

CAPE HIGHER EDUCATION CONSORTIUM / WESTERN CAPE GOVERNMENT
JOINT RESEARCH PROGRAMME

1. COVER PAGE

Assessment of Needs and Utilizations of Emergency Healthcare Services: A Community-Based Household Survey in Lavender Hill, Cape Town.

This project is aligned to the following Provincial Strategic Plan (2015) strategic goals:

- PSG3: Increase Wellness, Safety and Tackle social ills
- PSG4: Enable a resilient, sustainable, quality and inclusive living environment
- PSG5: Embed Good Governance and Integrated Service Delivery through Partnerships and Spatial Alignment

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2. ABSTRACT

Background

Emergency Care is a key component of healthcare systems, but little is known about its real impact on communities. One way of measuring this, is by surveying community members to find out about their current healthcare needs and experiences, specifically around urgent and emergency conditions. The suburb of Lavender Hill on the Cape Flats of Cape Town is typical of many peri-urban lower socio-economic areas, with a mix of small formal dwellings, informal housing, and a number of “courts” or flat complexes. Lavender Hill is a community suffering high rates of poverty, violent crime and disease and was chosen as a discrete suburb, within the metropol, that would give a good indicator of emergency care services. The aim of this study was to determine the emergency care needs of Lavender Hills, as well as to identify any unmet needs and barriers to accessing emergency health care.

Methods

A household survey was conducted on a sample of households in the suburb, using cluster sampling methodologies to ensure a representative sample. A survey instrument was developed and refined, based on a similar study conducted in the Cameroon. A team of surveyors was trained and approached a systematic sample of households across the suburb. In each household they interviewed a senior householder, asking them about the household in general, any deaths in the last year, and then about each individual in the household – their healthcare issues, and any unmet emergency care needs. Data was analysed, looking especially for associations related to healthcare utilization and unmet needs. A focus group discussion was held with surveyors to debrief their experiences after the survey.

Results

During the calendar month of August 2018, 608 households were surveyed, encompassing 2754 individuals. Of these 663 individuals had utilized the healthcare system in the last year, mostly with chronic health care needs relating to non-communicable diseases, such as hypertension and diabetes, all managed primarily by the local 24 hour community health centre. There were 39 individuals thought to have had unmet emergency healthcare needs, some relating to access to ambulances and healthcare facilities, but few real emergencies. There were 35 deaths in these households, mostly older individuals with known chronic diseases, but of note 8 were young adults killed by gunshot injuries. Only half of householders knew what number to use to call an ambulance, and their predominant plans for dealing with emergencies were transport by ambulance (or private car) to the CHC (or hospital).

Conclusion

Although the emergency needs of the community would seem from this survey to be well catered for, there is no doubt room for improvement, particularly in accessing emergency care – be it ambulance services or at health care facilities. Healthcare needs are predominantly chronic diseases of lifestyle (cardiovascular and metabolic/ endocrine diseases) amenable to preventative lifestyle approaches, as well as early healthcare interventions. Healthcare interventions in the light of the violence in the community might include first responders to attend to injuries rapidly. The EMS services would seem to be widely available, although community perceptions are largely negative about them, but actual experiences more positive.

3. INTRODUCTION AND PROJECT AIMS / QUESTIONS

Emergency care encompasses a wide variety of time-sensitive medical, surgical and obstetric health issues, such as trauma, infections, and complications of pregnancy or heart attacks. Trauma and acute injury are a major burden in low-income countries (LICs), including sub-Saharan Africa. Some 90% of injury related deaths, 91% of unintentional-injury related deaths and 94% of all disability adjusted life years occur in LICs. Due to the rise of non-communicable diseases in LICs, these countries also suffer from the highest mortality rate due acute complications of these illness. Most emergency care systems in Sub-Saharan Africa are underdeveloped, underfunded or non-existent entirely, which creates a burden on emergency care.

An Emergency Medical Service (EMS) is an essential aspect of any emergency care and public health system and represents the gateway to health-care facilities for many patients. The goal of an EMS system is to stabilize any life-threatening injury and reduce morbidity, mortality and disability by providing timely and universal care with subsequent transport to appropriate health facilities. EMS systems have shown to have a lasting impact on population health. While there is a push for development of EMS systems in Africa, little is known as to how accessible and reliable they are. Most EMS and pre-hospital systems developed in LMICs have either been shown to be feasible or to reduce mortality, but the patient perspective of such systems has yet to be evaluated. By developing a more comprehensive method of EMS system evaluation, shortcomings and pitfalls can be better identified, leading to new interventions to strengthen the EMS systems in place.

Using a household survey to evaluate the “demands, usage and unmet needs for emergency care” is an innovative approach to this problem, and follows on from 2017 research conducted in Yaoundé, Cameroon, which produced useful findings in a community with many commonalities to Lavender Hills. This existing research strategy is therefore applicable and amenable to the local context, and would furthermore validate the tool for use elsewhere in the province.

Lavender Hill is a suburb in the Cape Flats near the urban centre of Cape Town. It covers an area of 1.63 km². According to Census 2011 data, Lavender Hill comprises a population of 25 897 people and 5 113 households, likely to have increased substantially by this time with a growth of 18.4% reported to 2017 for Cape Town overall. The population is over 95% coloured with a slight female majority at 51.8%, with males making up 48.2% of the population. 74% speak Afrikaans, 23.9% speak English while the rest speak another language (e.g. Xhosa, Zulu, Setswana). Lavender Hill is a community suffering high rates of poverty, violent crime and disease.

The Western Cape Government EMS responds to many calls in Lavender Hills daily, and there are several nearby health facilities, including the 24 hour Retreat Community Health Centre (CHC) and Victoria Hospital with a 24 hour Emergency Centre, but it is unknown if this system adequately addresses the emergency care needs of the community. The aim of this study was to determine the emergency care needs of Lavender Hills, as well as to identify any unmet needs and barriers to accessing emergency health care.

The specific objectives addressed were:

- i) To understand the healthcare needs and utilization of the Lavender Hill community
- ii) To survey the incidence of emergency care needs and identify the demands of, and utilization by, residents living in Lavender Hill.
- iii) To assess the unmet emergency needs and the associated reasons thereof in Lavender Hill within the past year.

4. RESEARCH APPROACH AND METHODS

A community-based study using quantitative survey methods was conducted, by interviewing a sample of households to assess their health and emergency care utilization and needs over the past year. A survey team of five women from the community, fluent in the commonly spoken languages, with a good deal of recent experience conducting surveys for a local Non-Governmental Organization (NGO), the New World Foundation, underwent a day of training, and piloted a survey to refine the survey and tools. The surveyors were known in the community, and identifiable by the NGO logo and colours on their clothing. The calculated study sample, powered to answer the objectives was at least 542 households, using cluster sampling.

The suburb of Lavender Hill, was divided into 46 zones, each with approximately 100 households. In each of these 46 zones, 12 households were systematically selected from across the zone. If a member of the household was not present or refused to participate in the survey, or there were insurmountable communication barriers, an adjacent household was selected as an alternative. In every household, one adult 18 years of age or older (ideally the mother or grandmother with the best insight into the householders and their issues) was recruited to complete the survey on behalf of his or her household (family). A pair of surveyors conducted the interview survey, in the home of the consenting participant, following an explanation of the study, and written consent. A survey tool was adapted from a previous survey that was successfully conducted for the same purpose in Yaoundé, Cameroon.

Data collected included household demographics (type dwelling, ownership, number of individuals, and household income), general health seeking behaviour and experiences around ambulances and emergency healthcare facilities. They were then asked for details about household members who had died in the last year, and then the participant was asked for each member of the household (age, gender, employment status, social grant status, and then details of any healthcare utilization in the last year, as well as emergency healthcare issues and unmet healthcare needs). Analysis was conducted looking at the overall usage of the Lavender Hill health and emergency services and the respondents' experience and satisfaction with those services. This data was analysed using univariate and then multivariate regression to identify predictors of healthcare utilization and unmet emergency care needs.

Households and individuals were identified only on the paper survey sheets, and then coded on all subsequent data sheets. All researchers signed a confidentiality agreement, and individuals, households and locations are known only to the research team. All records are stored securely, and password-protected. Permission to conduct the research was obtained from the University of Cape Town Human Research Ethics Committee (HREC 375/2018).

5. CONCLUSIONS AND RECOMMENDATIONS FOR FOLLOW-UP ACTION

During the calendar month of August 2018, 608 households were surveyed, encompassing 2754 individuals. Of these 663 individuals had utilized the healthcare system in the last year, 39 were thought to have had unmet emergency healthcare needs, and there were 35 deaths in these households. Response rate was high, with just 16 householders not being available to survey, and 6 refusals to participate (in which case an adjacent house was surveyed).

Due to the systematic clustering approach, and large sample size of the household survey, the results are likely representative of the community of Lavender Hill and not only describe the demographics of the community in some detail, but also their healthcare needs and utilization. There were few unexpected findings in the make up of the community – the gender, age structure and educational status were as expected. More than a third had Grade 10 education, almost 60% of adults of working age were unemployed, and there were a median of 5 household members in each household (range 1 – 21).

Householders had some awareness of the emergency numbers to call an ambulance – some 41% knew the Cape Town 107 number, with another 12% aware of other useful emergency numbers. Their experiences with ambulances were mixed, many (40%) said they were too slow, or never arrived when called (22%), yet when they did arrive, more than three-quarters found the quality of care to be fair or good. Respondents said that daytime emergencies would primarily be taken to the nearby CHC (67%) or hospital (32%), by ambulance (67%) or private care (22%); after-hours emergencies were similar, but more likely to go by ambulance (80%).

Those who were more likely to utilize the healthcare system were females, older individuals (and less children proportionally), the less educated, those with disability grants, and households with fewer members. The predominant healthcare issues of the community were chronic illnesses, with a high prevalence of non-communicable disease, many likely lifestyle related. The majority (80%) of healthcare utilization was for non-emergency, chronic conditions, largely by appointment, with the biggest reasons being chronic conditions. Many (23%) of those utilizing healthcare did so monthly, but 40% visited just twice in the year. Of the 663 individuals utilizing healthcare, 33% were hypertensive, 10% had hypercholesterolemia, 7% had arthritis and 4% were diabetic. The main reason for health care utilization was some sort of cardiovascular problem in 32%, shortness of breath in 18%, diabetic issues in 17% and injury in 5%. In 84% of cases they were attended to at a CHC, and 10% in hospital.

Only a small minority of the respondents (39/2754 (1.4%)) were reported to have experienced an unmet need for severe and emergency healthcare needs in the last year, but without any clear association to demographics beyond similar factors as found for healthcare utilization. The main reasons though to be associated with the unmet needs were: ambulance delay (18%), health facilities (wait to be seen too long or staff unhelpful) (28%), and concern over personal safety in seeking help (gang shootings in suburb) (15%).

In the prior year, there were 35 deaths in the surveyed households, of which 12 (34%) were sudden and unexpected (median age 32, 8 from gunshot wounds), while the remainder were a result of chronic conditions in older individuals (cancer, lung and heart disease, and stroke). Of the 35 deaths, 26 (74%) occurred at a healthcare facility or with an ambulance in attendance.

Following the completion of the household survey, there were many experiences and perceptions from the five surveyors, and a focus group was formally conducted to learn from their experiences, as well as debriefing them to some extent. There were four main themes emerging from the focus group

discussions. Firstly, the issue of safety and danger in a suburb overrun by gangsters – community members and the surveyors were constantly in danger, and only avoid through knowing the gang areas and members. Secondly there were many concerns with calling an ambulance – and the operators who answer and dispatch an ambulance – ambulances slow or not arriving, and little communication or information from call takers. Thirdly the attitudes and process at health care facilities are perceived to be poor – a lot of waiting, and inefficient and patient unfriendly systems. Finally there was a good deal of positivity about the survey process – an extremely high response, and expectations for improvement based on the findings, balanced by surveyors suggesting the findings may reflect some inaccuracies for example people clearly avoided discussing drug and gang related healthcare issues, although they are clearly prevalent in many households.

From the data analyzed this far (and write up into a formal scientific publication is still in progress) the key points of note from this household survey are as follows:

- 1) The emergency needs of the community seemed to be well met, between the nearby 24 hour CHC, the ambulance service, and the local hospital.
- 2) Ambulance phone numbers were known by only 53% of the community, and the EMS system was generally perceived poorly, although actual experiences would seem more positive.
- 3) Ambulance services were seen as the primary transport mechanism for emergencies, especially after hours.
- 4) There was a substantial burden of chronic non communicable disease in this population, especially among the elderly, and these and the complications thereof would seem to be the major demand on the health system.
- 5) Unmet needs for urgent and emergency conditions were few (which may relate to the way this was asked, or recalled by participants) and related largely to what health care providers would not regard as urgent/ emergent conditions. Reasons for the unmet needs only related to the healthcare system in less than half of cases.
- 6) Deaths in the community were largely expected deaths from chronic conditions, but eight were young adults involved in gunshot incidents. All the deaths other than the gunshot victims and some expected deaths at home, died under the care of healthcare practitioners.

Recommendations

- 1) Although the emergency needs of the community would seem from this survey to be well catered for, there is no doubt that there is room for improvement, particularly in accessing emergency services – be it ambulance services or at health care facilities.
- 2) Healthcare needs are predominantly chronic diseases of lifestyle (cardiovascular and metabolic/ endocrine diseases) which are surely amenable to preventative lifestyle approaches, as well as aggressive and early healthcare interventions to prevent complications. This survey was not designed to explore these avenues, but further research and interventions may be indicated.
- 3) The Lavender Hill community is well known for its sporadic gang related violence, as portrayed by the deaths and injuries from gunshots (as well as the surveyors' experiences of being caught in gunfights several times during the survey. This is likely primarily a social entity related to poverty, unemployment and drugs. Healthcare interventions might include first responders to attend to injuries rapidly, and this has been established in the past in Lavender Hills with the Emergency First Aid Responder (EFAR) system coordinated by EMS, but is currently not active in Lavender Hill.

- 4) Feedback to community leaders, as well as local healthcare facilities on the findings will be given, through the mechanisms of the NGO which is well respected in the area.

6. BUDGET

Budget as per proposal

Each and every budget ITEM should be motivated in such a way that it justifies the amount/s requested. Budget items must be fully described and aligned with the project work-plan provided in Section 3 above.		
	Description of budget line item	Amount
a.	EFAR surveyors: Stipend (20 EFAR's x 6 days x R300 per day)	R36 000
b.	EFAR surveyors: Transport costs (20 EFAR's x 6 days x R50)	R6 000
c.	EFAR surveyors: Training (20 EFAR's x 1 day x R400. Includes lunch, transport and training materials)	R8 000
d.	Printing (650 surveys x R10)	R6 500
e.	Data capture (600 surveys: 100 hours x R50 per hour)	R5 000
f.		
TOTAL		R61 500-00

Monies spent

	Description of line item	Amount
A	Surveyors and Data Capturer: stipends R 3200 x 5 surveyors x 2 months	R 32 000.00
B	Data Co-ordinator: (New World Foundation) R 5000 x 2 months	R 10 000.00
C	Interviewer: (focus group interviews with surveyors, including transcription)	R 2 000.00
D	Training and Venue: (New World Foundation) R3000 x 2 months	R 6 000.00
E	Printing: maps R424.92 + UCT printing @ R0.71 per d/s page x 5500 = R3905	R 4 329.92
F	Stationery: paper 1 ream ; various	R 705.22
G	Statistician: (Stellenbosch University) R605 x 7 hours	R 4 235.00
H	Misc: Identifiable t-shirts for surveyors	R 1 500.00
I	Refreshments: Training Session and meetings x 3	R 717.90
TOTAL		R 61 488.04