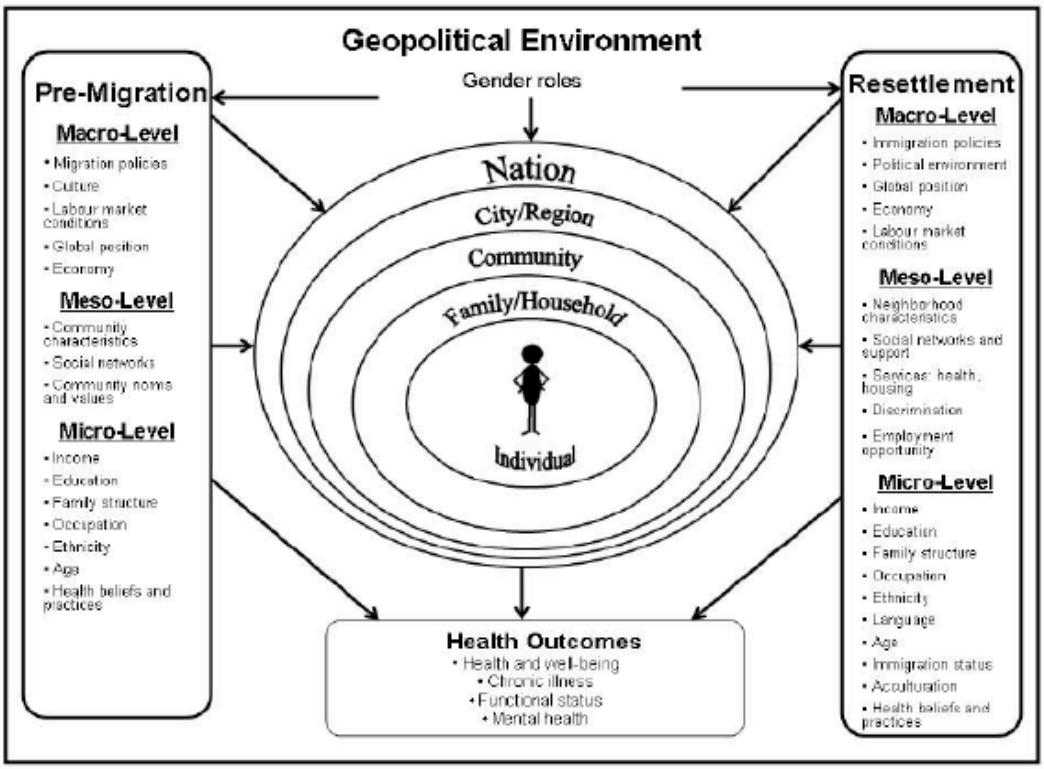
Source: Commission on Social Determinants of Health Conceptual Framework in Chasey *et al* (2010)

Within the context of migration, Pitkin (2007) classifies DOH in: a) individual (e.g. biology, age, ethnicity); b) societal (e.g. violence, social and political marginalization, lack of socioeconomic resources); and c) structural (e.g. social policies, global market, power imbalances between and within countries). Some researchers (Naik, 2008) postulate that migration can exacerbate the impact of these factors and thus, can be regarded as a layer that frames all of the others.

III.2 Frameworks for the study of migration and health

Researchers have developed specialized frameworks to help understanding the health of smaller subpopulations of migrants. In recent years, Bierman (2007) created a conceptual framework *(See figure 4)* that looks at the health of immigrant women in Canada. In his model, he places gender as a major determinant of health and not only a characteristic of individuals. He points out that in the study of international migration, the global ongoing processes affect countries and institutions within them in different ways, affecting smaller scale levels of society (macro, meso, micro and individual level). Therefore, gender, and all other determinants are framed within the geopolitical environment. He also recognizes that factors interacting at the country of origin (before migrating) will play a key role in determining the epidemiological background of migrants, and thus should be taken into account when trying to understand their health outcomes once in the resettlement country.

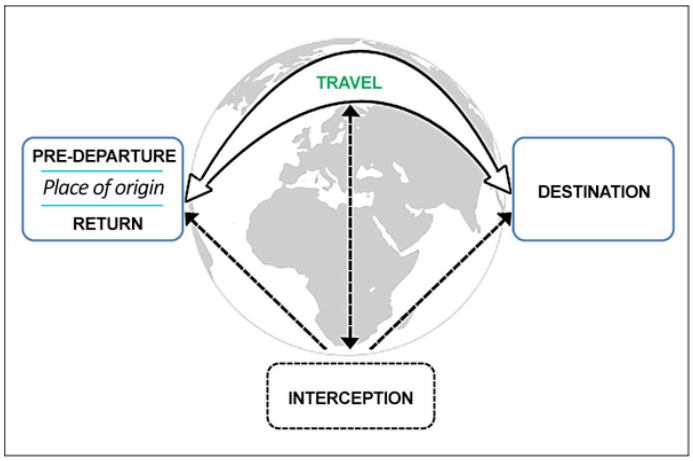
Figure 4
The gender migration and health conceptual framework



Source: Bierman (2007)

In the article "Migration and Health: A framework for policy making in migration-health for the 21st century", Zimmerman *et al* (2011) explains that migration in the light of globalization, presents a much more complex and dynamic scenario than the unidirectional experience implied in traditional conceptualizations. (*See figure 5).*

Figure 5
Migration-phases framework



Source: Zimmerman (2011)

In her words, migration *"…no longer should be regarded as a one-way trajectory -from county of origin to destination-, but instead as a multistage cycle. Otherwise, there is a risk to loosing valuable opportunities for the creation of policies and programmes that address the specific health issues pertaining to each stage".* In her view, the migratory process involves five different phases: pre-departure, travel, destination, interception, and return.

III.3 Discussion

Current approaches to the study of migration and health look at he issue from fragmented positions. This is one of the main concerns I came across while revising literature for this thesis. Similarly, available published research on international migration has a tendency to emphasize the positive attributes of migration, in relation to the well-established relationship between migration and economic growth (Brown, 1991; de Haan, 2000; UNDP, 2009), which suggests migrant's remittances have a positive impact at all levels of human development, including health indicators. Very often these studies overlook the social toll and individual drama that accompany the experiences of different groups of migrants, as well as the fact that the migration process itself can present challenges that increase the risk of transitioning to poor health.

A second remark is related to the scant analytical frameworks available for the study of migration-health and health inequalities in the context of irregular migration, or among other groups vulnerable migrants, like children and women migrants.

One exemption is the "Gender and migration conceptual framework" developed by Bierman (2007), presented previously in this chapter. In my opinion, Bierman (2007) rightly identifies the geo-political environment as a structural determinant influencing the health of migrants, as migration itself is a global process influential to and influenced by other global phenomena (e.g. global market, global environmental changes or global governance). His framework, also asserts in recognizing that pre-existing health characteristics of migrants, related to their social and demographic background, as well as other factors interacting during the pre-migration phase, shape the epidemiological background of migrants.

In my opinion, Bierman's model (2007) fails to acknowledge the existence of different phases of the migratory process, other than pre-migration and resettlement, suggesting a unidirectional view of international migration that does not apply to modern patterns. Migration as it exists today, suggests circular patterns that involve transit phases and temporary residence in one or more countries before arriving to a final destination, as indicated in Zimmerman's model (2011) (presented in section III.2), and also identifiable in the work by Salgado *et al* (2007), and Gushulak [undated] cited by van Kierken (2001, p. 263). Structural and contextual factors relevant to each stage of the migratory process, compounded with the individual experience of migrating will influence the health and overall wellbeing of migrants.

Although Bierman's model (2007) doesn't place immigration status as a key DOH, his contribution is fundamental, since population health research has shown that poverty, exclusion and social inequalities (all present in the context of irregular migration) have a powerful influence on health.

The case for developing a comprehensive framework for this study is evident, given that existing frameworks for the study of migration and health do not fully help to understand what makes different groups of migrants, the undocumented in this case, more susceptible to social vulnerabilities and poor health than others. Awareness of the existence of such inequalities, and addressing the social inequities that create them, could contribute to mitigate the health impact of migrating undocumented.

Before introducing the model for the analysis of sources of vulnerability to ill-health among Central American trans-migrants in México *(presented in section III.3.1, figure 6),* I'd like to clarify key concepts that are essential for this paper.

- **Health**

Health will be understood as the state of complete mental, physical and social wellbeing (WHO), rather than the merely absence of disease or infirmity.

- **Health inequalities and inequities**

Health inequalities refer to the health differentials expected between population groups that are associated to age, sex, genetics and other factors intrinsic to the nature of individuals (Marmot, 2007). Instead, health inequities refer to the health discrepancies that are systematic, socially produced and inherently unfair (Marmot, 2007), but have the potential to be modified. Today, sound scientific evidence shows that health and health inequities are both, influenced by a broad range of factors that lie beyond the health sector.

- **Vulnerability**

Migrants are often identified as "vulnerable populations" (Pitkin, 2007; UNDP, 2009; OIM, 2003). However, the concept of vulnerability has been defined from different disciplines and thus can be interpreted in a variety of ways. For purposes of this study, I will employ a definition commonly used in health-related research that describes vulnerability as "*an increased risk or susceptibility to adverse physical, psychological, and social health outcomes and inadequate health care."* (Flaskerud, 1998; Aday cited by Pitkin, 2007).

This notion of vulnerability is not synonymous with weakness or helplessness. Instead, refers to insecurity and exposure to risk, shocks and stress that can be reduced by assets (Rodríguez 2000 cited by Hogan 2005), such as human investment in health and education, proper housing and domestic equipment, access to community infrastructure, political participation, and comprehensive policies and social programmes (Chambers 1995 cited by Wratten, 1995).

III.3.1 Conceptual framework for the analysis of sources of vulnerability to adverse physical, psychological and social health outcomes among Central American trans-migrants in México

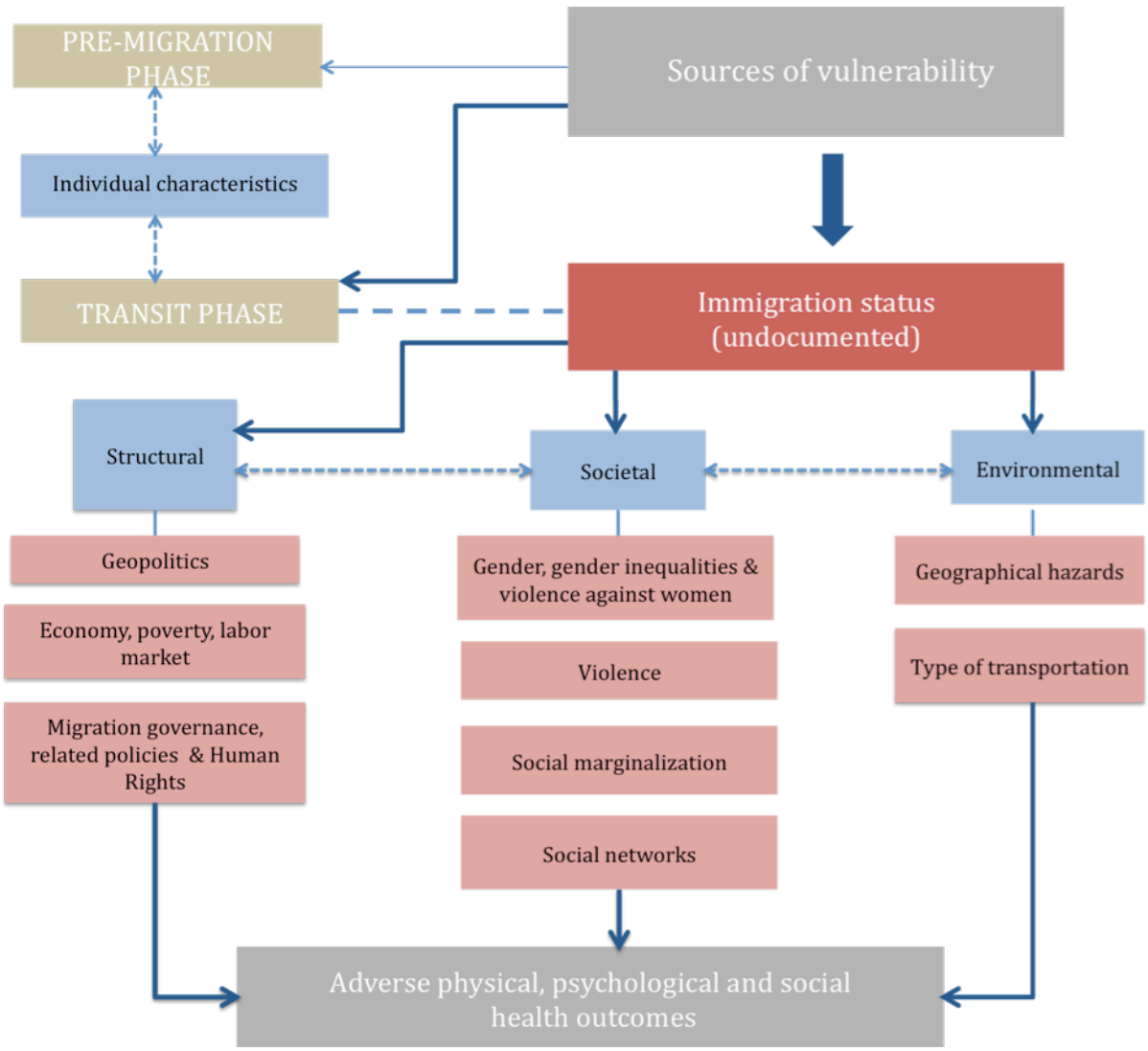
The conceptual framework for this study utilizes SDOH as a guide to explore sources of vulnerability to ill-health among Central American trans-migrants in México. The model proposed for the analysis (illustrated in figure X), systematically looks at the multiple factors (identified in literature) that work as potential contributors to ill-health among

this population group. The pathway that guides the analysis is indicated within the model by bold arrows.

Since the geographic scope of the study is limited to the transit phase of the migratory process (the journey through Mexican territory), the exploration of factors interacting at other stages will be deliberately excluded. Only individual characteristics of migrants shaped by factors operating at the pre-migration phase will be looked at, since this are relevant to understand the socio-economic background of trans-migrants and the health conditions they carry with them.

Individual characteristics, and other structural, societal and environmental factors indicated in the model will be explained and analyzed in Chapter IV.

Figure 6
Framework for the analysis of sources of vulnerability to adverse physical, psychological and social health outcomes among Central American trans-migrants in México



III.3.1.1 Individual characteristics

Health is not determined by individual biological factors alone. Socio-demographic characteristics such as economic status, age, sex, gender, ethnicity, and education have proven to be powerful DOH since they influence accessibility to health care and health outcomes (Marmot, 2007).

Exploring the socio-demographic background of Central American trans-migrants can provide useful information regarding their motivations for migrating and the limitations for doing so in a regular or irregular manner; it will also help to recognize the health conditions these migrants may carry with them; and to understand the situation of population groups that deserve special attention as they have particular health issues related to age, gender and/or their lower status in society, which migration can exacerbate (e.g. migrant women and children).

Socio-economic background

Different authors (Malmusi *et al*, 2010; Hamilton, 2010) suggest an association between the level of economic development in migrant sending countries, and the socio-economic characteristics of individual migrants and their health outcomes once at the settlement country, where increased risk to poor health is observed in migrants coming from poorer areas. This association is attributed to the cumulative experience of adverse conditions in the pre-migration phase (e.g. poor living and working conditions, low education and lack of health care) (Pudaric 2003 cited by Malmusi *et al*, 2010).

Sex, gender and age

Worldwide, women account for 49% of international migrants since the decade of the 60's (IOM, 2011b). Despite the fact, research on women and migration did not appear in worldwide literature until the 1990's (ESCAP, 2007), when gender equality became a core element of poverty reduction strategies[1].

Monitoring the number of male and female migrants is essential, not only because biological differences between men and women influence the risk to acquire certain diseases, but also, because it creates the space to analyze the causes of differentiated outcomes related to the experience of migrating. Kabeer (1994) explains that "sex" as a unit of analysis cannot be regarded in isolation, as it is affected by a variety of social influences such as gender norms, social status or the inequalities emerging from these. Hence, sex disaggregated data will be included throughout the document, when available, and will be analyzed in combination with other DOH. Gender and gender norms, will be explored in detail under societal factors, as both are expressions of other social norms and interactions imbedded in the culture.

Migrant children

The particular experiences and health needs of migrant children have been barely documented in scientific literature. Some studies however, (Zhihuan, 2006; Darmon and Khlat 2001) indicate children from immigrant households are more likely to live in poverty conditions than children from non-immigrant households. Nutritional risks

have also been observed in children of immigrant populations in some countries (Darmon and Khlat, 2001), associated with an accelerated dietary transition and limited access to preventive dietary advice due to language and cultural barriers (Darmon and Khlat, 2001). Findings from a study conducted in the US (Zhihuan, 2006) showed a relationship between parent's immigration status and children's health, where children of non-citizen immigrants are more likely to have poor health, compared to children whose parents have citizenship. The same study suggests children from immigrant populations are 5 times more likely to lack health insurance than US-born low-income children.

III.3.1.2 Immigration status

Immigration status is an important determinant of the health of migrants since it influences access –or the lack of it- to social programmes and services available for the average population.

Immigrants in irregular situation fall outside of state-sponsored health programmes (when available), and very often are not able to pay for private insurance or private consultations. Evidence from the US shows that 65% of undocumented immigrants living in this country lack health insurance (compared to 17% in the US born population)(U.S. Census Bureau, 2010). Among this group, huge inequalities are palpable depending on the nationality (e.g. 7% of the total of undocumented immigrants from Germany are uninsured compared to 58% Guatemalans). The lack of access to health-care services often forces immigrants to postpone seeking for health services until their condition becomes more serious (WHO, 2003). Fear of detention and deportation also keeps them from seeking health care, as they are afraid that health providers may be linked to immigration authorities. Self-medication and seeking help with non-professionals is also common practice (ESCAP, 2007).

III.3.1.3 Societal factors

Societal factors refer to the expressions of social interactions, and cultural norms and values given in a certain society. Within this group of factors I will explore gender and gender roles and inequalities, violence, and expressions of stigma and discrimination towards immigrant populations. I will also look into the social networks of trans-migrant population, as well as the working and living conditions they experience, as these are proximal indicators of social marginalization.

Gender, gender inequities and Violence Against Women (VAW)

The intricate relation between gender and health has been well explored in feminist literature and goes beyond the analysis of the biological differences between male and female (sex). In the article "*Sex, gender and health, the need for a new approach"*, Doyal (2001) explains that the gendered roles that men and women play in society and the existing unequal and hierarchical relationships between them, usually in favor of men, are reflected in differential health outcomes for men and women.

Generalizations emerging from studies with a gender perspective in the field of migration suggest migrant women carry a higher burden when compared to their male

counterparts (Doyal, 2001; Cortéz, 2005; Salgado *et al*, 2007; Adanu and Jhonson, 2009; Mora 2002 cited by Martínez 2003). They are often doubly disadvantaged because they face discrimination as women and as migrants, as well as risks associated with gendered experiences along the migration process that can deteriorate their health status.

In the context of migration, Jockalin Clark (2009) explains that "socially constructed gender roles from all countries involved in the migratory process, act in different levels to influence the exposure to risky situations that create a difference in health outcomes between immigrant men and women". These notions are helpful to understand why it would be expected to find worse negative health outcomes in women migrants related to their lower status in society, and the difficult experiences they face, specially when migrating without documentation.

Violence

Research on violence typically distinguishes between direct and indirect exposure (Krug, 2002). The first one, refers to the experiences of someone who is the actual victim of violence, while the latter, most commonly refers to the experiences of personally witnessing violence but may also include hearing about an act of violence or knowing someone who has been victimized (Krug, 2002). The available evidence shows that both direct and indirect exposures to violence have serious health consequences.

Working conditions

Adverse working conditions and environments can expose individuals to a variety of mental and physical health problems (Marmot, 2008). Occupational accident rates in some parts of the world are about twice as high in immigrant workers compared to native workers (WHO, 2003), and poor mental health outcomes in temporary workers has been also associated with precarious employment (Marmot, 2008).

Low-skilled migrants and migrants in an irregular situation often get involved in high-risk and low-paid jobs that local population reject (such as mining, construction, heavy manufacturing and agricultural tasks) (WHO, 2003). Employment conditions are often unjust and employers, taking advantage of their irregular situation, do not offer any social protection regardless of the risks the may get exposed to.

Living conditions

Good quality shelter and access to clean water and sanitation constitute some of the basic indispensable needs for a healthy life (Marmot, 2008). Unfortunately, experiences from undocumented migrants in different parts of the world have shown that they often live in precarious circumstances where overcrowding and inadequate sanitation are the norm (WHO, 2003).

Social networks

Supportive social networks further immigrant's ability to adapt and cope with the costs and risks of international migration. Drawing on the connection established by the

experience of migrating, significant bonds are developed between individuals offering valuable sources of social capital. Massey and Aysa (2005) explains that international migrants rely in relatives, friends and aquitances with prior migratory experience to share information, moral support and resources that help to diminish the suffering associated with migrating. These networks can also contribute to further mental and physical health (Hamilton, 2010) by releasing stress and connecting migrants to services and other assets. For some groups of migrants, for example the undocumented, family and social support networks (e.g. other migrants and NGO's) become vital specially when excluded from basic needs like shelter and food.

III.3.1.4 Environmental factors

Environmental factors will be limited to: geographic and climatic conditions at the crossing points at the border; type of transportation during the trajectory; and other challenges encountered in literature that are faced by migrants during their journey through Mexican territory, including the crossing at the two borders.

III.3.1.5 Structural factors

Structural factors refer to the global ongoing processes that affect countries and institutions within them, shaping the circumstances in which local and more contextualized factors operate. To understand the influence of structural factors, I will examine the regional geopolitics and global trends in economic and labor markets that stimulate flows of Central American trans-migrants. Migration governance and migration related policies will be also explored since these, are often shaped by structural issues and affect migrant's health by restricting or allowing access to health services and other social resources. For this reason, they will be looked through a human rights lens.

Geopolitics

Global influences and social processes (the latter context dependent) play an important role in the dynamics of international migration and the way countries deal with it. Very often inequity models influenced by the geopolitical environment are repeated in detriment of the most vulnerable categories of migrants (the majority coming from the least developed countries). When this occurs, even if migration is intended to increase life opportunities and improve the life situation of individual migrants or their families, the most vulnerable migrants end up at the end of social scale.

Economy, poverty and labor market conditions

Political instability coupled with economic stagnation in some countries has proven to increase displacement and emigration (WHO, 2003). Moreover, the lack of fulfillment of economic, social and cultural rights forces people to abandon their homes to seek possibilities of survival and sustenance elsewhere, creating a blurry line between forced and voluntary migration (IOM, 2003; UNDP, 2009).

Migration governance, migration managing policies, and Human Rights

Although it is well known that many of the health problems migrants present could be prevented through comprehensive policies and programmes that help in the transformation of their daily life conditions, in reality, different groups of migrants remain excluded from health services at various moments of the migration process and their health status remains far behind. This is the case for undocumented migrants, refugees and asylum seekers (UNDP, 2009), whom despite legal status are ensured certain rights.

Human rights violations can be expressed as criminalization and detention of migrants (which points to lack of empowerment and freedom). Evidence suggests that detention negatively impact the availability and accessibility of health care, and in occasions the right to privacy (WHO, 2003), as it is common practice that consultations take place in the presence of guards and access to medical care and treatment has to be negotiated. In occasions, detention centers are overcrowded and lack basic services of sanitation, which facilitates the transmission of diseases (WHO, 2003). Detention can as well contribute to psychological symptoms (WHO 2003). A survey conducted in the US by Physicians for Human Rights (PHR 2002 cited by WHO 2003, p. 17) concluded that detention is a significant stressor that worsens mental health. The study raised concern about the poor treatment of immigrants and the lack of mental health services in detention centers (PHR 2002 cited by WHO 2003, p.17).

Chapter IV. Study results: Factors influencing vulnerability to ill-health among Central American trans-migrants in México

The health conditions of individuals at the moment they emigrate is, generally speaking, expected to be good due to natural selection associated with migration (ref). Even so, it is important to acknowledge that the epidemiological background of migrants can be compromised after years of experiencing poverty and social inequities, which forces them to migrate in the first place. With this in mind, in this chapter, I will describe the individual characteristics of trans-migrants to portray the socio-economic and health profile they may carry with them when initiating the migratory route. Afterwards, I will systematically follow the model developed to answer the research question: *what are the factors working as sources of social vulnerability, and how they interact to influence adverse physical, psychological and social health outcomes among Central American trans-migrants in México?* The discussion will be integrated at the end of the chapter.

IV.1 Individual characteristics of Central American trans-migrants

Central American trans-migrants are undocumented migrants who enter Mexican territory by land. The majority, are escaping from poverty, political instability and scant social resources in their home countries, and their overall goal is to reach the US for better job wages and life opportunities.

IV.1.1 Socio-demographic profile

Existing available data indicates the majority of trans-migrants are young men (average age 30.8) (EMIF-SUR, 2005); of low educational attainment (26.5% with primary education completed, and 4.2% with secondary education) (INM, 2009); who often belong to the lower echelons of society in their countries of origin (Díaz and Khuner, 2007).

The main motivations for migrating are often associated with aspirations of job opportunities, better wages and a chance for social mobility which they cannot access in their home countries (INM, 2009; Díaz and Khuner, 2007). This can be explained by the high poverty rates in Central American countries, which vary from 50% to 80% (CEPAL, 2002); and the fragile economies of their countries which in 2010, presented an average GDP growth rate of 2% (except from Costa Rica and Panama), compared to 4.5% in México, and 6% in the rest of Latin America (US Census Bureau, 2010). The United Nations (UN) estimates that 56% of people in CA do not have enough income to satisfy their basic needs, compared to 39% in México (CEPAL, 2002), and an average of 44% in the LA region (CEPAL, 2002).

IV.1.2 Sex, gender and age

Migrant Women

According to the Mexican Population Council (CONAPO, 2004), female emigration from Central American countries towards México appears to be increasing but in less proportion than their male counterparts. Estimations suggest in 2005 only 23.6% of the total number of emigrants from Guatemala who crossed the border with México were

female, compared to 76.4% male (INM, 2009). Similarly, data from the IOM cited in Sybil (2010) shows that during the last decade (1999-2009), the total number of female emigrants augmented from 200,000 to 500,000, while the number of male emigrants more that doubled (form 470,000 to 1,110,000 in the same period). Data from Honduras and El Salvador is unavailable.

Data from detention centers across México and a study by Díaz (2007) indicate an increasing number of trans-migrant women who are migrating alone (Díaz and Khuner, 2007). The vast majority of participants in Diaz study (94%) reported having left their children in their countries of origin (Diaz and Khuner, 2007). This information is relevant since evidence indicate that women migrating alone or with children are more often exposed to exploitative situations that threaten their health and overall wellbeing. These include, being forced into sexual work, begging, domestic work, human trafficking and so forth (ESCAP, 2007; Adanu and Jhonson, 2009; Martínez, 2003; Salgado *et al, 2007*; Mora 2002 cited in Martínez Pizarro 2003).

Migrant children

Mexican authorities recognize an increase in children and adolescents from Central American countries who are migrating without adult supervision or accompanying person. The Mexican NGO "Red de Alberges de tránsito (2010)" reported having attended a total of 7,620 unaccompanied minors in the age group 0 to 17 in the year 2001, and 20,027 in the year 2006 (Rigioni, 2010). Supporting this statements, data from the IOM in 2009 showing that Central Americans in the age group 0 to 19 represent the second highest group of emigrants (20% Guatemala; 7% El Salvador and 15% Honduras) (IOM 2009 cited by Sybil, 2010).

Unfortunately, the scant literature available on the numbers and experiences faced by these children difficult a better lecture of their situation and vulnerabilities, and implies a lack of political interest on the overall wellbeing of this population group.

IV.2 Immigration status

For purposes of this study, I am assuming that the condition of legal "irregularity" among Central American trans-migrants is perhaps the most powerful source of social vulnerability, since entering Mexican territory without the required documentation can exacerbate the impact of other DOH (IOM, 2003). Their "irregular" immigration status, thus, will be regarded as a layer that frames all of the other factors analyzed in this study.

Researchers agree that undocumented immigrants in México have an increased likelihood to develop psychological and emotional disorders when compared to other group of migrants. This has been attributed to the constant exposure to a variety of stressors that challenge their ability to cope with the unfavorable conditions that surround the migratory experience. (Hernández, 2000; Marroni, 2006; CNDH, 2011, Sin Fronteras, 2004; Incide social, 2010; ESCAP, 2007; Carballo, 1996; ESCAP 2007).

Stressors and challenges faced by trans-migrant associated with their irregular immigrant status in México can be identified as: fear and lack of freedom; lack of regular work; different forms of violence; lack of safe remittance transfer system; exposure to

road accidents, environmental hazards and acts to acts of extortion and abuse; and administrative obstacles to justice.

Each of these stressors represent a source of vulnerability to poor health and in combination with other factors will determine the level of ill-health of trans-migrants. For purposes of this paper, they have been organized under the categories of societal, environmental and structural factors, and will be analyzed in accordance in the following sections.

IV.3 Societal factors

Gender, gender inequities and Violence Against Women (VAW)

It is important to bear in mind that issues pertaining to "gender" are socially and culturally constructed and therefore changeable between and within cultures (Kabeer, 1994). Gender norms in LA are defined by patriarchal societies where men are expected to control social and political institutions, while women are expected to take responsibility of children and household activities (Pardinas, 2008; Sin Fronteras, 2004). Within this environment, gender inequities and violence against women are common and very often, used to keep them in a subordinated position (Montaño et al. 2007 cited by Contreras 2010 pg. 15). For example, in El Salvador, men's income is higher than women's by 12.7% (men 37.1 USD, women 32.62 USD) (División de Estadísticas Sociales, 2009), while the worst paid activity is domestic work (13.94 USD), which is predominantly carried out by women (11,082 women vs. 175 men).

VAW is commonplace in the region. In Guatemala, murders against women, better known as "femicides" (or "femicidios"[2] in Spanish), have almost doubled, from 303 in 2001 to 603 in 2006 (UNDP, 2007 p. 30). Figures from Honduras, indicate that 18% of single women have experienced violence and 16% have suffered violence from a family member or partner (WB, 2011); a report by Oxfam (2011) in the same country stressed that between 2003 and 2007, the number of homicides (male) increased by 50% while femicides increased by 160% during the same period (Oxfam Honduras 2010 pg. 20). Official figures from El Salvador (from 2003-2005) showed that women are 7 times more likely to experience sexual violence than men, and 12 times more likely to suffer from domestic violence (Herrera, 2007).

VAW crosses borders and is present all along the journey through México. Mora (2003) cited in Padina (2008) indicates that 70% of undocumented migrant women in the México-Guatemala border suffer from at least one form of violence (physical, sexual or psychological), and 60% from some form of sexual harassment. A different source, the Center for Human Rights and Humanitarian law (2011), estimates that six of every 10 trans-migrant women are raped on their journey through México. This situation can induce emotional disorders, and can also escalate the risk of exposure to Sexually

[2] According to feminists (Rusell 1976, Lagarde 2005,) the concept of "Femicidios" or "femicides" refers to the most extreme form of violence against women, perpetrated by men, and related to gender issues. It is a the most extreme form of Gender Based Violence against women based in the power control, objectification and dominance of men over women.

Transmitted Diseases (STD), including Human Immunodeficiency Virus (HIV). Particularly, since HIV prevalence is higher in the migrant corridor and the border areas than in the rest of the country. According to Leyva *et al* (2007) HIV prevalence in the México-Guatemala border is 2% and 3.4% in the México-US border, compared to 0.37% among general population in México (CENSIDA, 2009).

Risks to health among trans-migrant women can also be associated with traveling alone or accompanied. A study by Bezares (2008) revealed that women traveling with an adult family member or as part of a group being guided by a smuggler (commonly named "coyote" or "pollero"), are usually protected by the men in the group, while women traveling alone develop strategies to protect themselves, often by establishing bonds with other women traveling in the same situation. This also illustrates the importance of social networks among trans-migrant groups, which will be explored in detail further in this section.

Violence

Currently, within the Central American region and México, the main social problems are associated to crime, drug cartels, and gang-related violence. These, are perceived by population and authorities as the top causes that hinder economy and damage the social fabric, "*not only from the loss of victims, wages and labor time, but also from discouraging investment and diverting government resources to law enforcement instead of promoting development*" (WB, 2011).

El Salvador, Guatemala, and Honduras, present the most violent scenarios among all LA countries, with homicide rates of 58%, 43% and 61% respectively (per 100,000 population) as compared to 8% in Costa Rica and 11% in Panamá or México (WB, 20010; UNDP, 2011). A recent study by the World Bank (2011) revealed that 71% of the population in the region identifies crime as the main threat to their wellbeing (WB 2011, pg. 3). Similarly for the all countries, young men (ages between 15 and 24) comprise the bulk of both, victims and perpetrators of violence (WB, 2011).

The UN High Commissioner for human rights (2011), recognized gang-related violence in México as one of the major dangers faced by Central American trans-migrants. Testimony of cases of extortion, kidnapping, rape and torture, were documented and reported by the Mexican Human Rights Commission (CNDH, 2011) after interviewing 238 migrant victims. The report brought to light 900 cases of trans-migrants abductions that took place only in 2009; and the appearance of two mass graves in the main migratory route to the US, with 170 corpses of Central American individuals who are expected to be irregular immigrants.

Working and living conditions

There is no information available on working conditions among Central American trans-migrants in México. One explanation could be attributed to the quality of "temporality" that characterizes them, since they are "transit migrants" and their primarily objective is to reach the US, as apposed to stay in México. This could explain the little engagement in economic activities in the country.

However, it could be inferred that Central American trans-migrants who do get involved in an economic activity in México, do it so in similar jobs as low-skilled migrants in irregular situation in other regions of the world, many which poses a high risk of compromising their health due to exposure to hazardous situations, lack of appropriate training and equipment to realize their activities, and the inability to obtain health insurance. Experiences of migrant farm workers in different parts of the world exemplify well the health effects of engaging in seasonal and irregular jobs. Migrant farm workers often present pesticide-induced injuries, like swollen eyes and mouth sores, also symptoms of dehydration, as they spent prolonged periods of time under the sun (WHO, 2003).

A different explanation of the lack of information on the working conditions of Central American trans-migrants in México could be related to the confusion created by the variety of terminology used when referring to working migrants, and the ambiguity regarding their immigration status.

The living conditions of Central American trans-migrants in Mexican territory (whom are not in detention centers) have been poorly explored. Existing available information address the premises and living conditions in migratory stations and detention centers and will be looked at as a human right violation in section IV.5 (structural factors).

Social networks

As a consequence of centuries of intense human mobility between countries involved in the migratory route from CA to the US, extensive and solid social networks among migrant groups exist, and are known to encourage migration (the effect differs by gender) (Massey and Aysa, 2005). This relation has been well established by Massey and Aysa (2005) who also demonstrated that the use of social capital resultant of strong ties and interpersonal relationships between relatives and friends (already living in the US or with previous migratory experience), makes new immigrants more likely to enjoy a better migratory experience.

According to the US census bureau (2010), people from Hispanic origin, comprises the largest ethnic group (or racial minority) in the US; by 2009, Hispanics constituted the 16% of the total US population (a total of 48.4 million compared to 22.4 million in 1990). Among them, an estimated 12.2 unauthorized immigrants from which between 200,000 and 320,000 are from Guatemala (Smith, 2006). It is believed that every year, between 6,000 and 12,000 Guatemalans arrive to the US via México (IOM, 2006), which could not be feasible without the support of the well-established social networks.

Apart from immigrant individuals, NGO's, Civil Society Organizations (CBO's), and Faith Based Organizations (FBO's), have become an important source of support for trans-migrants in México. A good example is the FBO called "Red de casas del migrante" (in English: Network for migrant's shelter). They opened the first shelter in1985 in Tijuana, one of the principal crossing points in the Mexican border with the US at that time. Today, they provide a variety of services that goes from: shelter, water and food, basic health services and occasionally referrals for legal support, in six cities along the migratory route (three in México and two in Guatemala). Although this and other similar institutions constitute a great source of information on risks, challenges and

needs faced by trans-migrants, very often, they operate with limited resources or lack proper technical capacity to document such experiences in a systematic way.

IV.4 Environmental factors

Geographical hazards

The border between México and the US is one of the most dynamics in the world. It covers an extension of 3,152. 9 km (2,00 miles), and includes a parallel line than covers 100 km (62.5 miles) to each side of the international dividing line. Dry and extreme dry climatic conditions (dessert) predominate in the region, affecting approximately 96% of the frontier line (Pérez, 2005). The most hazardous months are June, July and August due to the high temperatures that can reach up to 50 degrees, severely compromising the physical health of migrants. The "Bravo" river and the "Río Grande" river are part of the geography too, and frequently used as crossing points. Dangerous animals encountered in the areas of crossing include, varieties of felines, coyotes, spiders, snakes and scorpions.

According to information by the US border patrol cited in Pérez (2005), there were 1, 684 migrant's deaths registered at the México-Us border in the years 2001, 2002 and 2003 (an average of 558 per year), associated with dehydration, drowning and road accidents. This information coincides with data gathered by the Mexican Ministry of Exterior for the same period (INM, 2007). However, the figures only refer to deaths of Mexican nationals at the border (attempting to cross to the US), registered by Mexican institutions (National Institute on Migration, when deaths occur in Mexican side, and the Mexican consulate under the Ministry of Exterior (SRE), when these happen in US territory). Pérez (2005) underlines that before the year 2003, the deaths of migrants at the border where accounted all together, regardless of the nationality of origin of migrants. Since then, Mexican authorities only document the cases once it is confirmed they belong to corpses of Mexican nationals (a total of 336 in 2003).

A study on risks at the México-Guatemala border (Ruiz, 2001), revised 116 cases of immigrants who suffered different types of accident. Preliminary results reported snakes and other poisonous animals bites as frequent, especially during the night since immigrants sleep outdoors. Another cause of accidents was the various rivers and water sources migrants have to cross (the "Balsas" river and Soconusco among others), where cases of drowning occur; dehydration and sunburns were also common.

The number of Central American trans-migrants deaths associated to risks faced at the two borders remain unclear. Official data is unavailable and estimates from non-official sources vary enormously from country to country. In any case, it can be assumed that all existent figures are underestimations, since the number of migrants who are disappeared is not accounted within any registry. A report by the Mexican NGO "Red Nacional para los derechos de los immigrantes y refugiados" (Rigioni, 2010) suggests that for every reported death, there are ten more trans-migrants who are disappeared.

Type of transportation

The cargo train that runs from Tapachula in the south of México towards Veracruz, located in the middle of the territory, is identified as the principal source of accidents. Despite the well-known risks, trans-migrants with the less economic resources (who can not afford to pay a "coyote" (smuggler) or other means of transportation), take the opportunity to travel across good part of the country on the train, as this doesn't cost any money. To get on and off it, they jump once is in movement (to avoid contact with authorities). The train has been nicknamed as "the train of death" or "la bestia" (the beast in English), as an analogy for the horror it causes to immigrants, as very often they fall when attempting to jump. Ruíz (2001) reported that 20% of the 116 cases of injured trans-migrants revised for her study were related to accidents on the train that involved the loss of at least one limb. Although accidents and the loss of limbs are known to occur with significant frequency, the registers from local clinics and hospitals do not show the magnitude of the occurrence, as they usually attend those immigrants who due to the severity of the injury couldn't continue by themselves or a group, and consequently were caught by the authorities.

The second mean of transportation is by road. Trans-migrants sometimes pay for to be hidden cargo truck s that transport goods from country to country, which can cause asphyxia and dehydration. This is a common form used to smuggle Central Americans and Mexicans to the US, which started to become acknowledged only through media in occasions that involved human fatalities. Otherwise, due the clandestine nature of the activity, it is difficult to find information about it.

IV.5 Structural factors

Geopolitics, economy and poverty

The legacy of US hegemony defines the geopolitics of the entire Latin American region, and it could be said that, population mobility between countries comes as a result of deep-rooted exclusion, poverty and economic inequalities within and between its territories. *(For a comparison of development indicators between selected Central American countries, México and the US, refer to annex 3)*

To illustrate such inequalities, Honduras exhibits the highest proportion of population below poverty line among Central American countries since 1990, with nearly three quarters of the population living in poverty and over two thirds of them living under extreme poverty (Hammill, 2007). By the year 2000, half of Guatemala's population was living in poverty; and over 47% in El Salvador (Hammill, 2007); compared to 14% in the US (US Census Bureau, 2010).

Although the US is one of the wealthiest countries in the world (ranks number 4 out of 169, in the Human Development Index (UNDP, 2011), the figure presented before has to be interpreted with caution, since it mask inequalities between sub-population groups. For example, different ethnic groups exceed the national average poverty rate such is the case for Hispanics (25.3%) (US Census Bureau, 2010); other variation is observed between native-born residents as opposed to foreign-born residents (13.0% in the first group, compared to 19.0% in the second) (US Census Bureau, 2010). Still, the US owns

a reputation of a land of opportunities for all, and it has become the ideal destination for many fleeing from poverty and exclusion.

Global transformations attributed to the establishment of the neoliberal model (at the end of the 80s), have strong impact in the behavior of the global labor market. Since this model was founded in concepts of economic expansion and unequal distribution of wealth that deepened historical patterns of social and political exclusion, economic liberalization, has affected less privileged nations -and population sectors within them- in a disproportionate way than it has affected wealthy nations. (*Refer to table box 1 for an example of labor market impact in CA*)

Text box 1
Labor market impact in selected Central American countries, associated with globalization and economic liberalization

The agricultural sector in Guatemala, Honduras and El Salvador experienced a decline since the end of the 90's (División de Estadísticas Sociales, 2009). As a consequence, the sources of employment in the rural areas were diminished, stimulating emigration to the urban centers and abroad.

A continual increase in the rates of informal employment was also observed in the years that followed. Between 2000 and 2004, El Salvador presented the highest proportion of population in the informal sector (43.2% and 44.9% respectively), followed by Guatemala (37.8% in 2000 and 38.4% in 2004), and Honduras (38.4% and 37.0% respectively) (WB, 2011), which is characterized by lower wages, lack of social protection coverage and little security that leads to increased social vulnerability and inequality.

Over the decades, the dynamic of population mobility across CA, México and the US has changed, influenced by the global pressures going on. One way to understand such changes is to place them in context through an historical revision of the global influence in regional and more contextualized events that affect societies and individuals in different ways. For instance, by promoting interconnections (of goods and ideas) between nations and stimulating flows population mobility, *as indicated in text box 2.*

Text box 2
Historical revision of Central American trans-migration

Trans-migration flows from Guatemala, El Salvador and Honduras can be grouped in four stages according to historical events:

Before the 70's, migration was predominantly internal (rural-urban) and intra-regional (between CA countries), temporary and mainly related to seasonal agriculture (ref) and modernization processes.

An era of forced migration (for survival reasons) across countries started to become visible in the 70's and further 80's. It can be attributed to the ongoing political instability and the emergence of civil wars in Guatemala, El Salvador and Nicaragua. At this point, the reception of Central American emigrants to Mexican territory was mainly organized due to a bilateral program between México and Guatemala. According to the United Nations High Commission for Refugees (UNHCR, 2001),

during 1981 and 1982 approximately 200,000 emigrants from Guatemala entered the country. Many returned to Guatemala in the years that followed, but a great number were given refugee status and eventually became Mexican citizens.

At the end of the 80's, the establishment of the neoliberal model as the new economic rule in the world opened the chapter for economic migration due to the increasing economic inequalities palpable within and between countries in the region. For example, as a consequence of the Structural Adjustment Programs (SAPs) promoted by the International Monetary Fund (IMF) and the World Bank (WB) during the last half of the 80's and the 90's, population from Guatemala, El Salvador and Honduras endured a deterioration of the general standards of living that included, reduced access to public services, devastated environments, rising unemployment and sharp increase in food and gasoline prices (WB, 2011), creating unfavorable conditions for economic and social development that fostered emigration flows of marginalized groups to wealthier countries.

Latter, since the 90's, marked economic inequalities, poverty and the fractured social fabric, legacy of the 35 years of armed conflict in the region (Padina, 2008,), together the emergent global pressures described above, and more recently, environmental catastrophes (e.g. hurricane Mitch in 1998 and Stan storm in 2005), have encouraged the dynamics of the migratory route from Central America towards the US, where México is the inevitable transit space.

Migration governance and Human Rights

In México, the National Institute for Migration (INM) under the Ministry of Interior is the body in charged of the development, implementation, supervision and coordination of migration-related issues. The institute oversees 48 migratory stations that serve as detention centers for unauthorized immigrants and are distributed in 23 states across the Mexican territory (INM, 2007). The INM in coordination with the Ministry of Health and the Ministry of Foreign affairs are responsible for life and integrity of undocumented immigrants in detention and part of their mandate corresponds to the provision of health and legal services and the promotion of information on human rights for this population (INM, 2007).

Migration related policies and human rights

Despite México's ratification to the International Convention on the Protection of the Rights of All Migrant Workers and Members of Their Families (ICMW)[3], and other international human right's covenants, the national policy towards irregular migration continues to intensify law enforcement that promotes criminalization, detention and deportation. This approach, according to Díaz and Khuner (2007) has caused trans-migrants to: a) travel into and through the territory in a more clandestine way (through the dessert and very isolated areas), increasing their likelihood of experiencing health risks associated with environmental hazards; and b) it has made the journey more

[3] The ICMW has been ratified by 44 states, including México, and signed by other fifteen. This treaty recognizes the specific vulnerabilities of different groups of migrants, including irregular, and provides guidance for State parties on how to ensure the protection of their human rights (OHCHR 1990).

expensive and dangerous, since migrants are more often making extortion payments along the route or hiring smugglers, which also strengthens trafficking networks.

Restrictive immigration policies in the US are constantly intensified. These worsen after the terrorist attacks occurred in September 11, 2001 (Vega, 2009). Nonetheless, Cornelius (2001) points out that the intensification of restrictive policies has not yet proven to contribute in the reduction of irregular migration flows. Instead, these increase the vulnerability of migrants by promoting discrimination, stigma and xenophobia.

Criminalization, detention and other human rights violations

According to official available registers in México (INM, 2010), nearly 70,000 undocumented immigrants were detained in migratory stations across México during 2010 (INM, 2010 p.26) (an average of 5,800 per month); 90% of them were coming from Guatemala (41.4%), Honduras (34.1%), El Salvador (15.1%) and Nicaragua (1.2%) (INM, 2010 p.26). The majority of detentions (83%) occurred in 7 states that correspond to the predominant migratory route that runs from Chiapas, frontier with Guatemala, to Sonora and Tamaulipas, the two principal crossing points -for unauthorized migrants- to the US (INM, 2007).

Deterioration of mental health among detainees can be expected, attributed to the poor living conditions in detentions centers and the lack of availability and accessibility to health treatment and care. A recent evaluation of the overall state of migratory stations in the México exposed the precarious conditions of the premises and the lack of budget allocation for health provision.

By norm, the National Institute for Migration does not require the permanent presence of health personnel in the premises of detention centers. Instead, health professionals from local hospitals visit detainees on a need basis, in accordance to a collaboration agreement with health district authorities. Despite that, all detention centers must at least hold basic medical equipment and a private room for consultations. Nonetheless, the evaluation revealed that more than half of the premises (12 out of 23) does not meet these requirements, and only three included full medical equipment with examination table, weighing scale, blood pressure cuff, equipment for dressings/first aid kit, stethoscope and basic diagnostic tools; while none of them hold medical personnel (INM, 2006).

Published information regarding availability of mental health professionals or treatment is nonexistent. It is also unclear the occurrence of injuries attended and medication provided; or whether detention centers possess differentiated facilities for men and women (dormitories, bathroom and showers), children or women traveling with children; the number of individuals that can be held on each room; the regulations on provision of food, water, legal assistance or means for establishing communication with their families in the home country.

Chapter V. Discussion, conclusion and recommendations

V.I Discussion

Even if migration is intended to increase life opportunities of individuals and families, (which perhaps happens in the long run, once they are settled in the US), the circumstances in which migration occur, will determine the level of healthiness or poor health in the first stages of the migratory process.

From the analysis conduced in the previous chapter, it is clear that every aspect in the life of trans-migrant individuals –while traveling across México- is permeated by the condition of social vulnerability associated with their irregular immigration status.

The findings show that traveling undocumented through Mexican territory has a direct negative effect in the health and wellbeing of individual trans-migrants. The challenges they face during the trajectory represent powerful risk factors for psychological, physical and social ill-health, and can be grouped as follows:

Unfavorable psychological outcomes, such as depression like symptoms and other emotional disorders could be prevalent in relation to:

- Family separation
- Fear of persecution and deportation
- Exposure to violent environments (including risk of being kidnapped, extortionate or trafficked)
- Lack of freedom of movement and poor living conditions in detention centers

Unfavorable physical health outcomes that could also be common among trans-migrant population are:

- Sexually Transmitted Infections (STI) including HIV, and unwanted pregnancies, associated with, sexual violence, transactional sex for survival reasons, and multiple sexual partners (assuming low access to protective measures and little possibility of condom negotiation)
- Dehydration, drowning, hypothermia, hunger, and death, related to the hazardous geographical and climate conditions in the crossing points at the borders with Guatemala and with the US

Factors that reinforce the low social status of trans-migrants can be related with:

- Denial or insufficient access to basic services available to the average population (the most relevant in this context, access to health and legal services)
- Living in poverty like conditions (with scant possibilities to access dignifying job and shelter, good quality food, and sufficient water to cover their basic nutritional and hygienic needs)
- Exposure to acts of discrimination
- Lack of social mobility

V.II Conclusion and recommendations

The findings in this study depict a general picture of the social vulnerability and possible risks to health faced by migrants in their journey through Mexico. Although not trivial, these represent only a small part of the intricate web of aspects to be understood when talking about international and irregular migration in the region. To disentangle that net and perform a detailed revision of each aspect that touches upon the experiences and health effects of migrating in such manner –undocumented-, would require an effort of different magnitude than the scope of this master thesis (due to time, resources and methodological limitations mainly).

Having that said, based on this work I propose the following recommendations to further health research related to the phenomenon of trans-migration in the region:

1. Immigration status needs to be considered as a significant factor influencing patterns of wellbeing and morbidity, and not only as a merely characteristic in trans-migrant populations.

2. Develop qualitative research on the experiences of different groups of trans-migrants, since these can vary depending on gender and age. Understanding about the particular risks and challenges faced my women and children migrants should become a priority, since the little evidence available indicates they face more adverse situations than their male counterparts. The fact that women and children migrants remain less in number shouldn't be used as an argument not to address their specific needs.

3. Good quality quantitative research to characterize trans-migrants populations. Apart form the demographic information, a good profile should include better estimates of the number of irregular immigrants in México, their countries of origin, motivations for migrating and target for final destination.

4. Research on the national policy framework and practice on irregular migration in México and the countries involved in the trans-migrant route requires a revision on its own.

5. The same applies for the review of experiences of irregular migration in different parts of the world and the ways in which nations, both sending and receiving (even if the latter receives migrants only for a short length) have dealt with the challenges imposed.

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ANEXES

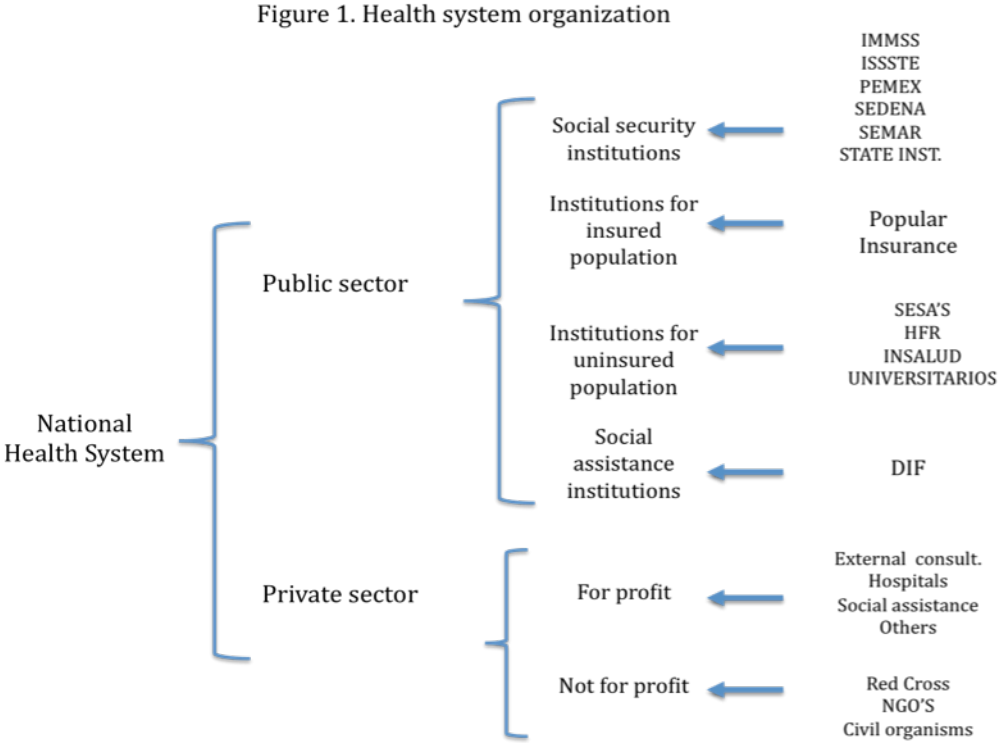
Annex 1

Health and health system organization in México

México is facing an epidemiologic transition, whereby malnutrition, common infections and reproductive health problems, coexist with non-communicable diseases, high accident rates and unhealthy lifestyle behaviours.[5] The majority of the population (64.6%) is within the range of age of 15-65; 29.1% are within the range of 0-14, and 6.2% are over 65 years old.[6] Life expectancy at birth is 76 years (73 for male and 79 for female);[7] and infant mortality rate is 14.2 deaths/1,000 live births.[7]

The health system in México is a complex mix of public and private sectors (*See figure 1).* It consists of 124,281 establishments (87% for external consultation, 3% hospitals and 10% for support and social assistance).[11] From the total number of establishments, the private sector comprises 83% of the functional health infrastructure while only 17% corresponds to the public sector[11] responsible for the provision of services for the majority of the population (REF). The expenditure on health (public) is 2.7 (% of GDP) (UNDP, 2010).

Figure 1. Health system organization



Made with information adapted from: SINAIS. 2007. México: Sistema Nacional de Información en Salud; 2007. p. 5

Currently, there are six governmental-run social security institutions covering approximately 50 million of gainfully employed Mexicans.[13] For the uninsured, (self-employed, unemployed, non-salaried, informal-sector workers and the most poor) comprising half of the countries population,[13] limited health-care services are provided by the Health Secretariat (SSA) under the Ministry Of Health (MOH).[13,14] Hospitals and clinics are available but quality varies -being predominantly poor-, and clients are

required to pay according to their financial capability for drugs and supplies when needed (e.g. in case of surgery).[14]

The private sector comprises 58% of the total health expenditure, and 90% of this is out-of-pocket.[15] The services provided, appear to be heterogeneous in quality and variety, with well-trained physicians and high-technology hospitals only available in the largest cities -but unaffordable for the average population-, and unregulated and unsupervised private clinics (ref).

Annex II

Development indicators in selected countries, 2010

Indicators	Guate 14.3 pop	Hond 7.6 pop	El Salv 6.1 pop	Méx 110.6 pop	USA 317.6 pop
Human Development Index rank (out of 169)	116	106	90	56	4
Prevalence of undernourishment (% of pop)	16	12	10	<5	<5
Health expenditure (% of GDP)	2.1	4.1	3.6	2.7	7.1
<5 mortality (per 1,000 live births)	35	31	18	17	8
Expenditure on education (% of GDP)	3.2	3.8	3.6	4.8	5.5
Mean years of schooling (adults/years)	4.1	6.5	7.7	8.7	12.4
Adults literacy rate (both sexes) (% 15 ages and >)	75.3	83.6	82.0	92.8	n.a.
GDP per capita (2008 PPP US$)	4,761	3,845	6,660	14,192	46,653
Pop living with < $1.25 PPP per day (%)	11.7	18.19	6.43	3.95	n.a.
Maternal Mortality ratio (deaths per 100,000 live births)	290	280	170	60	11
Adolescent fertility rate (births per 1,000 women aged 15-19 years)	107.2	93.1	82.7	64.8	35.9
Pop with at least secondary education (female/male ratio)	0.754	0.878	0.869	0.907	1.009
Shares in parliament (female/male ratio)	0.137	0.235	0.229	0.333	0.199
Unemployment rate (total %) (% of labour force)	1.8	3.1	6.6	4.0	5.8
Pop affected by natural disasters (average per year per million)	27,087	18,638	39,965	6,587	7,322
Made with information from: UNDP. International Development Indicators [Online] Available at: http://hdr.undp.org/en/data/profiles/ Accessed on May 5 2011.					