Slums, Violence and Health

A critical discussion of the interactions and effects of violence and slum settings on health and their inclusion in contemporary urban health interventions & recommendations.

"Any city, however small, is in fact divided into two, one the city of the poor, the other of the rich; these are at war with one another; and in either there are many smaller divisions, and you would be altogether beside the mark if you treated them all as a single State."

Plato, *The Republic*, Book IV.

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Executive summary

In 2009 the world entered what some call the Urban Millennium. The world's population is now for 50% urban. Of the urbanized population approximately one third or one billion people live in disadvantaged circumstances that fall within the definition of "slums". This number is predicted to grow tremendously in the next decennia.

Difficult circumstances in slums are often caused by a multitude of factors and actors on different levels. The same is true for violence. The thesis maintains that slum characteristics can potentially promote violence and violence can exacerbate slum circumstances. Together, they have devastating effects on the health outcomes for slum dwellers.

How urban health determinants in slums and the dynamics of violence interact, will be critically discussed with the aid of an adapted framework. This framework guides the thesis in addressing each level of urban health determinants and the potential interaction points with violence.

The 2008 report of the Knowledge Network on Urban Settings (KNUS), as a representative body of urban health experts, is then used to assess whether and how interactions between urban health determinants and violence are represented in contemporary case-studies and recommendations for urban interventions. This assessment indicates that while addressing violence features in both case-studies and recommendations, there is no specific focus on the interactions of violence, slums and health.

Recommendations include taking interactions with violence into account when setting up a slum health project and maybe even to focus on them, as they could be potential tipping points.

Keywords: slums, violence, health, framework, tipping points.

Contents

Tables and Figures

Abbreviations

CSDH	Commission on Social Determinants of Health
GDP	Gross Domestic Product
HIV	Human Immunodeficiency Virus
IMF	International Monetary Fund
KNUS	Knowledge Network on Urban Settings
MDG	Millennium Development Goal
NGO	Non-Governmental Organization
SAP	Structural Adjustment Program
STI	Sexually Transmitted Infection
UN	United Nations
UNFPA	United Nations Population Fund
UN-Habitat	United Nations Human Settlements Programme
WHO	World Health Organization

Introduction

The idea for the topic of this thesis originated in an internal NGO (Non-Governmental Organization) meeting where an argument was made for more aid projects in urban slum settings, discussing the enormous challenges slums represent.

Slums are the home of the urban poor, of people in search of a better life or without a better place to go to. Slums in themselves are not new; they have been around as long as there have been cities and the problems in slums are also not new; poverty, overcrowding, lack of hygiene, social upheaval, violence, etcetera. So what would suddenly warrant (more) attention –in general- to slums?

First of all, since approximately 2009, half of the world has become urban and the amount of people living in cities is only projected to grow. The most rapid growth is expected in developing countries and will contribute to more slums.

Secondly, it is very interesting that, although the importance of public health in urban public planning has been noted as far back as 1967 (see quote below), issues as urban poverty have until recently not received the attention deserved, the true extent hidden by aggregate data on cities (UNFPA, 2007).

From the 95th annual meeting of the American Public Health Association, October 25th 1967:

> *"The problems of the slums and the ghettos in America demand the broadest possible attention, and health officials at all levels must give the highest priority to their solution."*
> Northridge, Sclar and Biswas, 2003, p. 561.

Thirdly, and the focus of this thesis, is that slum settings appear particular conducive to ill-health and violence. And violence in itself can make slum circumstances much worse. With a personal background of working as a medical doctor and coordinator in violent areas, I was mesmerized at the prospect of what it would take to work in a violent slum area. How to get access, negotiate safe passage? How to choose a target population and how to reach them? What would be the exit strategy, where would an intervention stop? Of course there are NGO's and governments working in slums, and with all the issues of slums and violence together, I wanted to find out more about how slums and violence interact and whether this relationship is/should be addressed in slum health interventions.

Cities and slums are full of potential. They contain opportunities one might not have in the rural settings. To better understand and make use of these opportunities analysis of situations and best practices is needed. This thesis makes an attempt to understand the situation of slums, on a conceptual level. Furthermore, it hypothesizes that violence in slum settings is much more than a feature or single determinant, and that it influences every level of determinants of health in slums. At the same time these determinants and the very circumstances of slum settings can fuel violence. Using an adapted urban health framework, the levels of determinants of urban health and the interaction with violence will be discussed, including the potential effects on health.

The second question is whether contemporary urban health interventions and recommendations reflect the impact and interactions of violence in slums? A recently published critical review of urban health interventions will be used to analyze how violence features in these interventions.

This thesis could be addressed to any NGO, government or civil society group that plans a health intervention in a slum area where violence is an issue. The idea is not to pitch urban versus rural, but to emphasize that although the problems seem similar, the surroundings have different rules. Urban slums could be seen as a pressure cooker of problems with a lot of people in a small space. When violence is added, or even when an area is only perceived as violent, all kinds of additional issues need to be taken into account.

The United Nations Populations Fund (UNFPA) in their State of the world's population report of 2007:

"Inter-personal violence and insecurity is rising, particularly in urban areas of poorer countries. This exacts an enormous toll on individuals, communities and even nations, and is fast becoming a major security and public health issue." (p. 26).

Research objectives

The overall study objective is to critically discuss interactions between violence and urban determinants of health in slum settings and to assess their inclusion in contemporary urban health interventions and recommendations.

Research objectives are:
1. To search contemporary literature and describe relevant connections between violence and urban determinants of health in slum settings
2. To assess whether linkages between urban health determinants and violence are represented within the recommendations and case study review of KNUS (the Knowledge Network of Urban Settings) - as a representative body of urban health experts.

Methods

This thesis makes use of an adapted version of an urban health framework based on work of Galea, Freudenberg and Vlahov and the KNUS network (Galea et al, 2004, Vlahov et al 2007, KNUS, 2008). The adapted urban health framework is combined with the ecological framework for violence (WHO, 2002) to be able to critically discuss the interactions between the levels of urban health determinants and the dynamics of violence.

Studies, reports and articles were included in the review when they addressed interactions between slums, violence and health or components thereof. Excluded were literature in languages other than English and preference was given to literature not older than 20 years. Comments on further limitations follow in part 4.

The following search machines and keywords were used to find suitable literature:
- Google scholar
- PubMed
- Keywords:
  o Slums
  o Violence
  o Framework
  o Urban health determinants

For research objective 1 the selected articles were analyzed with the use of the adapted urban health framework. The 2008 KNUS report was used to answer objective 2.

Part 1 Background

Definitions and statistics

Recent years have seen an increase in the attention for the plight of slum dwellers. This is reflected for example in the rise of bodies such as the Knowledge Network on Urban Settings (KNUS), the Millennium Taskforce on Slum Dwellers and NGOs such as Slum/Shack Dwellers International. The Millennium Taskforce acknowledges the importance of focusing on the urban poor; the world's slum population is huge, their poverty and exclusion underestimated and often unacknowledged. Slums are represented within the Millennium Development Goals (MDGs) in Goal 7 (Ensure environmental sustainability) target 11: "Have achieved by 2020 a significant improvement in the lives of at least 100 million slum dwellers" (UN Millennium project, 2005, p.xxi). The Taskforce emphasizes this is just a portion of the people in need and that the challenges dictate a much bolder target.

Not giving slum issues due attention can lead to more social instability, urban violence and crime, while there are so many opportunities for improvement in cities (UN Millennium project, 2005). Violence and slums each have their effects on health, and furthermore there are connections between slums and violence. How slums and violence interact will be critically discussed in part 2 of the thesis. Part 1 aims to give a backdrop for this discussion; what are slums, what is the definition of violence and some background information, leading to the adapted urban health and violence framework.

The choice for this thesis is to look at 'slums' as a broad concept, not at any slum in particular. Slums have many forms and elements and it's safe to say no slum is the same, even within a slum areas are different. By using a framework to discuss the interactions between violence and slum health determinants, the thesis aims to give a conceptual view.

Slums

Definition

The most disadvantaged neighborhoods in cities are called slums. Although called "slums" there is actually a great variety of names for the neighborhoods indicated; shantytowns, getto's, favela's, shawls, etcetera. The word slum itself first appeared in the 1820's and is now generally seen as an easily understandable overarching term, but actually encompassed different meanings over time and currently different kinds of poor urban settlements (UN-Habitat, 2003).
To make the discussions on slums more practical, the United Nations Human Settlements Programme (UN-Habitat) proposed a definition based on the characteristics of slums, while acknowledging the complexity and diversity of slums makes it hard to have a universal easily measurable definition. The general definition refers to slums as "a wider range of low income settlements and /or poor human living conditions" (UN-Habitat, 2003).
Leaving out specific social and economical characteristics in a bid to make slums measurable, a slum household is defined as "a group of individuals living under the same roof lacking one or more of the following conditions:

- Access to improved water
- Access to improved sanitation facilities
- Sufficient-living area, not overcrowded
- Structural quality/durability of dwellings
- Security of tenure" (UN-Habitat, 2003)

This definition is wide and leaves a lot of space for interpretation, even when others add characteristics as insecurity and peripheral, hazardous locations (KNUS, 2008) or poverty and social exclusion and minimum settlement size (Vlahov, 2007). This influences the availability, interpretation and reliability of statistics.

Statistics

General statistics on the magnitude and projected growth of slums are available. The World Health Organization (WHO) gives a very straightforward update on the statistics for urbanization and slums with the announcement of the World Health Day of 2010: "1000 Cities, 1000 Lives". Like also predicted in many other documents, more than 50% of the worlds' population is living in cities now and of these urban dwellers approximately 30% lives in slums, which amounts to 1 billion people (WHO, 2010). According to statistics from the Department of Economic and Social Affairs/Population Division the 50% mark was passed in 2009. From 2009 to 2050 the total world population is expected to further increase by 2.3 billion (6.8 to 9.1) and the urban population by 2.9 billion (3.4 to 6.3), so all of the growth will actually take place in cities (Department of Economic and Social Affairs/Population Division, 2010). The major component to this growth will be natural increase, as opposed to rural-urban migration. Compared to the rest of the world most of the urban growth will be in developing countries, with the highest risers being Africa and Asia, that are expected to multiply their urban population by two. Of the 30% slum dwellers -a sixth of the world population-, 90% is living in the developing world. Asia has the largest share – China and India together count for 37% of the world slums-, followed by sub-Saharan Africa –where slum forming accounts for almost all of the urban growth amounting to 72% of the urban population-, and Latin America (UNFPA, 2007).

Specific data about what happens within slums is far more difficult to obtain, for various reasons. Data on urban populations regarding their health, social status and conditions is often lacking, whether in developing or developed countries (KNUS, 2008). Davis even states that "slum populations are often deliberately and sometimes massively undercounted" (2004). A less provoking reason is that data sets on urban settings, including slums, are aggregated and therefore hide inequalities and often underestimate the poverty in pockets of the cities (UNFPA, 2007). Health conditions can on average be better than in rural areas, but when taking a closer look at urban poor, e.g. infant and child mortality can rival and even exceed rural statistics (KNUS, 2008). Another important reason for lack of insight in some slums is that they are illegal and no maps, addresses or household lists exist. Therefore they are not counted in municipal census activities or household surveys (KNUS, 2008). Sometimes there are even "slums within slums" where people resort to living on rooftops or in between resettlement site buildings where previous slum dwellers are relocated (Davis, 2004). Next to "slums within slums" there are "floating populations" like in China – now up to 140 million people-; migrants who are not counted as regular population, but live in the city for months on end (KNUS, 2008). They are often living in the same dire circumstances and make the population of slums volatile in numbers over short periods of time, so that even if there was an idea about the number of people and composition of a population, it could change with the day. An additional reason for the lack of knowledge is that there are slums that are considered so dangerous even the police do not go in for fear of their own lives. Up to 50% of the cities in Latin America and the Caribbean contain areas like this (Hawrylak et al, 2006).

Violence

Definition

The definition of violence itself is also not as straightforward as it may seem. The line between what is acceptable and what is violence can be under the influence of cultural norms, time or point of view (WHO, 2002). Within the realm of public health WHO defines violence as:

"The intentional use of physical force or power, threatened or actual, against oneself, another person, or against a group or community, that either results in or has a high likelihood of resulting in injury, death, psychological harm, maldevelopment or deprivation" (WHO, 2002, p.4).

In addition, definitions of violence, crime and conflict are often overlapping, but still have distinctive features. Conflict, also a struggle about power, does not always have to involve physical or mental harm, where violence does. Crime is an act punishable by law, but indeed also does not have to involve physical or psychological damage (Moser, 2004). This thesis uses the WHO definition of violence, but admittingly there will be an overlap with crime as this is a very common form of violence within slums.

Statistics

It is difficult to quantify violence. For one, because some acts of violence are recorded by authorities, but many do not reach them. But also because there is a whole range of types of violence; from physical to mental and from fatal to non-fatal. Differences in definition and incompleteness of databases make it very challenging to achieve a full picture and compare across countries and regions (WHO, 2002).

National homicide rate is the international accepted benchmark for measuring violence, but is a proxy at best. For example in Nicaragua, crime victimization surveys suggest much higher levels of violence than homicide rates show (Rodgers, 2009). As an indication; in 2000 the consequences of violence took the lives of about 1.6 million people worldwide. Approximately 50% were suicides, 30% homicides and 20% were from armed conflict (WHO, 2002).

While mortality data is imperfect, it does give an indication of the magnitude of the problem. Especially when realizing the number of non-fatal outcomes far surpass the fatal ones. And where homicide rate proves highest under young men (WHO, 2002), many other vulnerable groups, like women or the elderly often suffer under often less visible violence, such as domestic violence.

Background of (urban) violence

Moser and colleagues reflected on the violence in urban areas and came up with a "roadmap" indicating four broad categories of violence (see annex 1). The authors emphasize that in reality these categories are overlapping.

 The four categories are:
1. Political violence: the use of violence to gain or hold on to political power, often connected to conflict and war, but also has manifestations in peacetime.
2. Institutional violence: violence committed by state or official departments as police or judiciary, but also by the community taking justice into their own hands and perpetrating violence against suspected criminals or cleansing of gangs/ street children.

3. Economical violence: everything motivated by material gain, from simple theft to kidnapping and the organized drug trade.
4. Social violence: includes violence on the basis of ethnic differences, gender based or even age based. It can constitute of intimate partner violence, rape, child abuse, but also routine daily violence (like road rage) and many other forms.

The poor often have to deal with violence in an endemic, complex and category-overlapping manner. It can affect every aspect of daily live; livelihood security, access to resources, social constraints, but also the insecurity because of the failure of government protection they are supposed to be entitled to (Moser, 2004).

Violence is motivated, consciously or unconsciously by the gain or maintaining of power (Moser, 2004). It is therefore paramount to analyze who are the stakeholders of these power issues when looking at violence and potential solutions.

Analysis Framework

This thesis uses an urban health framework to critically discuss the interactions between violence and slum/urban health determinants. The framework has been adapted from Galea and Vlahov, taking a middle form between the urban health framework from Galea (annex 2) and its adjusted form as used by the KNUS network (annex 3). KNUS stands for Knowledge Network on Urban Settings; one of nine networks established to provide evidence to the WHO Commission on Social Determinants of Health (CSDH) (Kjellstrom and Mercado, 2008).

The conceptual framework for urban health describes the different social determinants that influence (public) health in an urban setting (Vlahov et al, 2007). It revolves around the notion that health in cities is influenced by determinants on several levels by different actors. The physical and social levels have direct and indirect effects on health outcomes, positive and negative. They are embedded in the municipal level of policies, government, economic circumstances and civil society. This city governance and economic situation is again influenced by national and global forces. Makers of the framework argue that to understand a situation and to invent or implement public health interventions, all levels need to be taken into account (Galea et al, 2004 and KNUS, 2008).

The adaptation to the urban health framework includes the addition of the ecological model of violence. This model was chosen because it uses the same idea about the multilevel, multi actor nature of determinants, but for violence. These can be biological, social, cultural, economic and political and the model emphasizes their interrelations (figure 1, WHO, 2002).
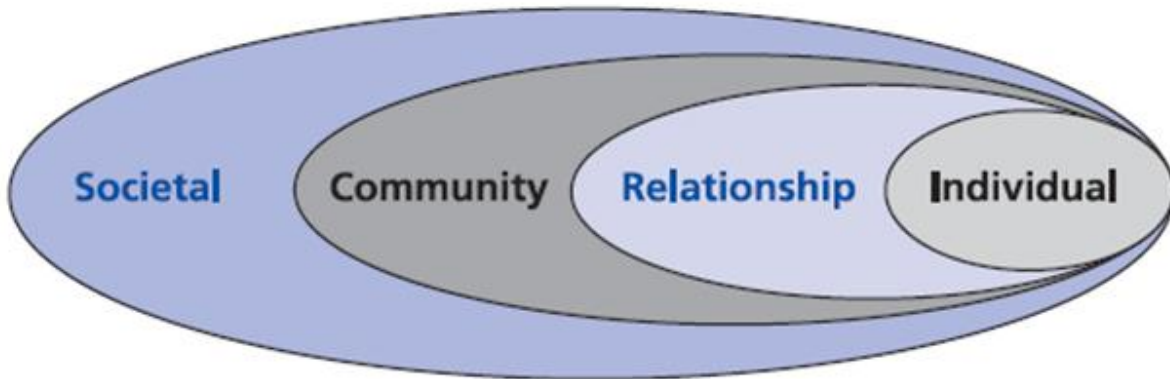
Figure 1 Ecological model for understanding violence (WHO, 2002 p.9)
A short elaboration on the model:
- The individual level addresses the biological and personal history factors that influence the risk on violence. Examples are age, gender, education, psychological disorders, substance abuse and a history of aggressive behavior.
- The second level looks at the influence relationships can have on the risk of violent behavior. For example peer pressure in gangs might encourage violent behavior, but friends and family can also be protective.
- The community –schools, workplaces, neighborhoods-, are the context in which factors like high unemployment, population density, substance abuse and organized crime can promote violence.
- The societal level is the political, economical and cultural environment which allows for violence to take place. Norms tolerating male dominance over women and children or excessive use of force by police. Policies about health and education that allow for a continuation or exacerbation of inequalities between different groups of people (WHO, 2002).

The circles are overlapping to indicate there are no single causes of violence. An adolescent with an aggressive personality is more likely to perpetrate violence if parental control is minimal; he or she dropped out of school, cannot find a job and is hanging with friends belonging to the local gang. Moreover, the model, alike the urban health framework, suggests that for interventions to succeed, the answers usually lay on more than one level (WHO, 2002).

The ecological model and the urban health framework together then form the urban health and violence framework which will be used in this thesis. Both figures were turned ninety degrees and the arrows indicate the different directions of possible interactions.
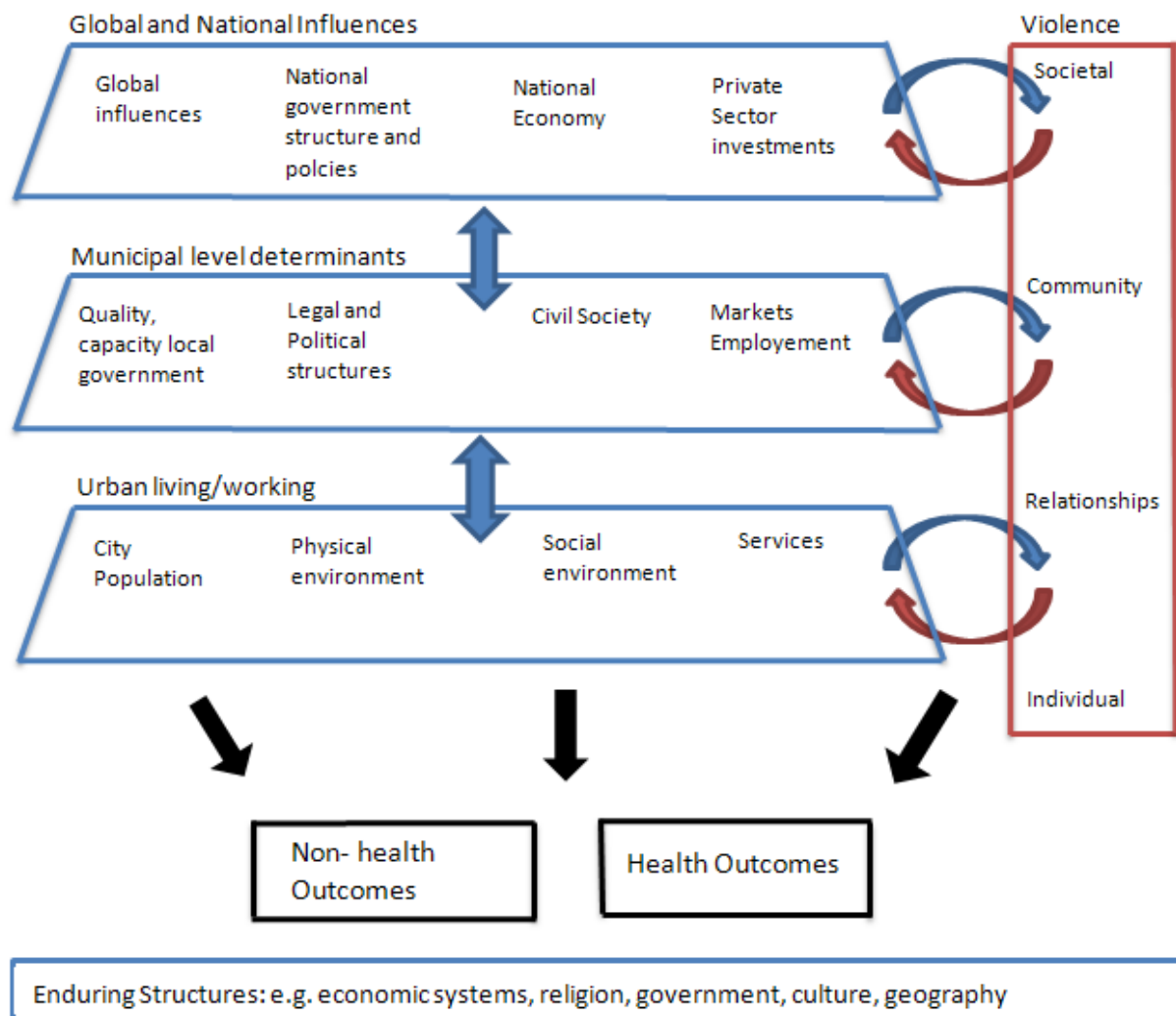
Figure 2 Urban health and violence adapted framework

The 'enduring structures' at the bottom of the framework represent those social structures that are a given in a certain setting, e.g. a democratic or autocratic system, capitalism etc. It is not that these structures and conditions cannot change, but if they do, it's on a larger (time) scale and impact. They are not usually a target for public health interventions. However, they are of great importance within analysis of situations and form 'base-line' knowledge. They enable and constrain the other determinants on the levels that are embedded within their sphere of influence (Galea et al, 2004).

Urban living/working conditions
City population and demographics. How healthy or unhealthy an individual is, is to a certain extent determined by their genetic make-up. For example, the risk of developing heart disease or diabetes has genetic components. The same goes for populations, however diverse in a city; (by migration, different birthrates or historical patterns) they do have characteristics that define them and influence their chance on ill-health or well being. Examples are age and gender distributions, health believes and cultural attitudes (Vlahov et al, 2007).

The physical environment can directly influence health, e.g. through access to clean water and sanitation, including drainage and garbage collection. Bacteria, parasites and other pathogens easily spread water-borne diseases in unhygienic circumstances. Also the surrounding environment like the location of a house or a part of town, e.g. near a landfill or on a vault line, can leave citizens vulnerable to pollution or natural disasters like earthquakes (Vlahov et al, 2007).

The social environment or the relationships that exist within a community can determine health in different ways. Its support and social networks can enhance health; people working together increasing access to health care or improving housing conditions, but also can worsen situations in case of violence and isolation (Vlahov et al, 2007).

Health and social services appear more available in cities, certainly in numbers and not as geographically far away as in rural areas (Vlahov et al, 2007). However especially the urban poor still face profound barriers to reaching adequate health care in time. For example financial barriers; private healthcare require a fee-for-service. Social services, in countries where there are these services for the poor, are often dependent on the budget and policies of the government and can be volatile (Galea et al, 2004).

Municipal level determinants
The municipal government plays a large part in providing and regulating many sectors that influence health, e.g. public health, education, transportation (increasing accessibility) and the law and justice sector. Governance is extremely important for urban health through its services, planning and policies. Markets can influence health by the role they play in employment and labor, housing, education and safety, but also through the products they offer, like drugs, alcohol and obesogenic food. Civil society can fill the gap between government and markets. They are organizations that represent citizens, often trying to positively affect the health status of the population of the city (Vlahov, 2007).

Global and National influences
These municipal determinants and the living/working conditions are further influenced by national and supra-national factors (Vlahov et al, 2007). Galea et al explain that not only the form enduring social structures take, e.g. a government being democratic vs. authoritarian, is of influence on the determinants in the framework, but also major trends globally and nationally can be identified (2004). Examples of these trends would be globalization or changes in the roles of governments affecting the level of input from municipal governments (Galea et al, 2004). Globalization has, in more than one way, influenced the rate of urbanization and therefore the increase in slums (Huynen, Martens and Hilderink, 2005).

The ecological model of violence is added on the right side of the framework to facilitate and systematize the discussion on how urban health determinants in the specific circumstances of slums influence the dynamics of violence and vice versa. The framework indicates the complexity and interrelatedness of determinants.

Part 2 Interactions

The adapted urban health and violence framework is used for the discussion on the interactions between the determinants of urban health in slums and violence. Per layer of determinants first the connection with health in slums is considered and then the interactions with violence are discussed. The focus is not on a specific slum, as described in the previous chapter. Although by no means exhaustive, this part aims to represent main examples of interaction between violence and urban health as found in the literature search.

Global and national level

Urban health and slums

The connection between the health of slum dwellers and their national government is affected by the positions of that government and influencing economical and political forces. These determine, to a significant extent, which problems municipal authorities can focus on and what the budget is, which in turn affects the lives and health of slum dwellers (KNUS, 2008). Connecting to international influences; the national government and economy, as well as the private sector, can be under significant influence of what happens internationally. As an example, when the World Bank on an international level changed its position on slums after receiving a lot of criticism, this refocused their beneficiaries' national policies from destructive policies to resettlement and rehabilitation (Burra, 2005).

From the international level, globalization has had –and still has- a substantial effect, which has trickled down to slums and slum forming/growth. Although complex and interrelated, five trends can be distinguished within modern globalization; economical, technological, institutional, socio-cultural and environmental (Huynen, Martens and Hilderink, 2005). All have more or less influence on slums, the growth of slums and the health outcomes.

Most apparent of these five is the economical trend. In contemporary globalization neo-liberalism has become the dominant economical trend, finding its way back to dominate economical views in the 1980s. Neo-liberalism is essentially a "laissez-faire" economical theory, with an agenda of state withdrawal, free markets and privatization, to achieve profit maximization without much concern for social consequences (UN-Habitat, 2003). This has affected globalization especially in the areas of de-regulation of trade –capital and labor markets- and the withdrawal of the state (UN-Habitat, 2003). Most profoundly it influenced economy in developing countries through the so-called Structural Adjustment Programs (SAPs) of the International Monetary Fund (IMF) in the 1980s. Set up to combat the debt crises of most developing countries in the late 1970s, its main features were; a push for privatization, less public spending and opening up of markets. This for example paved the way for major companies to come in, buy up large pieces of agricultural land, bring machines to do the job and thus reducing the need for low-skilled labor. The importation of cheap goods is another example. The loss of job opportunities kept pushing people from the country side towards the cities long after they stopped having the capacity to house people, let alone provide jobs and livelihoods (Davis, 2004).

Institutionally, as a consequence of the reduction in spending on the public sector by the governments, mass unemployment of public sector staff and rapid deterioration of services like public transport and sanitation, this created more poverty and destroyed services the poor are depending on (Davis, 2004). Institutional authorities were barred from interfering, being pressurized by the SAP's. The private sector stepped in, but with a price for its services, throwing up barriers for the less affluent (UN-Habitat, 2003).

A positive example of an institutional trend was the influential turnaround of the slum policy of the World Bank after strong international criticism as mentioned above (Burra, 2005).

Globalization furthermore affects slums through the technological advances that have been made and spread throughout the world, e.g. without cheap transport no global trade (Ploeg vd and Poelhekke, 2008). Also, the wider distribution of televisions and other communications facilitated the globalization of the media, spreading values and ideas (Lieberherr-Gardiol, 2006).

One socio-cultural consequence has been the 'bright-lights syndrome', where the city with its bright light appears to be the place for new opportunities and chances. This creates a pull factor for people to migrate to the city, hoping for a better life (UN-Habitat, 2003). It contributes to the sometimes intense mix of cultures and tribal, religious and racial backgrounds within the city. Another consequence is the increase of the visibility of inequity; not only are rich and poor living closer together in cities, television and movies make it abundantly clear what others have or have not.

On the environmental side of globalization there has been a tremendous increase of the use of fossil fuels, causing the rise of CO_2 in the atmosphere and resulting in climate change. Slums can be on the forefront facing the consequences of the environmental ramifications. As they are often illegal and/or not planned for, slums can be found on marginal outskirts of cities; on vault lines, flood plains and landfills, their vulnerability is highly increased (Campbell and Campbell, 2007).

Globalization trends trickle down to have effect on health in slums. They influence job opportunities, the role of government in the protection of the poor and a growing inequality and visibility of that inequality. An interesting example of the result of globalization on health is the introduction of cheap, commercial food products. Edged on by cheap availability and values spread through the 'media' globalization, people want to buy these products. This seems to have led to a relatively new phenomenon: the coexisting of obesity and malnutrition in the same household. Calorie rich, but nutrient-poor food products are causing obesity in adults while causing a nutrient deficiency in kids growing up (Caballero, 2005).

Adding the dynamics of violence
National government.
There are numerous possibilities for politics and violence to interact in cities and slums. In many countries there is a 'legacy of political violence'. Where countries have emerged out of (inter) political conflict or state repression, the lingering fear, mistrust and incomplete dismantling of institutional repressive tools continue to hinder development and contribute to the 'normalization' of violence (Winton, 2004). A very tangible part of that legacy is the amount of weapons left behind, now employed by gangs and citizens, often in the name of self-protection (Winton, 2004).

Political violence is not only influenced from the past, it is also currently active in slums, even when countries are not at war. Many poor urban neighborhoods are divided along political or tribal lines and political tensions can exacerbate violence and retribution (Winton, 2004). The post-election violence in Kenya in 2008 is a blatant example (Irinnews, accessed 9/Aug/'10). Esser additionally describes an increasing tendency for classical rural warlords to become urban. When cities lack strong governance and exhibit urban lawlessness, they prove to be interesting shelter, providing hide-outs and easy international access; even money transfers via city banks. These people can be powerful stakeholders of violence and changing this will likely bring more violence with it (Esser, 2004).

A third way politics interacts with violence is through the power vacuum that is created if governments fail to fully protect their citizens. Especially in towns there are a number of groups that stand up to fill in that gap; ranging from private security firms to gangs or civic groups (vigilantism). Next to making use of violence, chances are these groups collide with each other (Winton, 2004).

International politics
Violence affects politics, including international politics. Rodgers (2009), in his article 'Slums wars of the 21st century', makes the case that gangs, in the beginning of their existence, might have had a protective value for the community they arose in, at least through territorial fighting against other gangs. But in time, the violence started escalating and there was a transition from fists to knives to guns and larger weapons. In Central America the reaction to this escalating urban violence was a national and then an international cooperation to wage a "war on gangs". Starting in 2003 with El Salvador's "Mano Dura" (Iron Fist) policy, it facilitated the police to lock-up gang members in prison with minimal proof of active criminal behavior. Internationally the Central-American states agreed to legalize prosecution of gang members across state barriers, irrespective of their nationality and some started joint-patrolling of their borders (Rodgers, 2009).
This had repercussions on the level of violence. In reaction to "Mano Dura"-like policies, gangs became more professionalized; more involved in organized crime and are not longer even remotely protective to a neighborhood. Rather they became predatory, aiming to ensure their income through local drug economies, terrorizing the local communities with fear, threats and arbitrary acts of violence to ensure and maintain their power (Rodgers, 2009).

Next to globalization, very important but not within the scope of this thesis, there are incredibly complex international interactions with regards to weapons trade, oil and other natural resources, legacies of the cold war etcetera.

Globalization
Globalization and the Structural Adjustment Programs in particular are cited to have contributed to the increase of violence by the promotion of inequality and the forced withdrawal of state from public spending (UNFPA, 2007).

Davis, in his 'Planet of Slums', argues that the growth of slums irrespective of job opportunities in cities is a direct effect of globalization. With the opening of international markets, forces like large-scale agro-industry expelling people from the country side on one hand and changing fabric of economy within globalization to a more technical and informational era on the other, the labor-power of a billion people are no longer needed. He sees slums existing as "dumping grounds" for "excess humanity" (Davis, 2004). Some authors reason that slum dwellers are, in contrary to their agricultural poor counterparts in history, not an essential part of the formal economy, especially now globalization has made economy increasingly based on technology and informational production (Rodgers, 2009). The urban poor are more than anything excluded from formal economy (Rodgers, 2009, Davis, 2004).

Economical
Induced by the lack of jobs in the formal sector, slums usually have a thriving 'informal' sector. In developing countries 50 to 75% of the non-agriculture jobs are informal (UN-Habitat, 2006). Another reason for the growth of the informal sector is the delegation of work to secondary labor markets by the formal one. This shift of work to the informal sector is simply because it is much cheaper to have something manufactured or assembled in the informal sector. There the working conditions are not

regulated; there are no fixed salaries, workers compensation or expensive safety measures (Davis, 2004). The exclusion from the formal sector and the visible inequality between the formal and informal sector can fuel potential trouble. As Rodgers states; with the disjuncture of having a concentration of poor people in the same place with the political power that dictates their lives, violence becomes a function of the political and economic inequality (2009).

Globalization and its neo-liberalistic backbone opened up the international markets. This also paved the way for criminal organizations to 'globalize'. The drug trade in particular has added levels of crime and violence (UNFPA, 2007). Drugs trade induces gang wars, rivaling to control the market and counter measures, by official agents or unofficial, like social cleansing activities. It even trickles down to domestic disputes (Winton, 2004).

Violence has many direct and indirect effects on politics and economy. Violence itself counteracts governability or democratic cohesion (Winton, 2004). Violence also costs money, a lot of money to counteract, to deal with the consequences and through loss of income. For example, Latin America would add about a quarter more on its Gross Domestic Product (GDP) if it's crime rates would come down to levels experienced by other countries (UNFPA, 2007).

How this affects health
Literature gives many examples of the influence of global and national determinants on violence and the other way around. The effects of these on the health of the slum populations can be direct, for example the injuries sustained during fighting. The indirect effects would follow from the impact of the global and national level on the municipal and urban living/working level. The following chapters will look at these more in-depth.

Municipal level

Urban health and slums
The municipal level is composed of the local government, but also all the actors within the social system of a city, e.g. individuals, public and private institutions and companies, and civil society. Together they form the municipal "governance" (KNUS, 2008).

Starting with the municipal government; their capacity and quality can improve or worsen the determinants for slum dwellers. Important are insight and ability to muster the resources for good urban planning, public services and regulatory framework for land use (KNUS, 2008). It is very unfavorable when politicians view slums only as illegal and temporary (UNFPA, 2007). The example of Mumbai shows that the reaction of local politicians to demolish slums clearly proved to fail as a solution or even deterrent; people would just re-erect their make-shift houses or move to another space within the city. Progressively there has been a shift towards slum upgrading, with emphasis on security of tenure, through many different schemes (Burra, 2005). Nowadays local governments are warned to plan ahead, next to the slum upgrading schemes, as the increase in poor people seeking housing in the city is projected to grow much further (UNFPA, 2007).

A good reason for planning ahead is to counter the potential for environmental disaster. The location of slums and the lacking quality of the buildings can increase that potential (Campbell and Campbell, 2007). Proper policies, public health interventions and pre-planning for these settlements and their projected increase, are within the powers of the (local) government. Non-action will lead to much higher costs in a

couple of decades when trying to treat the problems in slums that can be prevented right now (Sclar, Garua and Carolini, 2005).

Legal structures, like the police, influence life and health in slums through the real and perceived security these structures provide. Where the police are an ally, their presence will improve social and physical circumstances. But where the police force is not present in an effective way, this will make the residents feel unprotected by the state (Hawrylak et al, 2006).

There are several ways economic forces affect the urban poor. For example, markets and the private sector have effects on the housing, jobs, food and health of the poor. With housing, as companies are more interested in affluent buyers, they develop more houses in higher price ranges. They compete over the scarce availability of ground to build on, often with the poor, and drive up land prices in the city (KNUS, 2008). The informal jobs sector has its main health effects on the urban living/working conditions. But its existence and continuation is primarily a function of economic and political powers at both global/national and municipal levels.

Civil Society: a significant determinant of health is how involved people are in the decisions that are made about their circumstances. Powerlessness is a part of life for the urban poor, influencing their circumstances and their health. To improve on the involvement in decision making of the poor by the local government and putting accountability feedback mechanisms in place would be a large step forward in improving the lives of slum dwellers (KNUS, 2008). Civil Society can in many ways form a bridge to the government. The international organization of slum/shack dwellers (SDI) is a very eloquent example of this. Started in the late eighties/early nineties, the organization is a linking of community-based organizations supported by NGO's where the urban poor have found a voice and share their experiences and best practices. To date they have had many success stories with lobbying for interventions which the poor themselves think make sense (Patel et al, 2001).

Adding the dynamics of violence
Urban planning, capacity of the local government and stakeholders of governance, the level of involvement in decision making of the urban poor and the (dis)trust of police and justice system, can all make slum circumstances better or worse. When they increase inequality and (feelings of) social exclusion, they likely increase the risk of violence. And at the same time violence in itself influences each of those factors.

The very institutions cities have at their disposal to curb violence are not seldom causing violence. Police can use harsh measures, which can evoke equally or more violent retributions. Also there are numerous stories about corruption of police, their cooperation with drug cartels or vigilante groups, being responsible for extra-judicial killings seemingly with impunity (Winton, 2004). Alternatively, violence can create risks for police officers that severely impair their ability to do their duty properly. There are cities where some areas are simply deemed inaccessible for police (Hawrylak et al, 2006). Personal assault risk, reprisals or causing a shoot-out are reasons for policemen not to interfere, e.g. with vigilante actions (Winton, 2004).

As on the global/national level, violence can be of great influence on policies and interventions. Where slums are seen as 'breeding grounds' for violence and crime and this can be used to defend clean-up actions (UN-Habitat, 2003); whether it's using bulldozers to flatten all the illegal sheds or military-like actions of the police entering an area with full force (Amnesty International, 2005).

The attitude of politicians is affected by their constituency. Often this means the more affluent of the population exercise more sway over their politicians, by rights of voting and the means to get their voices heard. Their level of understanding and fear is important. Interestingly the media has a major role in this. As will be discussed in the next chapters, it is often the perception of violence that triggers fear in people and their efforts to defend themselves. The media can feed this fear (Gladwell, 2000).

How this affects health
The interaction between violence and municipal factors has direct and indirect effects on health. The direct use of force will cause injuries and mortality next to affecting people's feelings of security. Also, it is the interplay between actual violence and how people perceive their own safety and security that determines a lot of the action. Policies on violent slum areas will be influenced by the fear of the constituency and will hopefully lead to measures as slum-upgrading, but can also lead to policies increasing inequalities and social exclusion. Indirectly health in slums is influenced by how the arena surrounding slum circumstances is set up; politically, economically, etc. The way this induces violence or violence influences this arena makes a difference in the (counter) measures and effects on health.

Urban living/working conditions level

Urban health and slums
City population
Each city and each slum area has their own city population 'make-up'. Often neighborhoods are divided among certain lines; e.g. people coming from the same village or similar racial backgrounds. Sometimes it is completely random. Analysis could tell how an area is composed and how this potentially affects health. Within slum populations groups are differently vulnerable than others, e.g. street children, elderly and women (UNFPA, 2007).

Physical environment
The definition of a slum is indicative of its physical environment. It states slum dwellers lack one or more of the following basic necessities; improved water, improved sanitation, not-overcrowded quality living areas and security of tenure (UN-Habitat, 2003). The physical environment of slums can lead to a higher prevalence of communicable diseases. The density of people in slums makes for a fertile breeding ground for emerging and reemerging infectious diseases. A current example is the rise in cases of tuberculosis, now even multi-drug resistant tuberculosis (KNUS, 2008). Stagnant and contaminated water in slums and lack of sanitation can lead to water-borne and vector-borne diseases (KNUS, 2008). Malaria mosquitoes breed well in stagnant water and vectors for urban dengue or yellow fever lay their eggs in open toilets or soak-away pits (Sclar, Garau and Carolini, 2005). Chronic diarrheal diseases from fecal contamination of water affect millions of urban kids per year (Davis, 2004). Some slums in developing countries resemble slums in the West in and around the 18th century, before the mechanisms of disease transmission were known (Montgomery, 2008).

Next to communicable diseases, a slum's physical environment can give rise to non-communicable diseases. For example increased air pollution can exacerbate asthma. The pollution from traffic in a dense city constitutes a high health risk. The World Bank has projected the number of motor vehicles in cities to increase times four by the year 2050 (Campbell and Campbell, 2007). Especially in developing countries that are now growing economically there is a direct effect on the degree of outdoor pollution (Montgomery, 2008).

Already road traffic injuries and deaths have such high statistics they are labeled a "neglected epidemic", especially in the developing regions. These regions contain 85% of all fatalities -1.2 million- in the world because of traffic accidents (Campbell and Campbell, 2007). As pedestrians and bicyclist are most at risk, this "epidemic" disproportionally affects the poor (KNUS, 2008). The poorer areas are often lacking proper infrastructure; roads have potholes and are badly illuminated, which, in the mix of all kinds of vehicles using the road; cars, riksja's, animals, pedestrians, bicycles etc, only contributes to the chance on getting hit by one (Campbell and Campbell, 2007).

The physical environment distinguishes the built and the surrounding environment, and both exhibit clear health hazards in poor areas. Houses in slums are usually built poorly, with fire-prone materials and unsafe foundations. Risks of fire or collapse are direct treats to health, as is the risk of eviction to mental health. Also, as discussed on previous levels, there is a good chance slums are built on hazardous locations. Natural disasters will have more devastating effect in the areas that are least protected against the elements and closest to the danger (Campbell and Campbell, 2007). In this way poverty contributes to the potential for urban disasters and urban disasters to further hazards for the poor. Already existing examples are the yearly flooding of parts of Dhaka, Manila and Rio (Davis, 2004).

Social environment
The social environment of slum settings can hold both the good examples of supporting social networks, e.g. neighbors' help in difficult times, and the bad examples, e.g. gang forming. Violence, crime and resulting distrust within a community can have devastating effects (UNFPA, 2007). Slum settings in themselves hold many social pressures, like extreme poverty, overcrowding and insecurities, which can cause high levels of stress and have a negative impact on health (KNUS, 2008). One aspect of the social environment which is not further addressed in this thesis (due to lack of space) is the (re)emergence of religion within slums. Well-worth to investigate when analyzing a specific slum setting, these influential groups are growing and becoming more and more powerful.

The combination of lacking material conditions, psychosocial resources and political engagement is detrimental to the empowerment of people (KNUS, 2008). In many slums there are no legal addresses, so people are not able to register to vote (KNUS, 2008). Poor often receive limited or no entitlements to services or goods and therefore have no means of ensuring accountability from politicians, NGO's or private utilities (UN-Habitat, 2006). This makes it much harder for the poor to enable a healthy environment for themselves.

Several characteristics of the social environment in slums can pre-dispose people to mental health problems. Examples are; lack of control over resources, exposure to stress and lack of social support. Studies show a range of 12-51% of urban adult to suffer especially from depression (KNUS, 2008).
There are also relations to substance abuse; prevalence in slums appears to be exacerbated by chronic stress and easy access. In literature characteristics of areas mentioned that are most compatible with expected drug use include deteriorated environments, physical violence, social disorder, lack of community cohesion and lack of investment by residents and government. Drug and substance abuse have direct health consequences for the user and has effects on individuals, families and social cohesion (KNUS, 2008).

Services
There are usually more health and social services available in cities than in rural areas. It is a complicated mix of private practitioners, public hospitals, not-for-profit or faith based organizations (Sclar, Garau and

Carolini, 2005). Illegality of slums does challenge services, especially formal ones and the availability of emergency services (Vlahov et al, 2007). But while there is often not a physical distance barrier to the nearest health facility, there are many other barriers to care. The main ones seem to be financial, information and quality barriers.

A telling example of consequences of barriers to urban health care is the reproductive health status of poor urban women in developing countries. Where the female urban population as a whole has a lower fertility rate than women in rural areas, deeper analysis of data shows poor urban women in a lot of cities are rivaling their rural counterparts. Poor urban women are less likely to use contraceptives, have more children than other urban women and have a high risk on attracting STI's and HIV (Sclar, Garau and Carolini, 2005).

Facing financial constraints, people tend to go to lower priced, less trained providers or traditional medicine practitioners, or they tend to go in a late stage of the illness, when there are no other options left. But also, many poor families will rather sell assets or borrow money and go into debt to be able to go to better quality health care, putting an enormous strain on their finances (KNUS, 2008).

Health knowledge and health seeking behavior are, at least in part, subject to the education a person has had. Literature shows the access to education and literacy rates in slums areas are significantly lower in slum areas than in rich neighborhoods (UNFPA, 2007). Additionally, cultural practices, traditional healing customs and lack of exposure to public health campaigns can all influence the health knowledge people base their actions on.

Quality can be an issue in both private and public health care. Public sector facilities are known to face stock ruptures or very patchy subsidies for the poor and often long waiting times, creating a preference for the private sector. Though private care does not necessarily means better care. One study in New Delhi showed that –especially in the poorer neighborhoods- although there was an extensive number and range of health care providers, both private and public, the quality of care was so low, the authors felt people were just wasting their money (Montgomery, 2008).

Adding the dynamics of violence
Slum living/working conditions, like competition for resources, crowdedness and loss of social cohesion can evoke or exacerbate violence. And violence can exacerbate a variety of slum living/working conditions. Having said this, the ecological model of violence points out that not all these interactions automatically lead to violence (WHO, 2002).

City populations, their distribution and mixture could evoke violence or make people feel stronger in their own group. Much of this connects with the social environment. Within that social environment, vulnerable groups take a special place. The difficulties of poverty, social exclusion, the breakdown of certain cultural mores and the absence of trust the neighbors will intervene, contributes highly to the vulnerability of women and special groups as elderly, street children or sex workers. And pressures of poverty and slum circumstances increase frustration levels and the chance on gender based violence, domestic violence or simply the lash-out to anything that is more vulnerable than the perpetrator (UNFPA, 2007).

Within the physical environment of slums, the lack of basic resources induces stress and can lead to violence. As an example; in some areas toilets are absent or have to be shared with many households, the same for water sources. Not only does this increase stress, it can make especially the women

vulnerable to gender-based violence (UNFPA, 2007). Crowdedness can have the disadvantage of exposing children to witnessing violence. When mothers and fathers both have to work, this could leave less time for upbringing contributing to a diminished sense of belonging for a child, which is very important in the risk of children becoming victims or perpetrators of violence (Salzinger et al, 2002).

The financial consequences of violence have huge repercussions on poor families. An injury could mean a catastrophic health event, driving a slightly affluent family into poverty. Many articles have tried to assess the scale of the consequences of violence by looking at the financial consequences on health care; violence increases private and public spending. Especially in the informal sector the loss of ability to work and make money needs to be added to that (Moser and Winton, 2002).

The 'broken windows' theory gives an explanation on how crime and violence can increase in poor neighborhoods if the physical appearance of the neighborhood is in a bad shape. In a vicious cycle the visual signs of a deteriorated area attract more serious crime, which induces more fear for residents and therefore a smaller incentive to be in this area, let alone invest in it for improvements (UN-Habitat, 2003). People in an insecure environment do not easily feel compelled to invest in their house or clean up the neighborhood. Governments might be more inclined to destructive policies than heavy infrastructural investments if an area is practically inaccessible due to violence and crime.

The social environment can be protective for violence, or the very cause of it. Winton argues that violence and social fabric can become completely intertwined. When violence becomes a daily part of life it can result in what some authors call 'cultures of violence' or 'societies of fear'. This can lead to a perpetuation of violence when people start using violence purely with the idea to protect themselves and their loved ones (Winton, 2004). The interaction of violence and social environment can also lead to the emergence of 'oppositional culture'. The feelings and reality of rejection by the larger society drives communities to – in reaction- refuse the norms and values of that larger society. This is more detrimental when it happens in areas of family values, education and adherence to the law. Strong family ties and good education can be especially protective against violence (UN-Habitat, 2003).

The rise of private security firms is another consequence of the drive to protection against violence. People fortify their houses and communities with gates and alarm systems, and hire private guards to protect themselves against real and perceived threats. In South-Africa allegedly even the police hire private security to guard their police stations and offices (!). But to hire private security as an individual or small community, you have to be rich and thus private security feeds into the inequality between rich and poor, creating fertile grounds for more violence (Hawrylak et al, 2006). The potential of this becoming a vicious circle will be addressed in a later chapter 'disembedding of the city'. For the poor this security gap gets filled in different ways, sometimes even by gangs providing security for their communities or extorting money from them in trade for "protection" (Hawrylak et al, 2006).

When social cohesion falls apart this causes violence and fear, but violence also causes further disintegration of the social fabric. The effects can in particular be seen with children. Young people search for meaningful social membership, something to help in acquiring an identity. If there is a gap, this could lead to gang membership, e.g. if strong family bonds are absent, kids are out on the street, have limited education or there are incentives like peer pressure or financial needs. Gangs give economical opportunities, social power, a sense of purpose and belonging, even if on the wrong side of the law (Winton, 2004). Looking at the demographics of slums in developing countries there is a clear abundance of young people, even projected for 2030 60% of slum dwellers will be under the age of 18

years (UNFPA, 2007). As pointed out by Hawrylak et al, talking about 'Kids, guns and gangs'; slums are full of kids with nothing to do and nothing to lose (Hawrylak et al, 2006).

The media has a role in the social environment, because it can exacerbate the fear of violence. Unbalanced media reporting on certain types or locations of violence can cause a distorted image, possibly creating harsher public opinions. It can increase feelings of vulnerability causing people to arm themselves, even when the real official crime figures would not support such reactions (Winton, 2004). In contrast to for example domestic violence, youth gangs are featured extensively in the media, leading to great fears (and repercussions), even if the total of crime they commit is not even among the highest bidders (Winton, 2004). This image influences public opinion and with that, the government and their policies.

Services are resources, especially in times of –medical- need. When scarce or hard to access they become a commodity to fight for or to control. Violence itself can increase the restriction on services, making them harder to reach, more unacceptable or of lesser quality. A restriction of movement and ability of decision making might be a part of the violence itself, like with domestic violence (WHO, 2002). Additionally for gang members there might be a real risk of arrest by the police if they come into a hospital for example for a treatment of a gunshot: in some countries doctors are obliged to report to the police (Schleiter, 2009).

But it is the direct –and very visible – link between the living circumstances of the urban poor and how unequal that is with the richer parts of town that brings up resentment and enhances the chance on crime and conflict (UNFPA, 2007). Inequality can undermine the social trust and capital that makes people feel good and safe socially, shaping individual health (Galea and Vlahov, 2005). Deprivation is an act of violence in itself, but the inequality of slums also calls up violence in response (Winton, 2004). And the violence can increase this inequality. It certainly can lead to increased exclusion. The feelings and reality of exclusion, the inequality compared to others, the separate living areas and even being an "obsolete workforce' all potentially fuel resentment and violence. Vice versa violence increases isolation and exclusion, through fear and insecurity, the rise of walls between communities and neighborhoods and reactive policies.

Important to realize is that besides victims and survivors of violence in slums, there are also stakeholders. In many of the interactions with violence there are people who actually benefit from an unbalanced, underprivileged and violent situation; e.g. gang leaders, but also the formal economy seeking cheap informal labor.

How this affects health
The interaction of violence and the urban living/working conditions have effects on slum health through:
1. The exposure to violence in the already challenged situation of slums
2. Increase in vulnerability of an already vulnerable population
3. A reduction of access to care.

Ad 1. There is a direct impact of violence that increases the chances on ill-health. Examples are injuries, mental health deteriorations and compromised reproductive health.

Many people are killed and injured each year due to violence, whether it is self-directed, interpersonal or collective (WHO, 2002). The health consequences of violence can be short-term or result in long-term or even lasting disabilities (WHO, 2002).

Violence can cause psychological issues and changes in behavior, from substance abuse, to suicidal tendencies, fear disorders and depression (WHO, 2002). Psychological effects appear independent of severity of injuries if the attack was perceived as life threatening by the survivor. It potentially leads to Post Traumatic Stress Disorder (PTSD), a condition manifesting itself amongst others through nightmares, flashbacks and phobias (Gilbert, 1995).

With regards to reproductive health and HIV, special attention is warranted for sexual violence. It is associated with mortality through suicide, murder during the assault or HIV infection. It leaves deep physical scars, both physically, including the consequences for reproductive health, as well as mentally, both with short and long term consequences (WHO, 2002).

Ad 2. Although closely linked to the increase in chances on ill-health, the increase of vulnerability arises from more indirect effects of violence in slums, for example through social deterioration, neglect and substance abuse.

Social deterioration can lead to deterioration of health when there is decreased protection within communities and increased exposure to violence leading to injuries, mental health problems and lack of access to resources. A nurturing social environment can do the exact opposite and protect individuals and families. A striking example of the result of the absence of trust and unity in communities is the 'cultura de silencio' (culture of silence) described in Guatamala, where neighbors keep things to themselves, after decades of armed conflict followed by a period of severe violence (Moser and Winton, 2002).

Neglect. When violence permeates daily life and people are not able to take care of themselves properly, this leads to increased vulnerability for e.g. communicable diseases and malnutrition/obesitas. Neglect can hit vulnerable groups like street children and the elderly even harder. There is a trickledown effect where if the mother gets hurt, for example by domestic violence, the health of the child is also at risk (Moser and Winton, 2002). Violence experienced or witnessed by children can have effects on their behavior, their educational level and emotional upbringing, influencing the way they see and treat the world (WHO, 2002).

Substance abuse is a result of violence as well as one of the major causes of it. In a localized survey, survivors of violence reported an increase in their use of alcohol, drugs and smoking, even the start or relapse of an eating disorder (Goodwin, 2004).

Ad 3. The access to services can be restricted by violence. Whether it is domestic violence, gender based violence or gang violence, the decision to go to get medical attention is not always in someone's own power. The victim might not want to disclose any information or seek medical treatment out of shame or fear of retribution. Or literally gang violence and a high rate of crime or even perceived high rate of crime can isolate people in their houses, afraid to cross the street in certain neighborhoods or on certain times (Moser, 2004, Rodgers, 2004). This can mean serious restriction of movement, for example to get to emergency health care.

Vicious cycle; into the extreme: 'disembedding of the city'

It is not only the violence itself, but also the fear of violence that has led to some far reaching actions and consequences. One of those is the increased felt need to protect oneself in the city.

Recent times have shown a growing segregation of space within cities between the rich and the poor. With rising crime rates and the associated fear, the affluent have created increasingly higher and better walls around their houses and sometimes around their whole communities. These houses are also more and more protected by private security guards and their companies. This not only increases the real and perceived inequality, it also encroached on the idea of 'public space'. Places like shopping malls or certain 'richer' areas are no longer accessible for poor people. Security guards send them away or they are looked down upon and discriminated upon entering (Rodgers, 2004). Rodgers in his article about Managua, capital of Nicaragua, even observes a special form of segregation he calls 'disembedding' of the richer part of the city. No longer are the rich isolating themselves in closed and heavily guarded communities, in Managua they have encapsulated the roads and business and amusement areas in one large fortified network, literally 'lifting' themselves and their activities above the rest of the town (Rodgers, 2004).

What if urban governance no longer focuses on solving crime and violence issues so much as on creating spaces that are isolated from these issues, thus securing (some) environments (Rodgers, 2004)? Whether due to true violence or the fear thereof, whether because the citizens or the government themselves lost trust in believing the crime and violence can be brought down, it all results into a withdrawal of the people who can afford it and leaving the poor and less affluent on 'the outside'. People who cannot be seen are easily stereotyped and the combination with fear of attack or crime easily labels the poor as criminal and dangerous. Leaving them to be discriminated in the name of security and left to their own devices. Even worse, if they are so removed and feared, the poor run the risk of being seen as less human; their problems to be 'solved' by infringing on their rights as human beings. And this works in both directions! The rich, behind their high walls, become just as easily vilified and dehumanized.

Knowing that a run-up to genocide and war has similar steps including a 'dehumanizing' of the enemy, this leaves for great dread of what the fear of one group can do up against the growing desperation of the other.

One more reason to look for appropriate, timely, acceptable and quality interventions..

Part 3 Interventions

The previous chapter has shown a variety of potential interactions between violence and urban health determinants. It focused on slums and mostly on the negative aspects of the different interactions. It is pertinent to realize that cities are as well full of potential for improvement. And that there are many efforts and actors implementing urban health projects, including in slum areas.

The research for this thesis tried to capitalize on the existing knowledge from current urban health interventions and recommendations. The main aim is to assess whether linkages between urban health determinants and violence are represented in current interventions and recommendations for urban health projects. Maybe the emphasis on violence in slums is overrated and not as important for health as the previous chapter is indicating. Or maybe it is, but the connection is not well acknowledged and may bring potential recommendations.

To be able to answer research objective 2 in an acceptable timeframe, the thesis has looked at one report in particular: the 2008 report of the KNUS network, -as a representative body of urban health experts- including its recommendations and the 121 case-study review represented within the report. As will be reiterated in the limitations chapter, the use of the KNUS report is a proxy. A full investigation and analysis of multiple urban health interventions might have given a different point of view. However, as KNUS made an extensive review of urban health issues, through a broad and participative process, the conclusions from their report and their selection of case studies was taken as representative for the issues at stake and the kind of interventions undertaken to address these issues.

KNUS, recommendations and case review

The Knowledge Network on Urban Settings (KNUS) was established to support the WHO Commission on Social Determinants of Health (CSDH). The aim of the commission is to assist member states with the strife for more health equity and comprehensive approaches, incorporating the social and environmental backgrounds of health problems. KNUS is one of the networks in this scheme, focusing on urban settings.

KNUS brought together researchers, practitioners, policy makers, community based organizations; international experts on urban health. In two rounds of meetings, using multi-voting and consensus they determined a list of 66 topics, later grouped into 11 themes. For 10 of these 14 thematic papers were commissioned to synthesize global knowledge and evidence. From these 14 papers and the subsequent discussion six strategic areas were identified to be considered by the CSDH. Aiding to this was a case study analysis undertaken by the KNUS secretariat. The 121 case studies that were reviewed to determine effective interventions mainly came from the thematic papers and from an additional review of literature. The KNUS report does not further elaborate on the selection criteria of the case studies, except for using the guiding principles of the Knowledge Network on Measurement and Evaluation for the evidence used in the report in general. It admits there might be a limitation of the analysis due to a focus on the themes that were already chosen with most cases derived from the 14 thematic papers. Some other limitations were deficiency of data, unreliability or difficulty establishing validity of studies (KNUS, 2008).

Recommendations
From the case study analysis six strategic effective interventions were established (KNUS, 2008):
1. Healthy urban governance and resource mobilization;
2. Urban planning and housing policy;
3. Urban living environment improvement;
4. Community action;
5. Urban health services, and
6. Leadership development and capacity building

These six strategies are actually the same as the identified six areas for improvement recommended from the thematic papers to be considered by CSDH. A small rendition of those recommended areas (all from KNUS, 2008):

Healthy urban governance and resource mobilization: most recommendations center on the inclusion and empowerment of the people who the intervention is about. Making sure all stakeholders are involved and that resources are attracted and transparently distributed. Creating incentive regimes to reduce economic inequalities and protecting the human rights of the people living in difficult circumstances.

Urban planning and housing policy recommendations involve the advice to be 'ahead of the game' and plan upfront. National and municipal governments can look at the push and pull factors of urbanization and globalization trends influencing the cities. Security of tenure for the poor remains very important.

Urban living environment improvement: this includes the provision of basic needs as water, sanitation, waste management, food, safe housing and work places, but also goes into addressing issues of violence. Recommendations include acquiring knowledge about what is going on, statistics and circumstances of violence and the reporting thereof. But even more, short, medium and long term prevention strategies are suggested. These involve a lot of the potential causes of violence in slums; short term prevention addresses issues like street lighting, availability of alcohol and reducing the carrying of firearms. Medium term prevention strategies are reducing economic inequalities and aiding especially young people with going back to school or additional training. The long term strategies incorporate training of children, giving them life coping skills and programs for teaching the parents, besides reduction of economic inequalities.

Community action: in the case studies this factor was prominent. Although some urban populations are highly mobile, the active participation and empowerment of communities in cities can greatly contribute to health and social cohesion.

Urban health services; there is a lot that can be addressed through primary health care. Strengthening the health sector and using the social determinants approach in public health is recommended. Another idea is to have the community participate in the search for comparable epidemiological data, empowering them and ensuring sustainability and ownership at the same time.

Leadership development and capacity building: empowerment of catalysts on community governance level; e.g. civil society, non-governmental organizations and other independent groups should be encouraged. Knowledge transmission should be facilitated and in general trust and respect between all the stakeholders should be created (KNUS, 2008).

These six areas of recommendations include violence to a certain extent. There are different prevention strategies mentioned, quite comprehensive and dealing with different levels of determinants. Also, in addressing a lot of the issues that can potentially induce violence, the recommendations cover a large part of the interaction of violence and slum health determinants as was described before. For example, reducing the economic inequalities and including plus empowering local communities in decision making processes will likely help tremendously in taking away stressors that can lead to violence.

What is missing, especially for violent slums, is first a thorough analysis of the different stakeholders of violence. Usually someone benefits from the situation and not analyzing and, if possible, addressing the underlying causes can ensure continuation of the violence, disrupting any progress. Examples are drug gangs terrorizing a neighborhood, or politicians who aim to attract votes by coming down hard on slums.

A second feature missing within these recommendations is a communication focus, making a bridge to or simply reassurance of the rest of the city population. As was described in the chapter on disembedding of the city, the fear and feelings of insecurity of the more affluent part of the population is part of a –potential- vicious cycle. Working with the media for a change in image of slum dwellers with an emphasis on the human aspect would make it easier to design and implement pro-poor policies.

Thirdly, no explicit attention is given to (anticipated) consequences of interventions and how they might affect power relations and violence. With distribution of resources, empowerment of groups of people or installment of basic services, chances are not everybody will benefit at the same time. Even with the very best intentions interventions could increase inequality, thus potentially increase the chance on violence. Plus, communities where violence hampers the implementation of projects might be the last to benefit.

Although the KNUS recommendations address a lot of issues and integrate the different levels of urban health determinants, they do not appear to integrate specific interactions between slum determinants and violence. In slum settings where violence is not much of an issue this might also not be necessary. The network does give a lot of suggestions on how to try and prevent violence on the community level. But in slums plagued by violence, more analysis and emphasis appears necessary on the interactions and what to do if violence is already there.

Case-studies
To check above assumptions made on the recommendations themselves, thirteen of the 121 case-studies, which were reported in full in the annex of the KNUS report, enabled a more in-depth look. The network did several rounds of analysis on the 121 case studies and came up with a hierarchy on how integrated interventions were set up. The cluster of thirteen studies showed the most integrated interventions with combined levels of determinants, including building social capital on multiple levels, community development and connecting to policies, planning and health systems.

The thirteen case studies represent some excellent examples of interventions. They vary from the successes of the Singapore public housing scheme to participatory budgeting and far reaching co-operations between government bodies and communities. They are often large in set up and indeed highly integrated; covering multiple levels of urban health determinants. Most score high success rates in evaluations.

In four of the case studies violence is mentioned; one only mentions and does not address the violence (case 7), two indirectly address this violence (case 11 and 13) and in one the project was set up to target violence (case 3). In the rest of the cases violence or the interaction with violence is not mentioned. This might indicate a bias: possibly slums plagued by violence are not often selected for interventions.

Case number seven represents an intervention with dry-sanitation toilets to improve the water and sanitation situation in Khayelitsha, a township in Cape Town. Residents mention their fear of going to the normal 'bucket toilets' because gangsters have apparently locked people up in the toilets in the past. There is no elaboration of how the project addresses this situation with the gangsters.

Cases number eleven and thirteen indirectly address violence by targeting the causes of this violence within the scheme of their program. In case eleven in Japan, daily workers, living in one district usually on the street, faced a situation where they were exploited for their work and neglected by officials. The situation lasted decades and erupted in 1990 into riots. The intervention, started in 1999, brought the different stakeholders within the community together and facilitated improvement. Including addressing causes that could potentially lead – or had led – to violence; enabling voters registration, better communication between the residents of the area and the homeless daily laborers plus a better platform for negotiation with the authorities. Case thirteen is situated in the favelas of Rio de Janeiro. The intervention tries to counteract the diverse and difficult problems in the favelas, including severe violence, by tapping into the resources of the social en physical environment. A network was set up of 103 community groups, participating and improving the health situation in their neighborhoods. Combating violence is not mentioned specifically, but the interventions address issues that could help prevent violence; helping adolescents in life skills, promoting education, etc. The network also makes a point of positive media coverage, bridging the gap of the rest of the city with the favelas, reducing the isolation.

Then case study number three is about how Jardim Angela, a group of slums in Sao Paulo, managed to bring down a very high homicide rate. It happened through the co-operation of 200 institutions in the "Life Defense Forum", together with the set up of a social protection network, all involving the community. They improved the community physical environment, worked together with the police and in dialogue with the authorities, violence reducing policies and services were set up. The intervention had very positive results.

Above summary of the four cases identified with highly integrated interventions and the mentioning of violence indicate that violence is under the attention and being addressed. However, the critiques to the KNUS recommendations still persist. The interventions do not talk about the stakeholders that might benefit from a violent situation and what to do with them. For example, there is no reference to the gangs in the favelas or in Jardim Angela, who might have an extensive interest in keeping the situation insecure. Idem for the companies in Japan, who benefitted from the daily workers and their inability to get heard by authorities or demand a higher pay. When these stakeholders are not taken into account, it becomes more difficult to address the reasons for violence and the interaction they form with the problem at hand.

In one case study, the media is used to bridge the gap with the larger city population. As discussed earlier, the interactions of the urban health determinants and violence do include the richer part of town, where a lot of the fear and real or perceived insecurity exists that influences the lives of the poor. It is also where a lot of the solutions can come from if both sides start understanding each other better and work together.

Dealing with potential consequences of the interventions themselves –if and how they might lead to violence- is not brought up at all by the case studies.

The 13 case studies are often outstanding examples of urban health interventions and they are of course tailored to their specific situation. However, even with violence being mentioned as an issue in a few of them, measures to address it do not feature prominently. These interventions and recommendations are very well integrated, but do not address in particular interactions with violence and urban health determinants.

Causes, consequences and tipping points

Hypothetically, interventions can be divided into projects that address causes and projects that minimize consequences. However, there is a third exciting option: projects that address tipping points.

Tipping points are the subject of a book written by Malcolm Gladwell (2000). He argues that changes and trends within society work like epidemics. Epidemics have a certain point where the chain of events 'tip', a point or threshold, where the chain of events turns into an epidemic (or the other way around, where it stops being an epidemic). At such a point, small changes, when contagious enough, can constitute dramatic changes: the tipping point.

A very interesting example is the sudden drop in crime rate in the New York subways of the early nineties of the last century. Authorities cited a marginally better police force, a slight reduction of the drug trade and a change in population age, but those, if at all the reason, were slow, longer term changes. A more likely cause, Gladwell argues, was the cleaning up of the subways; taking away all the graffiti and a stronger control on petty crime like fare jumping. This 'change of context' is what made it less attractive for more severe crimes to happen, similar to the Broken Windows theory.

The exciting potential within the immensity and complexity of the urban environment is there are many tipping points and it is possible to address them. And they already are. An example is when streetlights in a poor neighborhood get fixed and it becomes safer to walk on the streets (WHO, 2002). People start behaving differently and criminals see less opportunity (Gladwell, 2000).

The interactions between violence and urban health determinants in particular, where vicious cycles might occur, could have a lot of potential tipping points. It would be interesting to see if urban health interventions could incorporate such tipping points. Examples could be 'neutral' emergency health posts at night in dangerous slum areas or health campaigns bringing rich and poor closer together. Whether it is one black person refusing to give up her seat to a white on the bus in the time of South Africa apartheid or an NGO facilitating communication between the police and community, there are powerful interventions that can put massive change in motion. By thinking outside of the box and employing the right messengers, focusing on key areas, a small move could change the world.

Part 4 Limitations, Conclusions and Recommendations

Limitations

The first limitation acknowledges that 'urban health and violence' is a very wide topic and also stretches itself over many more disciplines than only health. This thesis is as much intended as a personal learning curve at the end of a master study as it is an attempt to shed light on interactions between slums, violence and health. The thesis therefore acknowledges that it is not all-encompassing or wholly conclusive, but rather reflects on personal and potential insights in the topic within the space allocated in a master thesis.

Some limitations to the literature study apply. The first limitation refers to the amount of accessible information in contemporary literature databases. Thanks to modern technology an 'almost unreadable' number of articles. It is therefore very difficult to ensure all the necessary materials have been read. Acknowledging this fact, there is however a point in the preparations where the same articles started to be referenced in other articles, opinions were similar and no startling new information was appearing from other sources – it looked like triangulation was achieved.

One pitfall with this kind of triangulation is that articles could be 'bundled' - they portray the same sort of opinions. The article "The Influence of Google on Urban Policy in Developing Countries" argues that the –undisclosed- way Google search engine arranges and orders information actually biases the reader towards opinions that are already dominating and limits access to alternative ideas (Tomlinson et all, 2010). As this thesis relied in part on Google and the Google Scholar search engine this could form a bias. Additionally, given the fact that urban health is very much multi-sectoral and multidisciplinary in nature, other disciplines may have used other keywords and jargon, which may have escaped the review for this thesis.

Another potential limitation is that this thesis is about general concepts of slums and violence, not about a specific location or form of violence. This is a limitation because slums vary tremendously, between countries, cities and even within. Still, looking at the concept and using the adapted framework provides the opportunity to look at the larger picture and see mechanisms of potential interactions.

A limitation is that the case studies and recommendations of the KNUS network are used as a proxy to answer research objective 2. An elaborate collection and reviewing of urban health projects by different experts might have given another view. Also, the review done by the KNUS network summarizes the case studies, so there might have been more references to violence in the case studies themselves. To compensate for this limitation the thirteen most integrated case studies, which were included in the annex of the KNUS 2008 report, were analyzed for references to violence. There could as well be a bias in the kind of interventions chosen by KNUS to include in the 121 case-studies. As violence did not feature prominently in the strategic areas chosen by the experts, cases focusing on violence might not have been included.

Conclusions

Research objective 1: To search contemporary literature and describe relevant connections between violence and urban determinants of health in slum settings

This research question has been addressed throughout the chapters of part 2. With the limitation that the thesis cannot be exhaustive, part 2 describes different examples of interactions found in literature.

At the global/national level; political decisions or legacies and global trends can fuel violence, especially when promoting inequality. Violence in slums in itself can elicit reactive (inter)national policies and influence economy. Criminal organizations can more easily take hold if there is a power vacuum through a withdrawal of the state. Economic trends like neo-liberalistic globalization and the opening up of international markets have increased inequality. Partly responsible for driving urbanization while declining formal employment opportunities, globalization has led to slum forming.

On the municipal level, policies have an even more direct effect on living circumstances in slums. The empowerment of slum dwellers in the decision making processes and the fear of the more affluent constituency are important factors. Violence influences the policies, the local economy and the constituency and has effects on physical health (injuries, mortality), mental health and perceived security. Police or institutional (ab)use of violence is both a result and a contributor to the situation.

Set within these levels are the living/working conditions of slum dwellers. The physical and social environment of slums can induce violence. A lack of basic resources leads to stress, competition. Social cohesion can protect, but a lack of cohesion increase vulnerability. The context of a neighborhood can already tempt crime - as suggested by the Broken Windows theory- and plausibly; the more violence in a neighborhood, the more broken windows. But the fear of violence and crime and the different ways of reacting to that fear is what can lead to potential better situations or to potential much worse situations, as described in the "disembedding of the city" chapter.

Health of slum dwellers is affected in many ways by their urban determinants. The interaction of violence with these determinants increases the chances on direct consequences to health and vulnerability of the slum population. Next to injuries, mortality and negative effects on mental health, violence in slums leaves people feeling insecure and can lead to social and therefore health deterioration, issues of neglect, substance abuse and problems with reaching proper, timely and adequate health care.

On each level of health determinants, multiple interactions with violence with effects on health are possible. Many of these interactions are described in literature. In particular, where violence is concerned, there is potential for vicious cycles. Where there is an insecure environment, violence takes hold easier and with more impunity, leaving the environment more insecure; whether this is with regard to policies, economy, physical or social factors.

Research objective 2: To assess whether linkages between urban health determinants and violence are represented within the recommendations and case study review of KNUS (the Knowledge Network of Urban Settings) - as a representative body of urban health experts.

Whilst taking the limitations of the thesis into account, the conclusion is that there is minimal representation of interactions of violence and urban health determinants within the recommendations or the case studies chosen by KNUS.

From the case studies and expert advice, the KNUS network advices to focus on six strategies, none of them including violence explicitly in their title. Within the strategies there is attention to violence, especially for prevention and monitoring. It advises to accumulate more in-depth information and on short, medium and long term prevention plans. What is missing is a focus on interactions between violence and urban health determinants in slums, a thorough analysis of stakeholders (who benefits from keeping a situation insecure), a focus on the rest of the urban population and potential violent consequences of projects.

The review of the thirteen case summaries confirms that, unless the intervention is set up in particular to address violence, violent components/interactions are either not tackled or are collateral in the intervention.

The overall study objective is to critically discuss interactions between violence and urban determinants of health in slum settings and to assess their inclusion in contemporary urban health interventions and recommendations.

Should analysis of the dynamics and interaction of violence be used more in urban health interventions in slums? The multitude of potential interactions with violence, the existence of many slum areas dealing with violence and the disastrous health results of the combination violence and slums all seem to warrant a firm 'Yes' to this question. Next to the violence in itself, also the perception of violence and insecurity of an area has repercussions on its population; including policies, economy, physical and social environments and access to health care. All these factors can increase the vulnerability of slum dwellers and their chances on ill-health.

Recommendations

1.   Following the findings of this thesis, while taking its limitations into account, the main recommendation is to include analysis and awareness of violence interactions in urban health interventions.

2.   Further research is required. The literature review done on the interactions of violence and urban health determinants for this thesis revealed just 'a' tip of 'an' iceberg. The topic of urban health and violence calls up many questions. The subject is important and growing with the day as more people are living in slums. Questions regarding the analysis of a particular situation, designs for interventions which integrate violence interactions and how to monitor the impact of such an intervention. Specific project questions about the security of health workers, how to gain access to a violent urban area and how to specify target beneficiaries, entry and exit criteria.

3.   Localization. It would be very interesting to see if the adapted framework (or with more research a further adapted version) can be used in practice: to analyze a certain slum situation and support in the design of an urban health intervention in a violent slum.

4.   Case studies. Within the time and space limits of this thesis, the choice was made to look at the case study review and recommendations of the KNUS network to answer research objective 2. As mentioned in limitations this is a proxy. It would be recommendable to look at a wider inclusion of case studies of urban health interventions, particularly interventions done in violent slum areas or those that mention interactions with violence.

5.   Usage of the potential in cities. Many times the tremendous potential of cities has been mentioned. If more local analysis can unravel complex situations of slum areas and their different determinants and interactions, this potential becomes easier to identify and to tap into. Examples are; empowering the local population (including the rich) in decision making and identifying the stakeholders of violence to make interventions much more adept.

A final recommendation is to use this framework to analyze situations and stakeholders, and then to use the information to think 'out of the box'. An exciting idea is the concept of 'tipping points'. Violence interaction points could function as tipping points and when addressed specifically and cunningly, these can hopefully 'tip' a once vicious violent urban health cycle into a virtuous one.

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Annex 1 A roadmap to violence

Table 1:	Roadmap of categories, types and manifestations of violence in urban areas	
Category of violence	**Types of violence by perpetrators and/or victims**	**Manifestations**
Political	• State and non-state violence	• Guerrilla conflict • Paramilitary conflict • Political assassinations • Armed conflict between political parties
Institutional	• Violence of state and other "informal" institutions • Including the private sector	• Extra-judicial killings by police • Physical or psychological abuse by health and education workers • State or community vigilante-directed social cleansing of gangs and street children • Lynching of suspected criminals by community members
Economic	• Organized crime • Business interests • Delinquents • Robbers	• Intimidation and violence as means of resolving economic disputes • Street theft, robbery and crime • Kidnapping • Armed robbery • Drug-trafficking • Car theft and other contraband activities • Small-arms dealing • Assaults including killing and rape in the course of economic crimes • Trafficking in prostitutes • Conflict over scarce resources
Economic/social	• Gangs • Street children (boys and girls) • Ethnic violence	• Territorial or identity-based "turf" violence; robbery, theft • Petty theft • Communal riots
Social	• Intimate partner violence inside the home • Sexual violence (including rape) in the public arena • Child abuse: boys and girls • Inter-generational conflict between parent and children • Gratuitous/routine daily violence	• Physical or psychological male–female abuse • Physical and sexual abuse, particularly prevalent in the case of stepfathers but also uncles • Physical and psychological abuse • Incivility in areas such as traffic, road rage, bar fights and street confrontations • Arguments that get out of control

SOURCE: Adapted from Moser, C and A Winton (2002), "Violence in the Central American region: towards an integrated framework for violence reduction", ODI Working Paper No 171, ODI, London; also Moser, C and C McIlwaine (2004), *Encounters with Violence in Latin America: Urban Poor Perceptions from Colombia and Guatemala*, Routledge, London; and Moser, C and D Rodgers (2004), "Change and violence in non-conflict situations", Scoping Background Paper for the DFID Rural–Urban Change Team, DFID, London.

Figure 3 A Roadmap to Urban Violence (Moser, 2004 p. 5)

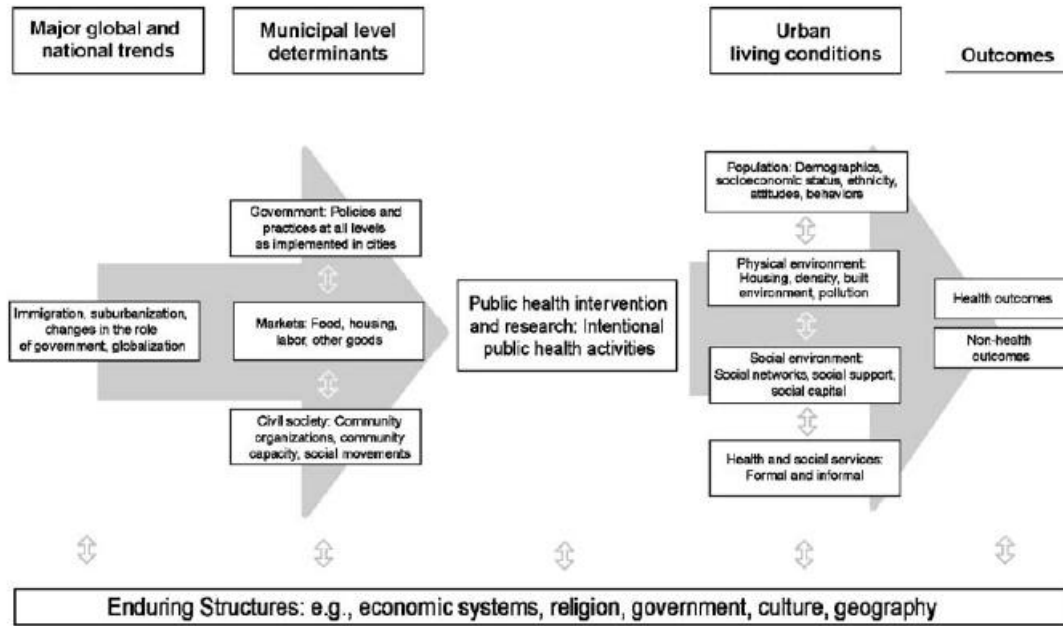# Annex 2 Urban Health framework Galea et al

Figure 4 Urban Health Framework (Galea et al, 2004 p.1020)
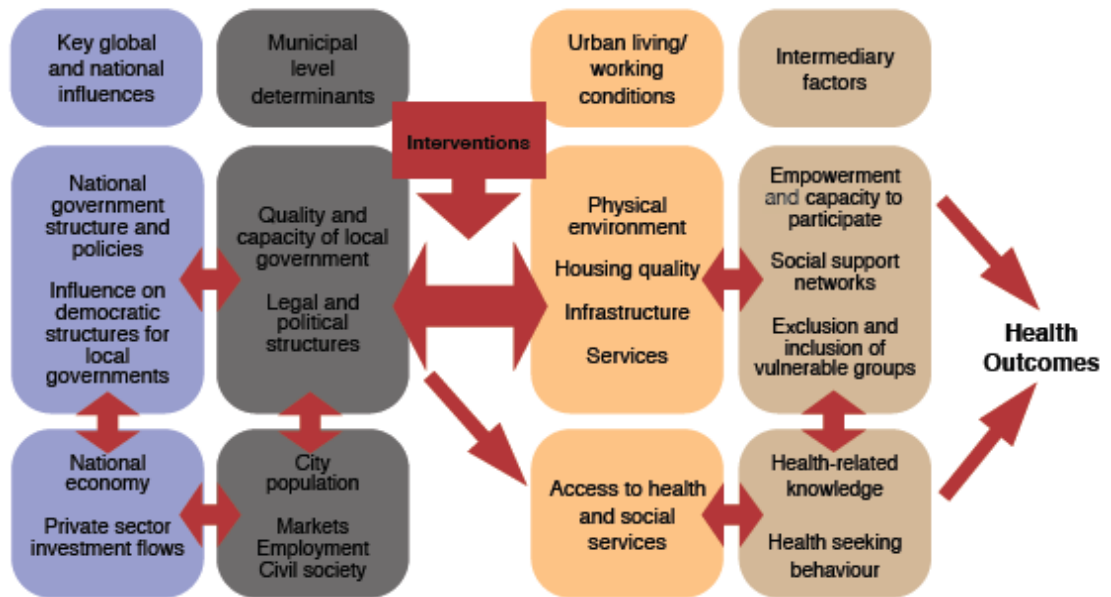
Annex 3 Urban Health Framework KNUS

A conceptual framework for urban health

Figure 5 Urban Health Framework (KNUS, 2008 p.9)