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# Mobile clinic users' opinions on health care service provision in the Muldersdrift area,Gauteng province

**Tshabalala, Amme Mardulate**

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# CHAPTER THREE: RESEARCH METHODOLOGY

## 3.0 INTRODUCTION

This chapter describes the research methodology used to explore the mobile clinic users' opinions on health care service provision in the Muldersdrift area. The area of study, sampling technique, and the procedure used for data collection are outlined. The instrument used and the issues of reliability and validity are described. Furthermore ethical considerations and measures taken to protect the rights of the study participants are presented in this chapter.

### 3.1 Research Design

According to Brink (1996) the research design depends on the problem, the purpose of the study, the objectives and the desire to generalize the findings. To investigate the opinions of mobile clinic users' and to achieve the objectives of the study an exploratory, descriptive survey was used as the research design.

A survey is a non-experimental technique of data collection in which questionnaires or personal interviews are used to collect descriptive data about a phenomenon (Burns & Grove, 1997).

Burns and Grove (1997) state that exploratory descriptive studies are designed to gain an accurate portrayal or account of the characteristics of a particular individual, event or a group for the purpose of gaining more information. An exploratory, descriptive survey was used to explore the mobile clinic users' perception on PHC service provision in the Muldersdrift area. Such a design enables a researcher to generalize findings from a sample of responses to a population (Creswell, 1994) and also provides complete and accurate information about phenomena, utilization, knowledge, availability and level of satisfaction investigated in the study (Brink, 1996).

## 3.2 Study Population

### 3.2.1 Research setting

Muldersdrift is in the West Rand District Council of Gauteng Province less than 20km from one of the richest suburbs called Honeydew. The Population according to the 1996 available information from the Mogale City Municipality at the time of the study is estimated at 6,042 people.

Muldersdrift was classified as a 'White suburb' prior to 1994 under the apartheid government. Despite being classified, as being economically rich, Muldersdrift is a typical rural setting with poor roads, which worsen the inaccessibility of health care services and also resulting in poor quality or incomplete service offered in this area.
Most of the business and the residential areas are found more than 5km from the MHCC. The introduction of a mobile clinic at Muldersdrift is part of the strategy to facilitate access to Primary Health Care services for community members who are

miles away from the MHCC. The mobile clinic travels an average of 65km daily from the regional office in Krugersdorp to the MHCC. From the MHCC, the mobile clinic travels a distance ranging between five and 35km to render a comprehensive PHC service, on daily basis, on specified dates and time, to 35 mobile points in the community. Each mobile point is visited once a month. A minimum of ten patients and up to a maximum of 60 patients are consulted at each mobile point. The total number of clients seen from January to December 2003 is estimated at 3,799.

All the mobile points are within walking distance for the targeted population. Two health personnel, a registered nurse and a nursing assistant manage the mobile service. The mobile clinic on a monthly basis provides a service at the following places:

**Table 3.1 Description of Mobile Clinic Points**

| Area of service provision | Schools | Exclusively Community based: Mobile stops near a shop, or under the trees | Business sites Farms, factories and Hotels (Exclusively For workers) | Combined: For workers and community members in the area | Total |
|---|---|---|---|---|---|
| Number of mobile points | 4 | 4 | 6 | 21 (4 sites have child-minding services) | 35 |

Services rendered at each mobile point are depended on a number of factors such as consultation time available for the mobile clinic users. The researcher observed that there are areas where the workers are only allowed to come to the mobile clinic during meal breaks. Therefore the mobile clinic would be available at the time when

the workers take their two hours break that will be for meal time and mobile clinic consultation simultaneously. In this setting the service provided would be to deal with the presenting problem or need. In some areas the service provided is mainly family planning and or chronic disease management service. It was reported that most of the workers using the mobile clinic were satisfied with the mobile clinic coming once a month especially for family planning and chronic disease management service. Apparently most of the business owners were not in favour of releasing workers to go to the MHCC for non-acute health problems. Workers are given time off and offered transport to the clinic for acute related health problems or injuries.

It can be concluded that members of the population under study are people employed in and around Muldersdrift area and their relatives.

### 3.2.2 Target population

According to Burns and Grove (1997) a population is all elements (individuals, objects, events, or substances) that meet the sample criteria for inclusion in a study. In this study, the population was defined as all mobile clinic users at the 35 mobile clinic points. The inclusion criteria were as follows: mobile clinic users should be of the age of 18 or above should speak English or a South African language. The reason being that most of the mobile clinic users are South African Blacks and can communicate in English or one of the home languages. The foreigners had to be interviewed in English as the research assistants and the principal researcher can only speak the South African languages. The mobile clinic users must have attended

the mobile clinic over the last six months (August 2002 to January 2003). The accessible population was determined by the attendance of clinic users between January to March 2003.

## 3.3 The Study Sample and Sampling Methods

Sampling includes selecting groups of people, events, behaviors or other elements with which to conduct a study (Burns & Grove, 1997). In this study the sample was drawn from the 35 mobile clinic points and the all the community members who had used the mobile clinic from January to December 2003.

### 3.3.1 Mobile points

To develop a sampling frame for the 35 mobile points in Muldersdrift, the process included plotting of all the mobile clinics on a map (refer to map, Appendix A). Analysis was done of where the mobile points are situated, (see figure 3.1) the type of setting, the target group and the type of service provided. On analysis of the 35 mobile points it was noted that the type of service delivered was determined by the target group serviced. An example is one of the business centre whereby the majority of the employees are females. The mobile clinic service is used mainly for family planning. Most of the workers have a medical aid benefit. So they use the mobile for services that they are aware that they wouldn't be given time off to go to the Muldersdrift clinic.

It was also noted that some of the mobile points were not visited on a monthly basis as they were seasonal place of employment. Such mobile points were identified and excluded in the study. Of the remaining ones a non-probability convenience sampling technique was then used for final selection of the mobile points included in the study (see Appendix A and figure 3.2).

Inclusion of the mobile points depended on the following factors:

- Availability of the mobile clinic users' in the areas serviced by the mobile clinic. Some of the fruit production farms are operational in certain seasons.
- Availability of the mobile clinic service providers on the dates specified on the mobile clinic programme. The researcher on a number of occasions observed that failure to provide a service according to a predetermined programme was due to for example mobile clinic staff members attending training, being off sick or allocated to participate in other programmes and a replacement for them not done.
- Weather conditions also have had an influence on provision of the service due to poor roads and lack of shelter for mobile clinic users.

**Table 3.2: Distribution of mobile clinics, the number of clinics excluded and those that were included in the study.**

| | South - West | North-West | North -East | South -East | Total |
|---|---|---|---|---|---|
| Total number of mobile points | 9 | 7 + (2) no | 16 | 3 | 35 |
| Pilot Sites | 3 | 1 | 2 | 0 | 6 |
| Total number excluded | 0 | 1+2 | 5 Seasonal & Family Planning 6 | 0 | 14 |

| | | | | | |
|---|---|---|---|---|---|
| Total number visited for interviews | 3 | 3 | 2 | 1 | (n = 9) |

### 3.3.2 Mobile clinic users

To select subjects to be interviewed a non- probability convenience sampling technique was used to select a sample of mobile clinic users to be included in the study. According to Burns and Grove (2001) in using convenience sampling, subjects are included in the study because they happened to be at the right place and the right time. Available subjects are entered into the study until the desired number size is reached. Although convenience sampling is a weak form of sampling it was found to be most suitable for selecting subjects at Muldersdrift mobile points. It was not possible to determine the number of mobile clinic users to be interviewed at each mobile point as attendance depends on a number of factors such as the weather conditions and date of the mobile clinic visit coinciding with for an example the pensioners pay day. Therefore mobile users attending the mobile clinic during the period of the study were interviewed until the sample size was obtained.

The sample size was determined in consultation with a statistician. The statistician estimated that the level of dissatisfaction from the opinions of the mobile users' could be as high as 85%. To estimate this prevalence the conservative route is followed where a prevalence of 50% is assured and needs to be estimated accurate within 10%. It is assumed that a sample size of 94 mobile users of the 3,799 total population of the mobile clinic users from January to December 2003 will provide a confidence interval of 95%.

## 3.4 Data Collection

Data collection is the process of selecting subjects and gathering data from these subjects (Burns & Grove, 1997). The data collection technique used, the development of the tool, and use of instrument will be described.

### 3.4.1 Data collection methods

The interview technique was used for data collection. According to Bailey (1996) the interview method allows the interviewer to interact directly and develop rapport with the interviewee. The interviewer had an opportunity to rephrase questions where confusion or lack of understanding is indicated. The researcher and two research assistants collected the data. The two research assistants are unemployed members of a youth development programme who matriculated two years ago and were recruited for assisting with data collection on recommendation of the person in charge of the youth project. Information was given verbally about the research project the role of the research assistants in data collection. An agreement was reached and training was offered to the research assistants to ensure standardized data collection. Communication skills and code of conduct was also discussed with the research assistants.

### 3.4.2 Data collection tool

A structured interview schedule consisting of open and closed - ended questions, mainly of a multiple choice variety was used to explore mobile clinic users' opinions on health care service provision in the Muldersdrift area (see Appendix A). The instrument used was developed and tested by Pindani (2001) to determine the accessibility to PHC services, the knowledge of clients on the available services and to explore their level of satisfaction with the services in Malawi. Permission was granted for the tool. Pindani's tool was adjusted and adapted after the pilot study to meet the study objectives and to suit the community served by the mobile clinic and the South African context of health care delivery system. The tool was divided into four sections: Section A recorded demographic data: to describe characteristics or attributes of community under study. Section B was designed to explore mobile service users' utilization levels and the preferred services. Section C identified users' knowledge on the available services. Section D explored mobile clinic users' level of satisfaction with services offered and attitude of staff.

## 3.5 The Pilot Study

According to Bailey (1996), a pilot study is a preliminary trial of the study, which provides an evaluation of the proposed process and may be used to remove flaws. A pilot study was conducted using Pindani's tool on mobile clinic user's who met the

criteria for inclusion. The interviews were conducted in English and in the home language of the participants. Questions that sounded unclear, ambiguous and were inappropriate were modified, and a few replaced.

Changes implemented after the pilot study were as follows:

- Question six: level of education - interview schedule was modified to be in line with the classification of grades according to the education system in South Africa.
- Question 7, 10, 11, and 12: geographical and financial accessibility were removed because in the Muldersdrift area all the mobile points are within a walking distance from the target population.
- A new question was added to develop an understanding of how the community deals with health problems when the mobile clinic service was not available.
    - The question stated: "on *the day that the mobile clinic is not scheduled to come to your area, and you were in need of health care, how you deal with your health problem?*' Clients were expected to tick all relevant answers from a list on list of options given.
- Question 26 and 27: client satisfaction with available services*. "All and None"* were added on the list that respondents were to answer with a *Yes or No" on* the services they were most satisfied with and less satisfied with respectively.

- Pindani's tool was adapted to suite the study's context and objectives.

## 3.6 Reliability and Validity

Content validity of the tool was based on Pindani (2001) pre-tested tool, recent literature and judgment of three research expects from the Faculty of Health Sciences at WITS University. The researcher presented the interview schedule to research expects for the purpose of detecting ambiguity of the wording, inappropriate and inadequate responses and any other flaws in the instrument.

For the inter-rater reliability the two research assistants were trained in the use and interpretation of the interview schedule. The researcher spent one week at the Muldersdrift clinic and community training the research assistants in the interpretation of the questions and co-interviewed the participants. According to Polit and Hungler (1997) the inter-rater observer reliability is estimated by having two or more trained observers watching some event and independently recording the variables according to predetermined plan of coding system.

A statistical correlation test was not done to determine inter-rater reliability. To compare accurateness of data collected; the questions were verified to compare whether the responses obtained by the two raters were matching. The process of comparing recording of the responses continued until a 100% agreement on the responses was obtained.

## 3.7 Ethical Considerations

The research protocol was presented to the Faculty of Health Sciences Postgraduate Committee at the University of the Witwatersrand. A letter of approval to conduct the study was received from the committee (see Appendix C). Since the study involved human participants, ethical clearance was obtained from the Committee of Research on Human Subjects (see Appendix D). The purpose of this committee is to ensure that individual participants as subjects in research studies are protected and the ethical standards are adhered to throughout the study (Bailey, 1996). Permission was also obtained from the Director of the West Rand Council Area Health Services (see Appendix F).

Verbal permission was sought and received from the farm owners who employed the workers to be interviewed mostly during their lunchtime. In the non-occupational based settings there was no need for permission as the mobile clinic stopped at neutral venues such as shops or a residential area. Participants were given verbal information about the study including the possible benefits and the fact that there were no risks involved. Participation was voluntary. Only participants who agreed to part take in the study were given consent forms to sign (see Appendix G). Participants were further assured that the decision not to participate or withdraw from the study will be respected and that they will not be disadvantaged in any way. Explanation was given on anonymity whereby no names will be used. Participants were reassured that confidentiality of the information will be maintained and that they will remain anonymous and only the researcher and the assistants will have access to

the completed questionnaires. The interviews were carried out on the day of the week that the mobile service was offered at the different points. A point furthest away from the mobile vehicle was identified and interviews that lasted for 30-45 were conducted.

## 3.8 Conclusion

In this chapter, the research design, target population and sampling, data collection, pilot study and data analysis was described. Measures to ensure validity and reliability have been discussed. Ethical considerations were addressed. In the next chapter data analysis and the findings of the study will be presented.