



ORIGINAL ARTICLE

How Health Care Practitioners experience emergencies at Primary Health Care facilities – Kinks in the chain of survival

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ABSTRACT

Background: The 72nd World Health Assembly has recognised that emergency care at primary health care level is vital for reducing overall mortality and disability. The system of emergency care at this level is affected by various external factors. Little is known about these factors and how they shape the experiences of health care practitioners dealing with medical emergencies in Primary Health Care (PHC) settings. The objective of the study was to explore the experiences of health care practitioners in dealing with emergencies in PHC facilities in the Gauteng province of South Africa.

Methods: A qualitative formative evaluation approach was used. Data were collected using semi structured interviews and analysed using qualitative content analysis to describe the experiences of health care practitioners dealing with emergencies at a primary health care level. Participants included health care practitioners from various levels of the district health system.

Results: Major themes that emerged explored challenges faced by health care practitioners, the referral system and influential policy such as the ideal clinic movement.

African relevance

- Emergency care at a PHC level is often the first line response for acutely ill or injured patients in low- and middle-income earning countries
- In an African context, emergency care at this level is often under-resourced and inefficient to meet the needs of communities
- By understanding the experiences of practitioners managing emergencies at this level we are able to identify challenges and propose contextually relevant solutions for improving emergency care at PHC level

Introduction

Emergency care is a part of the broader system of health care and is often described using the phrase “chain of survival”. A medical emergency is “any unscheduled episode of care sought by a patient with an acute health problem of all ages” [1]. The first response to emergency care is often at a community or Primary Health Care (PHC) level, which forms part of the first link in the chain of survival or system of emergency care. A system by nature is a complex network or chain of various components working together to achieve a common objective [2].

Strengthening the system of emergency care at PHC level is a decade old strategy for reducing mortality and disability, but remains a pressing issue in many healthcare systems [4,5,8]. This move towards strengthening of the emergency care system at a PHC level has benefited many African countries, however, there remains opportunity for improvement [3,4].

The capacity of a health care facility to respond to emergency situations is dependent on the availability of resources and the strength of support available in the referral system. Additionally, specialised equipment, drugs and the training of staff are effective but not always feasible in under-resourced settings [4,6].

In the chain of survival, the first response is a defining event for the patient. The initial treatment must be supported by a strong consultative referral system, which requires collaboration with other facilities, as well as an efficient transport system [7].

Globally, there has been neglect in the area of emergency services offered in PHC settings, with particular emphasis on low- and middle-income earning countries [17]. The capacity of PHC facilities to effectively respond to patients presenting with a medical emergency, is determined by various factors. Little is known about these factors and how they shape the experiences of health care practitioners dealing with medical emergencies in PHC settings. The study set out to deepen our

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understanding of the strengths, weaknesses, and nuances in the system of emergency care at PHC level by describing these experiences. The objective of the study was to explore and describe the experiences of health care practitioners dealing with emergencies at PHC facilities.

The research was conducted in the PHC system interchangeably called the District Health System (DHS) of the Gauteng province in South Africa which is divided into three levels as follows: 9 District Hospitals, 31 Community Health Care Centres (CHC) and 392 PHC Clinics.

Methods

A qualitative descriptive, qualitative design was used as it enables an exploration and description of the current context in order to make recommendations for improvement [9].

Maximum variation sampling was used to recruit health care practitioners who work at PHC facilities in Gauteng. Inclusion variables such as the type of health care practitioner and the three levels of facilities were used as a sampling framework. Using randomly selected facilities from each level of care in the district health system, participants of all available categories of professions were purposively recruited. Health care professionals involved in emergency care, available on the day were approached and invited to participate in the study. Two district hospitals, three CHC's and three PHC clinics were included. Twenty-two nurses and doctors who are directly involved in rendering emergency care in these facilities, participated in the study ($n = 22$).

Using an interview guide, the primary researcher conducted semi-structured individual interviews at the selected facility between June 2018 and August 2020. An initial appointment was made to meet staff, and build rapport with participants before conducting interviews either on the same day or a scheduled date. Data were recorded, transcribed and analysed using qualitative content analysis by uploading transcripts into a qualitative data analysis software system (MAXQDA Analytics Pro2018) [9]. Initial coding included the identification of important concepts followed by categorising these where commonalities existed. Categories were then collated into overarching themes and named to describe the overall finding being represented.

Ethical clearance to conduct the research was granted by the Human Research Ethics Committee (Medical) of the University of the Witwatersrand, and the District Health Research Committees for Gauteng Province. Written informed consent was obtained for participation and digital recording of the interviews.

Confidentiality and anonymity were maintained for participants and institutions, and an information letter informed participants of their choice to participate and the option to withdraw at any stage of the research process, without consequence.

Trustworthiness of qualitative research requires that credibility, dependability, confirmability and transferability of the research study is achieved [10]. All participants recruited have the requisite and current experience with managing medical emergencies at PHC level. The research methods appropriately answer the research questions ensuring credibility of the findings. During data analysis, the units of meaning were carefully considered when coding and categorizing data and the use of representative quotations from participants improved confirmability [10]. Dependability was ensured by considering new insights, or inconsistencies encountered during the data collection process and including in them in the discussion. The context and nuanced circumstances of the study setting were described to ensure that the research remains relevant and is transferable [10].

Results

77.27% ($n = 17$) of the sample were male and 22.72% ($n = 5$) female (Table 1). Of the participants, 63.63% ($n = 14$) were doctors and 36.36% ($n = 8$) nurses.

Two major themes and six sub-themes were generated following thematic content analysis (Fig. 1). The themes, capture PHC practitioners'

Table 1

Demographics of participants ($n = 22$).

	Frequency (n)	Percentage (%)
Gender		
Female	5	22.72
Male	17	77.27
Race		
Black	16	72.72
White	1	4.54
Indian	1	4.54
Coloured	2	9.09
Other	2	9.09
Profession		
Nurse	8	36.36
Doctor	14	63.63
Field of expertise		
Management	12	54.54
Non – Management	10	45.45

experiences of the difficulties in providing emergency care, and weaknesses in the referral system. Overstretched services, resource shortages and weaknesses in facility management contribute to practitioners' trials and tribulations in the provision of emergency care. The referral system is experienced as flawed with respect to ambulance transportation, obstacles at receiving facilities and time delays, all of these compromising the chain of survival.

Theme 1: Trials and tribulations in providing emergency care

There were various challenges expressed by participants including human and structural resource shortages as well as their experiences with facility management which serve as barriers to them providing emergency care to patients in need. Some participants felt generally overwhelmed by these challenges, at the first point of care.

Stretched beyond capacity: Many of the health care practitioners expressed the perception that the services offered at the facility were stretched beyond their capacity. Poor planning and resource allocation that results in shortages of both material and human resources underpin these experiences, including the unplanned for burden of patients using the incorrect facilities as per the zoning system.

P12: "You know, to be honest with you, I can say, it is sort of stretched."

P20: "That is why now we are running short of most of the things, because we're catering for whole Soweto."

Resource shortages: Participants expressed their concern about critical human and material resource shortages, directly influencing the quality of emergency care in the district services. 12 clinicians identified staff shortages as a barrier in delivering emergency care, highlighting the frustration of the participants.

P2: "but now, like I said, with a lot of staff that have resigned, I'm still struggling"

P12: "So that also impacts negatively on, you know, there's a shortage not only on material and other resources, also human resource. Human resources are a very major role, plays a major role in the managing of any area".

Many PHC facilities were described as being poorly resourced, specifically in terms of equipment and consumable stock used in emergency care, while some were not. Their experiences of resource inequalities are illustrated below:

P3: " we used to struggle but we've got enough, they're trying a lot, we've got the machines and we've got the equipment, we've got material, we don't struggle"

P13: "You know, those patients deteriorate very quickly, and we don't have drugs to treat them"

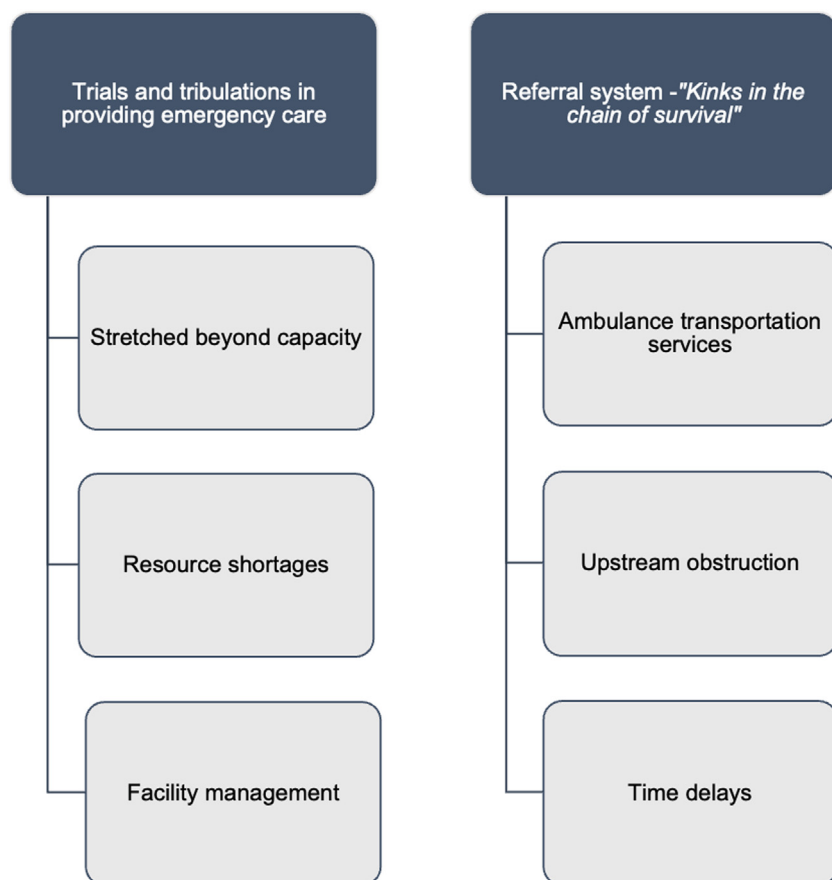


Fig. 1. Summary of themes and subthemes.

P15: “When we talk about resources you feel like staying at home because there’s nothing that you are going to do. You have plans in place; you know what you want to do but there’s nothing to..., you know, there’s no tool to help you. We always have shortages of drugs; we have shortages of this and that and it makes it quite difficult and most of the things are not within our control”

The unavailability of resources and equipment are attributed to supply chain barriers, more specifically, where suppliers had not been paid. Participants expressed their frustration with the lack of transparency and consultation during the procurement process.

P12: “Some, some distributors will tell you no supplies, they’ll tell you no, I won’t supply you for the simple reason that I haven’t been paid, you know, 30 days have long passed and I’m still sitting here with an order that was supposed to be paid say maybe 90 days or 60 days ago”.

P10: “It’s my own view, because, there’s a person up there who doesn’t see importance of paying the suppliers who’ll be giving us this thing, and then they owe the suppliers and then the suppliers decide to stop having to issue things”.

Facility Management: Optimal management of PHC facilities is essential for optimal emergency care. Participants expressed various perceptions about the existing management structures and the role of management in ensuring a well-functioning system.

P16: “I think the manager also needs to be the driving force, because now these things are not available, ensure that you order a drip bag, the drugs are available, make sure that they are there, ne, emergency drugs are there, ARVs again, that is your duty, right.”

Healthcare practitioners described the desire to be a part of the decision-making processes when management higher than facility level, develop policies, strategies and supply chain processes.

P22: “you know, to be part of the decision-taking, what we need to buy, what we need to get”

P16: “you must always include your team, ne. When I talk of a team, the very people are working here, give them ownership”.

Participants often referred to “someone up there” as the responsible structure for decision making. This vague understanding of who is involved in decision-making indicates a lack of transparency and a lack of trust in the management structures that govern the facilities.

P22: ” Somebody’s sitting there at the head office, the one that will approve and they don’t know what’s the situation here, you know”

Theme 2: Referral System

Optimal functioning of the District Health Services is underpinned by a well organised referral system comprising of reliable and timeous transportation, and health centres that are prepared to receive a referral. These were reportedly lacking. All participants experienced the referral system as challenging, attributing to major kinks in the chain of survival.

Ambulance transportation services: Participants’ expressed how various modes of transportation either aided or constrained their ability to refer patients to higher levels of care in the health system. The most commonly reported weakness in transportation was the unavailability of and delays associated with ambulances to transport acutely ill or injured patients to another facility.

P13: “but the issue is the waiting time for the ambulance. It takes up to four hours for the ambulance to arrive meaning further critical patient during that time can deteriorate very quickly.”

P20: ‘At the end of the day we end up taking a general car, put in a cylinder, a doctor and a nurse in a small car trying to take the patient to the hospital. With an ambulance we’ve got a big, big challenge. Otherwise we end up losing them whilst waiting for an ambulance.’

Participants expressed dissatisfaction with the decision-making skills of some ambulance personnel, largely because of poor triaging skills and a lack of understanding.

P21: “The paramedic will bring a patient from the community to the clinic, they come in anytime, because the patient phone the paramedics and they’re supposed to take the patient, but they are bringing the patient early in the morning for nothing, body pains two weeks, what am I supposed to do with the patient two o’ clock, three o’ clock in the morning for body pain.”

Health care practitioners are sometimes forced to either source their own transport (using private services at the cost of the facility budget) or wait for hours for an ambulance to arrive. Notwithstanding the consequence for patient survival, delayed transport also puts the health care practitioner in a compromising position needing to provide extended care beyond the facility capacity.

P5: “So, you make it a mini ICU. You just manage them.”

P12: “It’s so wrong, because at the end of day you end up sitting with a patient who you don’t know what to do with”

Upstream obstruction: There was a general sense that many of the receiving facilities “upstream” were obstructive, creating unnecessary barriers to accepting patients who the referring PHC facility could not manage appropriately. This leaves both staff and patients in limbo, with a direct impact on the continuity of care.

P11: “we’re delayed to get a doctor that side because you do not transfer without discussing the patient with the receiving doctor that side. They will say, have you done one, have you done two, have you done three, and you would say yes, yes, yes, I have done it, and then they will say, I don’t have availability. So sometimes we are stuck with the patient here,...

P15: “Sometimes they will even turn back the patient with a letter that patients must be booked, and you look at the patient and like this was an emergency. Even though we stabilised the patient; the patient still needed continuing medical care.”

Time delays: Time delays can have devastating outcomes for patients in need of emergency care. Participants in this study voiced their concerns regarding the frustrating time delays caused by weaknesses and inefficiencies in the referral system.

P9: “By sending them through, it takes longer because, to start with, you need to arrange that side with the doctors, they need to accept or refuse, or they say wait until they get the results. The result takes longer if it’s after hours, you can even wait six hours for results. So, at the end of the day it’s challenging just because patients were here, and we don’t have the facilities to help them.”

The frustration and trauma of having a deteriorating patient in your care is highlighted in the participants’ anxiety about time delays:

P5: “it’s just that most of our patients we resus them and we get them back and they end up dying here because they’re waiting for a bed”

Discussion

Health care practitioners described their experiences of managing emergencies at PHC facilities as arduous. There was resounding agreement in most experiences shared by both nurses and doctors. PHC facilities are “stretched”, despite receiving a large percentage of national funding, poor planning and rapid urbanisation often leads to an underestimate of the need in the province, confirming the sentiment of the participants [11].

Health care practitioners feel overloaded and understaffed. This complex issue is not easily addressed. The global crisis in human resources for health is compounded in South Africa by skills deficits, inequitable skills mixes in the workforce, poor managerial and supervisory capacity, the health of the workforce and a lack of leadership [12]. In an attempt to address staffing norms in the District Health System a guideline for staffing norms was developed, however, staffing for emergency services is omitted, and the specialists required on the District Health team does not include an emergency nurse or practitioner.

According to the South African Health Review (2016:182) there are “low staffing levels in emergency departments, which are often served by the most junior doctors; insufficient basic resuscitation facilities; and limited imaging facilities at clinics and district hospitals, especially after normal hours, which is when most trauma incidents occur”. This along with poor access to surgical facilities for the performance of minor procedures leads to delays in initial care and definitive care, resulting in more complications and the resultant need for an escalated level of care [13].

There was also a general sense that many of the receiving facilities were obstructive in acceptance of a patient whom the transferring facility could not manage appropriately. This indicates disjointedness and a lack of clarity on the referral criteria and processes from the most basic level of care to the highest level of care in secondary and tertiary facilities.

The most commonly reported challenge is related to ambulance and transport services for patients needing a transfer to another facility. Reportedly, there is an insufficiency of ambulances coupled with poor levels of training for ambulance staff (South African Health Review, 2016). Additionally, it is often found that patients do not follow the correct referral pathway, thus presenting to inappropriate facilities [13,14].

Similar to other provinces, problems in obtaining the necessary resources and equipment for emergency care are also directly related to supply chain challenges, which are a major barrier to service delivery. It raises questions about the efficiencies in managing these facilities and echoes the sentiment that poor governance exists exacerbated by corruption and mismanagement of funds [15,16]. Strong leadership in the governance of these facilities care would lead to a stronger capacity for the delivery of efficient emergency care. Clinicians have voiced their desire to contribute towards policy making and there exists opportunity for the management of facilities at PHC level to engage with and provide mentorship in the area of governance and shared accountability.

Limitations

Although the sampling method sought to include any multidisciplinary team (MDT) members dealing with emergencies at a PHC level, there were no clinical associates employed at the PHC facilities at the time of data collection. This, and other categories of emergency care practitioners would have provided different perspectives and added richness through their experiences of emergency care.

Conclusion

There are numerous kinks in the chain of emergency care at PHC level including poorly resourced emergency areas, insufficient emergency transport, critical staff shortages, an unclear referral pathway and

obstructions along the pathway for escalating emergency patients to appropriate facilities. Health care practitioners are left vulnerable when support to offer emergency care is lacking. There is a need to review the policies and guidelines directing emergency care at PHC facilities, to mitigate inefficiencies. The championing of emergency care at this level, calls for input from experts in the field to provide direction and develop a carefully coordinated system of emergency care that addresses the kinks in the chain at every level.

Dissemination of results

Results from this study were shared at a local district research day as well as at two research conferences in the form of poster presentations

Declaration of competing interest

The authors declared no conflicts of interest.

CRediT authorship contribution statement

Meghan Botes: Conceptualization, Investigation, Data curation, Formal analysis, Writing – original draft. **Judith Bruce:** Conceptualization, Supervision, Validation, Writing – review & editing. **Richard Cooke:** Supervision, Validation, Writing – review & editing.

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