Overcoming fieldwork challenges in urban health research in developing countries: a research note

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Overcoming fieldwork challenges in urban health research in developing countries: a research note

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With rapid growth in the global urban population over the next two decades, health will increasingly have an urban bias. The picture of public health is particularly complex in African cities, where rates of urbanisation, poverty and inequity are high. This paper identifies the main data collection problems encountered within a panel study in low-income areas of Johannesburg, with special emphasis on sampling, access and partnerships. The paper will be of relevance to anyone considering research in the cities of developing countries, especially in Africa.

Keywords: urban; health; South Africa; developing countries; research methods

1. Introduction

By the year 2030 urban residents are expected to account for 75% of the world's population (UNFPA, 2007). Health will therefore increasingly have an urban bias. The picture of public health is particularly complex in African cities, where rates of urbanisation, poverty and inequity are high, and occur in a context of development backlogs, relatively weak social and public health systems, limited resources and poor environmental controls.

In recent years, calls have been repeated for research towards a more detailed understanding of increasingly complex urban health dynamics (Harpham, 2009) to inform planning and decision-making, especially in developing countries. However, the conduct of research in the cities of developing countries may be fraught with difficulties, often unanticipated. In this regard, little is to be found in the literature to guide research planning, or to draw attention to potential pitfalls that researchers might encounter when working in unfamiliar and complicated urban environments in developing countries. In 1990 Yach, Mathews, and Buch (1990) published a paper on the conduct of research in the cities of developing countries. The focus of their paper was on the broad issues to consider when planning research in urban settings in developing countries, such as the need to have clear definitions of what constitutes an urban area or urban residence, take cognisance of intra-urban variability and the need to choose

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appropriate measures of social class. Little else has been published in this regard and there is a paucity of papers published that give practical guidance to anyone preparing to embark on research in these settings.

Since 2006 the World Health Organization Collaborating Centre for Urban Health (WHOCCUH) has been conducting a panel study (the Health, Environment and Development or 'HEAD' study) of living conditions and health status in five relatively impoverished settlements with varied characteristics and populations in Johannesburg. This paper focuses on the planning, fieldwork and data collection stages of the study, in relation to the themes of access, security and partnerships. The findings should be of relevance of anyone considering the conduct of research in the cities of developing countries, especially in Africa.

2.   The health, environment and development study

The five sites of the HEAD study cover informal settlements, older and more recent low-cost housing areas and a high-rise inner city area. Each year a respondent from the primary household on the sites originally selected in 2006, is interviewed using a pre-structured questionnaire. The interviewers are environmental health students who have received training in research processes and interviewing techniques.

3.   Considerations at the planning stage

3.1.   *Sampling challenges*

In the informal settlement maps were either not available, or considerable change had occurred between the time of map production (even those most recently produced) and the time of fieldwork. The use of aerial photographs might improve sampling accuracy, provided they have been very recently taken. The cost of commissioning dedicated aerial photographs is usually prohibitively expensive, and often the only option is to employ local or knowledgeable fieldworkers to count and map all dwellings in the study area, which may also be time consuming and expensive. In the informal settlement these challenges, combined with concerns around social unrest at the time of the first fieldwork visit, left the researchers with little choice but to switch from the intended random, to convenience sampling, which had implications for the interpretation of the data.

3.2.   *Language*

Multiple languages are spoken in many African countries. In a cosmopolitan African city such as Johannesburg any of the 11 official national languages, as well as additional and foreign languages, such as French, Portuguese and various African dialects, may be spoken. Since the cost of translating research instruments into many different languages is usually prohibitively expensive, researchers in Johannesburg often use English as the *lingua franca*, and appoint fieldworkers who are familiar with the local culture and fluent in multiple languages, and rely on their language translation skills. Special measures, such as rigorous training of fieldworkers and validation exercises (e.g. independent back-translation of questionnaires), need to be introduced to take account of the potential inaccuracies and bias that may be introduced with this approach.

3.3. *Migrant communities*

In Johannesburg there is a growing migrant and refugee population. In the HEAD study in 2006, the proportion of migrant households ranged from 13% to 31% across the sites. Special consideration needs to be given during research with migrant households insofar as the difficulties that may have been encountered during adaptation to a foreign local culture, urban system and language are concerned, as well as the trauma that may have been experienced prior to migration (Pernice, 1994). Among immigrants, despite assurances to the contrary, there were often concerns about the end-uses of the research, for example the identification and deportation of illegal immigrants. For example, in one instance a respondent willingly participated until it came to a question on 'country of birth'. He immediately terminated the interview, and a while later returned to the interviewer to insist that the questionnaire be destroyed in his presence.

Issues of intra-national migration and ethnicity may also need to be taken into account during research. For example, from the HEAD study it is known that households originating from a particular province tend to congregate within an urban suburb or settlement, giving rise to the dominance of a particular language and culture in that area. Also, in a mainly Zulu-speaking community, questions were raised by community representatives as to the presence of a Xhosa-speaking research coordinator.

3.4. *Responding to rapid change*

One of the HEAD study sites was characterised by physical and social change, with a high rate of residential mobility (in 2006 13% of households said they had been resident in the area for less than one year). A major reason for this is that the area is one of the main venues for the World Cup soccer tournament planned to take place in South Africa in 2010, and development in the area has been rapidly increasing in recent years. Another reason is the relatively high proportion of national and international migrants in this inner city suburb. The longitudinal aspect of the HEAD study aims to track dwellings rather than individuals. Because of concerns that annual questionnaire surveys were not entirely capturing the high levels of residential mobility the team initiated a 'photostudy' involving photographing the selected study sites at six-month intervals, to provide a visual record of trends in development, gentrification, degradation/upgrading and change in land use (e.g. from residential to commercial).

4. Getting the go-ahead

4.1. *Gaining access to suburbs*

Gaining access to the selected sites was a challenge. Originally, two relatively wealthy sites were selected for inclusion as a means of comparison. However, response rates were extremely low (0% in one and 12% in the other). Such poor response rates in relatively wealthy settings have also been shown in other studies in South Africa (Kuate-Defo, 1992; Richter, Norris, & de Wet, 2004). In the HEAD study, student interviewers were sometimes regarded as security risks. In one suburb, residents (mainly white) complained to the local police about strangers (mainly black student interviewers) roaming the streets, despite the students having official letters of introduction from the research institution, leading to local police advising that the fieldwork be discontinued. The refusal rate was higher among white, compared to black

respondents. These findings differ from some other settings where participation in research among black lower income communities is low relative to their white counterparts (Corbie-Smith, Thomas, Williams, & Moody-Ayers, 1999).

4.2.   *Access to streets and dwellings*

In informal settlements proper roads are often absent, with only un-named sandy tracks or paths connecting one dwelling to another. Also, dwellings or shacks were sometimes not numbered, or house and map information did not correspond. In these instances, fieldworkers had to be appointed in advance to check and correct addresses of the selected dwellings to ensure accuracy in the sampling process. The research team is making increasing use of global positioning system tools for sampling, location of sampled sites by interviewers, as well as for analysis and presentation of findings.

4.3.   *Households in backyards*

In mass-based, low-cost housing developments, as well as in inner city areas, backyard dwellings are often constructed to accommodate large or extended families, or as an income generation strategy. In 2006, 31% of the study sample had more than one household located on the dwelling site. In such contexts the prior definition of what constitutes a household is important. Decisions need to be taken in advance as to whether the residents of supplementary dwellings should be included in the study, whether only the primary or main household is targeted or to randomly/systematically select one of the households for interview purposes.

4.4.   *Access to individuals*

Obtaining the support of 'gatekeepers', including local councillors and community leaders, building managers and security personnel may constitute a major challenge, and require investments of time and diplomacy to gain approval and support for research. In the high-rise, high-density suburb of Hillbrow, which is also perceived to be crime-ridden, an inordinate amount of time and effort is needed to be invested in convincing building owners, building managers and security guards that the research was legitimate, before approvals to proceed were granted. In some instances, even where written approval had been obtained, a change of staff or the absence of a key person on the day of fieldwork, often meant having to postpone data collection and obtaining approvals anew. In wealthier communities, high walls and the use of intercom systems resulted in frequently 'faceless' and precipitate rejections without the opportunity of giving even an outline of the proposed research.

5.   Safety, security and well-being

5.1.   *Safety of fieldworkers*

Given the elevated levels of crime and violence in South Africa, the safety of fieldworkers was a key concern. Fieldworkers encountered verbal abuse, racial slurs and physical assault (or threats of it) while conducting interviews. The risk of offensive behaviour and physical assault was elevated over weekends when the consumption of alcohol and substance abuse was at a peak. Among the measures taken in the HEAD

study to improve fieldworker's safety were training on how to respond in tense situations, a requirement that fieldworkers work in pairs or larger groups, keeping the local police informed of the presence of the research team, providing fieldworkers with emergency contact numbers and cellular telephones if necessary and regular checks on the whereabouts of fieldworkers by members of the fieldwork supervision team. Provision was also made in research budgets for fieldworker insurance or a contingency fund to cover medical expenses if needed.

5.2. *Well-being and counselling*

Unexpected within the research planning team during the first year of the study was the responses of some fieldworkers to the living conditions and sense of despair in the households visited, especially among the most poverty-stricken. During the data collection phase, student fieldworkers witnessed, for example, extreme poverty, overcrowding, housing degradation, evidence of hunger, disease, instances of severe inebriation, neglected children, evidence of assault and disability. For many students, despite the fact that they were being trained for the job of Environmental Health Practitioner, which would most likely see them placed in similar settings of urban impoverishment, their experience with the study was a first encounter with conditions of urban deprivation and human misery, leading, in some instances to distress and anguish. The research team had to incorporate an expanded element within the fieldworker training programme that drew attention to what might be expected in urban informal settlements and areas of degradation. In addition, counselling services were offered to students in need of it.

6.   **Partnerships**

The Centre is a partnership of four institutions active in the research, local government and academic fields. For the purposes of the HEAD study, we strengthened our engagement with key local government (the primary target for research translation processes) and community stakeholders. Collaboration with local government partners occurred in the early stages while community stakeholders became involved later, but nevertheless, in certain areas, emerged as powerful role players, contributing to the research process, as well as playing a key role in post-research action and policy development.

Early involvement of local government stakeholders did not predict ownership of the study findings, or the will to see findings translated into policy or action. During the early planning stages of the study the local government representative participated actively, playing a key role in shaping the research agenda. In subsequent stages, however, local government participation declined due to competing priorities and the replacement of the key, long-term local government representative with one having a relatively lower level of commitment to the study. The waning participation of city officials in later stages of the study contrasted strongly with the growing participation of community representatives and political leaders as the study progressed. The cohesion, commitment and actions of the community stakeholders, facilitated by a local ward councillor, required flexibility and additional effort on the part of the research team to respond to an unanticipated channel for research translation. The importance of research materials was illustrated by the fact that a glossy brochure summarising the study findings proved to be a useful tool in the hands of the community to encourage

participation, and lobby for support and action by city officials and political leaders, and in fund-raising efforts.

The presence and energetic encouragement of a 'champion' – a businessman, and former resident of one of the sites at the community research feedback meeting was instrumental in translating research into action. His personal sense of commitment to the community, combined with his experience of fundraising and entrepreneurship skills provided the necessary vision to mobilise the community representatives, thereby jumpstarting a process which, through normal bureaucratic channels, might have taken considerably longer to get off the ground, if at all.

7.   Discussion

Inequalities in cities around the world are often growing and creating challenges for policy makers. These challenges prompt calls for more research but, at the same time, it is often becoming more difficult to implement research in and with vulnerable urban communities. Standard research methods advice and guidance often does not apply (e.g. suggestions to send letters or telephone respondents to re-confirm home visits) or simply does not address the particular problems that arise. Even texts that specifically cover urban settings (e.g. Andranovitch & Riposa, 1993) fail to tackle the kind of problems identified in this paper. Low-income urban populations in developing countries are increasingly suffering survey fatigue (Mougeot, 2005) and this implies an added need to design research that maximises chances of both access and feedback to respondents. Feedback plans are rarely required to gain ethical approval for research – perhaps they should be.

Urban population dynamics often require researchers to resort to extremes of technology for sampling accuracy: either simple sketch mapping of dwellings or relying on sophisticated aerial photography. Both methods are costly but obtaining an up-to-date sampling frame is one of the greatest challenges in a physically changing environment. Once the physical environment is accurately captured there are key decisions regarding demographic dynamics, for example, ensuring all households are included in a sample frame, even those 'hidden' in backyard shacks and deciding who the main household respondent should be. Gaining a response often requires field-workers to make household visits at times that are more insecure (e.g. at night or during weekends) and again, this adds to fieldwork costs by increasing the need for teamwork.

Migration is another demographic dynamic that poses challenges for urban research. Many factors lead to an increase in the proportion of migrants in cities: national and international conflicts cause international migration and internal displacement. Loss of rural entitlements can increase rural-urban migration. While these are 'push' factors, the lure of the city bright lights remains a 'pull' factor for many. It is usually vital to record some sort of migration history to assess length of exposure to the respondent's current environment. Longitudinal research becomes particularly expensive if respondents are to be tracked.

Many of the problems of forming a sample frame, gaining access and facilitating feedback of research results can be made easier by researchers forming partnerships. These may be with community groups, local authorities or non-governmental organisations. However, as with all research partnerships, one runs the risk of the research being hijacked by the particular interests of the partner. And any perception of the researchers being 'neutral' may be jeopardised. If the partnership is with an individual

rather than institutionalised, there is a problem of discontinuity when individuals leave posts. This can be addressed if early negotiations are with a range of key, sufficiently senior people in the institution.

While the call for mixed methods research is now well established (Tashakori & Teddlie, 2003) the use of both qualitative and quantitative methods is particularly useful in urban areas because large scale quantitative analysis enables the diversity (and inequality) in cities to be captured while qualitative research illuminates the complexity and dynamics of life in a city. Additional methods such as photography can powerfully record change over time.

Despite the burgeoning amount of research being undertaken in urban areas – particularly in low-income settings in developing countries, researchers are generally not documenting the methodological challenges they face and suggestions for how to overcome such problems. This paper will be of relevance to anyone considering research in the cities of developing countries, especially in Africa.

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