

# Background Paper on Improving Urban Population Health

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## Abstract

This paper concerns urban health systems in developing countries (the South) and considers the *determinants* and *outcomes* of urban health and the activities that link them. It also identifies challenges for action and priorities for research. Because cities are particularly complex in terms of the range of poverty, environmental, social and service factors that can determine health, it helps to have a broad understanding of the health system, which is both *multi-sector* and *multi-level* (individual, household and community). The concepts of the double burden of disease and the urban penalty are discussed and research on social exclusion, resilience and the effectiveness of interventions is called for.

## Executive Summary

This paper concerns the urban health system in developing countries (the South) and considers the *determinants* and *outcomes* of urban health and the activities that link them. It also identifies challenges for action and priorities for research.

Because cities are particularly complex in terms of the range of environmental, social and service factors that can determine health, it helps to have a broad understanding of the health system. Essentially this breadth means thinking about determinants in both *multi-sector* and *multi-level* (individual, household and community) dimensions. The main intervention that tries to tackle urban health in an explicitly multi-sectoral way is the beleaguered Healthy City initiative. While it remains strong in Europe it has largely fallen by the wayside in the South. However, with the prominence of the current WHO's Commission on the Social Determinants of Health, it might be due for a resurrection. In terms of *multi-level* analyses, we need to extend research that has mainly been done in the North, which shows the independent effect that place, or neighbourhood, often has upon both physical and mental health. However, such research needs to be particularly sensitive to the meaning of 'community' in low-income urban neighbourhoods.

Recent evidence around these four groups of determinants (poverty, social, physical environment and services), gives some directions for action. For example appreciation of the spatial and temporal heterogeneity of urban poverty has implications for the nature of programme targeting. Greater understanding of urban livelihoods, particularly the role of social capital in protecting or promoting health, strengthens the need for truly inter-sectoral, or 'joined up' government activities. While there is much evidence on environmental hazards and the effect they have on urban health status we need more intervention research to inform us how to promote behavioural change in relation to the environment (eg hygiene, cooking, and waste disposal behaviour). In terms of health services, the urban poor remain under-served, particularly in relation to reproductive health.

In considering urban health outcomes the double burden of infectious diseases and chronic diseases (including mental ill health) needs to be acted upon in any programme development. Whether the urban poor face an urban penalty (greater health problems than their rural counterparts, exacerbated by characteristics specific to cities such as over-crowding and dependence on a cash economy) is still debated. Even if they do not, the extent of health inequalities within cities themselves is a persuasive reason for prioritizing action for the urban poor.

## Some general regional patterns are:

*Sub-Saharan Africa:* still lacking the basic physical, environmental-health-related essentials like safe and adequate water and sanitation and healthy housing (with electricity, piped water, insecticide-treated bed nets).

*Latin America:* while the basic physical health problems are largely understood and many acted upon, the rising levels of violence and mental ill-health (possibly associated with the rising socio-economic inequalities which are so evident in the cities) represent a big challenge. The need for 'joined up government' and for the health institutions to work with social and other sectors is a priority.

*Asia:* Behavioural health problems like smoking and other drug abuse and HIV/AIDS will require increased investment and attention. The role of rural-urban migration upon these health-related behaviours, particularly in rapidly urbanizing countries that are at the same time 'opening up' to Western market influences, like Vietnam, is important.

Health and social insurance remain out of reach of the majority of the urban poor. Even in Latin America, where the development of health insurance is relatively advanced, less than 20% of the urban poor have access to some sort of insurance. The increasingly sophisticated social and health insurance schemes need to become pro-poor if this vulnerable group is to be protected. A key political challenge to urban health development is the general weakness of municipal structures in the South. Administratively, responsibility for health in a city often falls between local government and provincial or federal (state) level government. Thus, urban governance is a key issue for urban health development. A variety of partnerships are needed. At the local level municipal mistrust of NGOs and CBOs is sometimes a block to scaling up successful pilot projects. On the empirical side, 'best practice' programmes have been identified, but too few have been scaled up to the point of achieving economies of scale for large populations.

While the number of studies describing 'the problem' is growing, there is a dearth of 'before and after' studies which are able to provide evidence about the effectiveness of interventions which are designed to improve or protect the health of the urban poor. One of the main constraints is that projects or programmes rarely collect appropriate (if any) baseline data before an activity starts. Less one-off cross sectional surveys and more longitudinal studies would enhance our understanding of the mechanisms linking determinants and outcomes.

In the last decades urban health has been approached from a concept of ill health. We now understand a lot about the health problems of the urban poor and how economic, social, environmental and health service conditions

affect their health. However, focusing on problems or weaknesses gives only a very limited set of clues for positive action: why are some individuals, households or groups better able to cope with these conditions, and consequently have better health? We need to know what to strengthen among low-income urban populations to protect and promote their health, and how to strengthen it. This requires information about resilience (adaptive capacity) rather than vulnerability: the positive rather than the negative. Perhaps this paradigm shift in urban health will take us nearer to improving the health of the urban poor in the next decades.

### **Introduction to the two parts**

Throughout this paper, so-called developing countries are referred to as the South and developed countries are referred to as the North. This is in line with the terms of reference for the Rockefeller Foundation's Urban Summit. Whenever possible, historical shifts in urban health debates are documented in order to indicate trends and to highlight when a topic is still in debate. The paper tries to avoid repeating the arguments and data that can be found in urban health reviews written in the last two decades (eg Ruel et al 1999 McMichael 2000, Harpham and Molyneux 2001, Lawrence 2002, Galea and Vlahov 2005, Montgomery and Ezeh 2005a) and instead tries to link recent development approaches, like the livelihoods conceptual framework and the analysis of social capital to urban health. However, some of the more fundamental concepts like the urban advantage or the urban penalty and the 'double burden' of disease are necessarily reviewed in order to give a comprehensive conceptual grounding. Part 1 of this paper considers vulnerabilities or the 'problem,' and Part 4 concludes the paper by addressing remaining challenges and research needs (note that other authors are producing Parts 3 and 4). Most of the sub-headings are derived from the terms of reference for the preparation of the paper.

## **Understanding urban population health vulnerabilities**

### **Urban health system: determinants and outcomes**

The scope of this paper covers the urban health system. What is meant by a health system? It can be defined as the *determinants* and *outcomes* of health and the activities that link them. More complicated definitions can be found but this captures the essential holistic nature of the system. Because cities are particularly complex in terms of the range of environmental, social and service factors that can determine health, it helps to have a broad understanding of the health system. Essentially this breadth means thinking about determinants in both *multi-sector* and *multi-level* dimensions (these concepts are examined below). Health systems sometimes used to be thought of as being limited to health services or health care. The broader ways of thinking are still quite new for the health field in general although they are reflected in the most recent trends like the rise in interest and research on the social determinants of health. Arguably, urban planners are more familiar with dealing with multiple sectors and levels as they have always had to think about different levels like dwellings, neighbourhoods, cities and regions. Similarly, since the 'city master planning' of the 1960s urban planners have considered numerous sectors like transport, industry, tourism, education, health etc. Below, the determinants of urban health are considered first, and then the outcomes.

### **The determinants of urban health** ***Multi-sectoral determinants***

There is now recognition that determinants of urban health have to be seen in a *multi-sectoral* way. In the 1970s evidence emerged from the South that health services alone are insufficient to improve health. Although this work was not limited to urban areas, it was predominantly urban settings that provided the 'field laboratories' for most of the research. Such evidence drove the push for primary health care, as envisaged by Halfdan Mahler, who was the inspirational Director General of the World Health Organization (WHO) when the WHO promoted the 'Alma Ata Declaration on Primary

Health Care' in 1978. This truly comprehensive vision of primary health care had multi-sector action at its heart but what largely emerged in practice was selective primary health care that retreated to the provision of health services alone (and often focussing on a few diseases only). So, there is still a need to expand planning and action from health services to an inclusive public health. In fact, there is a need to go one step further: evidence increasingly shows that even interventions in the broader public health field alone are insufficient. For example in India it was demonstrated that although piped water reduced child diarrhoea these benefits bypassed households where the mother was poorly educated (Jalan and Ravallion 2001). Thus, education (particularly maternal education) has to be part of the health system.

In order for multi-sector action to work there is a need for 'joined-up government' (independent government departments that communicate and coordinate their activities with each other in a complementary way). This is weak in both the North and the South. The main intervention that tries to tackle urban health in an explicitly multi-sectoral way is the beleaguered Healthy City initiative, promoted by the WHO. The main thrust of Healthy Cities is to get health impact considered by all sectors at the city level (e.g. transport, industry, tourism). It is essentially a comprehensive place-based strategy with many cities focussing on particular places such as schools, market places etc. The Healthy City Project's (HCP) objectives are (WHO 1995):

1. Political mobilisation and community participation in preparing and implementing a municipal health plan.
2. Increased awareness of health issues in urban development efforts by municipal and national authorities, including non-health ministries and agencies.
3. Creation of increased capacity of municipal government to manage urban problems and formation of partnerships with communities and community based organisations (CBOs) in improving living conditions in poor communities.
4. Creation of a network of cities that provides information exchange and technology transfers.

The Healthy City concept thus recognizes the importance of decentralization in urban health: both in terms of the importance of the municipality's power (vis a vis central government) and the role of lower units of organization in the city such as communities and their organizations. However, the implementation of the concept has struggled in the South. An evaluation (Harpham et al 2001) of HCPs in countries as diverse as Bangladesh, Egypt, Tanzania and Pakistan found municipal health plan development (one of the main components of the healthy city strategy) was limited which is a similar finding to evaluations of HCPs in Europe. The main activities selected by the projects were awareness raising and environmental improvements, particularly solid waste disposal. Two of the cities effectively used the 'settings' approach of the healthy city concept whereby places such as markets and schools are targeted. The evaluation found that stakeholder involvement varied in relation to: (a) the level of knowledge of the project; (b) the project office location; (c) the project management structure; and (d) type of activities (ranging from low stakeholder involvement in capital-intensive infrastructure projects, to high in some 'settings' type activities). There was evidence to suggest that understanding of environment-health links was increased across stakeholders. There was limited political commitment to the healthy city projects, perhaps due to the fact that most of the municipalities had not requested the projects (they had been donor instigated). Consequently, the projects had little influence on written/expressed municipal policies. Some of the projects mobilised considerable resources, and most projects achieved some inter-sectoral collaboration. WHO support enabled the project coordinators to network at national and international levels and the capacity of these individuals (although not necessarily their institutions) was increased by the project. The average annual running cost of the projects was c. US\$132,000 per city, which is close to the costs of the only other HCP for which a cost analysis has been undertaken, Bangkok (US\$115,000 per year). One of the main problems of HCP was that it was largely donor driven. With a change of Director General of the

WHO, health promotion received less attention and Healthy Cities no longer received international support. While it remains strong in Europe (largely due to a charismatic supporter of the project in the European office of WHO) it has largely fallen by the wayside in the South. However, with the prominence of the current WHO's Commission on the Social Determinants of Health, it might be due for a resurrection.

### **Multi-level determinants**

The determinants of urban health also have to be also examined in a *multi-level* way. Health research used to focus on individual characteristics (biological, demographic, psychological/personality and behavioural). There is increasing evidence that place, or community-level factors, have an independent effect on health. So, neighbourhood effects go beyond the mere aggregation of individual characteristics that reside in that neighbourhood. Research in this realm tackles factors like social relationships, the role of institutions and services (both health care and non-health-care-related), and physical environmental factors. This multi-level focus complements that of a multi-sector perspective as it prompts planners of activities that otherwise might not be explicitly planned for health benefits to consider health as an 'added value' output (e.g. location of food outlets, recreation facilities etc). This whole trend has added 'geography' to health, which fits easily with urban health researchers who have used similar conceptual frameworks since the mid 1980s. There is criticism of neighbourhood studies that merely aggregate individual characteristics to study the effects of place (which is still often done) and more credence given to evidence that studies the features of place directly (like physical features of a neighbourhood, services, social networks, crime, reputation of the place). Some of these issues will be considered in more detail below when we consider recent work on social capital and urban health.

So, multi-level foci have increased research on urban health and place. And much of the research on health and place has re-highlighted the importance of poverty (both absolute and relative) for urban health. An excellent review of

community determinants of health in the US concluded that:

‘Studies have found that people at every socioeconomic level have worse health outcomes than do people at a higher socioeconomic level. Several articles indicate that a neighborhood's overall socioeconomic status (SES) influences residents' health beyond the effects of an individual resident's SES. Low neighborhood SES has negative effects on likelihood of smoking, physical activity, depression, hostility, and mortality risk. Children in lower SES neighborhoods have higher injury rates and more behavioral and emotional difficulties. Possible explanations for the relationship between low neighborhood SES and negative effects on health include residents' health behaviors, sense of inequality and position in the social hierarchy, psychological stress, higher crime, poor housing, lack of transportation, and greater exposure to environmental contaminants. It should be noted, however, that some evidence suggests that living in a high SES neighborhood is not always protective: Mexican Americans with very low incomes in one study had the highest mortality risk if they lived in the highest SES neighborhoods’ (Flournoy and Yen 2004 p 17).

Such sophisticated multi-level analyses of urban health are rarely done in the South (Montgomery and Ezeh (2005b) review the few that have been done) and this is picked up in section 4, which considers future research priorities. An notable exception is Montgomery and Hewett's (2005) analysis of 85 DHS urban data sets, which ‘found that household living standards are closely associated with three health measures: unmet need for modern contraception, attendance of a trained health care provider at childbirth, and young children's height for age. Neighborhood living standards exert a significant additional influence in many of the surveys we examined, especially for birth attendance’ (p397).

While community or social determinants of health have come onto the health research agenda in the last decade, there is now an additional development that recognizes the importance of communities *not* defined by

neighbourhood – in other words, a down-playing of geography, and a recognition of the importance of *social* communities which may be defined by religion, race, age, sex, type of work etc., i.e. people who have strong social ties but might not live in close proximity. This line of work, still undeveloped in the South, also encompasses examination of enduring linkages between rural and urban populations – a concept that is particularly important for urban health because of potential two-way influences on health-related attitudes and behaviour, and movement between the two realms in order to access services.

Consideration of the above arguments leads to a conclusion that any parsimonious conceptual framework for considering the determinants of urban health must have, at the minimum, poverty, social, physical environment and services components. These are considered in turn below.

### **Poverty**

As potentially the main determinant of urban health, it is important to recognize that analyses of urban poverty have become more sophisticated in the last decade and that our deeper understanding of urban poverty has implications for health related action. The key theme of the more sophisticated analyses is *heterogeneity*: both spatial and temporal. In terms of spatial heterogeneity, the concept of a homogeneous mass of urban poor residing in slums is increasingly being questioned. Montgomery and Hewett (2005), for example, found in their analysis of urban data from 85 DHS surveys, that ‘poor’ neighbourhoods were not uniformly poor. One in ten of a poor household's neighbours were relatively affluent (i.e. in the upper quartile of living standards as measured by consumer durables and housing quality). This fact of some urban poor households being embedded in mixed communities means that if health programmes are to reach the poorest they also have to cover mixed neighbourhoods. This has pros and cons. As Montgomery and Hewett point out, mixed communities may have more resources (e.g. social capital) to provide health volunteers, to disseminate positive health messages, to lobby for services for the community etc but the richer

residents may siphon off certain provisions, away from the poorest. This phenomenon of mixed communities also means that municipal authorities cannot target 'poor' communities only, if they are to reach all poor households. This will create a need for even more resources. However, this is not a problem if action is targeted at households or individuals anyway. For example, means tested social safety nets are rarely spatially determined although, interestingly, Johannesburg city authorities are considering doing just this, as the cost of assessing individual households is so high that they are attracted by a more blanket approach which declares certain areas to be worthy of social protection like child benefit etc.

Turning to temporal heterogeneity, a long-standing analyst of African urban poverty, Mabogunje, reminds us that 'the urban poor should not be considered as a homogeneous group but as a social underclass undergoing continuous differentiation' (2007, p 3). He uses the three-way categorization of urban poor: new poor (recently retrenched), borderline poor (unskilled, employed but below poverty line) and the chronic poor (lasting at least five years and often caused by the process of transition from rural to urban rather than specific urban conditions). In addition we know that urban poverty is volatile: people move in and out of poverty while often remaining in the same geographical location. How does health differ among these groups in different cities? To date, there is no systematic research on this question. We need longitudinal research to study temporal heterogeneity's effect on health and there is very little investment in such studies.

Although this section will not go into detail about the various definitions and measurement of urban poverty (see Montgomery and Ezeh 2005b for a useful summary), there is one group that is particularly neglected when it comes to health: informal sector workers. The informal sector is defined as those in self employment, those working for firms of fewer than 5 employees, workers with no registration, owners of a family business with fewer than 5 employees, and family members working in a family business without a specified wage. About 70% of employment in

West African cities is informal (Mabogunje 2007). Many such workers are exposed to particular health hazards when scavenging, balancing on precarious scaffolding, recycling batteries, weaving in between traffic, squinting in poorly lit rooms, etc. There is a dearth of systematic information about the occupational safety of informal sector workers. One of the founders of the International Labour Organization's (ILO) urban group, Dr Edmundo Werna, has said that 'What seems to be missing is a whole approach to "occupational safety and health in urban areas" as such' (personal communication 2007).

What is specific about urban poverty and what does it mean for health? There are now many texts on urban poverty characteristics but perhaps Baker and Shuler (2004 p 3) most neatly summarize the characteristics that are most pronounced and require specific analysis. They do not identify the potential health implications of such characteristics but I have added these (in italics) to their list below:

- commoditization (reliance on the cash economy); *poorer nutritional status due to lack of food from subsistence farming, reduced care of infants and children due to distant work places*
- overcrowded living conditions (slums); *infectious diseases, accidents*
- environmental hazard (stemming from density and hazardous location of settlements, and exposure to multiple pollutants); *respiratory diseases, diarrhea*
- social fragmentation (lack of community and inter-household mechanisms for social
- security, relative to those in rural areas); *mental ill health*
- crime and violence; *homicide, injuries, mental ill health*
- traffic accidents; *injuries and death*
- natural disasters; *injuries and death*

Most of these aspects of urban poverty that are particularly harmful for health can be summarized under the technical terms of *negative health and social externalities*.

There are several methods for measuring urban poverty (income/consumption, unmet basic

needs, asset indicators, vulnerability (as measured by risks and the bundle of capitals to resist such exposure)). The pros and cons of these methods are not going to be considered here but we need to examine these alternatives in relation to urban health needs. Any measure of urban poverty that will be useful for describing and monitoring urban health needs to take into account the two characteristics introduced above: multi-sector and multi-level. The multi-sector requirement means that money-metric measures are limited in use, and metrics that incorporate social conditions (like vulnerability measures) are most useful (although equally hard to operationalize). The multi-level requirement means that a great deal of *disaggregation* is needed: analysis is needed at the individual, household and neighborhood levels. This requirement has its own methodological challenges, which are considered below in section 4 which covers future research. The power of maps is often overlooked: maps that show politicians how their specific (disaggregated) area is faring in terms of health are often powerful prompts for action.

Perhaps the most promising development (although whether it is delivering is a different issue) in terms of the measurement of poverty in the last ten years has been the livelihoods approach. This focuses on the household as a unit (thus unfortunately failing to overcome criticisms of the neglect of intra-household dynamics) and measures the assets of the household (physical, social, natural, financial and human capitals) and how the household is vulnerable to an onslaught of attacks on these capitals (in the form of sudden shocks like a climatic disaster) or long-term erosive effects (like high inflation rates). Livelihoods analyses are most useful if they have a longitudinal element (i.e. a time series) but this is expensive so is rarely done. Again, the comprehensive nature of the livelihoods approach implies that any action following such an analysis prompts a more systematic, inter-sectoral and multi-level programme of action. From the health angle it is the relationship between two of these forms of capital that has prompted most attention and research: human capital (which includes health status) and social capital. This will be considered

in the next section, which covers the social determinants of health.

### **Social**

The term 'social' is often defined too broadly to be either empirically or operationally useful in urban health. Definitions often include labour, services, religion, arts – anything that man does. Here it is limited to the interactions between people – social connections and what emerges from those interactions. It includes negative social interactions such as violence (both intimate partner violence (IPV) and street violence) and feelings of insecurity. Knowledge about the level and type of social interactions in the city and their relationship with health has increased enormously in the last few years. This is largely due to the research on the links between social capital and health (particularly mental health) and the review work of the WHO's Commission on the Social Determinants of Health. Although most of this work has been in the North (particularly in the USA by people like Sampson and Kawachi) there are studies in the South that are beginning to reveal commonalities and important implications for action. Empirical research on social capital is only now catching up with the theoretical developments of the field. In terms of linking the concept to health, it is now regarded as imperative to separate out various components like structural social capital (the behavioural networks among people – 'what people do') and cognitive social capital ('what people feel' like trust and sense of belonging). It is important to separate the concepts because they have different relationships with health. For example, high cognitive social capital has been found to be good for mental health but high structural social capital among low-income women is sometimes found to be bad for mental health – perhaps because of overload of relationship roles (productive, reproductive and community) and fear of negative social evaluation. There is now plenty of evidence to show the links between social capital and health but the important question is what do we do with this evidence? There is now a need for social capital interventions and an assessment of their impact on health. One of the few intervention studies in a low-income urban setting in the South was in

Cali, Colombia, a city with one of the highest homicide rates in the world. The innovative municipal health department in 2000 declared that the medical model was not effective at tackling this public health problem and that a social model was needed. This was in advance of the burgeoning of international research on social capital and health. The population at most risk was youth (defined as ages 15-25) and the municipality realized that any intervention by themselves would not be trusted by the disaffected youth, so they approached a long-standing health NGO to form a social capital intervention. The intervention was funded by a Dutch organization and essentially strengthened relations among youth (bonding social capital) and between youth and institutions (bridging social capital). An impact evaluation showed that in the intervention community, levels of social capital were protected over the three-year period while they plummeted in the control community. Mental health of the youth stayed the same (a prevalence of c. 24% depression/anxiety) and some violence-related indicators improved in the intervention community. The importance of this study was in demonstrating that social capital can be exogenously strengthened even in a particularly insecure population and that over time, it can have an effect on some health-related indicators (Snoxell et al 2006 and Harpham et al 2004).

While our understanding of the role of social determinants in health is increasing, there remain very few programmes that explicitly tackle social characteristics to improve health. Many efforts remain grounded in proven, traditional areas such as environmental health and this is considered next.

#### **Physical environment**

It is now well accepted that environmental health factors (water, sanitation and hygiene) cause most (nine-tenths) of child diarrhoea and cause 4-8% of the overall burden of disease (WHO's 2002 World Health Report). There is no need for further research to demonstrate either the extent of environmental health hazards or the health impact they have in low-income urban areas. However, there is a need for more research into *behavioural* factors related to

environmental health (for example, the feasibility of reducing exposure to pollutants from cooking fires etc). This is linked to the need for more evaluations of the cost-effectiveness of interventions that aim at reducing environmental contamination.

When physical phenomena become more difficult to measure, like housing, the evidence for a direct link to health is more patchy. However, evidence demonstrates that poor-quality housing conditions (cold, hot, or damp housing, mould, pest infestation, lead paint, and overcrowded housing) are associated with health problems such as respiratory infections, asthma, lead poisoning, tuberculosis, infectious diseases, and injuries in children. Access to affordable housing can also affect health, because paying a large proportion of one's income for housing can mean increased stress (leading to poor mental health) and less cash for other necessities (such as food, thus leading to poor nutrition) (Flournoy and Yen 2004). An excellent systematic review of studies on the health impacts of housing found that:

'Two studies of re-housing and area regeneration provide good examples of the potential for unintended adverse effects because of increased rents. One study reported increases in standardized mortality rates in the re-housed residents. This was attributed to a doubling in rents, which in turn affected the households' ability to buy an adequate diet. More recent work in Stepney (*London*) also reported that rents in the new houses increased by an average of 14.8%, and some residents reported this as a barrier to employment opportunities. Some residents reported economizing on food to accommodate the increase in rent.' (p 12 Thomson et al 2003).

This review also discusses the potential negative mental health effect of residential displacement (even when moving to better-quality housing) due to the breaking of social connections and support. However, they emphasize that there is no research on this due to the expensive and methodologically complex longitudinal designs required. There is anecdotal evidence that many major urban housing schemes that require re-location (e.g. Johannesburg inner city

regeneration) are struggling because residents anticipate these negative social and health effects of any move. This is an area that urgently needs more research because it is preventing many urban regeneration projects from progressing.

### **Health services**

Although this paper emphasizes that the health system is more than health services, the latter remain important in urban health planning. Any analysis of services can be broken down into availability, access (including distance and opening times), appropriateness (including culturally sensitive provision and quality of services) and affordability. Although urban populations generally fare better than their rural counterparts on these factors, the urban poor often face appalling choices: use brusque, inadequately supplied and trained public sector facilities or spend a high proportion of their income on private sector provision which might be no of no higher quality on some of these dimensions. Use of self-medication and buying 'over-the-counter' drugs at retail outlets is a highly prevalent health-seeking behaviour in any study in low-income urban areas and needs to be viewed as part of urban 'health services'.

A detailed study (Das and Hammer 2007) of quality of care provided by private and public medical practitioners across seven (rich and poor) neighborhoods in Delhi, India concludes the following with regards to the poor:

'The concentration of more competent providers in richer neighborhoods, combined with the low use of public hospitals imply that the poor in the city are particularly under-served for several reasons: (1) competence among the private sector providers they visit is low; (2) they receive worse medical care both due to the direct effects of lower competence and the indirect effects of lower effort; and (3) lower effort in the public sector offsets the benefits of somewhat higher competence. The poor receive low-quality care from the private sector because doctors do not know much and low quality care from the public sector because doctors do not do much. Indeed, in poor neighborhoods, despite the lower competence of providers in the private sector, the quality of advice that patients receive compares favorably to the public sector:

Households in poor areas are better off visiting less qualified private providers than more qualified public doctors' (p4).

Das and Hammer conclude that it would be a waste of money to add yet more training to the public sector (where competence is often higher than the private sector but practice and effort is worse) but instead urge awareness campaigns to create more informed users with the hope that users will then demand higher quality of care and reduce supplier induced demand (for inappropriate antibiotics and injections, for example). However, there is a long list of topics to be covered in any 'health awareness campaign' for the urban poor and enabling unempowered people to contradict and make demands from those traditionally perceived to be in positions of power (i.e. medics) is a particular challenge.

Another aspect of the health service context of cities is the presence of hospitals. There used to be an assumption that outpatient departments of public hospitals in cities were over-crowded because users were giving up on local primary health care facilities, bypassing them to go straight to the tertiary care facility. However, research in Zambia (Atkinson et al 1999) found only 8% used the hospital as first resort. Integrated planning of city health services, which considers incentives and disincentives for using the respective levels of service, is rare.

There are specific aspects of urban health services that need priority attention and one of these is reproductive health services. The concept of reproductive health covers pregnancy, HIV/AIDS, birth, maternal health and fertility. A review (Montgomery et al 2004) found that the urban-rural gap in fertility levels (with fertility being lower in urban areas) has remained about the same since the 1970s in Africa, Asia and Latin America. 'It is remarkable how little research attention has been paid to the specifically urban aspects of reproductive health programmes' (Montgomery et al 2004 p 200). This referred specifically to the fact that urban social relations might (a) encourage parents to invest more in children's education, which typically involves lower fertility and (b) prompt use of modern contraceptives. Also, the services

environment is more diverse (particularly the presence of the private sector) which, again, might have an impact on reproductive health. However, 'for the poor countries with which we are concerned, the empirical evidence on urban social interaction and fertility is meagre indeed' (Montgomery et al 2004 p 202). Fertility and modern contraceptive use among poor urban women is generally not much different to their rural counterparts but much higher (fertility) and lower (contraceptive use) than those of other urban women. Poor urban women have a particularly high level of unmet need for contraception – this is particularly true in South East Asia. There appears to be no urban advantage in reproductive health for poor women.

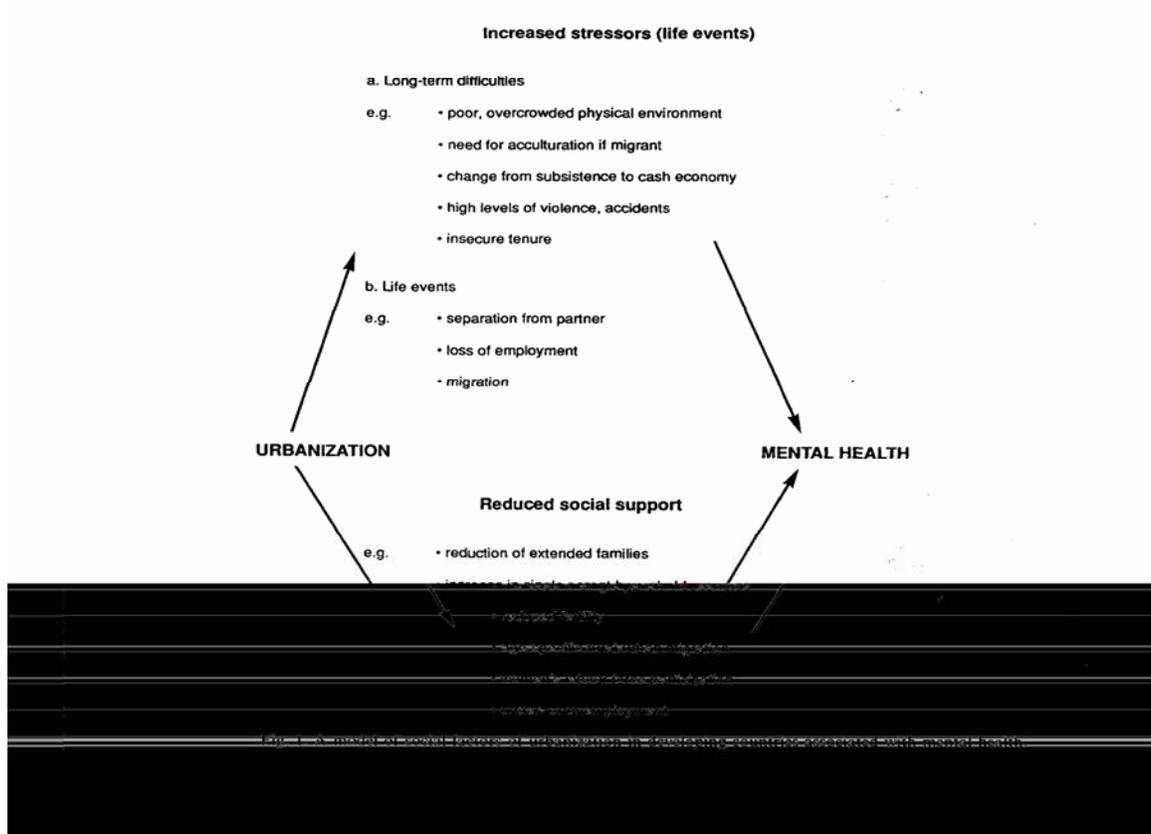
#### **The outcomes**

A classification of health outcomes/problems that is particularly useful for studies of the urban poor has to take into account the epidemiological, or health, transition, which leads to the concept of the 'double burden' of health problems for the urban poor. The health transition is a shift from communicable or infectious diseases (e.g. malaria, TB, AIDS) being the main killers to non-communicable diseases (e.g. cancer, heart disease). This shift was seen in cities in the North over the last couple of centuries. In many cities of the South the health transition is stalling because of persistent poverty and contaminating environments. Yet chronic health problems such as mental ill health, diabetes and heart disease are increasing. This leads, particularly for the urban poor, to a 'double burden' of both communicable and non-communicable disease causing disability and death. 'The urban poor die disproportionately of both infectious and chronic, degenerative diseases' (Montgomery et al 2004 p 287). This concept of a double burden can sometimes be applied to a particular health outcome. Take nutrition. In some South African cities there is emerging evidence of a double burden among the poor: malnutrition of children and, in the same household, obesity of adults (particularly mothers). This coexistence of two patterns of ill health, which have traditionally been separated, is a challenge for action on urban health and poverty. The whole issue of urban

food security and how it is vulnerable to international policies like 'adjustment' and 'stabilization' received attention in the 1990s (e.g. Von Braun et al 1993) but now seems to have fallen off the agenda.

Particular population groups have a particular vulnerability to certain health problems. While infectious diseases associated with poor environmental conditions (diarrhoea, respiratory illnesses, malaria) are the main killers of children, among adolescents it is often the infectious diseases associated with person-to-person transmission that cause the heaviest burden of disease (TB, STDs including HIV/AIDS). Injuries and death from violence and road accidents unsurprisingly dominate in early adulthood. Certain diseases have much higher levels in certain groups; for example, in almost every low-income urban setting that has been studied, common mental disorders (depression and anxiety) have a prevalence that is typically double in women compared to men (this is found in the North also). Street children tend to have a higher prevalence of health problems related to their exposure to a particularly corrosive physical environment (e.g. skin diseases, respiratory problems, infectious diseases). They are exposed to risky sexual behaviour and related sexually-transmitted diseases and health problems associated with drug use. The elderly remain a neglected population in urban health studies: we know very little about their health profile and in many settings they remain a 'hidden' group.

For each outcome of urban health there is a need to link it back to the determinants in a context-sensitive way that highlights the specificities of urban characteristics. Doing this enables researchers to develop a conceptual framework for their studies and programme managers to identify areas for intervention. An example of such a framework is presented in figure 1, which uses mental health as an outcome. Poverty is associated with poor mental health (Patel and Kleinman 2003) and the particular characteristics of urban poverty, as shown in the figure, exacerbate this relationship.



**Regional differential analyses**

The TOR for this paper referred to a need to document the 'known gradient of vulnerabilities and their drivers in different regions of the Global South that are impacting population health in cities...for example, what is the greatest health vulnerability faced by women in Sub-Saharan African cities? In Latin America or Asia?' Apart from comparative analyses of Demographic and Health Survey (DHS) data comparing mortality, fertility and some limited morbidity rates across countries, there are no analyses that enable these questions to be answered. This is because there are no systematic, comparative studies of the health of the urban poor across the continents. However, there are some patterns that emerge from *ad hoc* studies and it is possible to argue that some urban health issues are particular priorities for particular continents. It is acknowledged that this ignores large contextual differences within continents and regions but it is useful for the purpose of

identifying priority actions. The studies that point to regional differences can be categorized into those that focus on urban-rural comparisons, those that consider rural to urban migration and those that consider particular population groups within the city thus highlighting urban inequalities. These are considered in turn below.

**Urban-rural comparisons**

In the 1980s and early 1990s much of the comparative health literature pointed to the fact that, on average, health in rural areas was worse than that of urban areas (Fotso 2006, 2007). This suggests an urban advantage. Most of this research focussed on infant (under one year old) and child (up to 5) mortality or child nutritional status (malnutrition tends to be a good predictor of mortality). Some typical patterns in these comparisons are that Latin America shows more urban-rural differences in malnutrition than mortality (Ruel 2000) and that rural-urban inequality in mortality tends to be highest in sub-

Saharan Africa. In contrast to the concept of 'urban advantage' there has recently been much discussion of an 'urban penalty'.

The term 'urban penalty' or '*le handicap urbain*' was prompted by analysis of mortality data in Europe from the industrial revolution of the nineteenth century, which revealed that urban mortality rates (particularly from tuberculosis) were much higher than rural rates. Rural-urban differences were stark; for example, in 1875 the infant mortality rate (IMR) in rural Prussia was 190 compared to 240 in urban areas (Vögele 2000). Public health measures, such as supply of clean water and sanitation plus socio-economic changes lead to a decline in urban infant mortality rates from around 1893. From around 1905 rural and urban IMRs were similar (c. 170). The politics of the public health movement – constitutional arrangements and political organization – has been identified as the critical factor in similar changes in Britain.

Is there any evidence of an urban penalty in developing countries and does it differ by continent? Gould (1998), analyzing DHS data from the sub-Saharan African region, stated that:

'Without urgent and substantial commitment to urban improvement – in the public domain and in the domestic domain, and by international donors and agencies as well as by national governments – there really might then be a serious threat of an 'urban penalty' emerging in Africa within the next decade, and particularly for the rapidly growing mass of the urban poor' (p. 179).

Although there is little good trend data, there is some additional evidence of the health of the urban poor in Africa deteriorating. Haddad et al (1999) have shown that both the number of underweight preschoolers and the share of urban preschoolers in overall numbers of underweight children have been increasing in the past 10–15 years. Gould (1998) and Fotso (2007) also argue that the rural-urban gap has declined over the last decades because of a worsening of urban health levels. However, another comparative analysis of DHS data (Montgomery et al 2004) showed that urban children are indeed

advantaged in terms of height and weight and that there is no erosion in the urban advantage in these measures of child health.

An analytical refinement in recent years has been the exploration of how different health indicators may have different relationships with urbanization. Let us take the two indicators mentioned above: child mortality and child malnutrition. In general, mortality can be more closely related to availability of health services while malnutrition is more directly related to poverty (and related food shortage) and poor physical environment. Fay et al (2005), using DHS data from 39 developing countries found that child malnutrition (specifically, stunting i.e. poor height for age, a measure of chronic malnutrition) declines with urbanization (measured by % national population urban) but child mortality increases, even though access to health care and infrastructure are better in urban settings. The authors speculate that the public health effects of crowding and pollution account for this paradox. The mortality pattern might be associated with more severe environmental risks and higher HIV/AIDS in urban areas (Dyson 2003). However, this is still discussing an 'average' picture that crudely compares rural with urban.

In the 1990s there was a realization that there was a need for a more refined, disaggregated comparative picture. However, obtaining this more sophisticated picture was not always easy as the available population-based data sets tended to have samples that were too small to be further disaggregated (by, for example, socio-economic status within urban areas). More recent studies have shown that the urban poor sometimes have greater malnutrition and mortality than their rural counterparts (reviewed in Montgomery et al 2004). In other words, once you control for wealth, the gross urban-rural differences can disappear. Specific analyses within Latin America found a similar pattern: 'infant and child mortality are higher among the urban poor than their rural counterparts in Brazil, Colombia, the Dominican Republic, and Paraguay. The percentage of chronic child malnutrition is higher among the urban poor than the rural poor in Colombia, Nicaragua, and Paraguay (Bitran et

al 2005). However, there is still contradictory evidence within this debate and Montgomery et al concluded that taking these contradictory findings into account plus case studies suggesting deteriorating health conditions among slum dwellers, 'we cannot draw strong conclusions about trends in urban health advantage' (p282).

While there are growing numbers of studies that compare the physical health of the rural and urban poor there are still very few good direct comparisons of mental health between the urban and rural poor. Many studies are hampered by sampling self-selected users of health services instead of being population-based samples. An exception is a recent study from South Africa that shows that the prevalence of common mental disorders (CMDs i.e. depression and anxiety) is significantly higher in peri-urban populations (35%) compared to a rural poor population (27%). The risk factors also differed. In the peri-urban area, being female, unemployed and substance abuse were key factors while in the rural area the main risk factors were poverty and lack of education (un-published data from the University of Cape Town).

Although much of the literature on urban health in the South covers these issues of rural-urban comparisons, the debate has limited policy relevance and it is only when one gets further into the details of the lives of the urban poor that one can usefully identify health policy implications.

#### **Urban –rural migrants**

Although the focus of this section is on rural-urban migrants, the importance of urban-urban migration should not be underestimated and some of the hypotheses explored below could equally apply to an urban-urban move. Various processes associated with the migration act can affect the health status of migrants. The *selectivity hypothesis* argues that movers are different to those they leave behind. Indeed, the movers might have more in common with their new urban neighbours in terms of attitudes and behaviours that affect health. One can hypothesize that this would be good for health as stronger social connections might be forged and traditional kin-related pressures removed. The

*disruption hypothesis* focuses on the move itself and the possible ruptures in social connections and health care, the extra stresses and discontinuities. The *adaptation hypothesis* is about changing behaviours and attitudes to fit in. Similar to the selection hypothesis, the attitudes and behaviours of new communities are taken up. There is plenty of empirical evidence to demonstrate this (Montgomery et al 2004, Brockerhoff 1995).

Most research that examines the impact of rural-urban migration has focussed on physical health and shows that physical health can improve mainly due to increase in access to health services (Williams 1990). There is little information on how mental health is affected and yet one would guess that many of the stressful life events and rupture of social networks are more likely to have an impact on mental rather than physical health. A very recent study from a northern suburb of Bangkok, Thailand that has an exceptionally high annual growth rate of 5%, has shown that, in a survey of over 1,000 16-24 year olds, nearly half were rural-urban migrants. Alcohol disorders were more prevalent (30%) among migrants but there was no significant difference in substance abuse apart from late migrating males having particularly high levels (Jirapramukpitak et al 2007). Males may employ less effective coping strategies than females to handle potentially stressful life events. One of these strategies may include drug and alcohol use. Another possible suggestion is that males may be less willing (or able) than females to use resources that might help them cope with important life changes. In this study, however, there were no gender differences in level of social support given by the closest person between migrants and non-migrants. Neither is the reason clear why female migrants seemed to be protected from drug use. The protective effect of migration on substance use among migrant women may lie in the fact that Thai female migrants were probably more dutiful, coming to the city with a responsibility to send remittances and support their parents and children back home. As in all cross-sectional studies, reverse causality cannot be excluded so drug use in male late migrants may have preceded, and contributed to, the migration event. We need

more research on the mental health effects of rural-urban migration, particularly longitudinal research that can exclude reverse-causality hypotheses. This is picked up again in section 4, which considers research priorities.

Although the act of migration can be a risk factor for health, particularly mental health, in studies that have carefully controlled for wealth, poverty trumps migration as a risk factor. In other words it is being a *poor* migrant within the city that is especially deleterious.

#### **Inequalities in the city**

Cities of the South have some of the most striking inequalities in the world: cheek by jowl slums and areas of affluence. This has a particular importance for health because there is some evidence that such wealth inequalities themselves are bad for health. Richard Wilkinson's work (1992), based on Northern data sets, suggests that inequalities and the associated *relative* deprivation can sometimes be a better predictor of a country's health than *absolute* wealth levels. Although there is some debate about this analysis (see for example, Mackenbach 2002) it has usefully drawn attention in Northern cities to issues of equity, resentment, a 'kicking down' action (poor groups 'punishing' the even poorer) and psychological health in cities. Interesting research is emerging from US cities on the link between perceived inequalities, lack of respect and violence in youth. Leary et al (2005) demonstrate some of these links and call for interventions to assist youth to handle disrespect without resorting to violence. This kind of work is yet to be done in Southern cities, which exhibit the greatest inequalities. While much of the debate about youth violence in Southern cities is linked to absolute poverty little relates it to relative poverty and perceived inequalities.

Health inequalities in the city have been demonstrated by measures like infant mortality rates, which can be four times higher among the urban poor compared to the non-poor. The differentials differ by region with Latin America having the biggest differentials, and within Latin America, Brazil and Peru showing the most

consistently unequal distribution of health indicators (Bitran et al 2005).

#### **A shift in urban health?**

Over the last couple of decades we have seen a growing understanding of the complexities of urban health in the South and some shifts in debates. These are summarized in table 1 (from Harpham and Molyneux 2001) and include changes in disciplinary interest, focus populations and types of programmes.

This first part of this paper has focused on vulnerabilities. How has the debate changed over the last decade? There is gradual recognition of the fact that the urban poor can be as vulnerable as the rural poor in terms of health risks – although the pattern of determinants and outcomes differ between the two groups. We perhaps see less, gross, undifferentiated comparisons between rural and urban populations. We also see the health inequalities within cities highlighted. There is a broader discussion of the health system that goes beyond the mere provision of health services. All these characteristics of the debate are reflected in one of the latest discussions on urbanization:

'...child malnutrition in slums is comparable to that of rural areas. In many sub-Saharan African cities, which are experiencing the fastest rate of urban growth, children living in slums are more likely to die from waterborne and respiratory illnesses than rural children. ...women living in slums are more likely to contract HIV/AIDS than their rural counterparts, and that in some countries HIV/AIDS prevalence among urban populations is almost twice that of rural populations. Furthermore, in all developing regions, slum-dwellers are more likely to die earlier, experience more hunger and disease, attain less education and have fewer chances of employment than urban residents who do not live in slums. Women in many cultures are denied the right to adequate housing, security of tenure, land and inheritance. As a result millions of women are left homeless, living in poverty and destitution, while suffering from various forms of violence' (p 1 Background Paper for the Interagency Meeting on Urbanisation in New York on 6 March 2007).

**Table 1** Old and new models of urban health

	Old	New
Causation/determinants	Proximate determinants (e.g., exposure to infections), physical environment	Distal and proximate determinants, multiple causation, social and economic determinants
Range of problems	Infectious diseases, malnutrition	Accute and chronic (particularly mental health) 're-emerging' problems (e.g., TB, malaria), violence, 'lifestyle' diseases
Population group emphasis	The 'urban poor', 'rural-urban comparisons', 'vulnerable groups'	Rural-urban interactions. City as a whole and intra-urban differentials, within- and between-household differences
Provider group emphasis	Public-sector focus, role of hospital, referral system	Pluralism of providers including government, municipal, district, private, traditional, retail sector, self-treatment
Disciplinary emphasis	Epidemiology, public health	Geography of health, epidemiology, public health, social sciences
Common concepts	Urban poor as 'reservoir of infection' and suffering 'worst of both worlds'	Inequity, social capital, burden of disease, sustainable livelihoods
Management approach	Through Ministries of Health	Decentralization, health sector reform, governance
Intervention examples	Vertical (e.g., urban EPI), slum improvement projects	Healthy city projects, multisectoral approaches, urban district health team strengthening, contracting out services to array of providers

In summary, we see a more sophisticated, evidence-based picture, which should have specific implications for action. It is the policy, practice and planning needed for urban health development that are considered in the following parts of this paper.

**Mapping out questions and next steps**

**Challenges in improving the health of the urban poor**

**Obstacles**

**Financial-** With a typical impoverished African country spending less than US\$5 per person per year on public sector health (Sachs 2004) it is necessary to ruthlessly prioritize expenditure and concurrently lobby for health to get a greater allocation of the national budget. The financial input of other sectors (e.g. education, housing, power, social welfare) has to be harnessed to improve health. Although other providers

(private, NGO) apart from the public sector are there to fill the gap, they do not always do so in an appropriate or high-quality manner as they are largely uncontrolled. Although the percentage of the government health budget going to urban areas will almost always be higher than that going to rural areas, this is always skewed by the fact that hospitals are in the urban areas and it is this tertiary expenditure, as opposed to primary care, that still dominates many country health budgets.

Health and social insurance remain out of reach of the majority of the urban poor. Even in Latin America, where the development of health insurance is relatively advanced, less than 20% of the urban poor have access to some sort of insurance (Fay 2005). The increasingly sophisticated social and health insurance schemes need to become pro-poor if this vulnerable group is to be protected.

**Political-** A key political challenge to urban health development is the general weakness of municipal structures in the South. Administratively, responsibility for health in a city often falls between local government and provincial or federal (state) level government. This is not least because tertiary services (hospitals) often come under central authority as opposed to local authority. In some countries, like Brazil, there is often a pattern of the political party that dominates the Province will be in opposition in the City. And every time a new party comes into power they want to sweep away the programmes and characteristics of the previous party. Thus, Healthy City projects in Brazil have suffered discontinuities in focus and objectives due to frequently changing political contexts and new mayors 'sweeping clean'. Another particular problem for Healthy City projects is the lack of any sufficiently powerful body to coordinate health-related activities across sectors. Although the mayor's office in many countries officially serves as the main office of a Healthy City project, activities are usually delegated to the health services department of the local government – rarely a strong player who can mobilize other sectors. This weakness of the health sector raises another political problem for urban health – health is not a politically sexy subject. Datta et al (2005) describe the lessons from the Concern Bangladesh urban health project and point out that:

'Starting dialogue with the Saidpur municipality was also challenging. Health had never been one of their main priorities. Public representatives preferred to gain votes by working on more tangible issues.' (p 92).

**Economic-** The biggest change in health economics in the South in the last decade has been the introduction of fee for (government) services (often introduced as part of a package of structural reform). We know that the urban poor use a mix of retail (over the counter), private (for profit), traditional and self-medication. There are no systematic, longitudinal studies to assess how the introduction of user fees has affected the urban poor's behaviour and health over time.

**Social-** Getting the importance of the 'social' recognized by key people in the health world is a first challenge. As demonstrated above, one can get 'added value' of health impacts from social interventions but this is not yet widely recognized in the South. In terms of social mobilization, we have decades of successful small-scale lobbying and advocacy action by health-related urban community-based organizations (CBOs) and NGOs (particularly in Asia and Latin America) but there are few examples of successful scaling-up of their enterprises.

**Scientific-** To improve urban health one doesn't need much high tech science. It is the rolling out of basic technology like electricity (particularly for domestic fuel use), hygienic sanitation, insecticide-treated bed nets, and provision of essential drugs at primary health facilities that is a priority. Increased coverage of previously excluded populations (e.g. squatter settlements) would reduce the burden of the common killers like diarrhoea and malaria. But there has to be a political will and a health budget allocation to do this.

**Partnerships needed (local, national and international)**

A variety of partnerships are needed. At the local level municipal mistrust of NGOs and CBOs is sometimes a block to scaling up successful pilot projects. On the empirical side, 'best practice' programmes have been identified, but too few have been scaled up to the point of achieving economies of scale for large populations. Exceptions are innovations like the Orangi Pilot Project in Karachi. The proven cost-effectiveness of the NGO/CBO driven project was perhaps the key attraction for the municipal authorities. If this is an example of a 'bottom up' partnership there are other examples of 'top-down' initiatives that do engage with local organizations. The Bangladesh Urban Primary Health Care Project, covering six cities and five towns, is perhaps an example of this. The project (funded by the Asian Development Bank, DFID, SIDA, UNFPA, and ORBIS) contracts out primary health care to 16 local NGOs (referred to as the private sector) and 30% of activities are targeted to the urban poor. Each

NGO covers a catchment area of about 300,000. The national Ministry of Local Government manages the project and the total cost is around US\$40m. This is perhaps the most significant example of local, national and international partnerships in the field of urban health.

#### **Leadership and innovations**

Some of the most notable innovations have come from examples where the multi-sectoral roots of urban health have been acknowledged. The Healthy City projects and the Cali Municipal Health Department recognizing the importance of a social model of health are examples that have arisen in this paper. However, these innovations sometimes prompt the most partnership-type problems as the variety and power differentials of the actors involved cause turf wars or budget control problems.

One innovation is the recognition that frontline workers are the true implementers or filters of any centrally devised health policy. Current research in Johannesburg, South Africa, examines the changing role of urban environmental health officers – from the traditional controlling ‘find and fine’ officers to community development workers who facilitate communities to develop healthier places to live and work (PhD student of Harpham). This follows Lipsky’s theory of ‘street level bureaucrats’, which acknowledges the power of community workers in achieving (or not achieving) centrally designed goals. The role of government community outreach workers (whether health, education or social care) is relatively neglected in the South and needs more investment and understanding.

#### **Aspects of urban population health systems still requiring attention in different regions**

A recent analysis of the burden of disease (which takes into account both morbidity and mortality i.e. illness and death) showed regional differences which help us understand the respective priorities by region (Lopez et al 2006). The following diseases caused the top four burdens in each region in 2001:

- Latin America: perinatal, depression, violence, heart disease

- Sub-Saharan Africa: HIV/AIDS, malaria, respiratory, diarrhea
- South Asia: perinatal, respiratory, heart disease, diarrhea

Although urban-rural differences were not undertaken in this analysis the urban profiles are not likely to be hugely different (apart from road traffic accidents and TB probably appearing higher – they typically rank around 8<sup>th</sup>/9<sup>th</sup>/10<sup>th</sup> in these regional analyses) it can be seen that in Latin America the social and economic driven diseases of mental ill health and violence dominate while in Africa it is the diseases associated with absence of basic physical infrastructure (malaria, diarrhea) and the sexually transmitted HIV/AIDS that dominate. The ‘lifestyle’ related heart diseases hit the top four in both Latin America and Asia (note that this is the poorer part of Asia here – is not SE Asia). However, heart disease can also be associated with poor physical environment. For example, Ostro (2004) showed that nearly a third of heart disease related deaths in Bangkok were associated with air pollution. Death and disease associated with perinatal conditions appears in both Latin America and Asia. This is often associated with poor access to good quality primary health care services (it is 5<sup>th</sup> in rank in Africa). Thus, we can see across the regions that physical environment, social and health services all feature as determinants of the most important diseases but that the relative distribution of these diseases (and thus determinants) differs and this fact should guide action for urban health.

Although it is difficult to generalise, and perhaps inappropriate given the diversity of contexts in each region, the overall pattern might be represented as:

- *Sub-Saharan Africa*: still lacking the basic physical, environmental-health-related essentials like safe and adequate water and sanitation and healthy housing (with electricity, piped water, insecticide-treated bed nets).
- *Latin America*: while the basic physical health problems are largely understood and many acted upon, the rising levels of violence and mental ill-health (possibly associated with the rising

socio-economic inequalities which are so evident in the cities) represent a big challenge. The need for 'joined up government' and for the health institutions to work with social and other sectors is a priority.

- *Asia*: Behavioural health problems like smoking and other drug abuse and HIV/AIDS will require increased investment and attention. The role of rural-urban migration upon these health-related behaviours, particularly in rapidly urbanizing countries that are at the same time 'opening up' to Western market influences, like Vietnam, is important.

**Knowledge gaps and future research needs**

**Methodological Challenges** when undertaking health research with low-income urban populations include: lack of sampling frames (prompting the need to map each dwelling – a laborious and expensive task); high rates of residential mobility (making longitudinal studies a nightmare); reluctance to talk to 'authorities' (for example, on the part of un-registered rural-urban or urban-urban migrants in China and Vietnam); dependence on a cash economy and a consequent expectation of cash incentives for participating in research and a need to visit dwellings during non-working hours; threat of physical insecurity for field researchers; difficulty of defining a 'community' (see below) and high numbers of respondents with no fixed abode (pavement dwellers, street children, informal traders). All these potential factors need to be assessed and taken into account when designing population health research in low-income urban areas.

**Need for multi-level research**

The exciting research that is being done mainly in US cities needs replicating in the South:

'More recently, researchers have used multilevel methods to look at the health of neighborhoods after controlling for the health and other characteristics of individuals. Researchers can investigate the effects of place on health through compositional factors (the characteristics of people in particular places), contextual factors

(opportunity structures in the local environment such as access to food and transportation resources), and collective factors (socio-cultural and historical features of neighborhoods). Methodological challenges for researchers wishing to study the effects of place on health include accurately defining neighborhood boundaries; determining the most appropriate level of geography; determining which characteristics of the social and physical environment are most relevant for health; measuring neighborhood characteristics; and determining the relative influence of neighborhood and individual characteristics.' (Flournoy and Yen 2004 p 70)

This issue of definition of community is particularly challenging in low-income urban settings. It is a prominent issue in research on social capital, which has to define 'community' in a standardized, meaningful way to respondents. Most studies use a geographical area of reference, even though it might be vaguely stated, for example, 'around here'. However, there is a growing interest in the social capital of non-spatial communities: for example, work, school, religious and family groups. The definition of these latter sorts of communities poses less problems in that questions can be phrased about 'people you work with/go to school with', 'people from the same church/mosque/temple' and 'family members'.

When using a spatial community the main decision is whether to use an officially recognised area, such as an electoral ward, or post code area in the UK, or to qualitatively explore respondents' constructions of community and then to use the most meaningful definition in the quantitative survey. Here, the practice of geographers in the 1970s might be usefully resurrected: the use of mental maps where people are asked to draw a map of their 'community' with salient points marked on it. Although the resulting areas will inevitably be different, commonality may enable a more meaningful area to be referred to than some official designation.

The problem of defining community varies by context. For example, community was a word almost never used by elderly respondents in the

UK (Blaxter and Poland 2002). However, in Vietnam where the 'commune' is a resilient and highly meaningful geographical construct, no such problems were encountered (Tuan et al 2005).

**Need for intervention research**

While the number of studies describing 'the problem' is growing, there is a dearth of 'before and after' studies which are able to provide evidence about the effectiveness of interventions which are designed to improve or protect the health of the urban poor. One of the main constraints is that projects or programmes rarely collect appropriate (if any) baseline data before an activity starts.

**Need for longitudinal research**

Linked to the need for intervention research is the need for longitudinal research that can address the causal links between risk factors in the urban environment and health outcomes. Prospective, time-series research is expensive. Our knowledge base would improve if research funding agencies declined to support yet more cross-sectional studies and instead allocated their funds to a few, robust, large longitudinal studies. Such studies would benefit from having both quantitative and qualitative elements.

**Need for research on social exclusion**

With an increasing emphasis on the social determinants of urban health in the South one would imagine that the debate on social exclusion has entered the arena. However, social exclusion remains a concept that is largely confined to the North. The Centre for the Analysis of Social Exclusion (CASE, based at the London School of Economics) has been particularly influential but mainly undertakes research in the North. 'Participation' concepts have dominated in the South but these are not as sophisticated as social exclusion, which is multi dimensional and draws attention to the structure/agency debate i.e. whether people have a choice to participate. Although there are many definitions of social exclusion, the main ones focus on individuals being socially excluded if they do not participate in key activities of society (e.g. employment, education, social networks, leisure, housing, access to services) and that

exclusion is beyond their control. As a concept, it is broader than, say, social capital or poverty. Methodologically, debate rages as to how to measure social exclusion and how to avoid conflating the process of exclusion from its outcomes (e.g. health). An added complication is whether to focus on objective measures of exclusion or subjective, self-reported measures, or both. The area could provide further development of the concept of how to measure urban poverty in the South. The debate about risk factors for social exclusion and its outcomes is clearly relevant for an urban health agenda.

**Need to move from vulnerability to resilience**

In the last decades urban health has been approached from a concept of ill health. (This negative condition is often called vulnerability, but this term should not loosely be used interchangeably with ill health, because vulnerability is a potentiality, whereas ill health is a current condition. On the other hand, there is a relation: ill health clearly makes one vulnerable to other problems.) We now understand a lot about the health problems of the urban poor and how economic, social, environmental and health service conditions affect their health. However, focusing on problems or weaknesses gives only a very limited set of clues for positive action: why are some individuals, households or groups better able to cope with these conditions, and consequently have better health? We need to know what to strengthen among low-income urban populations to protect and promote their health, and how to strengthen it. This requires information about resilience (adaptive capacity) rather than vulnerability: the positive rather than the negative. Is resilience merely the reciprocal of vulnerability (high scores in the same variables for which the vulnerable have low scores) or does it have different elements and dimensions than vulnerability? (Again, this requires carefully defining vulnerability and identifying its elements.) Perhaps this paradigm shift in urban health will take us nearer to improving the health of the urban poor in the next decades.

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