STRENGTHENING THE EMERGENCY CARE SYSTEM AT A PRIMARY HEALTH CARE LEVEL USING A FRAMEWORK FOR POLICY ANALYSIS

Meghan Lavina Botes

A thesis submitted to the Faculty of Health Sciences, University of the Witwatersrand, in fulfilment of the requirements for the degree of Doctor of Philosophy.

Johannesburg, 2021

DECLARATION

I, Meghan Lavina Botes, declare that this thesis is my own, unaided work. It is being submitted for the Degree of Doctor of Philosophy at the University of the Witwatersrand, Johannesburg. It has not been submitted before for any degree or examination at any other University.

_____

__13__ day of __August__ 2021 in __Johannesburg

ABSTRACT

Health care systems, globally, have moved towards a focus on prevention and promotion; however strengthening emergency care at a primary health care level is vital for reducing overall mortality and disability (World Health Assembly, 2015). Emergency care exists within the broader system of health care and in order to understand and improve the system of emergency care an investigation that extracts insights from the various cogs in the system is needed.

The objectives of the study were to analyse the system of emergency care using Walt and Gilson's policy analysis framework, formulate evaluative conclusions, and to develop recommendations for strengthening the system of emergency care at a primary health care level.

A qualitative formative evaluation approach was used. The study was conducted in the Gauteng District Health System at various level one health care facilities. The first phase of the study focused on collecting data using semi structured interviews and analysis of data using qualitative content analysis. Using maximum variation sampling, participants (n=22) included health care practitioners, and health care facility managers. A document analysis of policies and guidelines that inform the district heath system was undertaken in conjunction with key informant interviews. The second phase included the formulation of recommendations by way of deductive reasoning and inviting key informants to validate the recommendations using the Delphi technique. Ethical considerations were applied.

Emergency care in the District Health Care system was described and evaluated based on findings from the three data sources identified in the framework for policy analysis. Triangulation of the data was achieved using the same framework for policy analysis and strengths and weaknesses in the system of emergency care were identified. Evaluative conclusions were formulated, and recommendations for strengthening emergency care in the District Health Care system were developed based on these.

Fourteen consensus-based recommendation statements were presented as the outcome of the research study. The recommendations proposed cover various aspects in need of improvement in the emergency care system including education and training, the role and placement of various actors, the need for leadership in emergency care and the need for a national plan for emergency care. Emergency care needs to become a priority in the National Health System.

ETHICAL CLEARANCE CERTIFICATE

UNIVERSITY OF THE WITWATERSRAND, JOHANNESBURG	HUMAN RESEARCH ETHICS COMMITTEE (MEDICAL)

Office of the Deputy Vice-Chancellor (Research & Post Graduate Affairs)

TO: Ms M Botes
School of Therapeutic Sciences
Department of Nursing Education
Medical School
University

E-mail: Meghan.Botes@wits.ac.za

CC: Supervisor: Professor J Bruce and Dr R Cooke <Judith.Bruce@wits.ac.za> and <HREC-Medical.ResearchOffice@wits.ac.za>

FROM: Iain Burns
Human Research Ethics Committee (Medical)
Tel: 011 717 1252

E-mail: Iain.Burns@wits.ac.za

DATE: 10/05/2018

REF: *R14/49*

PROTOCOL NO: **M171115** *(This is your ethics application study reference number. Please quote this reference number in all correspondence relating to this study)*

PROJECT TITLE: *Strengthening the emergency care system at a primary health care level using a framework for policy analysis*

Please find attached the Clearance Certificate for the above project. I hope it goes well and that an article in a recognized publication comes out of it. This will reflect well on your professional standing and contribute to the Government funding of the University.

MSWorks2000/Iain0007/Clearscan.wps

UNIVERSITY OF THE
WITWATERSRAND
JOHANNESBURG

R14/49 Ms M Botes

HUMAN RESEARCH ETHICS COMMITTEE (MEDICAL)
CLEARANCE CERTIFICATE NO. M171115

NAME: (Principal Investigator)	Ms M Botes
DEPARTMENT:	School of Therapeutic Sciences Department of Nursing Education Medical School University
PROJECT TITLE:	Strengthening the emergency care system at a primary health care level using a framework for policy analysis
DATE CONSIDERED:	24/11/2017
DECISION:	Approved unconditionally
CONDITIONS:	
SUPERVISOR:	Professor J Bruce and Dr R Cooke
APPROVED BY:	Professor CB Penny, Chairperson, HREC (Medical)
DATE OF APPROVAL:	10/05/2018

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 on 3rd floor, Phillip V Tobias Building, Parktown, University of the Witwatersrand, Johannesburg.

I/We fully understand 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 reviewed in **November** and will therefore be due in the month of **November** 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

LIST OF CORRECTIONS

Examiner 1			
Examiner Comment	**Chapter**	**Correction/Response**	**Page number**
The Abstract could benefit from some revisions. Currently, it is quite lengthy and has no sub-headings – please consider including; background, purpose/ aim of the study, methods, results, discussion, conclusions.	Abstract	Abstract edited according to university style guide requirements (Page 12 – abstract should be unstructured and limited to 350 words for a doctoral thesis). Headings therefore not included, abstract reduced to 356 words (one page).	v
The student needs to highlight the unique contribution this study adds to the body of knowledge (Global significance)	1	Significance for other LMIC's and global move towards strengthening emergency care added	12
Revisit old references: Page 1, first paragraph: 2005 second paragraph: 2003 Page 2, second paragraph: 2008 Page 3, second paragraph: 2004; 2009	1	Page 1, first paragraph: 2005 – updated, supporting reference added second paragraph: 2003 – not found Page 2, second paragraph: 2008 - updated, supporting reference added Page 3, second paragraph: 2004; 2009 – both references already supported by more recent literature	1 2 3 4 5

Page 4, first paragraph: 2002 Second paragraph: 1999 Page 5, first paragraph: 2003 Second paragraph: 2009; 2008		Page 4, first paragraph: 2002 - already supported by more recent literature Second paragraph: 1999 - updated, supporting reference added Page 5, first paragraph: 2003 - updated, supporting reference added Second paragraph: 2009 - updated, supporting reference added ; 2008 – reference changed/updated Some older references not removed but more recent supporting references added as the original work formed a large part of the conceptualization of the research and should be acknowledged	
In the significance of the study section the student needs to please reflect the significance in terms of practice, education administration and research.	1	Section related to practice, education and research added to significance statement.	12
The candidate needs to indicate how confirmability was ensured.	1	Statement reflecting confirmability added	16
Please also strengthen this section further by bringing in views of authors who disagree	1	While Morse argues for a change in the terminology used (go back to the terms rigor, reliability and validity), the underpinning	16

with trustworthiness and demonstrate a critique of trustworthiness- check the article by Morse, 2015 (Critical Analysis of Strategies for determining Rigor in Qualitative enquiry)		principles of trustworthiness are the same in both approaches, section added discussing this	
However, a lot of work has been done on community emergency care and this chapter is silent about it. Examples include: • Emergency First Aid Responder System (EFAR) designed for communities in LMICs and also designed to support the existing EMS, • SA Triage Score, tool used in pre-hospital settings • Seventy second World Health Assembly (2019)- emergency care systems for universal health coverage to	2	Section added on these developments. Last section related to SANC difficult to find information on history of the speciality with regard to recognition and accreditation.	32

ensure timely care for the acutely ill and injured • recent developments with emergency medical services, recognition by South African Nursing Council regarding emergency nursing specialisation, African Federation for Emergency Medicine, African Journal of Emergency Medicine (comments made re chapter 1).			
Have a section on Literature search strategy	2	I used various concepts related to the topic and framework but no specific strategy and search terms or Boolean phrases were used. I used a range of the data bases available. Section added to describe this	19
It is not clear which content analysis approach is used (authors)	3	Already described on page 47 and 48, Explanation of directed content analysis by Hseih and Shannon added.	49
Some of the themes are superficial	4 & 5	The directed approach of content analysis is also supported by Nowell (2017), and the deductive naming of themes based on the framework and explanation of the practical (superficial) naming of themes originally	48-50

		explained in the section detailing data analysis in chapter 3	
Please note the formatting: on page 118 number 6.3, the sentence breaks and thus loses meaning.	4 & 5	Formatting error corrected	120
Please recheck the themes and sub themes and be sure to explicitly make clear these links for the reader. For example, on page 63 the sub theme "Disempowered practitioners" is unclear. The quote; "I love trauma and emergency, so I feel competent. I love emergencies" – not clear to the reader how this belongs in a sub theme about being disempowered.	4 & 5	All themes and subthemes reviewed Changes in chapter 4 shown in overview on page 61 Correlating changes to subthemes: pg 65, pg 75 No changes made in chapter 5	 62 65, 75
The candidate has highlighted the contributions this study has made however, it is requested that that the uniqueness of the study	8	Section added detailing the contribution of the study to South Africa, LMIC's and Africa and globally.	224

to South Africa, Africa and the world be presented – perhaps in a bulleted fashion.			
The student needs to add the research objectives and provide the overview of the important conclusions of each objective. This will make it easier for the reader to follow the conclusions.	8	Each objective is described in the section "Evaluation of the study" but not in a bullet form fashion, it is more of a narrative. Specific section which summarises the objectives	218-221 219
Check book references…place of publication appears to be missing	References	Book references according to APA guidelines do not require location/place of publication https://libguides.wits.ac.za/ld.php?content_id=53547496 slide 50	

Examiner 2			
Examiner Comment	**Chapter**	**Correction/Response**	**Page number**
It is recommended to include studies that are ten (10) years and below	1 & 2	Chapter 1 Page 1, first paragraph: 2005 – updated, supporting reference added second paragraph: 2003 – not found Page 2, second paragraph: 2008 - updated, supporting reference added	1 2 3

		Page 3, second paragraph: 2004; 2009 – both references already supported by more recent literature Page 4, first paragraph: 2002 - already supported by more recent literature Second paragraph: 1999 - updated, supporting reference added Page 5, first paragraph: 2003 - updated, supporting reference added Second paragraph: 2009 - updated, supporting reference added ; 2008 – reference changed/updated Chapter 2 Hensher 2006, recent supporting reference added Some older references not removed but more recent supporting references added as the original work formed a large part of the conceptualization of the research and should be acknowledged	4 5 29
The abstract should not just be read as one story rather indicate subheadings like introduction, background, methods, findings, recommendations and conclusion. The abstract	Abstract	Abstract edited according to university style guide requirements (Page 12 – abstract should be unstructured and limited to 350 words for a doctoral thesis). Headings therefore not included, abstract reduced to 356 words (one page).	v

should also be on one page			
However, what is missing is whether this is also a problem globally and regionally.	1	Significance for other LMIC's and global move towards strengthening emergency care added	12
However, it seems to have ended abruptly such that the real problem to be addressed by this research is not stated clearly or flagged up.	1	Section added to highlight gap to filled by the research	8
"To develop and validate recommendations." This is inappropriate. Although findings have been presented as one section, the objective should therefore be split where first you develop the recommendations then another one you validate what has been developed.	1	Objective split into 2 separate objectives	9
These terms should not have come at a late stage because in the earlier sections they have been mentioned already without the understanding of the reader.	1	Definition of terms form part of variables of the study and therefore appropriately kept in chapter 1	9-11

However, there is also need to include the study significance on how this study will improve areas of research and pre service (training). All these areas are important.	1	Section related to practice, education and research added to significance statement.	12
However, the introduction of the literature review should include a section which should indicate that evidence based literature review was conducted i.e data bases searched, range of years of publication of articles reviewed, language, how much literature was available on the topic etc	2	I used various concepts related to the topic and framework but no specific strategy and search terms or Boolean phrases were used. I used a range of the data bases available. Section added to describe this	19
Include also what is the estimated population served by this District care system of Gauteng	3	Section added detailing population and health insurance coverage in Gauteng	38
However, there is also need for the candidate to clarify why the study took place in two phases, and whether phase one of the study informed phase two. Were these typical phases or just a case of data	3	Justification for using two phases added Clarification on key informants from phase 1 added	39 39

triangulation where key informants from phase one were invited to participate in the Delphi study			
Consider providing information on who developed the instruments in this study? Were these tools pretested before being used in the main study? Where (facilities) were they tested?	3	Qualitative semi structured interviews were conducted using a semi structured interview guide and a document analysis using a framework for analysis was used. This is described in the data collection section. No pretesting of the interview guide was done however in keeping with qualitative inquiry, probing questions were adapted as data was analysed and as data saturation occurred. Section added to describe this	48
Did the candidate collect data alone? How long was data collected? If used assistants, what preparation was made? (any training given?	3	Details added to section describing data collection. No research assistants used, time periods for data collection given.	47
Were there any other inclusion and exclusion criteria used in selecting their sample?	3	Inclusion variables were used to inform the maximum variation technique described and snowballing technique used for key informants	42
Did the in-proportion make any meaning in the findings?	3	Explanation on disproportion in representation originally included, however additional clarity added and elaboration on the effects on findings added.	60
Consider including a rationale/reference to	3	Supporting reference added	54

support the statement on page 51. “there is no documented exact number required for the consensus of a Delphi study, however, the concept of ensuring a representative collection of judgement from various experts in the field was employed			
Introduction section on findings (1a) should have described how results are going to be presented in this chapter, The study is in two phases and therefore the introduction should direct the reader to which objectives are presented at what stage.	4 & 5	Section added to introduction of chapter 4 explaining the objective related to the results presented in chapter 4 and 5. Section added to chapter 6 relating the findings to the relevant objectives and the same done in chapter 7	59 165 179
Also discuss having more participants from the doctors other than nurses who form the largest health care population at District Health Care system.	4 & 5	Explanation on disproportion in representation originally included, however additional clarity added and elaboration on the effects on findings added.	60
The following statement lacks clarity “Emergency medicine and emergency nursing have not been	8	Sentence restructured for clarity	220

invited, by policy makers leading health policy development in the district health system to contribute to the development of a coordinated emergency care system".			
The following statement has missed some words at the end of the sentence. "The dynamic unfolding of the study findings has led me to acknowledge that, in order for the emergency care in the district health care system to improve, the development of a multi-level system, led by national emergency health office".	8	Sentence completed by adding "is needed".	220
Page 222 under recommendations 8.5.1 The last sentence should read "in order to roll out training more widely.	8	Typo corrected – sentence reads as suggested.	225
Page 223 Health Policy Research Third sentence "Health policy research is not only ……., but	8	Typo corrected – sentence reads as suggested.	226

it is also for shedding light……..			

Examiner 3			
Examiner Comment	**Chapter**	**Correction/Response**	**Page number**
P29 – The hub and spoke model is equivalent to our cluster system – needs a bit more elaboration on how this system actually works with 2 clusters in JHB and 2 in Pretoria which further divides the service	2	Paragraph added describing the cluster approach in Gauteng province and the aim of the cluster system with regard to emergency care	30
P 98 – Include SA Triage score as a validated triage system being used in SA – some mention of it to highlight the importance of a standardized score that all use	4 & 5	Section added supporting the need for standardised triage processes using the SATS tool.	100
Also pg 159 EMS also need to triage	4 & 5	Sentence added to highlight inclusion of triage in the prehospital environment	162
Pg 191 – IT support for record keeping, computer availability is a major issue and influences data capturing of any	7	Section added to discussion related to this recommendation added to highlight the need for IT support	217

information which can be used			
P 208 – Important to include newest cadre of health workers – Clinical Associates	7	Section added highlighting the lack of mention of the CA's in policies and the need to maximize the value they can add to the mergence care system under the relevant supervision and leadership	209-210
P 213 – Clarify nomenclature – EMC (Emergency Care Centre)/EM unit/departments/Accident and Emergency units)	7	The need for definition and requirements or capacity for emergency care of these different types of facilities was highlighted	215