Challenging urban health: towards an improved local government response to migration, informal settlements, and HIV in Johannesburg, South Africa

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This article is a review of the PhD thesis undertaken by Joanna Vearey that explores local government responses to the urban health challenges of migration, informal settlements, and HIV in Johannesburg, South Africa. Urbanisation in South Africa is a result of natural urban growth and (to a lesser extent) in-migration from within the country and across borders. This has led to the development of informal settlements within and on the periphery of urban areas. The highest HIV prevalence nationally is found within urban informal settlements. South African local government has a ‘developmental mandate’ that calls for government to work with citizens to develop sustainable interventions to address their social, economic, and material needs. Through a mixed-methods approach, four studies were undertaken within inner-city Johannesburg and a peripheral urban informal settlement. Two cross-sectional surveys – one at a household level and one with migrant antiretroviral clients – were supplemented with semi-structured interviews with multiple stakeholders involved with urban health and HIV in Johannesburg, and participatory photography and film projects undertaken with urban migrant communities. The findings show that local government requires support in developing and implementing appropriate intersectoral responses to address urban health. Existing urban health frameworks do not deal adequately with the complex health and development challenges identified; it is essential that urban public health practitioners and other development professionals in South Africa engage with the complexities of the urban environment. A revised, participatory approach to urban health – ‘concept mapping’ – is suggested which requires a recommitment to intersectoral action, ‘healthy urban governance’ and public health advocacy.

Keywords: urban health; migration; informal settlement; HIV; local government; South Africa

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Urban health concerns itself with the determinants of health and diseases in urban areas and with the urban context itself as the exposure of interest. As such, defining the evidence and research direction for urban health requires that researchers and public health professionals pay attention to theories and mechanisms that may explain how the urban context may affect health and to methods that can better illustrate the relation between the urban context and health.” (1, p. 342)

The last decade displays a renewed interest in urban health globally, coupled with a recognition of the need to understand the impacts of urban living conditions – factors that move beyond the individual – to the health of urban populations (2–6). Of central importance has been the understanding that the health of urban residents...
is more than the risk factors of individuals and more than their health care needs (2). The central argument is that it is both the social and physical environment of cities combined with health and social service systems that form the primary determinants of the health of urban populations (2, 7). More recently, the WHO Knowledge Network on Urban Settings and the WHO Commission on the Social Determinants of Health (CSDH) have further strengthened the importance of engaging with multiple health determinants at multiple levels in order to improve urban health (5, 8). However, the critical role of local government in actively addressing urban health is shown to be essential to improving, and sustaining, urban public health (9–12).

Understanding how to ensure and sustain the health and health equity of urban populations is of increasing importance as over half of the world population is now urban (13). Urbanisation is taking place rapidly across Africa, with 50% of the continent expected to be residing in urban areas by 2030 (13). South Africa has experienced a faster rate of urbanisation compared to neighbouring countries, with almost 60% of the population estimated to be urban (14). This process of urban growth is accompanied by in-migration from within the country (internal migration) and across borders (cross-border migration). Urban growth places pressure on limited, well-located and appropriate housing, resulting in the development of informal settlements within and on the periphery of urban areas. In addition to the multiple exposures to a variety of health hazards in informal settlements, HIV presents a contextual challenge, particularly in South Africa where the highest HIV prevalence is found within urban informal settlements (15). South African local government has a ‘developmental mandate’ that calls for government to work with citizens to develop sustainable interventions to address their social, economic, and material needs (16). This requires local government to address the challenges of urban growth, migration, informal settlements, and HIV as outlined above (17–19). The current (2007–2011) South African National Strategic Plan for HIV signalled a welcome shift in HIV policy, with recognition of the role of government in ensuring that (1) internal and cross-border migrant groups and (2) residents of informal settlements are able to access the continuum of HIV-related services, which includes prevention, testing, support, treatment, and access to basic services. However, guidelines are lacking to assist local government in addressing HIV-related concerns with migrant groups and in informal settlements at the local level. As a result, migrant groups and residents of informal settlements struggle to access HIV-related services, including health care, antiretroviral treatment (ART), adequate housing, and basic services such as water, sanitation, and refuse removal. Given the developmental mandate of local government in South Africa (16), this raises the question that I explore in my PhD: how should local government respond to the urban challenges of migration and informal settlements in the context of high HIV prevalence?

This article presents the findings from my PhD research, which explores the urban health complexities of the (in)famous city of Johannesburg, South Africa (20–23). The PhD focuses on exploring four themes, (1) rights to the social determinants of health, (2) urban livelihoods, (3) policy and governance, and (4) urban methodologies. A series of five papers contribute to the PhD study, a summary of these papers and the research themes is displayed in Table 1.

Data and methods
In order to engage with the complexity of Johannesburg and to explore the diverse experiences of poor urban migrant groups, my research spans from the central city through to the periphery. This includes exploring the urban experiences of the (mostly cross-border) migrant population living in the dense, overcrowded, central-city suburbs of Hillbrow and Berea. I also explore the experiences of non-migrants and (predominantly internal) migrants who enter the city and settle within the currently shifting suburbs of Jeppestown and Benrose to the south-east of the central-city; an area constructed through a range of linked ‘hidden spaces’ that include dilapidated single-sex hostels, shack farms (shacks inside abandoned factory buildings), informal settlements, and sub-divided houses and flats. A third urban experience is found through the residents of the peripheral informal settlement of Sol Plaatjies, located to the south-west of the city centre. I also explore the experiences of migrants living with HIV as they attempt to access ART in the inner-city. In addition, I evaluate the attempt of local government to respond to HIV within urban informal settlements. Four studies were undertaken that focus on: migrants (internal and cross-border); residents of the central-city; residents of a peripheral informal settlement; health care providers involved in the provision of ART; and stakeholders involved in designing and implementing local responses to migration and informality in the context of HIV. Further details relating to the respective methodologies can be found in the associated papers.

1. Assessing non-citizen access to ART in Johannesburg inner-city (paper I)
2. Exploring the tactics of urban migrants (paper II)
3. Migration, housing, HIV, and access to health care: comparing urban formal and informal (paper III)
4. Evaluating a local level developmental approach to HIV in informal settlements (paper V)

Additionally, I identified existing urban health frameworks and approaches to promoting urban health.
Table 1. The key themes covered in the PhD thesis and associated papers

| I | II | III | IV | V |
|---|----|-----|----|---|
| Migration, access to ART, survivalist livelihoods | Strategies of internal migrants in JHB | Migration, informal settlements, HIV | Upholding the right to access health services | Intervention evaluation |
| AJAR 2008 | Urban Forum 2010 | Health & Place 2010 | Global Public Health 2011 | |

- Rights to the social determinants of urban health
  - ART access
  - Access to housing
  - Basic services, health services, access to documentation
  - ART access, health access, services, access to documentation
- Urban livelihoods
  - Migrant livelihoods, impact of access to ART
  - Survivalist livelihoods, strategies and tactics
  - Livelihoods, food security as an outcome of the livelihood system
- Policy and governance
  - Migration, access to ART, employment
  - Urban development, social protection, local government
  - Assessing access to health services, policy v's implementation
  - Local responses, participatory local government
- Urban methodologies
  - Cross-sectional survey, semi-structured interviews, household survey
  - Participatory film and photography, hidden populations
  - Sampling in an urban context, informal and formal
  - Cross-sectional surveys, semi-structured interviews, household surveys
  - Process evaluation, participatory photography
I undertook a review of these frameworks and approaches, informed by both a review of the literature and the synthesis of the findings from the four studies. This was achieved through determining whether the existing frameworks engage with the complexity of developing country urban contexts. I examined the frameworks to determine whether they offered suggestions or guidance for intervention to improve the health and health equity of urban populations in developing country settings. If suggestions for intervention were proposed, I determined if the framework provided guidance for who is responsible to intervene, and how.

Findings

**Urban health and development challenges**

Through synthesising the findings of the four studies, I identified six central urban health and development challenges (see Table 2 and paper III) (21). I propose that exploring these six challenges assists in understanding the components of urban vulnerability; the characteristics of urban vulnerable groups, their urban setting (location), and how urban inequalities lead to poor health outcomes. I argue that any attempt to improve and sustain the health of urban populations requires that local level policy makers and practitioners understand, engage with, and address these six challenges (21).

Paper I (22) explores several of these central challenges. Through exploring how different migrant groups struggle to access antiretroviral (ART) services in public sector clinics in the inner-city of Johannesburg, an example of how migration has implications for urban health is presented (22). The research presented in paper I outlines how the urban health needs of migrant residents can remain unmet, through challenges with access to documentation and the inconsistent application of national legislation at a facility level. Paper I highlights the challenges of urban inequalities, migration, ‘weak rights to the city’ (24, p. 13), and – for many migrants attempting to access ART – the negative impact of struggling to access services on their health and their livelihoods.

**Navigating the city: lived experiences of urban migrants and implications for urban health**

Paper II explores the ways in which internal South African migrants find ways to navigate the central city through residing in what I term ‘hidden spaces’ (20) (Fig. 1).

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**Table 2. Developing country urban contexts present six central urban health and development challenges (21)**

| Challenge                                      | Description                                                                                                                                                                                                 |
|-----------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 1. Urban inequalities                         | Urban inequalities – differences between rich and poor groups/places – are a predictor of poor population health. Urban inequalities are experienced in multiple ways, including health outcomes and manifest spatially as intra-urban health inequalities. |
| 2. Migration                                   | Internal (from within a country) migration and external (cross-border) migration are features of urban growth and of the urban context. This includes those migrating in pursuit of economic opportunities as well as individuals fleeing persecution (asylum seekers and refugees). Many urban migrants remain connected to their household of origin through an interlinked livelihood system. |
| 3. Informal settlements                        | Urban growth places pressure on limited appropriate and well-located housing and land tenure opportunities. This results in increases in the numbers of people residing informally in and on the edge of urban areas. |
| 4. Urban HIV prevalence                        | Whilst not all developing country urban contexts experience high urban HIV prevalence, this is particularly true in sub-Saharan Africa. In South Africa, urban HIV prevalence is found to be double that in rural areas, and highest within urban informal settlements. HIV provides a contextual challenge that requires much more than a sectoral health response. |
| 5. Residents with ‘weak rights to the city’ (24, p. 13) | Despite a commitment to ‘rights for all’ within the South African Constitution (25), urban poor groups may experience challenges in claiming their rights within the city. This can include the right to access basic services, housing, health services, and employment. |
| 6. Survivalist livelihoods                    | The livelihoods of urban poor groups are determined by the context in which they are located and the opportunities and constraints that this context provides. Survivalist livelihood strategies refer to individuals working within the informal economy during a time of crisis. A period of survival is when individuals are unable to plan far into the future and instead spend their energy surviving day to day (22). |
The ‘hidden spaces’ described in paper II result in bureaucratic invisibility and illustrate the challenges faced by local government practitioners: the mandate to provide services to those urban populations who wish to remain hidden as well as to those urban populations who are hidden yet wish to ‘be seen.’ It is important for urban practitioners to understand and consider the social production of space, and the flow of urban spaces (20). The city is a fluid concept, where spaces can be converted and recycled to suit the needs of different urban residents. The city can be understood through people’s experiences, made up of underlying structural social and economic factors, individual perceptions, and spatial practices. In this respect, considering de Certeau’s concept of ‘spatial stories’ is useful (26). This concept considers how different social actors make space for themselves in urban spaces. These ‘spatial stories’ create maps that are known only to the urban resident, evading the officialdom of the maps of town planners and city authorities. Such ‘artful manoeuvres’ of individuals – everyday users – enable social actors to slip ‘between the lines, vanishing out of sight’ (27, p. 114). Such ‘ways to insert oneself into the local society’ enable residents to ‘enter into a certain kind of relationship with a physical and human environment that are based on the negotiation of ways of insertion and cohabitation’ (28, p. 27). Such practices enable residents to ‘invent the city as they slip into its mould, subjected to it but constantly reproducing/changing it’ (28, p. 28). In this way, city residents represent ‘much more than the city’ (Agier 1999 as cited in Ref. 28, p. 27). Paper II attempts to emphasise the interdisciplinary nature of urban health (20). Urban health researchers, policy makers, and practitioners must be aware of the complexities presented within the urban context and the tactics employed by urban populations. This requires the involvement of and engagement with a range of disciplines including anthropology, urban studies, social science, geography, and political science. It is essential that urban practitioners engage with the multiple complexities present within cities in order to develop the most appropriate responses.

**Place matters**

Paper III explores urban inequalities in Johannesburg (21). Key differences were found between the social determinants of health in a peripheral informal settlement and the central-city. Migration status is shown to be a key determinant of urban health as internal South African migrants are significantly more likely to enter the city and locate in peripheral urban informal settlements. Paper III highlights that internal migrants residing in the peripheral informal settlement are worse off than cross-border migrants residing in the central-city; internal migrants experience a range of challenges associated with residing on the periphery of the city. In particular, access to basic services – such as water, sanitation, and refuse collection – are inadequate (Fig. 2).

Households in the informal settlement are more likely to have children, are larger in size than those of cross-border migrants residing in the inner-city, and are cramped into small informal houses. Residents are more likely to be without an income, rely on informal, survivalist livelihood strategies, and experience food insecurity. Given that urban informal settlements are associated with the highest HIV prevalence nationally, it is essential that local and provincial government ensure that the full spectrum of HIV related health care and social services are available and accessible for those residing in the urban periphery. This includes access to the spectrum of HIV services, including access to ART (Fig. 3).

**Fig. 1.** This hidden space in inner-city Johannesburg could be mistaken for a rural area. Residents mostly originate from rural South Africa. © Nathi Makhanya.

**Fig. 2.** Inadequate sanitation is a reality where these spaces remain hidden from state service provision. © Nathi Makhanya.
The role of local government in developing appropriate urban health responses

Local governments experience the impact and effects of migration, informal settlements and a high HIV prevalence; ‘it is local governments and service providers who must channel resources to those in need, and translate broad objectives into contextualised and socially embedded initiatives’ (18, p. 177). It is essential that local government is able to respond to these challenges in an integrated way. South African local government has a ‘developmental mandate’ – a ‘local government committed to working with citizens and groups within the community to find sustainable ways to meet their social, economic and material needs and improve the quality of their lives’ (16, p. 23). The developmental mandate requires local government to inter alia address the challenges of urban growth, migration, informal settlements, and HIV (17–19, 29, 30). Importantly, a ‘developmental mandate’ highlights the need to establish partnerships across local government departments; achieving this “…means thinking beyond the narrow confines of a set of delinked service sectors. The White Paper explicitly recognises that South African municipalities, like counterparts in other parts of the world, are responsible for managing space occupied by people: the challenge was no longer only how to provide a set of services, but how to transform and manage settlements that are amongst the most distorted, diverse, and dynamic in the world.” (18, p. 169)

However, major challenges in implementing the developmental mandate of local government have been reported, in part due to the complexity of the mandate and in part due to a lack of skills, capacity, and funding within local government (18, 31, 32). A key challenge is that local government may lack the tools and information required to respond appropriately (18). For example, when attempting to plan appropriate responses to migration and to create an ‘inclusive city’ [for a discussion around the meaning and appropriateness of an ‘inclusive city,’ see Vearey (20)] local government requires guidance on what this means and data on migration to plan appropriate responses (18, 33). In order to achieve its developmental mandate, local government requires guidance in developing effective, developmental responses to the interlinked challenges of migration and informal settlements in a context of high HIV prevalence.

Urban health models: engaging with complexity

Various models of urban health have been developed that aim to assist in understanding the impact of city living on urban health, several of which draw on the concept of social determinants of health (2–5, 8, 34–38). I focus on three models within my PhD that build on the social determinants of health framework. The three frameworks are (1) the ‘urban living conditions model’ (4), (2) The WHO CSDH conceptual framework for action on the social determinants of health (8), and (3) the conceptual framework of the associated WHO Knowledge Network on Urban Settings (5). None of these frameworks are utilised by South African government at either the national or local levels.

I applied the findings from the four studies to critique these existing urban health models; I argue that these frameworks are unable to engage adequately with the complexities of specific developing country urban contexts (21). In particular, I argue that current frameworks do not deal adequately with what I consider to be the key – and interlinked – challenges of migration and informal settlements in a context of high HIV prevalence. A central limitation of the existing frameworks is that – by definition – frameworks provide ‘an oversimplification of a complex reality and should be treated merely as a guide or lens through which to view the world’ (39, p. 8).

As a result, the existing frameworks lack adequate suggestions for where and how to intervene in order to improve the health of a specific urban population and cannot provide guidance about who should intervene.

In my review of existing urban health frameworks, I have struggled with what I consider to be a central limitation of all the urban health frameworks reviewed: that they fail to engage with the specific complexities of a given urban context (such as Johannesburg, for example). Importantly, the existing urban health frameworks do not adequately engage with the importance of effective governance at a local level, including the critical role of local government in planning for – and implementing – interventions to address urban public health (as emphasised by 9, 10–12, 40). In particular, this relates to the role of good governance (including local government activities) in improving health equity in urban contexts. A central limitation here is the role of local government.
in implementing effective urban development policy that engages with: urban governance, community participation, and decentralisation (see 40).

Whilst the existing frameworks are themselves complex and engage with the multiple levels and determinants that ultimately impact health outcomes, frameworks are – by definition – generalised and therefore unable to engage with the specific complexities present within a particular urban context. Rakodi usefully summarises my frustrations by explaining that

“Inevitably, any diagram, or indeed any framework, is an oversimplification of a complex reality and should be treated merely as a guide or lens through which to view the world. Its value lies in its ability to capture key components and their interrelationships as a starting point for identifying critical analytical questions and potential leverage points where intervention might be appropriate – not in whether it portrays the whole of reality, everywhere and at all times, but whether it provides insightful analysis and appropriate action.” (39, p. 8)

A revised approach to urban health?

Accepting that frameworks can be the starting point for identifying leverage points (39), responding to urban health challenges requires going further than a framework approach. At the start of my PhD, I had anticipated generating a revised urban health framework that would capture the complexity of the urban context and provide suggestions for effective intervention to improve the health of urban populations. However, I have realised that a revised framework will not allow me to achieve this aim, and would lead to another ‘static’ representation of a complex urban context. In order to achieve the overall aim of my research, I require a conceptual tool that will facilitate a process for change at the local level, and will enable local government to respond appropriately to improve the health of urban populations. As a result, I am suggesting a move away from a framework for urban health, to a more fluid ‘concept map’ (41, 42).

“Concept maps are graphical tools for organizing and representing knowledge. They include concepts, usually enclosed in circles or boxes of some type, and relationships between concepts indicated by a connecting line linking two concepts. Words on the line, referred to as linking words or linking phrases, specify the relationship between the two concepts.” (41, p. 1)

From my review of existing frameworks and the findings from the four studies that form my PhD, it is evident that local government lacks guidance on how to effectively address the challenges that negatively impact the health of urban populations in a developmental way. ‘Concept mapping has been shown to help . . . researchers create new knowledge, administrators to better structure and manage organizations, writers to write, and evaluators assess learning’ (41, p. 31). I suggest that concept mapping can therefore be used to help local government respond to urban health. Concept mapping is a tool that provides opportunities for local government officials themselves to participate in creating a city-specific concept map, based on several key guiding questions that I outline in my thesis. These guiding questions have been identified through a review of existing approaches to urban health (including the WHO Healthy Cities Initiative), the synthesis of the findings from the four studies (see my thesis and associated papers for more details). The key questions are designed to encourage local government to act in a developmental way through three central processes: (1) intersectoral action, (2) healthy urban governance, and (3) public health advocacy. These three processes have been identified through (1) a review of previous approaches to urban health, and (2) through the synthesis of the four studies. I have selected these processes as being the actions that will enable local government to achieve its developmental mandate.

The concept mapping method is designed around a participatory process to strengthen the developmental mandate of local government; this requires for the IDP process to be effectively implemented (32). It is suggested that the concept mapping process will support and inform the IDP process, ensuring that local government achieves its developmental mandate, and that urban health is approached in a developmental, interdisciplinary, and participatory way. I think that a strategic person would need to be appointed by local governments to drive this process. This individual would require research skills, both in conducting and commissioning research and in engaging with and interpreting research findings. The concept mapping process does rely on local government assessing its urban context; without such knowledge, the concept mapping would be based on assumed knowledge relating to the needs and locations of urban poor groups. Linked to this, it is anticipated that the concept mapping process will enable local government to reflect on its own interventions and learn from good practice. Therefore, as local government assesses its urban context, it must also evaluate and learn from current local government interventions. This individual would work with the IDP Manager and HIV coordinator to drive the concept mapping process, which would then feed into the IDP process itself.

Conclusion

Urban populations are heterogeneous and city-residents live diverse urban experiences within different places in the city (21, 22). It is therefore essential that local urban governments are able to engage with this diversity in order to inform spatially targeted, multi-level, and multi-sectoral urban health responses. Existing urban
health frameworks do not deal adequately with the specific complexities of developing country urban environments. In particular, the frameworks have failed to adequately account for guiding local government in responding to the interlinked challenges identified; internal and cross-border migration, informal settlements, and high HIV prevalence. An alternative approach of ‘concept mapping’ to assist local government and other stakeholders in responding to urban health challenges is urgently required. It is suggested that such an approach would enable local government, and other actors – including residents themselves – to engage with the complexities of the urban context in a participatory way and guide the creation of city-specific ‘urban health plans’ that work towards identifying and addressing the specific urban health needs associated with different areas within a city. Intersectoral action, ‘healthy urban governance’ and a return to public health advocacy are considered critical to the effectiveness of such an approach.

It is suggested that the resultant ‘urban health plan’ will assist local government in responding in a developmental way to the interlinked challenges of migration and informal settlements in a context of high HIV prevalence.

**Policy recommendations**

A new urban development policy that engages with urban governance, community participation and decentralisation is required (40). This would involve reviewing all policies that relate to health and housing, in order to determine whether they address the needs of all urban residents and are equity promoting. Importantly, their effective implementation must be monitored and action taken by local government to address challenges. Central here is addressing the challenges that poor urban migrant groups experience in their ability to claim their rights to health care (including ART) and housing (21). It is essential that action is taken to improve the environmental conditions of urban informal settlements that negatively affect the health outcomes of those residing there. Local government is required to engage with actions that are beyond the mandate of local government; through an intersectoral approach that encompasses healthy urban governance and public health advocacy, local government should mobilise actors within other spheres of government and civil society to take action as appropriate. Importantly, this identifies the need to implement a ‘social determinants of urban health’ approach within all policy and programming initiatives.

Future research should implement a pilot project to evaluate the effectiveness of the application of ‘concept mapping’ to assisting local level urban health policy makers and planners in developing an ‘urban health plan’ to respond to the interlinked challenges of migration and informal settlements in a context of high HIV prevalence.

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