



Urban advantage or Urban penalty? A case study of female-headed households in a South African city

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ABSTRACT

Basic services have improved in many urban areas of South Africa, which should improve health and well-being. However, poverty and ill-health persist and are unequally distributed by race, class and place. This paper explores conditions of the most marginalized group, female-headed households, in a case study of Msunduzi Municipality (formerly Pietermaritzburg). Data from two household surveys conducted in 2006 show important patterns regarding the incidences of and coping strategies around, illnesses and deaths. While some positive environmental health outcomes are apparent, considerable stresses face households in relation to HIV/AIDS related deaths, poverty, and lack of health services. The insights of both urban environmental health and feminist geography assist in explaining the gendered and spatialized patterns of health in post-apartheid urban South Africa.

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1. Introduction

This paper presents a case study of female-headed households (FHHs) in urban South Africa, through the lenses of urban environmental health and feminist geography. We pose the questions: Does urban living offer healthy conditions promoting well-being for this most marginalized group of South African households? And can a socio-spatial approach help illuminate the conditions of urban life?

The importance of links between health outcomes and urban environmental conditions, including housing, is well-established in contexts in both North and South (Kjellstrom and Mercado, 2008; Lawrence, 2004; Stewart and Rhoden, 2006; Thomson et al., 2003; UN-Habitat, 2003). Improvements to the quality and size of housing, access to clean water and clean fuel, effective sanitation and waste management, and freedom from environmental risks such as ambient air pollution, disease carrying pests, and hazards such as fire and flooding are all accepted as critical in providing the conditions to promote human health and well-being. Yet while urbanization should improve health, there is debate about whether an “urban penalty” rather than an “urban advantage” is emerging in Africa south of the Sahara (Harpham, 2009). Overall, it appears that while patterns of ill health may differ between urban and rural dwellers, poverty is the critical determinant of ill health. Hence, if poverty persists in urban areas, the expected

health benefits of urbanization can be compromised. A growing literature also highlights the ill effects of high rates of urban social and economic inequalities (Harpham, 2009), a dynamic that is starkly evident in South African cities.

In addition, feminist literature on urban health points to the critical importance of gender as a determinant of health (Dyck, 2003; Kjellstrom and Mercado, 2008; Frye et al., 2008; Spitzer, 2005). While still ignored or marginalized in some major research in the field, evidence is mounting that gender relations, gender roles, gendered labour markets, poverty, social marginalization and the intersecting inequalities associated with race, ethnicity, class, age and sex, are powerful forces shaping health outcomes, behaviours and the spatialized urban experience of women and men. So marked are gendered differences in urban health, that the literature posits a “health disparity” (Spitzer, 2005, S78) in gendered terms, meaning a significant difference or inequality between identifiable groups. While gendered urban health conditions are dynamic and complex, they can nevertheless be identified and described in ways that can be useful to policy makers.

As set out in a special issue on southern Africa in this journal in 2002,¹ relationships between environmental conditions and health constitute an important area for research in the region, including South Africa, and call for a geography of health approach (Allison and Harpham, 2002). The inter-relation between housing and health has been recognized in South Africa's

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¹ Health and Place 8 (2002).

Department of Housing (DOH) policy documents which, for example, mention housing materials and indoor air quality, and the health impacts of improved water and sanitation. The DOH also identifies the importance of addressing HIV/AIDS as part of housing policy (DOH, 2003a, 2004). Furthermore, research is beginning to emerge in South Africa on the linkages between urban environments, poverty and health (de Swardt et al., 2005; Mfenyana et al., 2006).

Despite a massive roll out of new low-cost housing and other municipal services targeting the poorest sector of society, the harsh reality in South Africa today is that many people live in unsafe and unhealthy conditions in informal settlements, backyard shacks, or even some of the new townships, many of which are ill serviced, poorly maintained and already beginning to deteriorate. High rates of unemployment, poverty, illness, violence and crime create conditions of high vulnerability, risk and social exclusion for urban dwellers (Seekings, 2000). Certainly, some improvements in housing, water provision, access to electricity, and sanitation are clear at the aggregate level in South Africa, and are documented in the Census data in 2001 and the large-scale Community Survey conducted in 2007. However, aggregate data hide the unevenness of improvements in spatial terms. They can also hide how the positive effects of physical improvements may be hampered by social determinants of health at the individual and household level such as gender, income levels, employment status, education levels, safety issues, differential vulnerability to HIV and AIDS, and household structure and composition (Ambert et al., 2007; Harpham, 2009). In addition, effects at the neighbourhood level are important, such as overall economic status of a neighbourhood, access to social networks, and access to health services (Harpham, 2009; Montgomery and Hewett, 2005). Thus to understand the spatial distribution and social dynamics of environmental health in urban South Africa, gender disaggregated, local-level studies are critical (Thomas et al., 2002, p. 256).

Our research responds to the call for local-level studies of urban health in South Africa. Through a case study of Msunduzi Municipality in KwaZulu-Natal, South Africa² our project explores linkages between the built environment (especially housing), health and other measures of well being for low-income people. We are especially interested in evaluating the new low-cost housing projects, built under the Reconstruction and Development Program (RDP) in South Africa, in relation to human health and environment. Does the new housing improve people's health? This would be expected as RDP housing provides water, electricity and better quality building materials than informal settlement options. We compare conditions across different low-cost housing options to address this question.

Two surveys were carried out in 2006, the first in seven predominantly low-income wards in Msunduzi, and the second in a subset of four of these wards. In this paper we discuss selected findings from these surveys. Findings suggest that differences in health outcomes across various types of low-income housing in different localities are less apparent than differences between female-headed households (FHHs) and other-headed households (OHHs). Based on these findings, we argue that the key gender issue in the "mapping" of environmental health in urban South Africa is understanding FHHs. While physical improvements to shelter and basic services are critical, gendered social conditions

continue to produce significant inequalities of health outcomes, including in how people cope with and manage illness and death. Thus while improving physical conditions for vulnerable people remains important, this in itself does not address other social inequalities that will continue to affect human health. The new RDP township in our study had the highest proportion of FHHs as well as the worst poverty, raising concerns about the possible future health and other social conditions of the new townships (Map. 1).

The paper is organized in four main sections. The first describes the context and the second outlines the methodology of the study. The third presents the major findings, while the fourth section offers discussion and conclusions.

2. Context

Our case study city Pietermaritzburg (PMB), now formally known as Msunduzi Municipality, is a medium-sized South African city that is the provincial capital of KwaZulu-Natal Province.³ While Msunduzi retains legacies of some perhaps atypical pre-1994 improvements in urban services (Epprecht, 2008), it can be compared to most South African cities as remaining strongly racially segregated. Racial segregation is also associated with class inequalities and inequalities in housing and urban services. The unevenness of urban infrastructure and services across the various wards and neighbourhoods is a major challenge for the municipal government, as it is elsewhere in urban South Africa.

Despite persistent race and class-based inequalities, service delivery improvements are apparent in Msunduzi, as they are throughout South Africa. The recently released Community Survey from Statistics South Africa, outlines and reports on the government's commitment to widespread basic improvements.

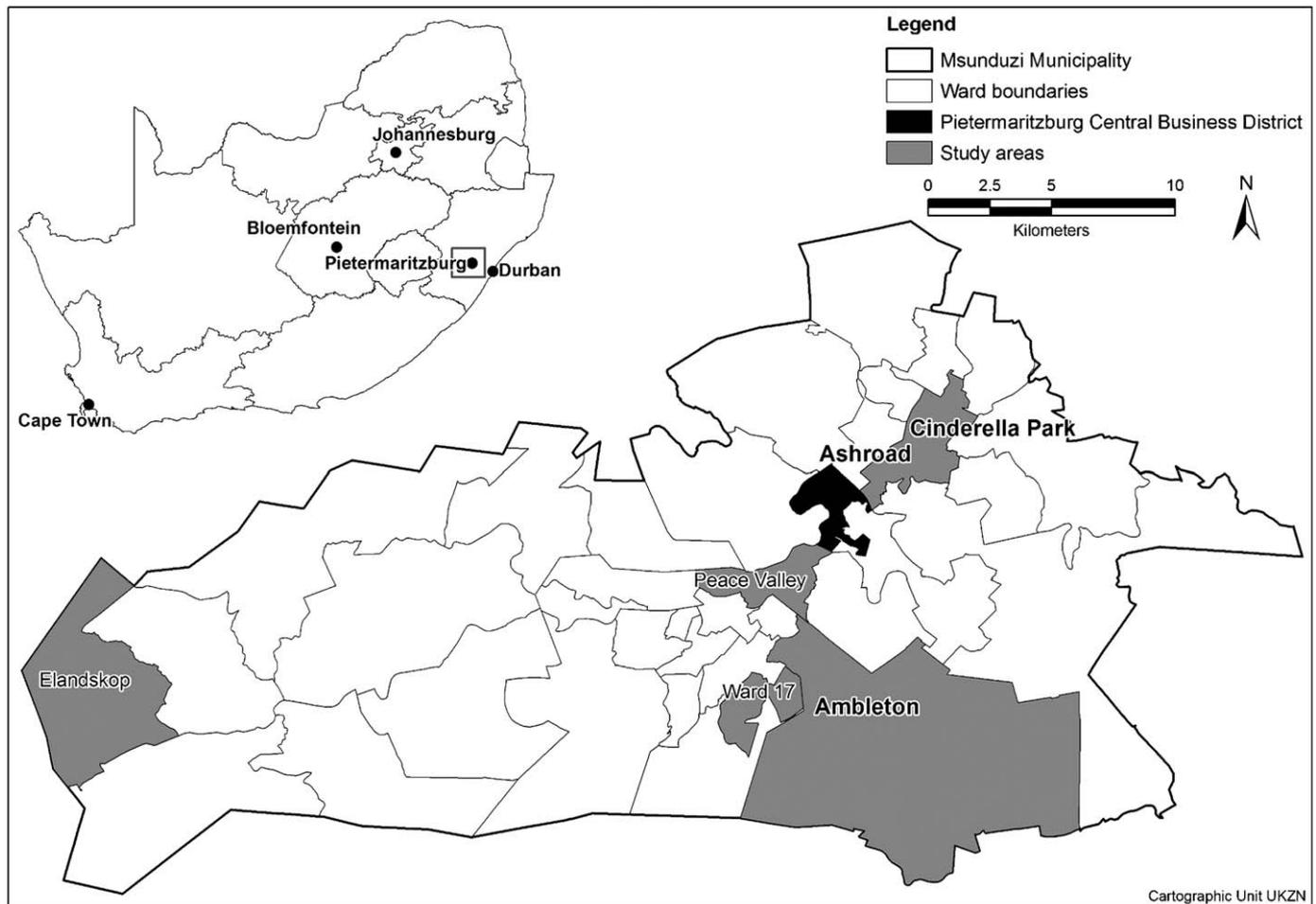
Housing is one of the basic human needs that have a profound impact on the health, welfare, social attitudes and economic productivity of the individual. It is also one of the best indicators of a person's standard of living and of his or her place in society. In achieving the Millennium Development Goals, South African Government Policy is to ensure that its citizens live within good housing conditions. In order to achieve this goal, the government wants to eliminate all informal dwellings, bucket type of toilets, and ensure that all citizens have access to electricity for lighting, and access to clean, safe water within a reasonable distance. (Statistics South Africa, 2008. Community Survey. Basic Results, p. 18)

The Community Survey 2007 shows that in Msunduzi, access to all basic services, including formal housing, electricity, improved toilet facilities, piped water, and refuse removal, has indeed improved since the 2001 Census, and compares favourably to provincial and national level rates. These data are summarized in Table 1.

While these data do paint a hopeful picture, aggregate findings can mask the realities of inequality on the ground. The Community survey attempts to illustrate the unevenness of service delivery among provinces and between municipalities within provinces, by comparing these data to national averages. Unfortunately, unlike with the Censuses of 1996 and 2001, no ward level data are available from the 2007 Survey. Ward level data are very important

³ The current population of the city is very difficult to determine. The municipal boundaries were expanded after 1994 to include former farmland, former Tribal land and other peri-urban areas, hence dramatically increasing the population under municipal jurisdiction, which has further rapidly expanded with rural-urban migration. The 2001 census puts the municipal population at 553,223 with the following racial breakdown (in classic South African fashion): African Blacks: 424,799; Coloureds: 18,450; Indians and Asians: 64,944; Whites: 45,030. The Community Survey of 2007 (Statistics South Africa 2008) records a total population of 616,730. However key informants in the field estimate current (2005) figures at between 800,000 and 1.5 million.

² This paper is based on research from a project called "Urban Ecosystems and Human Health in South Africa", funded by the International Development Research Centre (IDRC) of Canada. The project is a partnership between Queen University in Kingston, Ontario, Canada and the University of KwaZulu-Natal (Pietermaritzburg Campus), South Africa. We also acknowledge the assistance of John Cummingham and Abel Chikanda who performed statistical analyses.



Map 1. Study wards in Msunduzi Municipality. CBD (Central Business District) is marked for reference.

Table 1
Basic services in Msunduzi Municipality 2001 and 2007, by percentage of population.^a
Source: Statistics South Africa, 2008. Community Survey 2007. Basic Findings.

SERVICE	2001	2007
Live in Formal Housing	69.1	75.5
Live in Informal Housing ^b	12.5	2.9
Use Electricity for Lighting	85.6	91.2
Use Electricity for Cooking	69.2	87.1
Use Electricity for Heating	66.5	84.5
Use Pit Latrine	38.4	21.4
Use Bucket Toilet	0.5	0.3
Have no Toilet	2.6	1.0
Have Access to Piped Water (in house, yard or outside yard)	93.7	95.3
Have refuse removal	60.1	72.4

^a This table also appears in our paper Goebel and Dodson (forthcoming) *Canadian Journal of African Studies*.

^b The Community Survey, unlike the Census 2001, does not count traditional and other housing, and hence the figures for Formal and Informal housing do not add up to 100.

since major inequalities exist between wards within cities, given the history of apartheid cities. Data from the 2001 Census, for example, illustrate stark inequalities among wards in Msunduzi in relation to services and socio-economic status of residents. Data from our own surveys in low-income neighbourhoods illustrate the existence of pockets of seriously compromised environmental health conditions, as well as indications that improvements in services may not be sustainable or are already eroding.

3. Methodology

We conducted two surveys of randomly selected households in wards with predominantly low-income households in 2006, the first in April/May (293 households in seven wards) and the second in September (170 households in four wards). Our sample neighbourhoods were deliberately selected to ensure representation of the major types of low-income housing in the city, including informal settlements, older African townships, *in situ* upgraded areas, new peripheral township developments under the post-1994 RDP housing program, and semi-rural traditional homesteads. Sample areas were selected in wards in which we were able to obtain approval for entry from the Ward Councillor, and in areas known not to be overly dangerous to ensure the safe access of the research team. Once the areas had been selected, aerial photography was used to randomly select particular households to survey. Hence, while the sampling of neighbourhoods may not be random, we remain confident that they are representative of the major types of living environments available to the poor in Msunduzi. Our surveys included questions on a range of demographic factors, socio-economic indicators, services and environmental risks, along with questions about health status and health management issues for household members.

The small sample size, particularly for each of the different locations, means limited statistical analysis can be performed. With some exceptions where we report bivariate analyses, we refer primarily, therefore, to frequencies and other descriptive data. Another challenge is the lack of spatialized health data for the city. While health providers do keep records, it is not typical

for patients' home addresses to be recorded, and it is conversely very typical for patients to travel some distance to access preferred health services. Hence, there were no local health data we could use to link environmental conditions of the home and neighbourhood with health outcomes. We therefore gathered the health data ourselves. Finally, the high prevalence of HIV and AIDS in the city⁴ confounds other health conditions, including respiratory and diarrhoeal illness, making it difficult to associate health conditions with environmental causes. With these limitations and cautions in mind, we turn now to our results.

4. Findings

4.1. Services and health conditions

For these poorer neighbourhoods, perhaps the biggest service success story is the high rate of access to piped water. In our first survey of 293 households in seven wards, 77% had access to piped water in their dwelling, and 21% had access to a communal standpipe. Only four households reported accessing water from a spring, stream, river or other source. Electricity access is also fairly high; however, the relatively high cost of electricity means only 67% use it for cooking, 78% for lighting and 56% for heating. Paraffin and wood are the more common cooking fuel alternatives used, both dirty fuels with significant negative health effects, especially when used indoors. For toilet type, nearly half the sample had access to some kind of flush toilet, and 8% had a pit latrine with a vent. However, 36% of households still used an unvented pit latrine, 4% used the bucket system, and 4% had no toilet. For housing type, 68% of households had formal housing, 29% informal and 10% traditional housing, commonly constructed of wattle and daub. Finally, in terms of waste removal, 57% of households reported this service, while 43% had no waste removal. Our own travelling through these neighbourhoods revealed many unsightly and dangerous domestic waste piles, waste burning, and (illegal) dumps of industrial and other waste in close proximity. Table 2 summarizes these data and compares them to those reported for Msunduzi as a whole in the Community Survey 2007.

Table 2 clearly demonstrates that except for access to piped water, low-income neighbourhoods are poorly serviced compared to the municipality as a whole. Spatial analysis is therefore critical in understanding the distribution of environmental health within the city. This is especially evident when differences between the different neighbourhoods are identified. For example, there are large variations in toilet type for households in the different neighbourhoods we studied. The poorest toilets are found, as expected, in the informal settlement in our study, Ash Road. Improvements are noticeable in the upgraded areas, for example Cinderella Park. Very concerning, however, is that in the new RDP township in our study, Ambleton, onsite flush toilets had been installed, but breakdowns were already common, and people were resorting to building their own pit latrines, or emptying buckets into vacant areas. Figs. 1–3 display data on toilet types for these three areas from our Survey 1.⁵

Differences in access to basic services, therefore, are not only related to income level, but are spatially distributed in specific ways. The municipality faces large challenges in delivering services where infrastructure was historically neglected, in a context where persistent poverty and unemployment make it

Table 2
Basic services for low-income neighbourhoods compared to Msunduzi Municipality as a whole.

SERVICE	Ecohealth Survey in Low-Income Neighbourhoods, 2006 Msunduzi (%)	Community Survey 2007, Msunduzi as a whole (%)
Live in Formal Housing	68	75.5
Live in Informal Housing	22	2.9
Use Electricity for Lighting	78	91.2
Use Electricity for Cooking	67	87.1
Use Electricity for Heating	56	84.5
Use Pit Latrine	44	21.4
Use Bucket Toilet	4	0.3
Have no Toilet	4	1.0
Have Access to Piped Water (in house, yard or outside yard)	98	95.3
Have refuse removal	57	72.4

**Ash Road Informal Settlement
Toilet Type (Ward 33 N=32)**

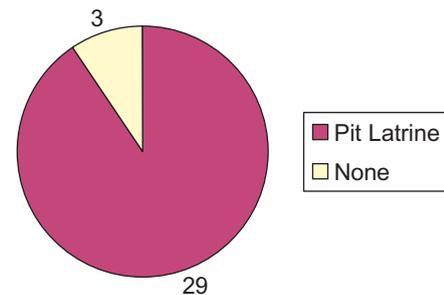


Fig. 1. Toilet types in Ash Road, Informal Settlement.

**Cinderella Park In Situ Upgrade
(Ward 34 N=35 Households)**

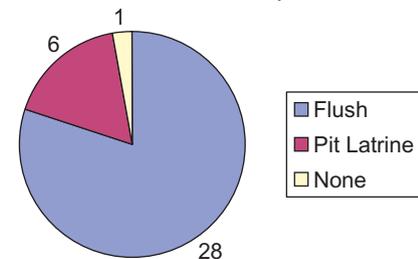


Fig. 2. Toilet types in *in situ* upgraded area, Cinderella Park.

**Toilet Type Ambleton
(Ward 18 N=41 Households)**

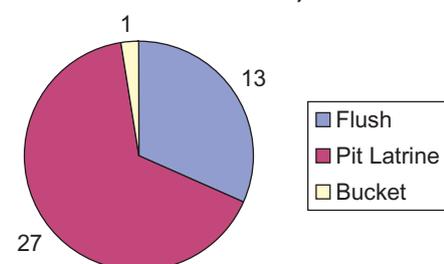


Fig. 3. Toilet Types in Ambleton, RDP Township.

⁴ KwaZulu-Natal has the highest prevalence rates in South Africa, with 2007 figures over 37% for the province (Avert.org).

⁵ For simplicity sake for the charts, all types of flush toilets (sewer, septic and onsite drainage) are combined, and vented and unvented pit latrines are combined.

Table 3

Selected Health Indicators of Female-Headed and Other-Headed Households.
Source: Urban Ecosystems and Human Health Surveys 1 and 2.

	Female-Headed Households	Other Headed Households
Average number of disease incidences per household	1.3	.95
Preferred treatment options for diarrhoea ^a	Hospital: 40% Clinic: 76% Self-treatments: 47% Traditional Healer: 18%	Hospital: 21% Clinic: 69% Self-treatments: 25% Traditional Healer: 8%
Preferred treatment options for chest pains ^a	Hospital: 51% Clinic: 69% Self-treatments: 40% Traditional Healer: 17%	Hospital: 41% Clinic: 52% Self-treatments: 23% Traditional Healer: 7%
Death in the household in the last year (percentage of households)	19%	21%
Cause of death	Illness: 57% Old Age: 14% Accident: 7% Murder: 7% Other: 0% Don't know: 14% ⁺	Illness: 85% Old Age: 0% Accident: 0% Murder: 10% Other: 5% Don't know: 0%
Location of death	Home: 57% Hospital: 43%	Home: 25% Hospital: 70%
Member with serious illness in last month	32%	34%
Management of the serious illness ^a	Non-working adult stays at home: 67% Child stays home from school: 53% Working adult stays home: 40% A relative from away comes: 35% A friend or neighbour comes: 35%	Non-working adult stays at home: 65% Child stays home from school: 37% Working adult stays home: 30% A relative from away comes: 34% A friend or neighbour comes: 25%

^a These figures add up to more than 100% as people were asked to list all of their preferred options to deal with the problems. We have not listed some of the less preferred choices.

⁺ Adds up to 99% due to rounding.

Table 4

Selected socio-economic data comparing female-headed and other-headed households.^a

Source: Urban Ecosystems and Human Health, Survey 1. N=293 households (159 Female-Headed Households (54.3%) and 134 Other-Headed Households (45.7%).

	Female-headed household	Other headed household
Head employed in formal sector	22%	39%
Head is unemployed	40%	24%
Working age (18+ years) members of household employed in formal sector	12%	29%
Working age (18+ years) members of household unemployed	55%	32%
Head receives a welfare grant	42%	17%
Head has no schooling	35%	27%
Mean monthly expenditure of household (Rands)	R 1058	R 1408

^a In OHH the "head" was counted the oldest resident male. These data have been previously published in Goebel and Dodson (forthcoming) *Canadian Journal of African Studies*.

impossible for many of the poor to pay for those services, either directly or indirectly through taxes. Service delivery has also become hugely politicized and subject to popular protest, with debates raging regarding the right to basic-free services versus proponents of privatization (Ballard et al. (eds), 2006; Barchiesi, 2006; Desai, 2002; Desai and Pithouse, 2004; Gibson (ed), 2006; Madlingozi, 2007).

Our research sought to add to these basic observations of access to services in low-income areas by attempting to link these to health and well-being indicators. We found that improved (that is, formal) housing, and particular aspects of electricity and water use, are associated with some basic improved health and well-being indicators. For example, in Survey 1, we found a statistically significant association between having a refrigerator (an important indicator of improved living conditions) and lower rates of

bloody diarrhoea ($P=.041$). There was also an association between use of large water storage containers (indicating lack of immediate access to piped water) and bloody diarrhoea ($P=.059$), and a significant association between a dirty water container and bloody diarrhoea ($P=.000$).

In terms of comparisons between the different neighbourhoods, we found some important differences in relation to socio-economic conditions, which are discussed below. However, in terms of health outcomes, besides a statistical trend towards lower rates of respiratory disease⁶ in the new RDP township on the city periphery, there was surprisingly little spatial variation in relation to health outcomes. This may be partly a result of low overall reported rates of illness and disease, making variability difficult to detect; confounding variables such as HIV and AIDS; because conditions are not different enough across the neighbourhoods; or that the improved housing, such as *in situ* upgrades and new RDP townships, has not been in place long enough to have yet an impact on occupants' health.

The basic conclusions of this section are, first, that in the low-income areas we studied, there were some associations between formal housing (including electrification and water access) and improved health outcomes. Overall, however, there were no striking correlations between housing type (formal, informal and traditional), or different low-income neighbourhoods, and health outcomes. Our data also show, however, that large inequalities remain in the delivery of and access to improved basic services to low-income areas as compared to the municipal rates at the aggregate level. Many low-income households continue to live in overall poor and risky environments across the various housing and neighbourhood types available to low-income people, and wide gaps exist between these households and the wealthy of the city who live in developed-world conditions.

⁶ Respiratory disease here is a collapsed variable including Asthma, TB and cough with sputum.

4.2. Female-headed households

While comparing housing types and different low-income wards revealed some important patterns, comparing female-headed households (FHH) with other headed households⁷ (OHH) revealed far starker variations within the sampled population than the geographical, neighbourhood-based analysis had done. In this section, we discuss patterns of difference between FHH and OHH, including relative incidence of illness and death; health-care seeking behaviours; and how households cope with illness and death (Table 3). In order to explain the observed differences between FHH and OHH, comparisons are then drawn in terms of socio-economic indicators such as income and expenditures; educational status; employment status; and access to grants (Table 4). FHH were found to be at considerable disadvantage on key socio-economic indicators, with direct and serious consequences for the health status of their members.

One positive finding is that FHH are not less likely to live in formal housing, nor to own their own homes than OHH. This is likely an early indication of the success of the Department of Housing's policy to ensure equal if not preferred access of female household heads to housing under the government subsidy program (Department of Housing (DOH) 2003b). From our findings, however, access to formal housing does not translate into improved health outcomes, especially for FHH. In Survey 2 ($N=170$) in four wards in Msunduzi, there is a clear trend towards higher incidence of disease and illness in FHH compared to OHH (Table 3). Taking all types of recorded illnesses and diseases for all age groups in households,⁸ 107 incidences were reported for 71 FHH (rate of 1.3 incidence per household), while 82 incidences were reported for 86 OHH (rate of .95 per household).

Modes of accessing health care also differed between FHH and OHH (Table 3). In terms of dealing with either a case of minor diarrhoea or worrisome chest pains, either for themselves or for someone under their care, respondents from both types of household have a suite of preferred options. The most frequently mentioned is to go to a clinic or hospital. However, FHH were more likely to mention self-treatments: 47% of FHH said they use self-treatments compared to 25% of OHH. This finding suggests a gendered dynamic to the broader point in the literature that identifies high levels of self-treatments and "over the counter" remedies sought in low-income urban neighbourhoods resulting from poor access to professional services (Harpham, 2009, p. 111). Our data also show FHH as more likely than OHH to seek the services of a traditional healer among their group of first choices of treatment: 18% of FHH mentioned this, while only 8% of OHH-listed traditional healers.

A similar proportion of FHH and OHH had experienced a death in the household in the last year (Table 3). However, there appears to be a difference in the causes of death between the two household types. For OHH, 85% of deaths were attributed to illness, while in FHH only 57% of deaths were so attributed. For FHH, 14% of deaths were caused by old age. This is related to the fact that FHH are more likely than OHH to have older relatives living with them. In addition, more deaths in FHH are happening at home compared to OHH. For FHH 57% of deaths occurred at

home, and 43% at hospital. For OHH, 70% of deaths were reported to have occurred in hospital, and only 25% at home.

Roughly equal proportions of both types of household report that someone in the household had suffered a serious illness in the last month (Table 3). Both FHH and OHH use a range of strategies to manage serious illness of a member, with each most likely to say that a non-working adult member would stay at home to care for the ill person. However, there were some differences that emerged. FHH were more likely to say that a child would stay home from school to look after the ill person. FHH were also more likely to say that an adult working member would stay home. In both types of household, having a community volunteer worker come to the house was the least likely strategy, indicating that for all households, the burden of care remains primarily a family affair. This is particularly concerning for local health officials who put much effort into training community health volunteers (Dyer, personal communication 2007).

Taken together, these data on incidence of illness, serious disease and death point to higher burdens of care for FHH. Other South African literature corroborates these findings, particularly that while many poor households are burdened with the sick and the dying, women carry a higher burden in caring for sick people in the family (Ndinda et al., 2007). This theme also emerges in the broader gender and urban health literature (Spitzer, 2005, p. S81). Ndinda et al. (2007) argue for targeted grants for home-based care-givers in this context of high rates of HIV and AIDS. Our research suggests that such grants should be especially targeting female-headed households with ill people at home. The literature also identifies mental health stresses associated with high burdens of care. Harpham (2009) notes that studies typically find common mental disorders such as depression and anxiety at rates double in women compared to men (Harpham, 2009, p. 111). While we did not measure mental health, it is clear that this is an area of potential concern that should be investigated.

These patterns are both explained and exacerbated by the fact that female heads and their households have lower incomes and monthly expenditures, lower rates of employment, lower educational achievement, and higher dependency on government grants than male heads of OHH (Table 4). FHHs therefore have fewer resources to cope with household disease and dying, and likely to become even more marginalized and vulnerable as a result.

The differential poverty of female-headed households and women generally is not a new finding (Kehler, 2001). In the South African context, research links the phenomenon to both historical patterns of patriarchy and apartheid, and contemporary macro-economic conditions and government policies that continue and deepen the "feminization of poverty" (Benjamin, 2007; May, 2000).⁹ However, the point needs to be continually re-made, with emphasis on the need to incorporate these empirical realities within theories and practices of urban health. While Spitzer (2005) writes about the Canadian context, it is striking how applicable her approach is to South Africa:

Economic inequalities, evidenced by income, employment and the demands of domestic labour, appear to underpin gendered health disparities most broadly. Economic status has significant impact on health and well-being and as gender figures prominently in income generation, health effects are decidedly gendered (Spitzer, 2005, p. S84).

Of specific concern for us is the emerging situation for female-headed households in the new RDP townships, built under the

⁷ Other-headed households include male-headed and jointly headed households. Of all households in Survey 1, 88.4% were headed by a parent or parents, 6.9% by a grandparent, and 4.7% headed by a child.

⁸ Respondents were asked if household members were experiencing any of the following incidences of illness and disease at the time of the survey: bloody diarrhoea (>3 loose stools a day), watery diarrhoea (>3 loose stools a day), asthma (diagnosed by health professional), TB (diagnosed by health professional), Scabies (diagnosed by health professional), cough with sputum for more than 3 weeks (observed by household head), sores on legs. The most commonly recorded incidences were watery diarrhoea and asthma.

⁹ The "feminization of poverty" is a pervasive concept in usage for decades to describe patterns in as diverse places as the United States (Ehrenreich and Piven, 1984), Scandinavia (Marklund, 1990), Columbia (Gilbert, 1997), and generally in the global south (Buvinic, 1997).

government's housing subsidy system for low-income households. While our sample as a whole had a higher proportion of FHHs than OHH, our sample RDP neighbourhood of Ambleton had the highest proportion of FHHs of all (nearly 70%). This neighbourhood was also the poorest in terms of household expenditures. While on the one hand this can be read positively as the government's housing subsidy program successfully targeting the poorest of the poor (FHHs), on the other hand, application of the urban health literature raises concerns about potentially negative "neighbourhood effects". The literature suggests that the overall socio-economic status of a neighbourhood has health impacts beyond those associated with the individual and household status. Greater neighbourhood heterogeneity means more potential help from wealthier neighbours, and potentially better neighbourhood services as a result of lobbying and other activities of wealthier households (Harpham, 2009; Montgomery and Hewett, 2005). Locating the poorest of the poor in new townships on the urban periphery, which is occurring not only in Msunduzi but throughout South Africa, ensures their spatial marginalization, as they are far from jobs, services and the cultural life of the city and face prohibitive transport costs. These conditions make it difficult for households in the new townships to improve their material, social or health situation, especially so in the case of the poorer FHH. The potentially negative health effects of relocation, as identified in other contexts by Harpham (2009) and Thomson et al. (2003), are likely to have put further stress on residents of the new RDP townships, for example if their access to place-based support systems and social networks has been disrupted.

5. Conclusions

Overall, there are numerous reasons that policies and service providers should be especially alert to health, social and economic conditions in the new townships being built under the government housing program. Rather than assuming that formal housing, electrification, sanitation and water provision will automatically lead to improved health and well being, serious consideration needs to be given to the gendered social conditions that mediate the arrival of these benefits. Female-headed households in particular face differential challenges and hardships in relation to poverty, illness, care-giving and access to health services. They risk facing an "urban penalty" if these issues remain unaddressed in South Africa's urbanization processes. A gendered and spatialized lens leads to concern that the government's low-income housing program may be creating tomorrow's slums, populated mostly by FHHs isolated and marginalized on urban peripheries. This emerging picture is so disturbing as to cause our partners in the *Msunduzi Innovation and Development Institute* (MIDI)¹⁰, to describe the new townships as "dysfunctional space", and call for a more integrated approach to urban planning that takes account of more than the need for a large quantity of low-cost housing.¹¹

More generally, our case study of Msunduzi Municipality suggests the importance of local-level studies that disaggregate data at least to the ward level, and by household types. Marked spatial differences persist in access to basic services and healthy urban environments, and these are linked to enduring racialized

and gendered economic inequalities. Failure to address the profound social and spatial inequalities of urban South Africa will continue to hamper efforts to improve urban conditions through the extension of housing and other municipal services.

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¹⁰ MIDI was formed in 2006 as a partnership between the Msunduzi Municipality, the Chamber of Business and the University of KwaZulu-Natal (Pietermaritzburg) to address issues of development in the city (see <http://msunduzi.wordpress.com/>).

¹¹ Living the Future Strategic City Summit, MIDI, 20–21 October 2009, Pietermaritzburg.

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