RESEARCH REPORT

EXPLORING THE SORTING OF PATIENTS IN COMMUNITY HEALTH CENTRES ACROSS GAUTENG.

A QUALITATIVE STUDY

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DECLARATION

I **Brenda Alison Witt (0400200Y)** declare that this Research Report is my own, unaided work. It is being submitted for the Degree of **Master of Medicine** at the University of the Witwatersrand, Johannesburg. It has not been submitted before for any degree or examination at any other University.

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Abstract

Background. Primary health care facilities worldwide face large numbers of patients daily, as they are generally the first port of call for patients needing health care. Due to this, poor waiting times, low patient satisfaction, staff burnout etc. are some of the problems facing such facilities. Limited research has been done that looks at sorting of patients in non-emergency settings in Africa. There are several clinicians trying to sort patients in such settings in community health centres (CHC's) across Gauteng but findings have not been documented. This research looked at this setting where queues appear to be poorly managed, with patients waiting for hours.

Aim. To explore the views of clinicians in CHCs across Gauteng on sorting systems to manage walk-in patients in the non-emergency ambulatory setting.

Methods. The qualitative study design utilized one-to-one, in-depth interviews of twelve purposively selected doctors. Interviews were conducted in English, with open-ended exploratory questions. Interviews were recorded and transcribed, anonymised and member checked. Data collection and analysis stopped with information saturation. The co-author supervised and cross-checked the process. A thematic framework was developed together, before final thematic coding was done by the principal author.

Results. Twelve primary health care (PHC) clinicians with experience in patient sorting, from health districts across Gauteng, were interviewed. Three themes were identified, two major themes, namely Systems Implemented and Factors Affecting Triage and one minor theme, namely Innovative Suggestions. Systems Implemented included those using vital signs and sorting according to specialities, using the Integrated Management of Childhood Illnesses programme. Systems Implemented also included doctor - nurse triage, first come first serve, eyeball triage and sorting based on main complaint. Factors Affecting Triage, had three sub-themes: Management Issues, including equipment, documentation, infrastructure, protocol, uniformity, general management issues; and Staff Issues, including teamwork, buy-in, education and general staffing issues; and Patient-related Factors. Innovative Suggestions, such as triage room treatment and investigations, telephone triage, longer clinic hours and a booking system emerged as minor themes.

Conclusion. Developing a functional triage protocol for Gauteng is an important recommendation. However, correcting the issues of management and staffing needs to be

integral to the development and implementation of this. It should ensure that staff training, communication, documentation, as well as roles and responsibilities are performed appropriately; and that adequate infrastructure and equipment are available to enable a successful system. Further research is required to develop standardized, validated tools to audit triage processes in the primary health care non-emergency outpatient setting.

Keywords: primary health care; outpatient; non-emergency; triage; sorting

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Introduction

Primary health care facilities worldwide face increasing numbers of patients daily, as they are often the first port of call for patients needing health care. Due to this, long waiting times, low patient satisfaction, staff burnout etc. are some of the problems facing such facilities. Limited research has been done that looks at sorting of patients in non-emergency settings in Africa. It is evident from the literature that many different sorting methods for this setting have been attempted internationally, possibly highlighting the challenging nature of this environment. The first three domains of the South African national core standards for health establishments are important for the delivery of quality health care to patients: reducing delays in care by treating patients according to their illness severity; reducing waiting times; and access to emergency care[1]. Within Gauteng, there is no clear triage protocol for non-emergency settings. This has resulted in long queues that seem to be poorly managed, with resulting long waiting times. Poor patient satisfaction has been linked to the long time spent waiting to be seen by a health care provider[2,3].

Triage involves sorting large numbers of patients into categories according to the urgency of their needs[4]. The concept of sorting patients in South Africa started in Cape Town with the Cape Triage Score, which uses physiological parameters and discriminators. It scores these and groups patients into trauma codes[5]. The South African Triage Score (SATS), validated for use in emergency departments, was then rolled out and spread to six other sub-Saharan countries[6]. Since then its validity, interrater and intra-rater reliability had been proven for low-resource countries other than South Africa[7,8]. Unfortunately, these findings apply only to emergency departments settings. A 2011 systematic review looking at the scientific evidence for published emergency department triage scales, found that there is generally poor evidence for or against patient sorting and that there is poor agreement between observers[9]. The study also showed that the ability of a single vital sign to predict mortality was limited. The time involved in measuring the necessary parameters is also lengthy and this may not be viable in a busy primary health care outpatient department[10]. There are questions about the limited reproducibility of vital signs[11], as well as sorting systems that do not use vital signs. It is suggested that these sorting systems may be inadequate in reflecting the urgency of the patient's presentation[12].

Limited research has been done that looks at the sorting of patients in the non-emergency outpatient setting. These settings have high patient volumes, low staff numbers and inadequate

equipment, which limit the use of the South African Triage Score. Other South African attempts at sorting patients to shorten waiting times in this setting is the use of a fast queue system. Unfortunately, the influx of patients has resulted in this fast queue system being ineffective[13]. If demand and capacity are balanced, waiting time and number of visits would decrease, and the need for patient sorting would most likely not exist[14]. Some methods tried internationally include self-triage with a complaint tick-sheet which reduced waiting times significantly and allowed urgent cases to be prioritised[15]; an appointment system where certain time slots were allocated for the un-booked emergency patients[16]; telephone triage[17]; and "see and treat"[18].

In Ghana, a similar low income, referral centre setting, with poor adherence to local protocols, a participatory action research study in a busy obstetrics unit was performed, reporting on mid-wife-led triage. Their outcomes included the development of a relevant, single page, triage assessment form, and colour coded wrist bands. The quality of history taking, identification of emergency patients, the frequency that patients were monitored and the waiting times all improved[19].

Gauteng CHCs currently have no standardised system for sorting patients in the outpatient non-emergency setting. The ideal clinic guidelines recommend: three hours as a maximum waiting time; a dedicated area for monitoring vital signs; and a process that prioritises high risk patients[20]. There are anecdotal reports of clinicians using different systems in crowded outpatient settings, such as in CHCs, to sort walk-in patients. These have not been documented.

Research is required to establish a starting point for patient sorting in the PHC non-emergency outpatient setting, as this is an important area of patient management. The aim of this study was to explore the views of clinicians in CHCs across Gauteng on sorting systems to manage walk-in patients in this setting.

Methods

This qualitative study was designed to use in-depth interviews of purposively selected doctors involved in the implementation of sorting systems in non-emergency outpatient settings at community health centres (CHCs) in Gauteng health districts (Johannesburg; Ekurhuleni;

Tshwane; Sedibeng; and West Rand). The District Family Physician in each health district was approached to obtain a list of such clinicians. This was expanded with snowball sampling to obtain a diversity in district location, age, gender, and years in practice to ensure "information-richness". A pilot study was undertaken prior to embarking on formal data collection. The interview guide was not changed after the pilot study.

The one-to-one interviews, lasting approximately 30 minutes, were conducted in English by the principal researcher at the workplace of the participant. It was digitally recorded with two digital recorders and facilitated using a short list of open-ended, exploratory questions as an interview guide. The interview guide explored the clinicians views on sorting systems to manage walk-in patients, their reasons for choosing a particular sorting method, their views on factors enabling or inhibiting attempted systems. It also gave the clinician the opportunity to add any additional information. Interviews were conducted over a two-month period (May - June 2017). The researcher transcribed all digital recordings verbatim during the interview phase (after each interview) and these were checked by the supervisor. The transcripts were sent back to participants for review (member checking) to ensure trustworthiness and accuracy. Data collection stopped with information saturation. No repeat interviews were done.

The data has been kept anonymous and only the principal researcher knows which transcript belongs to which participant. The researcher and supervisor separately analysed the anonymized data using the framework approach. The researcher and supervisor familiarized themselves with the data, by reading the transcripts numerous times. Key codes were identified using an inductive approach. Content analysis followed by systematically manually colour coding on MS Word. All data from all the transcripts that related to a single theme was then removed from the original text and placed in another MS Word document. These documents were further analysed to assess relationships between themes[21]. Meetings between the researcher and the supervisor were held to discuss the few differences in opinions, and agreement was reached after each person made their case. Data collection and analysis stopped with information saturation. The co-author supervised and cross-checked the process. A thematic framework was developed together, before final thematic coding was done by the principal author. No third parties were required for this process. Quotations were used from different participants to ensure trustworthiness and transparency. The COREQ guideline was used to review the validity of the method[22].

Permission to perform this research was obtained from the Human Research Ethics Committee of the University of the Witwatersrand [HREC No. M161043] and the research committees of Gauteng Province and each health district. Requirements for informed consent, confidentiality and record-keeping were adhered to.

Results:

Twelve diverse participants from all health districts in Gauteng were interviewed (See Table 1):

Table 1: Participant Demographics

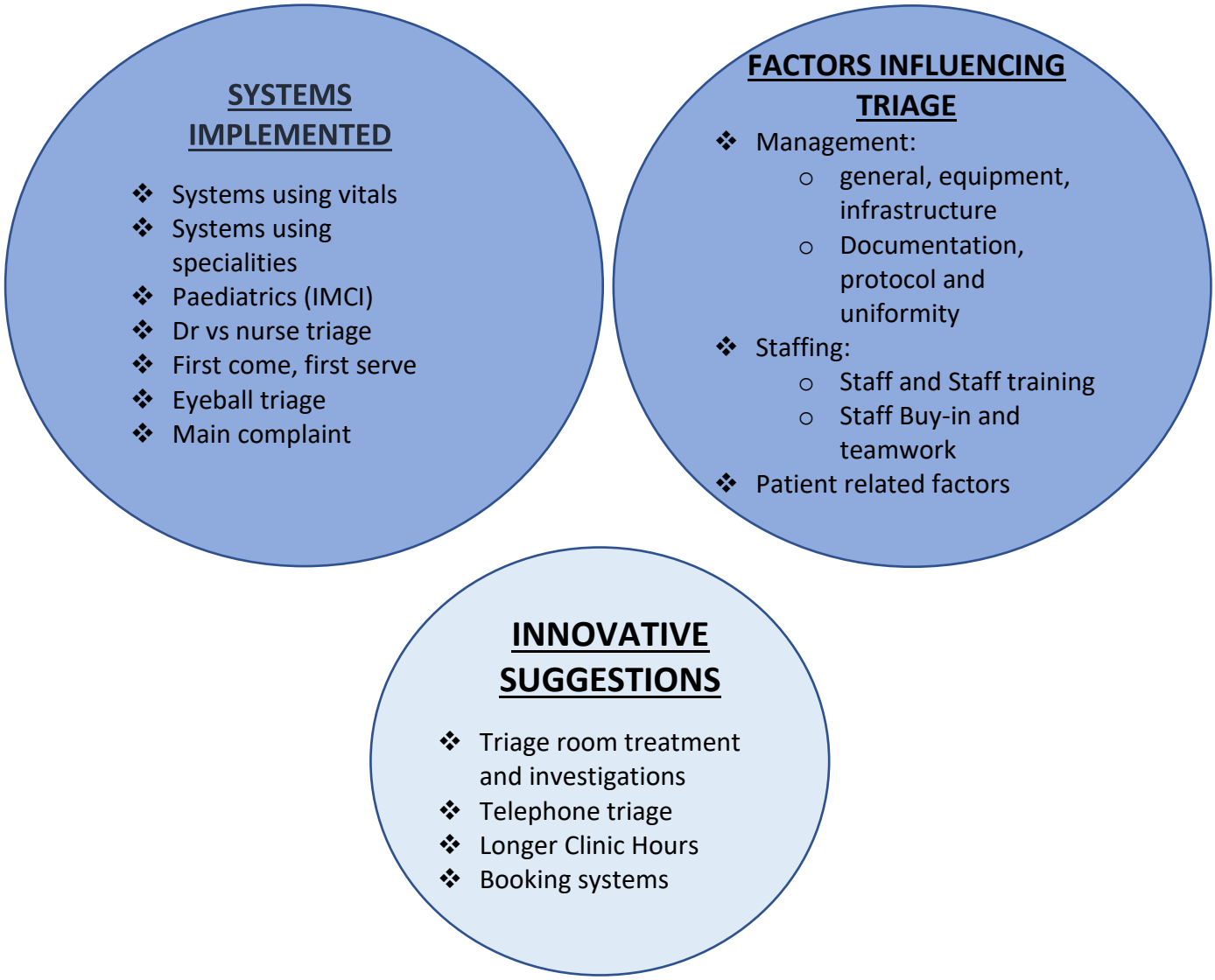
PARTICIPANT	A	B	C	D	E	F	G	H	I	J	K	L
DISTRICT	JHB[a]	JHB[a]	TSH[b]	TSH[b]	TSH[b]	JHB[a]	JHB[a]	JHB[a]	WR[c]	SED[d]	SED[d]	EKH[e]
GENDER	M	F	F	M	F	F	F	M	F	M	M	M
AGE	52	52	49	45	36	34	41	59	50	42	63	48
YEARS OF EXPERIENCE	10	12	24	16	12	10	15	12	17	8	34	20

([a] Johannesburg Metro; [b] Tshwane; [c] West Rand; [d] Sedibeng; [e] Ekurhuleni)

Participants described the sorting systems they had implemented (with suggested innovations) to manage busy outpatient departments in CHCs and described factors influencing the implementation of sorting systems.

Themes

Three themes emerged from the data of which two were major themes, namely Factors Influencing Triage and Systems Implemented; and one was a minor theme, namely Innovative Suggestions.



A) Systems Implemented (Major Theme)

Systems implemented emerged as a major theme. Participants described implementing systems using vitals (like the South Africa Triage Score) or creating specialty sections to see patients. There was some variation with paediatric patients and some smaller ideas.

Systems using vitals

Some participants described implementing the SATS, with some modifications. They did get vitals by enrolled nurses, albeit not completely. Patients were then sorted into those with problems and those for repeat scripts or blood investigations, sometimes the elderly and children were separated if they looked sick.

'I came up with a triage system where you use a discriminator, you first use the vital signs. Is the patient mobile? Is the patient eating? the blood pressure, the temperature, the GCS and then you use a discriminator and you score accordingly.' (L)

Systems using speciality

Some participants reported implementing a sorting system using sections that separated patients either into acute or chronic patients, or based on a speciality or type of service (e.g., gynae, paeds, HIV, TB).

'What we decided to do is to sort them by chronic (or) minor complaints. Then we divide by specialties. Pregnant woman and children have their own way' (K)

Paediatrics

All described facilities have a separate paediatrics section. Children are sorted into those going for well-baby clinic and acute patients requiring Integrated Management of Childhood Illnesses (IMCI). IMCI is run by trained nurses:

'Paediatrics is actually seen in a separate setting with IMCI and acute and chronic care. If it is an emergency, they come straight to casualty' (E)

Many spoke about the importance of rapid paediatric sorting due to the risk of faster deterioration in this age group:

'Children will need a special triage area where they are triaged quickly because they are likely to get into trouble if their condition changes' (D)

From the interviews done, it seems as though the paediatric sections are running well thanks to the IMCI program and adequate training.

Doctor vs nurse triage

While this was a less commonly occurring system, some facilities described a process of separating patients into those suitable for nurses and those suitable for doctors. The importance for distinguishing junior from senior doctors was also raised:

'Separate the patients which are suitable to be seen by the PHC nurses and others by the doctors' (B)

'We have senior doctors and we have junior doctors looking at patients, and you wouldn't want a serious patient going to a junior doctor' (G)

First come first served

Many facilities still use the first come, first served system:

'Basically, patients are sorted out as they come. They get first come, first served. So, they get their file, they get their vitals taken and then they are either seen by a professional nurse or a doctor' (I)

Eyeball Triage

This is done in some facilities by a variety of people. Patients who appear ill are removed from the line regardless of their vital signs.

Main Complaint

Some facilities sort patients based on their main complaint and decide whether vitals are done or not:

'We didn't have any vitals per se but we would have a doctor there who would triage clinically based on complaint. It was the most senior person triaging because obviously, you want the most experienced people to be triaging.' (F)

B) Factors influencing triage systems (Major Theme)

Participants described two major factors that influenced the implementation of sorting systems, namely management issues (general, equipment, infrastructure, documentation, protocol, uniformity) and staffing issues (staffing, training, buy-in, teamwork). Patient-related factors emerged as a smaller yet relevant issue.

Management (general/equipment/infrastructure)

There seemed to be no accountability or consequences, so staff get away with doing whatever they like. This makes implementation and sustainability of a system challenging if not impossible:

'It was done for a day or two and after that the system collapses because you don't watch the system. The manager should be watching the system'(D)

Since management positions are occupied by nurses, doctors have very little say and the system seems quite abusive towards doctors:

'Doctors don't control the environment' (A)

Proper management who consider all opinions; commitment from management to the system being implemented; and a more efficient management style would assist in enabling the implementation of an appropriate sorting system:

'It has to start from management level and they have to identify (given our resources, given our staff) what will work' (E)

The lack of functioning equipment was raised as an inhibiting factor. Without equipment that is regularly calibrated and timeously repaired, the system will fail:

'(We) battle to find machines that work' (A)

Sorting was further challenged by inappropriate infrastructure, space and facilities such as toilets at our CHCs**:**

'Infrastructure is one of the reasons as to why we have a non-functional triage system and not a quality triage system running because our triage is literally done in the corner of the reception where the patients come and get their files'(E)

Having a dedicated room with equipment and place to work, stat doses of medication available, and better design of the clinic layout would enable a better system and allow for patient privacy and better patient flow:

'You will need privacy to find out what is exactly wrong with that patient'(G)

Management (Documentation, protocol, uniformity)

The need for documentation or a template to guide those working in the sorting room was raised:

'They are not even using a template to triage' (J)

The development of a resource-appropriate protocol would allow for standardization and would help management to deal with issues around resistance:

'I think what could really help would be to develop some kind of clear protocol.' (A)

'Once it is protocol that this needs to be done, then nobody is going to be against it' (J)

The importance of a uniform system across all facilities was raised:

'It must be uniform with other clinics. That is important because if you treat patients differently, …. but (if) they know there is a single way…they behave when they go to the clinic' (D)

Staffing and staff training

Several issues around staffing emerged. The lack of adequate numbers of staff employed, the high turnover of staff and the lack of senior staff at facilities were issues raised:

'Personnel is a barrier. We cannot spare a doctor, we cannot spare a professional nurse to do proper triaging.' (E)

'The changing of staff, the turnaround. New people, they come, they resign, they change, then it becomes a problem. Every time we have to re-educate' (K)

The lack of staff training around triage and sorting of patients was also highlighted:

'Getting personnel trained is also a barrier. Most of our staff is not trained in how to adequately manage the triage area'(E)

Interpretation of results by junior staff is difficult and it was felt that it should therefore be a senior, experienced staff member working in the sorting area. Whether a doctor or a nurse is running the system they must know what to do for the system to be efficient:

'Not sure in terms of the quality of their training to triage or sort patients properly because sometimes you see a lot of the enrolled trained nurses and you hardly see a professional trained nurse.' (J)

There were mixed feelings from many participants as to who should do the sorting. Some felt it should be the nurses whilst others felt that it should be the most senior doctor clinician, and raised some issues with the nurse's ability to do sorting.

Staff Buy-in and Teamwork

The issue around teamwork and buy-in also emerged as an important factor for an effective system.

There seemed to be resistance from staff members and lack of commitment to implemented systems:

'They felt it was cumbersome. They also felt it was challenging. They also felt, in my opinion, that it would open up or expose things but they failed to understand the underlying reason for it, that it would result in better patient care and improve the quality of care so that nobody is missed' (J)

The lack of teamwork and spiteful relationship between doctors and nurses was also repetitively raised:

'Even the cold patients, the ones the doctor doesn't really have to see, end up being seen by doctors because they do it intentionally' (J)

Respondents describe the importance of buy-in and teamwork by all staff members and management. For the system to work it requires commitment by all and not just a single person:

'All of us must come on board. The clerk, the staff nurse, the sisters, the doctors, the management, the queue marshal' (C)

It is also important that everyone understands the system and its benefits to staff and patients**:**

'If we help each other the health care will be better and seeing the patients throughout the day will be easier' (B)

Patient related factors

Patient related factors were raised by those interviewed.

The large patient volumes affect patient flow, with waiting times and workload making sorting challenging. The lack of patient education with regards to sorting results in impatience, excuses and complaints:

'Patient education is very important because they might be sitting there, many of them and they will say that they have been there since 7 or 8 'o clock. As soon as an emergency comes they are not keen to let the emergency go through' (C)

Educating patients about the sorting system and having a means to continuously communicate with them would help enable a better system:

'There needs to be a good communication to patients and it must be continuous because you get new patients every now and again' (D)

C) Innovative Suggestions (Minor Theme)

Some innovative suggestions emerged as minor themes.

It was suggested that some patients could be managed from the triage room where, for example, stat doses of medications could be given for hypertensives so that they are covered while waiting to be seen. X-ray forms could also be completed in the room.

Telephone sorting was suggested in two forms:
One, where patients call in and it is decided over the phone if they need to come immediately, in a few days or whether they need a home visit by the community health workers:

> *'Get patients to call in, lets triage them according to that process: What are you feeling? Advise them, get a community health worker to visit them, see what their level of disability is, what they are coming for, and this could all be done by telephone triage' (A)*

Two, where nursing staff in smaller referring clinics can call a doctor-on-call for assistance:

> *'The doctor leaves his number with that clinic, then they know that he is in the area or somewhere, you can phone your doctor if you have a problem anytime in the week' (I)*

Longer clinic hours were suggested to help deal with the large numbers of non-emergency patients. And a booking system with allocated times was suggested for the chronic patients to help control the number of patients coming on a day, as well as reducing the waiting times. This was tried and failed in some facilities.

Discussion:

The results described sorting systems that participants had implemented using vitals for SATS scores, specialties (including paediatrics), allocating patients by suitability for doctors vs. nurses and simple first-come first served (with suggested innovations like a triage room and triage by telephone) to manage busy outpatient departments in certain CHCs. They also describe two major factors influencing the implementation of such sorting systems:

management and staff. Management factors included equipment and infrastructure as well as documentation and standardized protocols for sorting. Staffing factors included the appropriate staff members doing sorting and their training, as well as the buy-in of all staff within a sorting system. Patient factors were viewed as a minor issue by the participant. Patients were not interviewed in this study. There were some innovative suggestions such as triage room treatment and investigations, telephone triage, longer clinic hours and a booking system.

Modern day sorting systems need to be able to accommodate a full spectrum of clinical conditions, from minor illness and injury to critical conditions, from paediatrics to geriatrics[23]. Results of this study indicate that while many different sorting systems have been implemented across Gauteng's CHCs in the non-emergency outpatient setting, none of these attempts reported by interviewees have been an outright success.

Clinicians in Gauteng's CHCs attempts at implementing the South African Triage Score (SATS) have been unsuccessful in this setting. This highlights the challenges around vital sign recording[9], equipment availability, number of staff required to ensure rapid patient flow, time available per patient[10], reproducibility[11] and actual need[9]. The SATS is a well-known sorting score which unfortunately has not been validated for this setting. The use of IMCI was reported to be a functioning system in the primary health care paediatrics setting and the use of the paediatrics SATS in this setting elicited the same issues as the adult SATS viz. challenges with recording vitals, equipment, staff etc. Sorting patients based on speciality would allow staff, with an interest in a particular body of knowledge, to work in that area but such sorting still leaves the undifferentiated patient lurking, and further sorting within each speciality would still be required. The literature shows that triaging to a speciality significantly increases triage times[18]. It is easy to default to first-come, first served in a fragmented specialty-based approach common in Gauteng CHCs. Many CHCs struggle with well-functioning triage rooms and constant disputes about who should drive the process, doctors or nurses, as well as disputes in deciding which patients should go to doctors and which to nurses. The urge to push queues often subverts the clinical process[24].

Suggested intervention such as telephone sorting removes visual cues, which may be important in the sorting process, as triage designation between telephone and in-person triage are not equivalent[25]. The safety of telephone sorting is still questionable and unlikely with the lack of

resources at CHCs[26]. A "see and treat" system which treated simple conditions in the triage room, prolonged the waiting time for some while decreasing it for others[18;27]. There would need to be more research to show that sorting by senior experienced staff, including using 'eyeball' triage, would be more efficient than the current system to convince managers to implement such an approach. Longer clinic hours would need to be balanced with staff availability. Resource management is a key factor in success.

The two main factors influencing the partial success or failure of triage systems were reported to be issues around management and staffing. Some issues around management in the South African clinic setting have been found previously[28]. It is necessary for management to monitor and take responsibility for the system, which would also help instill a sense of trust[29]. With trust in management, many of the issues around buy-in and teamwork may be eliminated. With adequate staffing, there is a need for triage personnel to rely on their education and experience, while integrating patient's clinical information and care environment and avoiding bias[26]. This highlights the need for experienced personnel to run the triage. Training staff is essential to help build team capacity[30]. Training produces better agreement between staff[31], and better understanding of the system and thus ownership of the problem[32]. Literature suggests that more time could be saved by using support staff (non-qualified staff and porters) to assist patients with movement through the system[18].

While the issue around inadequate staff numbers was raised, action research demonstrated that simple changes to daily activities like assigning staff to different tasks throughout the day, having a short morning staff meeting, shifting non-urgent tasks to less busy hours of the day, and colour coding files, significantly reduced the mean waiting times of patients, incorporated a form of triage, and was a more efficient system with staff numbers at that time[33]. With the current challenges around employment it is essential to find solutions that utilize current staff members efficiently and maximize their contributions whilst also making sure they do not reach a point of burnout.

Equipment and adequate infrastructure are needed for any system to function. A standardised validated tool as well as a protocol can be developed to assist patient sorting in this setting. This is consistent with recommendations internationally, especially to avoid the medico-legal challenges plaguing the Gauteng Department of Health[34].

Conclusion:

There is currently no clear functional triage system, and no valid tool to manage the sorting of patients in non-emergency PHC outpatient settings across Gauteng's Community Health Centres, as perceived by clinicians interviewed. Based on the findings of this study and international literature[35] the following are recommended when introducing a triage system into the primary health care setting: develop a standardised protocol. In the process of developing and implementing this it is important to ensure staff and management buy-in; identify areas of poor patient flow or unnecessary tasks; ensure roles and responsibilities are clearly understood; ensure protocol are up to date via frequent audits; ensure appropriate staff training in triage, ensure clear communication and documentation; ensure that staff are allocated according to their scope of practice; and ensure that adequate infrastructure and equipment is available to enable a successful system. While an appropriate tool needs to be developed to audit this setting there are also numerous obstacles that need to be addressed so that the implementation of future tools is successful and maintainable. Findings from this study can help guide the development of an appropriate and feasible tool.

Limitations:

Some of the participants were known to the researcher which affects reflexivity and some would argue could result in bias. Not all participants spoke English as a first language which could mean that interpretations could be incorrect. Member checking was performed to try and eliminate this limitation. Due to the nature of qualitative data there is always a risk of subjectivity and as a result what actually happens may be different to what has been reported. The demographic data demonstrates that the participants had numerous years of experience in the current system and may feel jaded, which would affect their responses.

Conflict of Interest:

None

Funding Sources:

None

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APPENDIX 1

APPROVED RESEARCH PROTOCOL

RESEARCH REPORT

EXPLORING THE SORTING OF PATIENTS IN COMMUNITY HEALTH CENTRES ACROSS GAUTENG.

A QUALITATIVE STUDY

PRINCIPAL RESEARCHER: DR BRENDA STOTT (0400200Y)
MASTER OF MEDICINE – FAMILY MEDICINE

SUPERVISOR: DR SHABIR MOOSA
MBChB, MFamMed, MBA, PhD

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Appendix 6 (Permission Letters: Johannesburg Metro, Ekhuruleni, West Rand, Sedibeng, Tshwane)

Introduction

Community Health Centres (CHCs) in Gauteng face large numbers of patients on a daily basis, as they are seen as the first port of call for patients needing health care. Currently queues at some of the primary health care facilities appear to be poorly managed, with patients waiting for hours. The first three domains of the National Core Standards are vitally important for the delivery of quality health care to patients: reducing delays in care by treating patients according to their illness severity; reducing waiting times; and access to emergency care.[i]

Long waiting times are an ongoing problem facing patients throughout Africa, and patient satisfaction has been linked to time spent waiting to be seen by a health care provider.[ii,iii] Limited research has been done that looks at triage or sorting of patients in such outpatient settings. It is documented that the outcomes of certain medical conditions, are dependent on time[iv]. These include sepsis, myocardial infarction, stroke amongst many others. Due to the large patient loads seen at our primary health care settings, it is not reasonable to paint all patients with the same brush in the way the "first come first serve" system does.

There are different ways to sort or triage patients but there is no standardized tool or method available for non-emergency patients in the South African outpatient setting as most research has been done in the emergency setting with tools validated for the emergency setting only.

Aims:

- To explore the views of selected clinicians in community health centres across Gauteng on triage systems to manage walk-in patients in the non-emergency outpatient setting

Objectives:

- To identify the different triage systems attempted in community health centres to manage walk-in patients in the non-emergency outpatient setting.
- To explore the reasons for choosing a particular triage method to manage walk-in patients in the non-emergency outpatient setting.
- To explore selected clinician's perceptions of factors enabling and inhibiting appropriate triage systems.

Literature review

Triage involves sorting a large number of patients into categories according to the urgency of their needs.[v] The concept of triage in the South African setting started in Cape Town with the Cape Triage Score which was formally rolled out in 2006 in the emergency department[vi]. The Cape Triage Score uses physiological parameters and scores these. It also looks at discriminators (mechanism of injury, presentation, pain, senior health-care professional's discretion) which automatically group patients into certain trauma codes. After the success of the Cape Triage Score, the South African Triage Score (SATS) was rolled out. By 2011 the SATS was being used in six sub-Saharan countries. It is validated for use by emergency physicians and nurses in the emergency department setting. Under-triage potentially leading to an increased morbidity and mortality (10%) occurred less frequently than over-triage (15%) which could result in misuse of resources and may delay necessary care from those who truly are of a higher priority[vii].

Scores such as the Early Warning Score (EWS) and the Modified Early Warning Score (MEWS) are scoring systems that are validated for inpatients use and they help detect deterioration of patients based on physiological parameters[viii]. Based on the scores obtained patients should be moved to wards offering higher levels of care.

Other studies have challenged the reliability of vital signs and while it is noted that there is limited reproducibility of vital signs and that vital signs should be interpreted with caution[ix], other studies question triage systems that do not use vital signs and suggest that these triage systems may be inadequate in reflecting the urgency of the patients presentation[x].

A systematic review done in 2011 looked at the scientific evidence for published emergency department triage scales. While numerous studies were excluded due to the strict inclusion criteria, it was found that the included studies all showed low kappa scores, indicating that there is generally poor evidence for or against triage and there is poor agreement between observers[xi]. The study also showed that the ability of a single vital sign to predict mortality was limited. While triage scales are a helpful tool, they are not the universal remedy for all triage making decisions. The time involved in measuring the necessary parameters is also lengthy and something that may not be viable in a busy primary health care outpatient department[xii].

Community health centres are not emergency settings but are often filled by a sea of patients. It is a place where emergency patients may first present. However, there are often limited staff and inadequate equipment to use the SATS to triage the few sick patients in there. There are also many patients that could have been rerouted and/or had basic investigations done to reduce their waiting times. There are no studies that discuss the level or scope of decision making that needs to be made by the health care professional performing triage.

An action research collaboration study was done in two busy primary health care public clinics in the Western Cape. It demonstrated that simple changes to daily activities by assigning staff to different tasks throughout the day, having a daily five minute morning staff meeting, shifting non-urgent tasks to less busy hours of the day, and colour coding files, significantly reduced the mean waiting times of patients and incorporated a form of triage[xiii]. Other South African attempts at triage to shorten waiting times in the non-emergency

outpatient setting have included the use of the fast queue system where patients requiring repeat scripts, short consultations, routine procedures such as immunisations etc. are separated from other patients. Despite this promising intervention, the influx of patients has resulted in this service being ineffective[xiv].

Worldwide there is limited research on the triage of patients in the non-emergency outpatient setting. If demand and capacity are balanced, waiting time and number of visits would decrease, and the need for triage would most likely not exist[xv]. Some methods tried in the non-emergency outpatient setting include self-triage where patients are given a tick sheet which lists numerous medical conditions or symptoms and are allocated based on what they tick. Results showed a significant reduction in waiting times ($p<0.0001$) and allowed urgent cases to be prioritized[xvi]. This would be problematic in the research setting due to numerous languages, numerous different presenting complaints and poor literacy. Other studies explored an appointment system, where certain time slots were allocated for the un-booked emergency patient. It was found that the un-booked patients had a reduced waiting time[xvii]. This study was done in a controlled environment with few patients and where supply and demand were balanced, again not resembling the current research setting. Gauteng community health centres also have many different levels of health care professionals seeing patients at any particular facility. Using the health care professionals scope of practice could be a way of triaging patients.

Two studies looked at the effect of treating simple conditions in the triage room. This “see and treat” resulted in significantly longer triage time and while it decreased the waiting time for the patients being treated in triage, it increased the waiting time for those who still needed triage[xviii;xix].

Some first world countries have introduced telephone triage in an attempt to decrease workload in a response to the increasing demand for general practitioner care[xx,xxi]. The safety

of telephone triage is still questionable, more so for the patient reporting high risk symptoms, thus the identification of medical urgency has been suboptimal[xxii]. Some studies have suggested that visual cues may be important in the triage process as triage designation between telephone and in-person triage were not equivalent[xxiii].

The literature also speaks to the concepts of heuristics and pattern recognition, their relationship to triage and their potential bias in decision-making strategies. Due to the uncontrolled work-load faced in walk-in departments, lack of basic resources and emotional patients in waiting areas, these are concepts that are actually often used[9]. Modern day triage systems need to be able to accommodate a full spectrum of clinical conditions, from minor illness and injury to critical, from paediatrics to geriatrics[xxiv]

Gauteng community health centres currently have no system of prioritising patients in the outpatient setting. The ideal clinic guidelines speaks to improving waiting time so that no patient stay for more than three hours in the facility, having a dedicated area for monitoring vitals signs, and having a process that prioritises high risk patients[xxv]. There are anecdotes of several clinicians in Gauteng trying to triage patients in the non-emergency outpatient setting, some successful and others not. However, these have not been documented.

There is clearly a paucity of evidence with regards to triage or sorting and the implementation of this in the primary healthcare non-emergency outpatient setting, and research is therefore required to establish a starting point for this important area of patient management.

Problem Statement: What are the views of clinicians working in community health centres across Gauteng on attempted triage or sorting systems to manage walk-in patients in the non-emergency outpatient setting?

Methods

Study design:

Qualitative in-depth interviews

Study design motivation:

The four main paradigms in research have been reviewed, namely positivism (verifying hypotheses), postpositivism (falsifying hypotheses) which both place little emphasis on values but rather on data and rigor; constructivism (the view that humans construct their own social realities in relation to one another) focuses on explaining the participant's point of view; and critical theory which looks at how powerful groups of people influence other groups.[xxvi] The differences in thinking of each paradigm has important consequences when it comes to inquiry and data analysis. Due to the limited research on triage in the non-emergency outpatient departments in community health centres, and the knowledge that some clinicians who have tried different types of triage methods, it was decided that qualitative research would be the best means to get some perspective of what has been tried. Allowing this research to be aligned to the constructivism paradigm. This allows for in-depth discussion into triage and how the clinicians who had hands on experience felt about the process they were involved in.

Site: Community Health Centres in Gauteng health districts.

Population: Clinicians involved in the implementation of triage systems in the non-emergency outpatient settings at community health centres in Gauteng health districts.

Sampling:

Purposively selected clinicians who have had previous involvement in triage of patients in the non-emergency outpatient settings in community health centres, will be invited to take part in the study. District Family Physicians in each district have been approached to obtain a list of such clinicians. This may be expanded with snowball sampling.

Inclusion Criteria

Clinicians with previous or current involvement in triage of patients in the non-emergency walk-in outpatient departments in the community health centre setting. A diversity will be sampled with a view to district, age, gender, doctor-nurse and years in practice to ensure "information-richness".

Exclusion criteria:

Clinicians who have had no involvement in triage of patients in the non-emergency walk-in outpatient departments in the community health centre setting.

Pilot Study:

The researcher will attend a qualitative research course prior to starting the study. A pilot study will be done prior to embarking on formal data collection. The aim of the pilot study will be to evaluate the appropriateness of the formulated questions and whether the interpretation of the questions is as expected. The interview guide (Appendix 3) may change as a result of the pilot study. The pilot study will also be used to practice using the audio recorders and assess the quality of recorded sound. The pilot study will be practiced on two family physicians in the Johannesburg metro district. The data collected will not be used in the formal study and will be deleted from the audio recorder.

Data collection technique:

In-depth, one-to-one interviews allow the interviewer to partially direct the interview and at the same time, allows interviewees to describe issues from their own perspective. This form of interviewing allows for points other that the ones stipulated on the questionnaire to be discussed and hopefully allows interviewees to share their own true beliefs. In-depth interviews were chosen instead of focus groups as the potential participants are very dispersed geographically, making a group discussion very difficult if not impossible to co-

ordinate. As some triage systems may no longer be in use due to certain limitations, observations can also not be used as the data collection tool. Since detailed information is needed, in-depth interviews have been chosen as the data collection tool of choice.

Data collection:

Before data collection begins, potential participants selected via purposive sampling, will be emailed an information sheet (appendix 1) for them to read. This information sheet includes the researchers reasons for doing the study. If they agree to take part in the study, they will be send the questions (appendix 3) to review and think about prior to the interview. Participants will be interviewed individually at a time and venue that is suitable for the participant, whether in the district (where the researcher travels) or at a central venue like the University of the Witwatersrand. The venue must be chosen by the participant so that the participant feels comfortable and empowered in the chosen setting. There will be no non-participants in the interview room at the time of the interview so that opinions expressed by the participant are not affected. Interviews will run over a two month period. Before the interview starts, the participant will be asked to sign two consent forms, one for the interview (appendix 2) and the other for permission to audio record the interview (appendix 4). They will also be required to complete the participant demographic data sheet (appendix 5). The interview venue will be a quiet place.

In-depth interviews will be conducted in English by the researcher and will be digitally recorded with two digital recorders. Two recorders will be used in the event that there is a problem with one of the recorders. These recorders will have been checked in the pilot study. Audio recording has been chosen over researcher notes as it is felt that recordings reflect the participants views more accurately.[xxvii] Interviews should not take more than an 30 minutes. All the participants will be contacted by the researcher and no research assistants will be used. . Each interview will be guided by a short list of open-ended, exploratory questions (Appendix

3). Prompts will be used only if the issues are not already raised in the answer given by the participant. The participant will be given the opportunity to answers questions as fully as possible and will not be inhibited from discussing issues outside of the exploratory questions if they are relevant to the topic. The data will be anonymous and only the researcher will know which transcript belongs to which participant. The participant will be asked to state their age, gender, race, title and years of experience as a doctor in the public sector, and district.

The researcher will transcribe all digital recordings verbatim during the interview phase (after each interview) and these will be checked by the supervisor. The transcript will then be sent back to the participant for review (member checking) in an attempt to ensure trustworthiness and accuracy. Data collection will stop when information saturation is reached or possible participants are exhausted.

During the research period the recordings and transcripts will be kept on the researcher's password coded computer and a backup copy will be kept on a memory stick under lock and key. Once the research is complete the recording and transcript will be kept on a memory stick and locked away in the Department of Family Medicine at the University of the Witwatersrand for 5 years. At this stage they will be deleted from the researcher's computer. After 5 years the memory stick will be destroyed.

Data Analysis

The researcher will analyse the qualitative data using the framework approach. Only the transcribed interviews will be used. No audio clips will be used. Familiarization of the data and identifying key issues and themes will allow the data to be examined and referenced. Key themes as a framework will be developed before embarking on the next steps. This will include reviewing the aims and objectives. This will be done by the researcher and the supervisor in

an attempt to decrease bias.

The next step will involve coding (selecting significant sections from the participant's statement)/indexing the transcribed interviews using the framework themes. Codes will be given to each theme and recorded in the margins of the transcript. Sections coded with the same code will be grouped together.[xxviii] Data will then be interpreted based on the research objectives. If there is any uncertainty about any statement made by the participant, the researcher will contact the participant to get clarity and by doing this ensure that the participant is correctly represented. If supporting quotations are used by the researcher, then quotations will be used from different participants to ensure trustworthiness and transparency. NVivo will be used as the analysis software and will assist with coding of the information gathered.

Due to the difficulty to completely avoid personal bias in qualitative research, the researcher will clarify her credentials, occupation, gender, experience and training for the reader to allow the reader to decide how these factors may have influences the interpretations and observations.

Limitations

The anticipated limitations are:

1)The participant may fear victimization, which may effect the result.

2)The researcher will be conducting the research which may introduce an element of bias.

Ethics

1) Permission to perform this qualitative research will be obtained from:

- The Human Research Ethics Committee of the University of the Witwatersrand
- The Provincial Research Committee

2) Staff confidentiality will be maintained. Data will be identifiable to the researcher only. Data will be de-identified once recorded data is transcribed into written text by the researcher and when categorized into themes.

3) Each participant of this study will be provided an information sheet and will be asked to sign consent forms before the interview can take place (See Appendix 3)

4) Each participant of the study will be asked to sign two consent forms: one for permission to interview (see appendix 2) and another to audio record the interview (see Appendix 4).

Timing

	2016			**2017**						**2018**
	May-Sept	**Oct**	**Dec**	**Jan**	**Feb**	**Mar**	**Apr - July**	**Aug-Nov**	**Dec**	**Jan**
Assessor Groups	√									
Submission to Ethics		√								
Pilot Study			√	√						
Qualitative Research Course					√	√				
Interviews							√			
Transcription of Recordings							√			
Data Analysis								√		
Compile research report									√	√

Funding

This research will be funded by the researcher.

ITEM	QUANTITY	TOTAL
Protocol Submission to Ethics Attachments: HREC forms Consent forms Information sheet	(15pages x R0.50) x 10 (8pages x R0.50) x 25 (2page x R0.50) x 25 (1page x R0.50) x 25	R75.00 R100.00 R25.00 R12.50
Digital Voice Recorder	R1500 x 2	R3000
Consent Forms	(R0.50 x 20) x 2 (duplicated)	R20.00
Information Forms	50c per page x 20	R10.00
Petrol Usage	3 tank	R2000
Refreshments	R30 x 10	R300.00
Wi-Fi data	30GB	R450.00
Telephone calls	R1.50 per call (20)	R30.00
TOTAL		R5972.50

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APPENDIX 1

UNIVERSITY OF THE WITWATERSRAND, JOHANNESBURG

DEPARTMENT OF FAMILY MEDICINE

Medical School, 7 York Road, Parktown 2193 South Africa
Tel: +27 (0)11 717 2056 / 2041 Fax: +27 (0)11 7172558
0400200y@students.wits.ac.za

Hello

This is an information letter for the study titled:

Exploring the sorting of patients in Community Health Centres across Gauteng

About me

I am a registrar from the Department of Family Medicine at the University of the Witwatersrand, working on a Qualitative Research that aims to explore the views of selected managers and senior clinicians in health districts across Gauteng, on the **use of different triage systems** in the **walk-in non-emergency outpatient setting**, and the related challenges and successes. I invite your participation in a study that explores these views and which will hopefully assist in the eventual formalisation of a standardised triage tool for this setting.

Why am I doing this?

You have been selected because of your **prior experience in triage in the non-emergency walk in outpatient departments** at a government primary health care facility. Currently there is no standardised tool for triage in this setting but due to the nature of our health care system, the primary health care setting is where almost all patients first present. Triage/sorting of patients may help us to offer a better more efficient service. While triage does not always refer to the emergency patient, missing such a patient due to no triage

system could result in an unfavourable outcome. I would like to get your opinion on **what worked** and **what did not work and why**. As this is an in-depth interview any additional information that you would like to add is more than welcome.

What is expected of the participants?

I will need you to **agree to take part in a recorded interview** where **four question** will be asked. These questions will be based on the **triage experience** that you have had in your particular workplaces. They are opinion based question. This will be recorded digitally and transcribed by the doctor for analysis. There will be **two consent forms to sign** (one for the interview and another for the interview to be recorded).

What about confidentiality?

Your identity will be known only to the researcher and no names will be stated during the interview. We would like you to fill in a participant information sheet, where your participant number will only be known to the researcher. We would like you to state your age, gender, race, title and years of experience as a doctor in the public sector at the beginning of the interview.

May I withdraw from the study?

Your participation is entirely voluntary. There will be no consequences to you whether you participate or not. You will not be victimised in any way.

Risks and Benefits

It is important to remember that participation in this research is entirely voluntary and as a result no financial reward or incentive will be given. You will benefit by sharing your experience for analysis which will hopefully result in a formalised triage tool for the primary health care setting in the near future.

What will happen to the information I give the researcher?

All information, including the audio recordings will be kept at the University of the Witwatersrand under lock and key for a minimum of 2 years if the research is published, or 6 years if the research is not published. After this, it will be destroyed.

What permission has been given?

Official permission to conduct this research has been granted by the relevant local health authorities. Ethical permission to conduct this research has been granted by the Human Research Ethics Committee of the University of the Witwatersrand. Should you require any information regarding your rights as a research respondent, or have any complaints regarding this study, you may contact Ms Zanele Ndlovu/ Mr Rhulani Mkansi/ Mr Lebo Moeng, administrators at the Human Research Ethics Committee (HREC) on +2711 717 2700/2656/1234 or email HREC-Medical.ResearchOffice@wits.ac.za.

We need your consent!

If you are willing to participate, we request you to sign the formal consent form as well as a consent form agreeing for the interview to be digitally recorded. Copies of consent forms will be provided to you.

Who should I contact if I have any questions?

If you should have any queries about the project, please contact Dr Brenda Stott (Principal Researcher): 0400200y@students.wits.ac.za or 082 444 8265

Thank you

Yours sincerely,

Principal Researcher: Dr Brenda Witt

APPENDIX 2

INTERVIEW CONSENT FORM - Qualitative Research

Concerning participation in Qualitative Research titled:

Exploring the sorting of patients in Community Health Centres across Gauteng

I understand that I have been invited to take part in this Qualitative Research.

I am clear about the aims and objectives of the Qualitative Research that are proposed. I have not been forced or pushed in any way to take part.

I understand that taking part in this Qualitative Research is completely voluntary i.e. of my own choice. I know that I may withdraw from it at any time without giving any reasons.

I do understand that my opinion on implemented triage systems within the walk-in non-emergency outpatient departments at my current or previous workplaces, will be collected and recorded. This information will be used only for the purposes of analysing the recorded data in this Qualitative Research.

Once the research is finished this information will be destroyed.

I agree to participate in the project.

I know that the results of this Qualitative Research will be used for scientific and educational purposes.

I hereby agree to participate in this Quality Improvement.

.....	.....	.....
Name of participant	Signature of participant	Witness
.....	.....	
Place	Date	

Statement by the researcher:

I have given written information regarding this Qualitative Research to the participant.

I agree to answer any future questions concerning the research as best as I am able.

I will adhere to the protocol as it has been approved.

.....	.....	.....	.....
Name of researcher	Signature	Date	Place

Principal Researcher: Dr Brenda Witt

APPENDIX 3

INTERVIEW GUIDE

Exploring the sorting of patients in Community Health Centres across Gauteng.

QUESTIONS IN **BOLD** (with prompts below – to be used only if issues not raised)

Setting: You are working in the non-emergency, primary health care, walk-in, outpatient department. Due to the large patient loads that are seen in our primary health care clinics, you are faced with benches full of patients on a daily basis.

a) **What is your view on triage/sorting systems to manage walk-in patients in the non-emergency outpatient setting?**
    a. Are there any systems that you know of?

b) **What are your reasons for choosing a particular triage/sorting method to manage walk-in patients in the non-emergency outpatient setting?**
    a. How would you adapt to different circumstances?
        i. Emergency patients
        ii. Adult vs Child

c) **What are your views on the factors enabling appropriate triage/sorting systems?**

d) **What are views on the challenges inhibiting appropriate triage/sorting systems?**

e) **Is there anything else you would like to add?**

APPENDIX 4

AUDIO RECORDING CONSENT FORM - Qualitative Research

Concerning participation in Qualitative Research titled:

Exploring the sorting of patients in Community Health Centres across Gauteng

I understand that I have been invited to take part in this Qualitative Research which will include an audio recording of the interview in which I take part.
I understand that no names will be used in the interview and that I will be required to state my age, gender, race, years of experience in the public setting, current position held, and district in which I work.

I understand that once the researcher has transcribed the interview, the transcript will be sent to me for review.

The information gathered will be used only for the purposes of analysing the recorded data in this Qualitative Research.

I understand that no audio clips will be used.

I understand that during the research period the recording and transcript will be kept on the researcher's password coded computer and a back up copy will be kept on a memory stick under lock and key.

I understand that once the research is complete the recording and transcript will be kept for 5 years. It will be kept on a memory stick and locked away in the Department of Family Medicine at the University of the Witwatersrand. It will be deleted from the researcher's computer.

After 5 years the memory stick will be destroyed.

I agree to participate in the audio recording for this research.

I know that the results of this Qualitative Research will be used for scientific and educational purposes.
I hereby agree to participate in this qualitative research.

……..	……..	……..
Name of participant	Signature of participant	Witness
……..	……..	
Place	Date	

Statement by the researcher:
I have given written information regarding this Qualitative Research to the participant.
I agree to answer any future questions concerning the Project as best as I am able.
I will adhere to the protocol as it has been approved.

…….. …….. ……..
……..
Name of researcher Signature Date Place
Principal Researcher: Dr Brenda Witt

APPENDIX 5

PARTICIPANT DEMOGRAPHIC DATA SHEET

Exploring the sorting of patients in Community Health Centres across Gauteng

Please complete the table below.

Participant Number	
District in which participant works	
Years of experience	
Age	
Gender	
Race	

APPENDIX 6

Written Permission Letters

- Johannesburg Health District
- Ekhuruleni Health District
- West Rand District
- Sedibeng Health District
- Tshwane Health District

JHB HEALTH DISTRICT

GAUTENG PROVINCE
HEALTH
REPUBLIC OF SOUTH AFRICA

Joburg
a world class African city

JOHANNESBURG HEALTH DISTRICT

Enquiries: Dr EM Ohaju
Tel: +27(0) 11 694 3887
Cell: 082 731 6672 / 076 8831659
Email: Elizabeth.Ohaju@gauteng.gov.za
Hillbrow CHC: Administration Building
Cr Smith Str. & Klein Street
Private Bag X21, Johannesburg
South Africa, 2017

Unit 48 Via Siena,
52 Burn Street,
Waverley,
Johannesburg,
2090

E-mail: brenda@medicalminds.co.za

Ref: 2016-17-059

Dear: Dr Brenda Stott

Re: '*Exploring the sorting of patients in Community Health Centres across Gauteng* '

Your application dated **2016/11/18** refers.

The District Research Committee has reviewed your application. This letter serves as an in-principle approval to access the Districts Health facilities (mentioned below) for the above project subject to following conditions:

The facility to be visited : All Community Health Centres A, B,C,D1,D2,E,F,G

- The research can only commence after you submit an ethics clearance certificate from a recognized institution.
- This facility will be visited from 15/12/2016 to 30/11/2017

Region	Regional Health Manager	Contact No.	Cell phone
A	Ms Nelly Shongwe	011 237 8010	082 467 9276
B	Ms Paulinah Maepa	011 718 9656	082 551 5804
C	Mr Tebogo Motsepe	011 761 0257	083 421 9405
D1	Ms Mariah Mazibuko	011 472 7665	082 781 9919
D2	Ms Morwa Molebatsi	011 933 0202	082 413 4809
E	Mr Oupa Montsioa	011 681 8130	082 467 9423
F	Mr Peter Mathole	011 440 1259	082 772 0582
G	Ms Zay S. Suliman	011 855 4648	082 854 2298

- You will report to the Facility Manager before initiating the study.
- Participants' rights and confidentiality will be maintained all the time.

- No resources (Financial, material and human resources) from the above facilities will be used for the study. Neither the District nor the facility will incur any additional cost for this study.
- The study will comply with Publicly Financed Research and Development Act, 2008 (Act 51 of 2008) and its related Regulations.
- You will submit a copy (electronic and hard copy) of your final report. In addition, you will submit a six-monthly progress report to the District Research Committee.
- Your supervisor and University of South Africa will ensure that these reports are being submitted timeously to the District Research Committee.
- The District must be acknowledged in all the reports/publications generated from the research and a copy of these reports/publications must be submitted to the District Research Committee.

We reserve our right to withdraw our approval, if you breach any of the conditions mentioned above.

Please feel free to contact us, if you have any further queries. On behalf of the District Research Committee, we would like to thank you for choosing our District to conduct such an important study.

Regards,

Dr R Bismilla
Executive Director
City of Johannesburg
Date: 2/12/16

Ms M Morewane
Chief Director
Johannesburg Health District
Date: 07/12/2016

EKHURULENI HEALTH DISTRICT

Ekurhuleni
METROPOLITAN MUNICIPALITY

GAUTENG PROVINCIAL GOVERNMENT

EKURHULENI RESEARCH CLEARANCE CERTIFICATE

Research Project Title: Exploring the sorting of patients in Community Health Centres across Gauteng.

Research Project Number: 08/12/2016-4

Name of Researcher(s): Dr Brenda Stott

Division/Institution/Company: University of Witwatersrand

DECISION TAKEN BY THE EKURHULENI HEALTH DISTRICT RESEARCH COMMITTEE (EHDRC)

- *THIS DOCUMENT CERTIFIES THAT THE ABOVE RESEARCH PROJECT HAS BEEN FULLY APPROVED BY THE EHDRC. THE RESEARCHER(S) MAY THEREFORE COMMENCE WITH THE INTENDED RESEARCH PROJECT.*
- *NOTE THAT THE RESEARCHER WILL BE EXPECTED TO PRESENT THE RESEARCH FINDINGS OF THE PROPOSED RESEARCH PROJECT AT THE ANNUAL EKURHULENI RESEARCH CONFERENCE.*
- *THE RESEARCH COMMITTEE WISHES THE RESEARCHER(S) THE BEST OF SUCCESS.*

DR J - SEPUYA

DEPUTY CHAIRPERSON: EKURHULENI METROPOLITAN MUNICIPALITY
Dated: 14/12/2016

DR. R. Kellerman

CHAIRPERSON: GAUTENG DEPARTMENT OF HEALTH (EKURHULENI REGION)
Dated: 14/12/2016

WEST RAND HEALTH DISTRICT

GAUTENG PROVINCE
HEALTH
REPUBLIC OF SOUTH AFRICA

Enquiries: Dr Shaikh G K
Tel: 0828571925
Fax: 0866004183

Dr Brenda Stott
University of Witwatersrand
Johannesburg

RE: PERMISSION TO CONDUCT RESEARCH IN WEST RAND DISTRICT.

Your correspondence on the above matter refers.
Thank you for your request to conduct research in West Rand District in understanding the triage system in our community health centres.

Permission is hereby granted to you to conduct research in West Rand District. I am anticpating that you will conduct your research with the knowledge of all relevant Managers in respective Sub-districts.

You are expected to share the findings and recommendations with the district in order to improve the service delivery to people of west rand.

I hope you find the above in order.

Yours faithfully,

MS PULENG MUSO
DIRECTOR
WRDCA
DATE: 06/01/2017

SEDIBENG HEALTH DISTRICT

GAUTENG PROVINCE
HEALTH
REPUBLIC OF SOUTH AFRICA

OFFICE OF THE DIRECTOR SEDIBENG DHS

Enq: Nthabiseng Radebe
016 950 6010
016 950 6210
to 086 572 6013
Nthabiseng.Radebe@gauteng.gov.za

TO : **Dr. B. STOTT**
SCHOOL OF CLINICAL MEDICINE
UNIVERSITY OF THE WITSWATERSRAND

FROM : **MS. S. HLAHANE – DIRECTOR SEDIBENG DHS**

DATE : **29 NOVEMBER 2016**

SUBJECT : **PERMISSION TO CONDUCT RESEARCH – EXPLORING THE SORTING OF PATIENTS IN COMMUNITY HEALTH CENTRES ACROSS GAUTENG (SEDIBENG DISTRICT)**

Please be informed that permission has been granted for you to carry out the abovementioned research at Sedibeng Health Service. It is noted that you have already obtained Provincial Ethics Committee as well as University of the Witwatersrand Ethics Clearance.

Kindly note that a copy of the report on the findings (especially) that concerns Sedibeng Health Services must be submitted to the Director's office at the completion of the study.

This permission is also subject to the conditions stated in the protocol and any change in design and methodology must be communicated to the District Director.

We wish you success in your research endeavours.

P/P Dr. Victor Figueroa

MS. S. HLAHANE
DIRECTOR SEDIBENG DHS
DATE: 30/11/2016

TSHWANE HEALTH DISTRICT

GAUTENG PROVINCE
HEALTH
REPUBLIC OF SOUTH AFRICA

Annexure 1: Declaration of intent from the clinic manager or hospital CEO

I give preliminary permission to Dr Brenda Stott (name of researcher) to do his or her

Research on **Exploring the Sorting of patients in community health centres across Gauteng.** (Research topic) in

Stanza Bopape, Kgabo CHC, Ladium CHC (names of Clinics)

I know that the final approval will be from the Tshwane Research Ethics Committee and that this is only to indicate that the clinic/hospital is willing to assist.

Other comments or conditions prescribed by the clinic or CHC manager or hospital CEO:

Signature
Clinic Manager/CHC Manager/CEO

ACTING DIRECTOR

15/02/2017

ETHICS CLEARANCE CERTIFICATE

R14/49 Dr Brenda Stott

HUMAN RESEARCH ETHICS COMMITTEE (MEDICAL)

CLEARANCE CERTIFICATE NO. M161043

NAME: (Principal Investigator)	Dr Brenda Stott
DEPARTMENT:	School of Clinical Medicine Family Medicine Gauteng Community Health Centres
PROJECT TITLE:	Exploring the Sorting of Patients in Community Health Centres Across Gauteng
DATE CONSIDERED:	28/10/2016
DECISION:	Approved unconditionally
CONDITIONS:	
SUPERVISOR:	Dr Shabir Moosa
APPROVED BY:	Professor P. Cleaton-Jones, Chairperson, HREC (Medical)
DATE OF APPROVAL:	20/03/2017

This clearance certificate is valid for 5 years from date of approval. Extension may be applied for.

DECLARATION OF INVESTIGATORS

To be completed in duplicate and **ONE COPY** returned to the Research Office Secretary in Room 10004,10th floor, Senate House/2nd floor, Phillip Tobias Building, Parktown, University of the Witwatersrand. I/We fully understand the the conditions under which I am/we are authorised to carry out the above-mentioned research and I/we undertake to ensure compliance with these conditions. Should any departure be contemplated,from the research protocol as approved, I/we undertake to resubmit to the Committee. **I agree to submit a yearly progress report**. The date for annual re-certification will be one year after the date of convened meeting where the study was initially reviewed. in this case, the study was initially review in October and will therefore be due in the month of October each year. Unreported changes to the application may invalidate the clearance given by the HREC (Medical).

Principal Investigator Signature Date

PLEASE QUOTE THE PROTOCOL NUMBER IN ALL ENQUIRIES