Dissertation Title:

Prehospital care providers' decision to transport the patient with a suicide attempt refusing care in the Cape Town Metropole, Western Cape:

A survey based on the Mental Healthcare Act of 2002

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Student Number: EVNKAT004

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Co-supervisor: Mr Willem Stassen, Stellenbosch University

The above research was completed in partial fulfilment of the MMed Degree in Emergency Medicine at the University of Cape Town.

DECLARATION

This research is based on independent work performed by **Katya Evans** and neither the whole work nor any part of it has been, is being, or is to be submitted for another degree in this or any other university.

Signature: Signed by candidate

Date: 14/03/2015

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Research protocol

Prehospital care providers' decision to transport the patient with a suicide attempt refusing care in the Cape Town Metropole, Western Cape:

A survey based on the Mental Healthcare Act of 2002

Research Protocol 1.1 - August 2014

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MMed: Emergency Medicine

University of Cape Town

This study is in partial fulfilment of the MMed: Emergency Medicine degree

Declaration:

I, Katya Evans, hereby declare that the work contained in this assignment is my original work and that I have not previously submitted it, in its entirety or in part, at any university for a degree.

Signature:  *Date: 18.08.2014*

Research protocol - Table of contents

Summary / Abstract

Anecdotally incidents of inappropriate refusal of treatment or transportation by patients referred to hospital under the Mental Healthcare Act of 2002 have been noted. There is little documented about the knowledge and understanding of prehospital providers of the mental healthcare act, their responsibilities and the issues around patient competence and refusal of care. The transportation of patients presenting with a suicide attempt who have not yet been formally assessed for involuntary admission poses a particular problem.

Aim: To determine the knowledge of prehospital providers with respect to the transport of patients presenting with suicide attempts and the mental health act and to describe their management of cases where these patients may refuse treatment.

Methods: A cross-sectional survey and including open ended questions of 100 prehospital providers in the Western Cape both public and private. The questionnaire will include knowledge testing, vignettes describing patient management and open-ended questions regarding their opinions on suicidal patients. Simple descriptive statistics will be used for the knowledge test. Qualitative data will be coded using a grounded theory approach.

Discussion: The findings of the study will be used to determine provider knowledge and attitudes regarding the prehospital management of patients presenting with suicide attempts. Recommendations will be made for provincial EMS guidelines and the results will be disseminated in an article for publication.

1.0. Background (Literature Review) & Rationale

1.1. Literature review

Worldwide almost one million people died in the year 2000 as a result of suicide. Suicide is the fourth leading cause of death in men and women between the ages of 15 and 44 years. (1) The rate of suicide in sub-Saharan Africa (32/100 000) is the second-highest worldwide.(2) Eighty percent of patients who complete suicide have previously indicated their intention to do so and 30-40% of completed suicides have had one previous unsuccessful attempt.(3)

In emergency care the psychiatric and medical management of a suicide attempt is a major challenge for both in-hospital and prehospital care providers.(3)

The World Health Organization recommends that all health care practitioners should be trained to recognise, treat and refer patients at risk, as part of the organisations suicide prevention steps. (1) All healthcare practitioners should also have knowledge on the legal basis of treatment of the mental healthcare users who are refusing treatment because they may have poor insight into their illness and measures may need to be taken that restrict their personal freedom. (3)

A study done with 11 040 acutely ill psychiatric patients demonstrated a statistically significant increase in the likelihood of completing suicide in those patients who were discharged against their psychiatrist's advice compared to those patients who were discharged home by their psychiatrist.(4)

The South African Mental Healthcare Act of 2002 states that involuntary care, treatment and rehabilitation can be provided to people incapable of making informed decisions due to their mental health status and who refuse health intervention but require such services for their own protection or for the protection of others.(5)

1.2. Motivation for study

Informal discussion with colleagues revealed that many prehospital care providers are uncertain of how to approach the patient who has attempted suicide and is subsequently refusing

transport to hospital. Anecdotally many prehospital care providers have reported that they do not contact the South African Police Services (SAPS) to assist and they do not sedate and transport these patients to hospital but rather "allow" the patient to sign a "refusal of treatment/transport" form (if available in the particular service) or document patients' refusal on the patient report form. The concern regarding this approach is that this conflicts with the Mental Healthcare Act of 2002; Section 32 which relates to the provision of involuntary care to mental healthcare users if they are likely to inflict serious injury upon themselves.(5) A formal study of current practice is needed to determine if guidelines and further training is required for prehospital care providers in the Cape Town Metropole**.**

1.3. Research question / hypothesis

Do prehospital care providers in the Cape Town metropole make transport decisions in accordance with the Mental Healthcare Act of 2002, in the patient who has attempted suicide and is refusing transport.?

1.4. Specific Aims

To describe the transport decisions made by prehospital providers in relation to the Mental Healthcare Act of 2002, in the patient who has attempted to commit suicide and subsequently refusing transport in the Cape Town Metropole, Western Cape

1.5. Objectives

i. To determine the knowledge of prehospital care providers regarding the contents of the Mental Healthcare Act of 2002 as it relates to the management, detention and transport of suicidal patients

ii. To describe the management choices made by prehospital providers in the transport of suicidal patients.

iii. To develop a guideline/framework for prehospital care providers to assist with the transport decision-making of the suicidal patient.

2.0. Methods

2.1. Study Design

This is a cross-sectional survey including open ended questions of prehospital providers in the Western Cape of South Africa. The questionnaire will be administered by the researcher to a provider after informed consent has been obtained.

2.2. Study population & Sampling

The study population will be basic, intermediate and advanced life support practitioners who are currently permanently employed in the Cape Town Metropole, Western Cape in one of the three largest emergency medical services (Western Cape Provincial Emergency Medical Services, and two private services). There are approximately 500 active on-duty operational staff in the Cape Town Metropole - excluding staff on leave, staff in communications department & management roles. The sample size of 100 is chosen as a convenience sample of 50 of the 350 Western Cape Provincial EMS staff and 50 staff from two private sector services. The stratification of 25, 25, 50 is used to make the sample more representative of the Cape Town Metropole Prehospital Care Provider population due to Western Cape Provincial Emergency Medical Services (EMS) comprising of approximately 50% of the population, while two private services make up approximately the remaining 25% each. Cluster randomisation of ambulance stations in the Cape Town Metropole will be performed selecting 4 stations to conduct the questionnaires, 2 from Western Cape Provincial EMS. Whilst on the base visits, attempts would be made in conjunction with the shift managers/officers to encourage voluntary participation of at least 40% of the staff per shift to ensure that staff who would not normally complete questionnaires are included.

2.2.1. Inclusion criteria

- Consenting basic, intermediate, and advanced life support practitioners (including emergency care technicians, critical care assistants, national diplomates and graduate paramedics).

- In full-time employ at one of three ambulance services (private & government sector) as operational staff in clinical care.
- Registered with the Health Professions Council of South Africa (HPCSA)

2.2.2. Exclusion criteria

- Employed in an administrative/management position
- Volunteer or occasional workers
- Non consenting individuals
- Not registered with the HPCSA

2.3. Measurements

Responses will be assessed by a questionnaire including open ended questions. This questionnaire will be generated through a review of the literature. It will be validated for content by an expert group of Emergency Medicine, Prehospital medicine and Psychiatry practitioners. A pilot will be done with a small cohort of prehospital providers to test the questionnaire for feasibility. An iterative process will be used to produce the final questionnaire.

The questionnaire is divided into three sections. Section one will record the demographics (gender, qualification, years of experience and work sector) of the participants. The second section investigates the participants' knowledge of the Mental Healthcare Act of 2002, in relation to prehospital transport decision-making, by presenting a series of true or false questions. The third section provides a series of five vignettes (patient scenarios) in which the participant is required to describe in their own words how they would deal with the various patient scenarios of patients with different presentations refusing transportation. The fourth section is comprised of open-ended questions focusing on practitioners' opinions regarding suicidal patients and accounts of challenges they have had transporting suicidal patients. An appropriate area of the relevant ambulance base will be identified for staff to complete questionnaires to ensure confidentiality of the answers.

2.4. Data management

Questionnaires will be distributed in person to practitioners meeting the above criteria for manual handwritten completion. Handwritten completion will be done due to concerns regarding computer literacy and availability of computers and/or Internet to staff. Each study participant will be assigned a unique research identifier and only that identifier will appear on the data sheets. Informed consent will be collected on a separate consent form and stored separately. The principal investigator will subsequently transcribe the completed questionnaires electronically. Incomplete questions will be excluded from analysis. If questionnaire is interrupted due to service delivery needs (e.g. staff member being sent to an emergency call-out) then attempts will be made to complete the questionnaire either in person or telephonically at a later stage, if unable to do so, incomplete questions will be excluded. The data will be kept in a password-protected file on a password-protected computer only accessible by the principal investigator. Data will backed-up electronically within a password protected folder on Dropbox® only accessible by the principal investigator and research supervisors. The electronic transcriptions will be kept for a period of 5 years. The original data collection forms will also be filed in a locked safe for 5 years.

2.5. **Statistical analysis**

Data will be subjected to descriptive analysis. Demographic data will be presented as total numbers, means, medians and standard deviations. Section two and three will be presented as percentage of correct answers per question. Associations between demographic data, knowledge based answers and transport decisions will be investigated by chi-square analysis. The qualitative data generated by the open-ended questions will be hand coded independently by the 3 researchers using a grounded theory analysis.

The grounded theory approach will be used as no concrete framework exists to analyse the data. Marshall and Rossman’s technique of content thematic analysis will be used, the themes generated will be explored in the context of the environment and existing literature.

(REF) Quotations and ‘thick descriptions’ will be used to illustrate the experiences and feelings of participant.

2.6. Ethical considerations

Ethical approval will be sought from the Human Research Ethics Committee (HREC) of the University of Cape Town. Written approval by stakeholders (Western Cape Provincial Emergency Medical Services and two private sector services) will be obtained by sending a formal request via email to the respective research committees. Verbal consent has been obtained in principal from the relevant research liaisons from these three services pending approval by HREC. The identities of the stakeholders will not be disclosed.

Informed consent will be taken. (See Appendix A). Participants will be provided with a copy of the consent form which includes an information sheet on the study and participants will be given the option to obtain results of the study via email.

All questionnaires will be anonymous and any specific identifying data will not be recorded. Confidentiality will be ensured and no information will be disclosed. All data will be secure and password protected. Only the principal investigator and supervisors will have access to the raw data. There is no foreseeable risk or danger to participants, as confidentiality will be ensured. The research will be self-funded by the principal investigator

2.7. Limitations

External validity and generalisability will be affected by the limited geographic nature of the sampled population. This means that results cannot be extrapolated to the rest of the South African Emergency Medical Services population in the rural setting or other provinces. External validity is also affected by the convenience sampling technique employed.

Causation cannot be established as the study is descriptive in nature and the methodology is not powered to reach such conclusions and looks at association rather than causation.

2.8. Data Dissemination Plan

The data will be written up in the format of a publishable article. Publication for this article will be sought with a relevant accredited journal. Stakeholders involved will also receive a copy of this report including recommendations for education and standard operating procedures. If major knowledge deficits are identified a training programme will be set up to improve education on the topic.

2.9. Project Timeline

2014	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
EM-DRC			x								
Sx-DRC					x						
Ethics						x					
Data Collection							x				
Transcribing of Data								x			
Data Analysis									x		
Compilation of Final Report										x	
Submission											x

2.10. Resources & Budget

No specialised equipment will be required. The principal investigator will complete data collection and therefore salary for a research assistant is not required. The research is self-funded by the principal investigator.

April – December 2014				
Item	Description	Unit cost	Nº of Units	Total cost
Consumables				R200
1. Office supplies, printing & reproduction for data collection	Printing of 200 questionnaires	R1	200	R200
Research travel				R2996
1. Travel to sites	Calculated using Google Maps & AA Rates	R/km	Km	
	Home to Pinelands & return	R 7.48	16.6	R124
	Home to Tygerberg & return	R 7.48	52	R389
	Home to Khayelitsha & return	R 7.48	62	R464
	Home to Mitchells Plain & return	R 7.48	36	R269
	Home to Louis Leipoldt & return	R 7.48	50	R374
	Home to Constantiaberg & return	R 7.48	13	R97
	Home to Milnerton & return	R 7.48	33	R247
	Home to Kuils River & return	R 7.48	70	R524
	Home to Christian Barnard & return	R 7.48	28	R209
	Home to N1 City & return	R 7.48	40	R299
Personnel				R2000
1. Statistician	To assist with data analysis	R500/ hour	4	R2000
Total				R5196

References

1. Krug E, Mercy J, Dahlberg L, Zwi A. World report on violence and health [Internet]. The lancet. Geneva: World Health Organization; 2002 [cited 2013 Aug 28]. Available from: http://www.sciencedirect.com/science/article/pii/S0140673602111330

2. Van Niekerk L, Scribante L, Raubenheimer PJ. Suicidal ideation and attempt among South African medical students. South African Med J [Internet]. 2012 Jun [cited 2013 Aug 28];102(6):372–3. Available from: http://www.ncbi.nlm.nih.gov/pubmed/22668910

3. Mavrogiorgou P, Brüne M, Juckel G. The management of psychiatric emergencies. Dtsch Arztebl Int [Internet]. 2011 Apr [cited 2013 Aug 28];108(13):222–30. Available from: http://www.pubmedcentral.nih.gov/articlerender.fcgi?artid=3078550&tool=pmcentrez&rendertype=abstract

4. Kuo C-J, Tsai S-Y, Liao Y-T, Lee W-C, Sung X-W, Chen C-C. Psychiatric discharge against medical advice is a risk factor for suicide but not for other causes of death. J Clin Psychiatry [Internet]. 2010 Jun [cited 2013 Aug 28];71(6):808–9. Available from: http://www.ncbi.nlm.nih.gov/pubmed/20573333

5. Mental Health Care Act. South Africa: Government Gazette; 2002.

Appendix A - Consent Form

TITLE OF THE RESEARCH PROJECT: Prehospital care providers' decision to transport the patient with a suicide attempt refusing care in the Cape Town Metropole, Western Cape: A survey based on the Mental Healthcare Act of 2002

PRINCIPAL INVESTIGATOR: Heike Geduld
CO-INVESTIGATORS: Willem Stassen, Katya Evans (MMED student)
CONTACT DETAILS: 0842092856, katyaevans@gmail.com

Dear Prehospital Care Provider
You are being invited to take part in a research project. Please take some time to read the information presented here, which will explain the details of this project. Please ask the study staff or doctor any questions about any part of this project that you do not fully understand. It is very important that you are fully satisfied that you clearly understand what this research entails and how you could be involved. Also, your
participation is entirely voluntary and you are free to decline to participate. If you say no, this will not affect you negatively in any way whatsoever. You are also free to withdraw from the study at any point, even if you do agree to take part. This study has been approved by the Health Research Ethics Committee at University of Cape Town and will be conducted according to the ethical guidelines and principles of the international Declaration of Helsinki, South African Guidelines for Good Clinical Practice and the Medical Research Council (MRC) Ethical Guidelines for Research.

What is this research study all about?
We are investigating prehospital care providers' management choices in the transportation of suicidal patients refusing care.

Why have you been invited to participate?
If you are a Prehospital Care Provider registered with the Health Professionals Council South Africa (HPCSA) as one of the following qualifications: BAA; AEA; ECT; CCA; N.Dip; B.Tech or B.EMC currently in fulltime employ at either the private sector or the Western Cape Emergency Medical Service as operational staff in clinical care then you are eligible to participate.

How will this research project be conducted?
This research project requires you to complete a demographic survey and answer a series of short questions. Information will be collected anonymously – the survey and test are in no way linked to your personal details. If completion of the survey is interrupted due to operational emergency call-out, it can be completed either in person or telephonically.

What is your responsibility if you choose to participate in this research project?
All that is required for participation is your time for completion of the survey as outlined above. Your participation is completely voluntary and you are free to decline to participate. You will not be paid to participate in this research project, and there will be no costs involved for you. You are free to withdraw from the study at any point, even if you do agree to take part, without penalty. Benefits of this research project,

although not directly applicable to you at this stage, will hopefully be seen in an improved teaching and guidelines regarding management of suicidal patients.
Written consent is required as part of this study design: if you consent to participate in the study, please sign your name in the space provided below. If you do not consent to be involved in the study, no further participation is required on your part and you may hand the questionnaire docket back to the supervisors.

➢ You can contact Dr Katya Evans at tel 0842092856 or katyaevans@gmail.com if you have any further queries or encounter any problems.
➢ You can contact the Health Research Ethics Committee at 0214066492 if you have any concerns or complaints that have not been adequately addressed by the researchers.

Declaration by participant:
By signing below, I ……..……. agree to take part in a research study entitled "Prehospital care providers' decision to transport the patient with a suicide attempt refusing care in the Cape Town Metropole, Western Cape: A survey based on the Mental Healthcare Act of 2002"

I declare that:
- I have read or had read to me this information and consent form and it is written in a language with which I am fluent and comfortable.
- I have had a chance to ask questions and all my questions have been adequately answered.
- I understand that taking part in this study is voluntary and I have not been pressurised to take part.
- I may choose to leave the study at any time and will not be penalised or prejudiced in any way.
- I may be asked to leave the study before it has finished, if the researcher feels it is in my best interests, or if I do not follow the study plan, as agreed to.

Signed at (place) .....……. on (date) ……./...……../ 2014.

....
Signature of participant Signature of witness

Declaration by investigator
I Dr Katya Evans declare that:
- I explained the information in this document to ……..
- I encouraged him/her to ask questions and took adequate time to answer them.
- I am satisfied that he/she adequately understands all aspects of the research, as discussed above
- I did not use a interpreter.

Signed at (place) .....….....……. on (date) ……./...…….. /2014

……..
Signature of investigator

Appendix B - Data collection tool

Section A - Demographics

1	What is your age?	
2	What is your sex?	☐ Male ☐ Female
3	How many years of experience do you have in the prehospital care environment?	☐ <1 year ☐ 1-5 years ☐ 5-10 years ☐ >10 years
4	Who is your current employer?	☐ Western Cape Provinicial EMS (Metro) ☐ Private Sector
5	Are you a full-time operational staff-member?	☐ Yes ☐ No
6	What is your current qualification registered with the HPCSA?	☐ BAA ☐ AEA ☐ ECT ☐ CCA ☐ N.Dip ☐ B.Tech/B.EMC ☐ Not registered with the HPCSA

Section B - Background

1. Have you received specific training in the emergency management of psychiatric patients?

   - ☐ Yes
   - ☐ No

2. Were you aware, before today, that there is an act in South Africa that applies to the management of the Mental Healthcare User?

   - ☐ Yes
   - ☐ No

3. Have you received specific training in how the Mental Healthcare Act applies to the Prehospital environment in South Africa?

   - ☐ Yes
   - ☐ No

4. According to your knowledge - does the ambulance service that you work for have a specific management protocol on how to manage psychiatric emergencies?

   - ☐ Yes
   - ☐ No
   - ☐ I don’t know the answer

5. According to your knowledge - does the ambulance service that you work for have a specific protocol on the management of patients who are refusing transportation?

   - ☐ Yes
   - ☐ No
   - ☐ I don’t know the answer

6. According to your knowledge - does the ambulance service that you work for have a specific protocol on the management of suicidal patients who are refusing transportation?

- ☐ Yes
- ☐ No
- ☐ I don't know the answer

Now you are going to see a series of statements. If you believe the statement is true, select "True". If you think the statement is false, select "False". If you do not know the answer select "I don't know the answer"

7. The Mental Healthcare Act only applies in the hospital or community health-care centre ("Day Hospital") environment.

- ☐ True
- ☐ False
- ☐ I don't know the answer

8. A general prehospital unwritten rule is that if a suicidal patient is older than 18 and has a Glasgow Coma Scale of 15 and they refuse to go to hospital they are allowed to sign "Refusal of Transport" form or sign the patient report form and can be left on scene.

- ☐ True
- ☐ False
- ☐ I don't know the answer

Section C - Case Vignettes

1. A 16 year old patient took an overdose of an unknown drug at an unknown time, has no physical symptoms & is orientated to time, place, person. She is refusing transport to hospital. In the current system that you work for, please describe how you would manage this patient in relation to her refusing transport.

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2. A 16 year old patient took an overdose of an unknown drug at an unknown time, has abdominal pain, vomiting, fast heart rate and is orientated to time, place, person. The patient is refusing transport to hospital. In the current system that you work for, please describe how you would manage this patient in relation to her refusing transport.

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3. A 35 year old female overdose of an unknown drug at an unknown time and she is refusing transport. In the current system that you work for, please describe how you would manage this patient in relation to her refusing transport.

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4. A 35 year old male overdose patient is confused, drowsy, combative and he is refusing transport. In the current system that you work for, please describe how you would manage this patient in relation to him refusing transport.

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5. A 45 year old male, known schizophrenic patient is aggressive & talking to himself. He is orientated to time, place and person. He has cut his wrists with a blade and is bleeding actively. He is refusing to go to hospital. In the current system that you work for, please describe how you would manage this patient in relation to him refusing transport.

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Section D - Open-ended questions

1. If a suicidal patient is not taken to hospital what instructions do you give to the family?

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2. Have you had a case or cases in the past in which you had a suicidal patient that was difficult to treat/transport? If so, please describe (Do not write down patients name or address)

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3. What do you find to be the most challenging part of looking after a suicidal patient?

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4. Do you think there is a better way to treat suicidal patients that refuse transportation than what you are currently doing in your environment? If so please elaborate.

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5. Have you ever treated a patient that refused transportation, did not go to hospital and subsequently succeeded in either committing suicide or became very ill? Please elaborate.

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6. Have you ever heard about a work colleague treating a patient that refused transportation, did not go to hospital and subsequently succeeded in either committing suicide or became very ill? Please elaborate.

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7. Any additional concerns / comments on this topic:

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Section B

Literature Review

Objectives of literature review:

- Definition of Suicide
- Incidence of suicide nationally and globally
- Risk Assessment
- The role of Prehospital Health Care Providers in managing suicidal patients
- The Mental Healthcare Act of 2002

Literature search strategy including inclusion & exclusion criteria

Studies were identified by searching Medline databases for English language articles from 2000-2015 that included data on suicide, emergency treatment refusal, prehospital assessment of psychiatric emergencies

The search was performed by using the MeSH term ‘suicide’ and then combining it with the following MeSH terms in different permutations: ‘treatment refusal’, ‘emergency medical services’, ‘self-injurious behaviour’, ‘suicide, attempted’. Bibliographies of articles were also searched for related studies. First the titles were screened and some articles were excluded from the outset. Thereafter, abstracts of relevant titles were read and excluded if deemed inappropriate. Full text articles were then sought and analysed for inclusion in the literature review.

Inclusion:

- Study design: Clinical trial, guideline, government publication, historical article, journal article, meta-analysis, multi-centre study, observational study, practice guideline, review article, systematic review.
- Types of participants: adult, adolescents, human
- Publication date: 2000-2015
- Article language: English

Exclusion:

• Studies outside of the stipulated timeline

• Study design: case reports or case series

• Article language - Non English

Quality criteria

Study methodology was assessed for quality criteria using critical appraisal tools from the 'Critical Appraisal Skills Programme'. Studies were assessed for bias using checklists relevant to the study design, each study was also assessed for local applicability.

Summary of the literature

Suicide is defined as a violent and aggressive act towards oneself (towards the self), and is most commonly exhibited in a sequence of gradually more serious stages. These range from thinking or fantasising about ending one's life (also known as 'suicidal ideation'), to conceptualising a plan around where, how and through what method to take one's life. A further stage of escalation is to the actual attempt at suicide (suicidal behaviours which are non-fatal are commonly referred to as 'attempted suicides' or 'parasuicides'), and lastly, to the successful or 'completed suicide'.(1)

The Mental Healthcare Act of South Africa 2002 was set out to provide a framework for the care, treatment and rehabilitation of persons who are mentally ill. (3) Of note is the section of the act that deals with the procedures to be followed in the admission of such persons and the roles and responsibility of the healthcare system in this regard. However the Act is silent with respect to prehospital health care providers/ambulance staff roles and responsibilities in this process.

In the South African setting patients who present to the healthcare system following a suicide attempt are not able to give consent and/or refuse treatment if deemed to pose a danger to themselves.(2) These patients are referred to in the Mental Healthcare Act of 2002 as 'involuntary mental healthcare users', and are defined in the act as: "individuals receiving involuntary treatment who are incapable of making informed decisions due to their mental health status, and refuse care, treatment or rehabilitation." In so doing, these patients present a danger to either themselves, their livelihood or those around them. (2)

Incidence of suicide

Globally, suicide is posing an increasingly grim public health concern and is the thirteenth leading cause of mortality worldwide, the fourth leading cause of death in the age group 15-44.(3) The World Health Organization estimates one million deaths annually as a result of suicide.(4). In the South African, post-apartheid context, the only national suicide figures are from 2000, giving age-standardised rates of 24.6/100 000 for males and 6.9/100 000 for females. (5) In some occupational groups, such as the South African Police Service, the figures are higher. (6)

Available data on the rate of completed suicides as well as the frequency of attempted suicides, is not entirely reliable.(7) Various reasons contribute to unidentified suicides or the underreporting of attempted and/or completed suicides. Included in these reasons is the stigma attached to suicidal acts and the consequential shame felt by patients and their families, life insurance claims as well as religious or cultural views that denounce suicide. (3) In addition, suicidal behaviour can be misclassified as road accidents, an accidental overdose taken as a result of drug addiction, or as natural causes in the elderly who may have deliberately stopped taking important medication or deliberately starved themselves. (3) As a result, it can only be assumed that statistics on suicide are greatly underestimated. (5)

It is problematic that data sources are potentially lacking in mortality statistics related to suicide, as public health officials rely heavily on these sources to inform policy development and preventative programme implementation. This dearth of information thwarts the establishment of a standard diagnostic and treatment process for the assessment of suicidal behaviour. It also reduces the impact one might make towards minimising the risk of suicide attempts and the incidence of death following such attempts. (5) As such, adequate data and appropriate reporting and recording of non-fatal suicide attempts are just as important as reports on completed suicides. Having access to reliable information would, arguably, encourage health practitioners to implement better screening of at-risk patients and promote for clinically suitable referrals. (8)

Demographic markers and risk indicators

Suicide rates appear to increase with age, with the greatest risk presenting in individuals of 75 years and above.(3) However, a number of countries have recently experienced a slight increase in suicide risk for 15 – 24 year olds too.(3) Even so, internationally, patients in the older age group are approximately three times more likely than the younger group to commit suicide.(3) Research would suggest that older patients attempting suicide are less commonly reported than in younger individuals. (5) However, suicide attempts in older individuals are more likely to end in death, whereas younger individuals more frequently survive these attempts. This is not to say that suicidal behaviour in younger age-groups is less serious. Those who have made previous suicide attempts are at an increased risk of subsequent attempts that may prove to be fatal. (3) Similar age-related trends on completed suicide can be observed for both sexes, with a higher incidence rate amongst men. According to the World Health Organization, non-fatal suicide attempts are 2-3 times higher in women than in men. (3) In addition, findings would suggest that suicide in women follow a more varied pattern. While the risk for women frequently also increases with age, some countries have reported spikes in suicide risk for middle-aged women.(5) Similarly, other regions have observed increased suicidal behaviour in even younger female age groups, particularly for women living in developing countries. (3)

It is important to note that, in the South African context, there are significant differences in reported suicide rates between different race groups, which differs greatly with international literature and risk assessment tools.(5) For example, black males and females, have a higher suicide rate in the younger age groups (usually 15-34 years) after which suicide generally decreases with increasing age.(5) Suicides among coloureds tend to be highest in middle age (25-54 years), with 15-24 year old females also having high numbers, and they typically decrease after age 54 years.(5) Suicides among whites tend to peak in older age groups, particularly for males.(5) Suicide among asian females is highest in the 15-24 year age group, with very few recorded for the elderly. (5) Results for asian males varies, with some studies reporting higher levels among 15-44 year olds and others older than 54 years. (5)

Apart from age and sex, other factors such as race, culture and ethnicity, biology, social and environmental conditions, and physical and mental health also contribute to suicide epidemiology. (3)

History of suicidality

There is a deep seated belief in society that people who threaten suicide are not likely to follow through with their threat. This belief is incorrect. Both verbal and non-verbal behavioural signs indicating suicidal intent precede a large proportion of suicidal behaviours.(6) Repeat suicide attempts often occur when a patient's initial threat or attempt does not get the desired effect from family or friends, on whom the suicidal behaviour is supposed to impact (i.e. the cry for help fails). (9) One-third of people who attempt suicide will repeat the attempt within one year, and about 1 in 10 of those who threaten or attempt suicide eventually do kill themselves. (8) 80% of persons who commit suicide have previously verbally stated their intention to do so and 30% to 40 % of suicide victims attempted suicide at least once beforehand. (10)

Method of suicide

Regarding the methods used for completed suicide in South Africa, most studies report hanging to be most common (usually 34-43% of suicides), followed by firearms (29-35%), poison ingestion (9-14%), gassing (6-7%) and burning (2-4%) or jumping (2-4%).(5) However, where examined, these methods typically differ substantially across different combinations of sex, race and age groupings. A number of studies found that the leading method was the same for both males and females for blacks and asians (hanging), and whites (firearms).(5) While for coloured males the leading method was typically hanging, the most common method for coloured females was poison ingestion. (5)

Refusal of treatment

Refusal of treatment in the emergency setting is a common and vexing problem for healthcare workers. (11) Understanding reasons for patients refusing care is of high importance, as it identifies higher risk groups. Interventions in this patient population have the potential to reduce morbidity, mortality and decrease healthcare costs. (11) Patient groups who more frequently refuse treatment include male sex, younger age, the lack of a named primary healthcare doctor, mental illness and those with substance abuse issues. (12)

Negative preconceptions and the strong social stigma surrounding mental health related hospitalisations can lead to patients refusing treatment. (13) Other explanations given by patients include their perception of a punitive or threatening atmosphere and difficulties in health worker-patient relationship. (12) Patients discharged against medical advice showed reduced treatment benefit; coped worse in psychiatric, medical, psycho-social, and socioeconomic functioning; had decreased access to outpatient services; overused emergency services and were readmitted sooner. (12)

A study done by Kuo et al. in Taiwan, on 11 040 acutely ill psychiatric inpatients found a statistically significant increase in incidence of successful suicide in psychiatric patients who leave 'Discharged Against Medical Advice' (DAMA) compared to those who were discharged by their psychiatrists. (13) The results suggest that patients who were DAMA might have unresolved, unaddressed detrimental psychiatric or psychosocial difficulties and were more likely to complete suicide. (13) Patients presenting to healthcare services with a suicide attempt who receive active suicide prevention contact and follow up may reduce the risk of repeat suicide attempt at 12 months.(14)

Pre-hospital care providers role in the management of suicidal patients

Broadly, the function of the prehospital care provider in the management of the suicidal patients include primary assessment at the scene of the incident as well as in the interfacility transfer of these patients to specialised psychiatric services. (15)

As part of the organisations suicide prevention steps, the World Health Organization (WHO) recommends that all health care practitioners should be trained to recognise, treat and refer patients at suicide risk. (3) First responders and prehospital personnel have been identified as key role-players in the prevention of community suicide. (4)

In a resource-stricken health system, first responders frequently become the 'gatekeepers' for access to mental healthcare services and as a result they need to have a clear understanding of both local legislation for involuntary assessment and treatment criteria. (16) A well-defined role in community suicide prevention steps should also be specified. These individuals can frequently become discouraged from transporting patients to healthcare facilities due to long waiting times and bed shortages and lose track of the importance in helping the patient to obtain access to mental healthcare and substance abuse treatments. (4) Pre-arranged agreements between prehospital services, hospitals, community mental healthcare services and addiction agencies can help the first responder to streamline the referral process. (4)

Many patients who are suicidal are cooperative with prehospital care staff however, in some cases, difficulties present themselves when the patient becomes uncooperative.(15) Patients who have attempted to commit suicide can have limited insight into their illness and a restricted ability to cooperate with treatment. This may require measures that, in line with local legislation, restrict their personal freedom and transportation to hospital against their will. (8) This problem is amplified by the fact that protocols on the evaluation of suicidal patients rarely apply to prehospital healthcare practitioners, who are generally the first at the scene. (8) All patients who are thought to be suicidal or have made a suicide attempt need to be closely monitored as they are a potential threat, until such a stage that they have either been admitted to a psychiatric unit, or until a thorough assessment has deemed them no longer a danger to themselves. (15)

Verbal deescalation techniques also known as “talking down” are often successful. (10) This is the effort by a healthcare worker to calm the patient by speaking with him or her in a friendly way, an even tone, and maintaining conversational contact. (10) Common medical causes of agitation need to be excluded such as hypoglycaemia and hypoxia. They also need to be searched for concealed weapons or tablets. This is particularly important in the South African context where patients are known to use more violent methods to commit suicide. (8)

Actively suicidal, aggressive or agitated patients can impact on staff safety on the scene of an incident and should verbal deescalation techniques fail, may require the assistance of sedative drugs ‘chemical restraint’ in order to transport them to a facility where they can get a formal risk assessment. (8) Occasionally, due to patients becoming increasingly uncooperative and posing a danger to him/herself, physical restraints and/or police intervention is required to facilitate transport to hospital of further assessment. (8)

The patients' safety is also a large concern during ambulance transport and there have been cases reported of injury or completed suicide during hospital transfer due to patients jumping from moving ambulances. (17)

According to Section 32 of the South African Mental Healthcare Act of 2002, healthcare providers need to follow certain protocols where the individual in question is refusing care. (2) This entails healthcare providers to assess the situation and decide whether or not the patient is in the right frame of mind to refuse treatment and/or hospitalisation. If healthcare providers deem the individual to be unfit to be making such a choice, and believe that there is a risk that the patient will subsequently harm himself or others, an application can be made to request involuntary care. Although the South African Mental Healthcare Act of 2002 stipulates a framework to follow in cases of attempted suicide, the complications in decision-making that arise for pre-hospital care providers when completing risk assessments and evaluations are vast. This problem is highlighted by a paucity in the literature on the topic. (2)

Emergency medical services (EMS) training

EMS training in South Africa is either via a series of short courses or university degrees. The Health Professions Council of South Africa (HPCSA) is the accrediting body for these colleges. The last curriculum documents written to govern these guidelines were written in 1998, and has not been updated since. This is concerning when mentioning that the Mental Healthcare Act of 2002 was only promulgated in 2004. (18) Despite this, the HPCSA practice guidelines were last updated in 2006.(19-21) Examining these documents demonstrates the absence of any mention of the management of psychiatric emergencies that may support prehospital decision-making when faced with these patients.(19-21)

Police intervention in patients with mental health complaints

Responding to an emergency call for a violent suicidal patient who is refusing treatment can be provoke anxiety in both emergency medical staff and police officers.(4) As such, assisting each other can offer great comfort to both. Although most medical emergencies do not require police involvement, some patients can become difficult to control. In such cases, the South African Police Service (SAPS) regularly plays a part in the management of patients who are verbally or physically aggressive or violent towards themselves or others.(22)

It is vital that administering involuntary treatment to a patient is done according to the law and that no basic human rights are abused in the process. Police officers' protocols are to approach situations as calmly as possible, to try to establish a connection with the patient by listening to their concerns and attempting to get patients to co-operate in this way. Physical force should be reserved for situations where it is absolutely necessary.(22)

In cases where patients must be sedated, South African Police protocol emphasises that the patient must be transported by ambulance to the nearest applicable facility for assessment or, if transported by police vehicle, the patient must be accompanied by a health professional. (22)

All SAPS officers are required and expected to protect mental healthcare users and respect these patients' human rights. If any form of neglect, abuse or demeaning treatment is witnessed, this must be reported. (22) In the South African environment, training of police officers in the assessment of mental healthcare users is limited. (23)

Risk assessment screening tools

Various screening tools (e.g. the SAD PERSONS score) are utilised in Emergency Centres to aid with disposition planning. These tools aim to stratify patients to either low-risk group for discharge with outpatient follow-up or full emergency psychiatric evaluation and admission to an inpatient unit. Problems with applying these rules to the prehospital field can include the low-risk group not obtaining access to either a formal suicide prevention programme,

involving measures such as cognitive behavioural therapy, or simple counselling sessions and follow-up. (8) No literature on the pre-hospital application of these risk-stratification tools could be found. Psychiatrists and other mental health specialists have been reported to have difficulty in adequately predicting which patients will progress on to commit suicide, which could be extrapolated that prehospital care providers would have equally or more difficulty with such predictions. (16)

The decision to discharge a patient home from hospital after a suicide attempt must be made with great care and vigilance.(16) Involvement of next of kin to ensure strong social support is a necessity.(8) Patients can benefit from follow up as an outpatient therapy with a psychologist for psychotherapy, psychiatrist or primary care doctor who may consider an antidepressant.(8) Referral to a substance abuse treatment program when necessary is an important suicide prevention step. (8) Considering how frequently suicidal patients have a history of previous attempts prior to a completed suicide, the detection and follow-up of treatable conditions that can worsen suicidal behaviour can be lifesaving and is key to successful long-term management of patients at risk. (8)

Staff attitudes

Emergency staff required to care for patients with suicide attempts report negative attitudes towards patients. (8) This can lead to a vicious cycle of countertransference and transference between patient and healthcare provider.(24) Occasionally, staff report that patients can seem manipulative and assessment and administration related to the patient with a suicide attempt is time-consuming and challenging. (8) This renders the situation more challenging and complicated. Emergency nurses and doctors have been found to demonstrate biases towards patients presenting with suicide attempts or ideations.(25) These biases can originate from a wide range of emotions including a sense of powerlessness, ineffectuality, moral judgment, and empathy.(26) Patient treatment can be affected by difficulty controlling prejudice, negative attitudes and criticism toward patients with suicidal ideation or attempts. (26). Whilst this has been well documented in emergency doctors and nurses however, literature fails to mention prehospital care providers' perceptions.

Common errors in the care of suicidal patients

Healthcare workers frequently do not take a patient's expressed suicidal intent seriously and there is a subsequent failure to recognise underlying mental illness. This can lead to unnecessary delays or omission in hospital admission.(15) Other downfalls reported by Mavrogiorgou et al. in the assessment of suicidal patients, is not recognising the patient's tendency to minimise the severity of the event and misinterpreting the calmness in the period between the decision to commit suicide and the planned suicide.(10) Further pitfalls include inadequate history-taking of the current and past events leading to the current suicide attempt along with inadequate focus on collateral history. (8)

Identification of gaps in research

Completed suicide is often preceded with a background history of previous attempt/s and refusal of mental healthcare related admissions. Considering that prehospital providers are often the first, and only healthcare providers on scene after a suicide attempt, their role in the patient's access to psychiatric care becomes clear. Of concern, in South Africa, is the lack of formal training in the Mental Healthcare Act and direction by policy-makers for these practitioners. Most of the current literature on suicide appears to focus on the risk factors associated with suicide. While this is vitally important for the development and implementation of suicide prevention programmes, it unfortunately takes a retrospective, long-term stance on the issue. The literature seems to neglect the fact that time is not on the side of the prehospital care providers faced with an immediate suicide emergency situation. (8)

The original aim of the study was to describe the transport decisions made by prehospital providers in relation to the Mental Healthcare Act of 2002, in the patient who has attempted to commit suicide and subsequently refusing transport in the Cape Town Metropole, Western Cape.

During the initial process of designing the study, the expert panel was unable to show significant consensus in the transport decision making. This lack of consensus was multifactorial, in part this could be linked due to the ambiguity and lack of clear role identification in the Mental Healthcare Act itself with regards to PHCPs. There are also challenges in the wide range of training of prehospital care staff itself and resource limitation variability in the regions where they practice. This process highlighted the value of eliciting the depths of emotions and feelings around the management of these patients, and thus the focus of the study shifted into primarily describing the feeling of prehospital care providers in the management of these patients and their knowledge of the act and an underlying framework for decision making.

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Section C

Research in journal article format (South African Medical Journal)

Prehospital care providers' decision to transport the patient with a suicide attempt refusing care: A survey based on the Mental Healthcare Act of 2002

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Statement of contributorship

KE conceived the study, collected & analysed the data, drafted & approved the final manuscript.
HG analysed the data & approved the final manuscript
WS analysed the data & approved the final manuscript

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ABSTRACT

Background

Given the frequency of suicidal patients making previous attempts prior to a completed suicide, emergency access to mental healthcare services could lead to significant reduction in morbidity and mortality for these patients.

Aim

To describe the feelings of prehospital healthcare providers (PHCP) and describe transport decision-making around the management of patients with a suicide attempt in the Cape Town Metropole.

Methods

A cross-sectional, vignette-based survey was used to collect data related to training and knowledge of the Mental Health Care Act (MHCA), prehospital transport decision-making, and patient management.

Results

Patients with less dramatic suicidal history were more likely to be discharged on scene. Few respondents reported the use of formal suicide evaluation tools to aid their decision. Respondents displayed negative attitudes towards suicidal patients. Some respondents reported returning to find a suicidal patient dead, while others reported patient attempts at suicide while in their care. 80% of respondents had no training in the management of suicidal patients, whilst only 7% had specific training in the MHCA. Training was not associated with qualification ($p=0.062$ and $p=0.41$).

Conclusion

A critical lack in the knowledge, training and implementation of the MHCA exists amongst PHCPs within the Western Cape. A further concern is the negative feelings towards suicidal patients and the lack of commitment to transporting patients to definitive care. It is essential to urgently develop training programmes to ensure that PHCPs are better equipped to deal with suicidal patients.

INTRODUCTION

"People who are suicidal need further management - to be left alone is like saying nobody cares."…"[I] wish further training could be done as most patients end up DOA [dead on arrival] at a later stage." - Respondant

Globally, suicide is posing an increasingly grim public health concern and is the thirteenth leading cause of mortality worldwide.(1) The World Health Organization estimates one million deaths annually as a result of suicide.(2). In South Africa, national suicide figures from 2000 give age−standardised rates of 24.6/100 000 for males and 6.9/100 000 for females. (3)

There is a deep seated belief in society that people who threaten suicide are not likely to follow through with their threat. This belief is incorrect.(4) Repeat suicide attempts often occur when a patient's initial threat or attempt does not get the desired effect (i.e. the cry for help fails). (4) About 1 in 10 of those who threaten or attempt suicide eventually do kill themselves, (5) while 80% of those who commit suicide have previously verbally stated their intention to do so. (6)

Refusal of treatment in the emergency setting is a common problem for healthcare workers. Negative preconceptions and the strong social stigma surrounding mental health related hospitalisations can lead to patients refusing treatment. (7) Other explanations given by patients include their perception of a punitive or threatening atmosphere and difficulties in health worker-patient relationship. (8) Patients discharged against medical advice showed reduced treatment benefit; coped worse in psychiatric, medical, psycho-social, and socioeconomic functioning; had decreased access to outpatient services; overused emergency services and were readmitted sooner. (8) Considering how frequently suicidal patients have a history of previous attempts prior to a completed suicide, the detection and follow-up of treatable conditions that can worsen suicidal behaviour can be lifesaving and is key to successful long-term management of patients at risk. (5).

A study done by Kuo et al. in Taiwan, on 11 040 acutely ill psychiatric inpatients found a statistically significant increase in incidence of successful suicide in psychiatric patients who leave 'Discharged Against Medical Advice' (DAMA) compared to those who were discharged by their psychiatrists. (7) The results suggest that patients who were DAMA might have unresolved, unaddressed detrimental psychiatric or psychosocial difficulties and were more likely to complete suicide. (7) Patients presenting to healthcare services with a suicide attempt who receive active suicide prevention contact and follow-up may reduce the risk of repeat suicide attempt at 12 months.(9)

First responders and prehospital personnel have been identified by the WHO as key role-players in the prevention of community suicide.(2) Considering that prehospital health care providers (PHCPs) are often the first, and only healthcare providers on scene after a suicide attempt, their role in the patient's access to psychiatric care is critical. Of concern is the lack of formal training in the Mental Healthcare Act (MHCA) and direction by policy-makers for these practitioners. The existing curricula for prehospital care training does not make refer-

ence to the MHCA. The literature seems to neglect the fact that time is not on the side of the PHCPs faced with an immediate suicide emergency situation. (5) Broadly, the function of the PHCP in the management of the suicidal patients is primary assessment at the scene of the incident as well as in the interfacility transfer of these patients to specialised psychiatric services. (11)

In a resource-stricken health system, first responders frequently become the ‘gatekeepers’ for access to mental healthcare services and as a result they need to have a clear understanding of both local legislation for involuntary assessment and treatment criteria. (12) These individuals can frequently become discouraged from transporting patients to healthcare facilities due to long waiting times and bed shortages and these frustrations undermine the importance of helping the patient access mental healthcare and substance abuse treatment. (2) Prearranged agreements between prehospital services, hospitals, community mental healthcare services and addiction agencies can help the first responder to streamline the referral process. (2)

Many patients who are suicidal are cooperative with PHCPs. However, in some cases difficulties may arise when the patient becomes uncooperative.(10) Patients who have attempted to commit suicide can have limited insight into their illness and a restricted ability to cooperate with treatment.(10) This may require measures that, in line with local legislation, restrict their personal freedom and allow transportation to hospital against their will. (5) The problem is amplified by the fact that protocols on the evaluation of suicidal patients rarely apply to PHCPs, who are generally the first at the scene. (5) All patients who are thought to be suicidal or have made a suicide attempt need to be closely monitored until they have been admitted to a psychiatric unit, or until a thorough assessment has deemed them no longer a danger to themselves or others. (10)

Actively suicidal, aggressive or agitated patients can impact staff safety on the scene of an incident. Should verbal deescalation techniques fail and patients pose a danger to themselves; PHCPs may require the assistance of sedative drugs, physical restraints and/or police intervention in order to transport them to a facility where they can get a formal risk assessment. (5) Safety is also of concern during ambulance transport. There have been cases reported of injury or completed suicide during hospital transfer due to patients jumping from moving ambulances. (12)

According to Section 32 of the South African Mental Healthcare Act of 2002, healthcare providers need to assess and decide whether the patient poses a danger to themselves or others, should be transported as an emergency admission on an involuntary basis.(13)

Aim

The aim of this study was to describe the feelings and understanding of prehospital Health Care Providers around the care and management of patients with a suicide attempt in the Cape Town Metropole.

Objectives

- To understand the feelings around transport decisions of suicidal patients.
- To describe the personal experiences of PHCPs around the management of patients with suicide attempts.
- To understand the training of PHCPs in the context of the MHCA.

METHODS

A cross-sectional design using a survey with open and closed ended questions was used. This survey was generated through a review of the literature and validated for content by an expert group of Emergency Medicine, Prehospital Medicine and Psychiatry practitioners.

The survey included:
- Demographics
- Training and knowledge of the MHCA, in relation to prehospital transport decision-making
- Five vignettes in which respondents were expected to describe their transport and management decisions in various patients who refused transportation. The vignettes ranged in severity of suicide attempt based on traditional risk factors from the literature (3)
- Opinions regarding suicidal patients, as well as accounts of challenges they have experienced transporting suicidal patients.

A pilot was done with a small cohort of prehospital providers to test the questionnaire for feasibility, thereafter an iterative process was used to finalise the questionnaire. A convenience sample of 100 PHCPs of all levels from the provincial and private sector were sought via cluster randomisation of Cape Town ambulance stations. Inclusion criteria were registration with the Health Professions Council of South Africa and fulltime clinical operational employ.

Data were subjected to descriptive analysis with the aid of NVivo® software (QSR International; Victoria, Australia) as well as hand coded independently by the 3 researchers using a grounded theory analysis. Demographic data and multiple choice questions are presented as total numbers, means, medians and standard deviations. Associations between demographic data, knowledge based answers and transport decisions were investigated by chi-square analysis.

Ethics approval was obtained from the University of Cape Town's Human Research Ethics Committee (HREC 533/2014) and local permission to conduct the study was attained from the three ambulance services' relevant research committees.

RESULTS

One hundred and thirty surveys were distributed and 100 were returned; yielding a response rate of 77%. Two responses were excluded for data quality with 98 responses therefore eligible for analysis.

The majority of the sample were male (65%), between the ages of 20-30 (44%), had between 1-10 years of experience (74%), worked in the public sector (50%), and held an AEA qualification (48%). (Table 1)

Feelings around transport decisions

Common themes were identified in the answers to case vignettes regarding their management of patients after a suicide attempt (Table 2). Where the risk to self-harm was more explicit the practitioners reported a higher need for police involvement and the use of physical and chemical restraint. In younger patients, family involvement was more likely. In less than two-thirds of all vignettes did participants take steps to convince patients to be transported to hospital. Some respondents reported utilising some form of informal risk assessment methods, with no practitioners reporting the use of validated risk assessment tools. Another common theme identified was the described need for a more senior role-player to aid with transport decision-making. This ranged from the control room supervisor, officer or shift-leader or even a higher qualified clinician such as ALS paramedic or doctor. A subset of staff also expressed the importance of these discussions being recorded.

Family involvement was utilised in various means. This included using the family to convince the patient to be transported by ambulance voluntarily and in certain cases requested the family transport the patient by force privately to hospital. In the vignettes involving minors with suicide attempts, the respondents reported that they would allow family to make the ultimate decision about transport. Some participants described the family as being a hindrance rather than a help to the prehospital care providers' management strategies: *"they get in the way", "the family are sometimes more difficult than the patient"*.

The provision of involuntary care to patients who pose a potential danger to themselves was not unanimously expressed by respondents. In the vignettes less than half of respondents stated that they would transport a patient to hospital against their will. *"I can't force the patient… I have to leave patient at home. When the patient refuses transport there is not much I can do" "We can't force anyone because it is a form of kidnap." - Respondant.* The importance of the patient signing for their refusal of care was commonly reported and many expressed the belief that this documentation absolved them from legal responsibility.

Personal experiences and attitudes around the management of suicide attempt patients

A portion of respondents expressed negative attitudes towards patients, citing varying reasons. A common theme identified was that caring for these patients was a *"waste of time"*, with prolonged time spent "*talking in circles"* for which they felt they did not have the patience or would be penalised in terms of performance. There was mention that the time "wasted" with these patients could be better spent. *"It feels like you are able to help more people with your time."* Perceived self-pity on the patient's behalf was seen as an irritation

by some respondents: *"clearly looking for attention, trying to spite somebody and just wasting people's time if they weren't going to do any harm to themselves…pretending."* Emotions expressed included feeling drained from these encounters, scared, threatened, finding it difficult to not be judgemental and an inability to empathise. Some respondents expressed that the patient has chosen to die and should therefore be left to their own devices.

Numerous PHCPs report that they feel uneasy about the uncertainty of the outcome of their suicidal patients that were not transported to hospital. Some reported to actively avoid obtaining follow-up on these patients for fear of the consequences. At least five respondents report a personal account of a suicidal patient's death after being given permission to sign a refusal of care/transport document and being left on scene. Additionally, four respondents report having not transported patients to hospital, who subsequently developed severe complications resulting from the suicide attempt or a subsequent attempt at suicide. In addition, 15 respondents mentioned that they personally know a colleague who reported a death of a suicidal patient after not transporting the patient to hospital. Staff reported a lack of support after these events with a lack of counselling or debriefing opportunities. One reported a colleague resigning due to difficulty in coping with a patient death.

More than half of participants identified threats to their safety during the care of suicidal patients as a concern. Three reported having been injured by suicidal patients in the course of emergency assessment and treatment. Mechanisms of injury included bite wounds, facial scratching and blunt assault. Reports of self-defense methods utilised by staff included the use of a taser as well as placing the patient in a head-lock until assistance arrived.

Participants described concern regarding the risk of a patient committing suicide whilst in their care in the ambulance. Two respondents described past experiences of patients stabbing themselves and one respondent reported a patient jumping from a moving ambulance.

Training of prehospital care providers in the context of the MHCA

Of the respondents, 80% (n=78) reported no training in the management of psychiatric patients, whilst only 7% (n=7) had specific training in the Mental Healthcare Act of 2002. A chi-square test reveals no association between qualification and training in psychiatric management ($p=0.062$) or the MHCA ($p=0.41$). Participants expressed a desire for further education or training in the management of psychiatric (and specifically suicidal) patients in the form of CME sessions, internal company updates or training as part of original qualifications.

DISCUSSION

"More focus could be put on the actual patient instead of RHT [Refusal of Hospital Treatment] documentation. More thought could be put towards actually helping the patient in need instead of only worrying about paperwork." - Respondant

When considering the way PHCPs approach the management of suicidal patients, numerous themes emerged. Patients who presented with minimal traditional risk factors for completed suicide were managed more conservatively and were less likely to be transported to hospital against their will. This is of major concern considering that these vignette-patients still inherently had the potential for harm. This is demonstrated in the literature as well as in the current sample in the reported experiences of death in this patient subset. (8)

Respondents erroneously mentioned that patients cannot be forced to go to hospital under any circumstances. Respondents did not have the confidence to make decisions related to the further management by delegating the transport decisions to the family, specialists or senior role-players. If PHCPs had a better knowledge of the MHCA they would potentially be more cognisant of their own empowerment in the involuntary transport of patients who pose a danger to themselves. Many countries legislation makes provision for involuntary care in for suicidal patients which is comparable to the South African MHCA. (10) A distinct difference in a large proportion of these countries is that the law is applied by trained PHCPs initiating involuntary mental health holds.(10)

Personal safety was an important theme identified. This is not unanticipated considering that a recent unpublished dissertation on prehospital personnel reported that 56% of the 158 participants had been assaulted whilst on duty.(14) Similar results are described in the international literature that report an incidence of violence between 61-87.5%.(15). In order to protect themselves from potentially dangerous patients, providers often involve the police. Their skills in physical restraint and their knowledge of the MHCA may be useful but not without consequences. Providers expressed concern that patients with negative previous experiences with police restraint often reacted poorly.

Of concern is the negative attitudes towards suicidal patients. (16) Literature suggests that these often present as a lack of empathy on the part of the healthcare provider and can lead to accusing patients of attention-seeking behaviour. (17) General lack of training, lack of decision making support and fear of personal safety may contribute to these negative attitudes.

There was limited reported training across all qualifications with regards to MHCA and management of suicidal patients. Steps for improvement include: re-evaluating the current student curricula to better serve practical application and designing training programmes for already-graduated providers. Understanding the feelings of PHCPs is an important first step to facilitate an HPCSA guideline to assist in decision-making related to transport refusal in suicidal patients. However, due to varying practice environments, multiple stake-holders in prehospital, emergency care and psychiatry across the country need to be involved in this process. Numerous respondents also suggested dedicated response teams that have received specific training to manage these cases.

Limitations

External validity and generalisability was affected by the limited geographic nature of the sampled population and by employing a convenience method of sampling. The role of self-selection and self reporting bias can also not be excluded due to the methodology.

CONCLUSION

Although limited, this study shows a critical lack in the knowledge and training of PHCPs within the Western Cape. Healthcare providers should know their role in the application of the MHCA and the application of involuntary care as promulgated by the Act. Of further concern are the negative feelings expressed towards suicidal patients and lack of commitment to transporting patients to definitive care. The development of training programmes and the adjustment of current curricula are critical. Improved knowledge can improve attitudes towards this challenging patient group.

The authors have no conflicts of interest to declare. The research was self-funded by KE.

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APPENDIX 1 - Results tables

Table 1. Sample description (N=98)

	n (%)
Gender	
Male	64 (65%)
Female	34 (35%)
Age	
20-30 years	43 (44%)
30-40 years	35 (36%)
40-50 years	11 (11%)
50-60 years	2 (2%)
Blank	7 (7%)
Years of Experience	
< 1 year	6 (6%)
1 - 5 years	36 (37%)
5-10 years	36 (37%)
>10 years	20 (20%)
Work Sector	
Government	49 (50%)
Private	48 (49%)
Unassigned	1 (1%)
Qualification *	
BAA	24 (24%)
AEA	47 (48%)
ECT	7 (7%)
CCA	5 (5%)
NDIP	12 (12%)
BTECH / BEMC	3 (3%)

BAA = Basic Ambulance Assistant / Basic Life Support
AEA = Ambulance Emergency Assistant / Intermediate Life Support
ECT = Emergency Care Technician / Intermediate Life Support
CCA = Critical Care Assistant / Advanced Life Support
NDIP = National Diploma in Emergency Medical Care / Advanced Life Support
BTECH / BEMC = Bachelors Degree Paramedic / Advanced Life Support

Table 2. Key themes in transport decision making & patient management

1. Shifting decision making responsibility to specialised team, police, senior manager / clinician or family
2. Sedation / Physical Restraint
3. Risk assessment steps
4. Family involvement
5. Involuntary care provision / omission

Table 3. Key themes identified in assessing staff members beliefs, concerns & attitudes

1. Staff safety concerns
2. Negative attitudes towards patients
3. Belief that patient signing documentation absolves staff member of legal responsibility
4. Patient safety - morbidity / mortality after refusal of transportation
5. Need for clear referral pathways & relationships with hospitals

APPENDIX 2 - Survey questions

Quantitative survey questions

1. What is your age?
2. What is your sex?
3. How many years of experience do you have in the prehospital care environment?
4. Who is your current employer?
5. Are you a full-time operational staff-member?
6. What is your current qualification registered with the HPCSA?
7. Have you received specific training in the emergency management of psychiatric patients?
8. Were you aware, before today, that there is an act in South Africa that applies to the management of the Mental Healthcare User?
9. Have you received specific training in how the Mental Healthcare Act applies to the Prehospital environment in South Africa?
10. According to your knowledge - does the ambulance service that you work for have a specific management protocol on how to manage psychiatric emergencies?
11. According to your knowledge - does the ambulance service that you work for have a specific protocol on the management of patients who are refusing transportation?
12. According to your knowledge - does the ambulance service that you work for have a specific protocol on the management of suicidal patients who are refusing transportation?
13. The Mental Healthcare Act only applies in the hospital or community healthcare centre (" Day Hospital") environment. True / False / I don't know the answer
14. A general prehospital unwritten rule is that if a suicidal patient is older than 18 and has a Glasgow Coma Scale of 15 and they refuse to go to hospital they are allowed to sign " Refusal of Transport" form or sign the patient report form and can be left on scene. True / False / I don't know the answer

Case vignettes

1. A 16 year old patient took an overdose of an unknown drug at an unknown time, has no physical symptoms & is orientated to time, place, person. She is refusing transport to hospital. In the current system that you work for, please describe how you would manage this patient in relation to her refusing transport.
2. A 16 year old patient took an overdose of an unknown drug at an unknown time, has abdominal pain, vomiting, fast heart rate and is orientated to time, place, person. The patient is refusing transport to hospital. In the current system that you work for, please describe how you would manage this patient in relation to her refusing transport.
3. A 35 year old female overdose of an unknown drug at an unknown time and she is refusing transport. In the current system that you work for, please describe how you would manage this patient in relation to her refusing transport.
4. A 35 year old male overdose patient is confused, drowsy, combative and he is refusing transport. In the current system that you work for, please describe how you would manage this patient in relation to him refusing transport.
5. A 45 year old male, known schizophrenic patient is aggressive & talking to himself. He is orientated to time, place and person. He has cut his wrists with a blade and is bleeding

actively. He is refusing to go to hospital. In the current system that you work for, please describe how you would manage this patient in relation to him refusing transport.

Open ended survey questions

1. If a suicidal patient is not taken to hospital what instructions do you give to the family?
2. Have you had a case or cases in the past in which you had a suicidal patient that was difficult to treat/transport? If so, please describe (Do not write down patients name or address)
3. What do you find to be the most challenging part of looking after a suicidal patient?
4. Do you think there is a better way to treat suicidal patients that refuse transportation than what you are currently doing in your environment? If so please elaborate.
5. Have you ever treated a patient that refused transportation, did not go to hospital and subsequently succeeded in either committing suicide or became very ill? Please elaborate.
6. Have you ever heard about a work colleague treating a patient that refused transportation, did not go to hospital and subsequently succeeded in either committing suicide or became very ill? Please elaborate.
7. Any additional concerns / comments on this topic:

Section D
Appendices

Appendix 1 - Ethics Approval

UNIVERSITY OF CAPE TOWN
Faculty of Health Sciences
Human Research Ethics Committee

Room E52-24 Old Main Building
Groote Schuur Hospital
Observatory 7925
Telephone [021] 406 6338 • **Facsimile** [021] 406 6411
Email: shuretta.thomas@uct.ac.za
Website: www.health.uct.ac.za/fhs/research/humanethics/forms

21 August 2014

HREC REF: 533/2014

Dr H Geduld
Emergency Medicine

Dear Dr Geduld

PROJECT TITLE: PREHOSPITAL CARE PROVIDERS' DECISION TO TRANSPORT THE PARASUICIDAL PATIENT REFUSING CARE IN THE CAPE TOWN METROPOLE, WESTERN CAPE (MMED-candidate-Dr K Evans)

Thank you for submitting your study to the Faculty of Health Sciences Human Research Ethics Committee for review.

It is a pleasure to inform you that the HREC has **formally approved** the above-mentioned study.

Approval is granted for one year until the 30th August 2015.

Please submit a progress form, using the standardised Annual Report Form if the study continues beyond the approval period. Please submit a Standard Closure form if the study is completed within the approval period.
(Forms can be found on our website: www.health.uct.ac.za/fhs/research/humanethics/forms)

Please note that the ongoing ethical conduct of the study remains the responsibility of the principal investigator.

We acknowledge that the student, Dr Katya Evans is also involved in this study.

Please quote the HREC reference no in all your correspondence.

Yours sincerely

T Burgess

PROFESSOR M BLOCKMAN
CHAIRPERSON, FHS HUMAN ETHICS
Federal Wide Assurance Number: FWA00001637.
Institutional Review Board (IRB) number: IRB00001938
This serves to confirm that the University of Cape Town Human Research Ethics Committee complies to the Ethics Standards for Clinical Research with a new drug in patients, based on the Medical

Research Council (MRC-SA), Food and Drug Administration (FDA-USA), International Convention on Harmonisation Good Clinical Practice (ICH GCP) and Declaration of Helsinki guidelines.
The Human Research Ethics Committee granting this approval is in compliance with the ICH Harmonised Tripartite Guidelines E6: Note for Guidance on Good Clinical Practice (CPMP/ICH/135/95) and FDA Code Federal Regulation Part 50, 56 and 312.

Appendix 2 - South African Medical Journal - Author Guidelines

[Accessed from: http://www.samj.org.za/index.php/samj/about/submissions#authorGuidelines on 10/04/2015]

Accepted manuscripts that are not in the correct format specified in these guidelines will be returned to the author(s) for correction, and will delay publication.

AUTHORSHIP

Named authors must consent to publication. Authorship should be based on: (i) substantial contribution to conception, design, analysis and interpretation of data; (ii) drafting or critical revision for important intellectual content; or (iii) approval of the version to be published. These conditions must all be met (uniform requirements for manuscripts submitted to biomedical journals; refer to www.icmje.org).

CONFLICT OF INTEREST

Authors must declare all sources of support for the research and any association with a product or subject that may constitute conflict of interest.

RESEARCH ETHICS COMMITTEE APPROVAL

Provide evidence of Research Ethics Committee approval of the research where relevant.

PROTECTION OF PATIENT'S RIGHTS TO PRIVACY

Identifying information should not be published in written descriptions, photographs, and pedigrees unless the information is essential for scientific purposes and the patient (or parent or guardian) gives informed written consent for publication. The patient should be shown the manuscript to be published. Refer to www.icmje.org.

ETHNIC CLASSIFICATION

References to ethnic classification must indicate the rationale for this.

MANUSCRIPTS

Shorter items are more likely to be accepted for publication, owing to space constraints and reader preferences. Research articles (previously 'Original articles') not exceeding 3 000 words, with up to 6 tables or illustrations, are usually observations or research of relevance to clinical medicine and related fields. References should be limited to no more than 15. Please provide a structured abstract not exceeding 250 words, with the following recommended headings: Background, Objectives, Methods, Results, and Conclusion. Scientific letters will be considered for publication as shorter Research articles. Editorials, Opinions, etc. should be about 1000 words and are welcome, but unless invited, will be subjected to the SAMJ peer review process. Review articles are rarely accepted unless invited. Letters to the editor, for publication, should be about 400 words with only one illustration or table, and must include a correspondence address. Forum articles must be accompanied by a short description (50 words) of the affiliation details/interests of the author(s). Refer to recent forum articles for guidance. Please provide an accompanying abstract not exceeding 150 words. Book reviews should be about 400 words and must be accompanied by the publication details of the book. Obituaries should be about 400 words and may be accompanied by a photograph. Guidelines must be endorsed by an appropriate body prior to consideration and all conflicts of interest expressed. A structured abstract not exceeding 250 words (recommended sub-headings: Background, Recommendations, Conclusion) is required. Sections and sub-sections must be numbered consecutively (e.g. 1. Introduction; 1.1 Definitions; 2. etc.) and summarised in a Table of Contents. References, appendices, figures and tables must be kept to a minimum. Guidelines exceeding 8 000 words will only be considered for publication as a supplement to the SAMJ; the costs of which must be covered by sponsorship or advertising. The Editor reserves the right to determine the scheduling of supplements. Understandably, a delay in publication must be anticipated dependent upon editorial workflow.

MANUSCRIPT PREPARATION

Refer to articles in recent issues for the presentation of headings and subheadings. If in doubt, refer to 'uniform requirements' - www.icmje.org. Manuscripts must be provided in UK English. Qualification, affiliation and contact details of ALL authors must be provided in the manuscript and in the online submission process. Abbreviations should be spelt out when

first used and thereafter used consistently, e.g. 'intravenous (IV)' or 'Department of Health (DoH)'. Scientific measurements must be expressed in SI units except: blood pressure (mmHg) and haemoglobin (g/dl). Litres is denoted with a lowercase 'l' e.g. 'ml' for millilitres). Units should be preceded by a space (except for %), e.g. '40 kg' and '20 cm' but '50%'. Greater/smaller than signs (> and 40 years of age'. The same applies to ± and º, i.e. '35±6' and '19ºC'. Numbers should be written as grouped per thousand-units, i.e. 4 000, 22 160… Quotes should be placed in single quotation marks: i.e. The respondent stated: '...' Round brackets (parentheses) should be used, as opposed to square brackets, which are reserved for denoting concentrations or insertions in direct quotes. General formatting The manuscript must be in Microsoft Word or RTF document format. Text must be single-spaced, in 12-point Times New Roman font, and contain no unnecessary formatting (such as text in boxes, with the exception of Tables).

ILLUSTRATIONS AND TABLES

If tables or illustrations submitted have been published elsewhere, the author(s) should provide consent to republication obtained from the copyright holder. Tables may be embedded in the manuscript file or provided as 'supplementary files'. They must be numbered in Arabic numerals (1,2,3...) and referred to consecutively in the text (e.g. 'Table 1'). Tables should be constructed carefully and simply for intelligible data representation. Unnecessarily complicated tables are strongly discouraged. Tables must be cell-based (i.e. not constructed with text boxes or tabs), and accompanied by a concise title and column headings. Footnotes must be indicated with consecutive use of the following symbols: * † ‡ § ¶ || then ** †† ‡‡ etc. Figures must be numbered in Arabic numerals and referred to in the text e.g. '(Fig. 1)'. Figure legends: Fig. 1. 'Title...' All illustrations/figures/graphs must be of high resolution/quality: 300 dpi or more is preferable, but images must not be resized to increase resolution. Unformatted and uncompressed images must be attached individually as 'supplementary files' upon submission (not solely embedded in the accompanying manuscript). TIFF and PNG formats are preferable; JPEG and PDF formats are accepted, but authors must be wary of image compression. Illustrations and graphs prepared in Microsoft Powerpoint or Excel must be accompanied by the original workbook.

REFERENCES

References must be kept to a maximum of 15. Authors must verify references from original sources. Only complete, correctly formatted reference lists will be accepted. Reference lists must be generated manually and not with the use of reference manager software. Citations should be inserted in the text as superscript numbers between square brackets, e.g. These regulations are endorsed by the World Health Organization,[2] and others.[3,4-6] All references should be listed at the end of the article in numerical order of appearance in the Vancouver style (not alphabetical order). Approved abbreviations of journal titles must be used; see the List of Journals in Index Medicus. Names and initials of all authors should be given; if there are more than six authors, the first three names should be given followed by et al. First and last page, volume and issue numbers should be given. Wherever possible, references must be accompanied by a digital object identifier (DOI) link and PubMed ID (PMID)/ PubMed Central ID (PMCID). Authors are encouraged to use the DOI lookup service offered by CrossRef. Journal references: Price NC, Jacobs NN, Roberts DA, et al. Importance of asking about glaucoma. Stat Med 1998;289(1):350-355. [http://dx.doi.org/10.1000/hgjr.182] [PMID: 2764753]. Book references: Jeffcoate N. Principles of Gynaecology. 4th ed. London: Butterworth, 1975:96-101. Chapter/section in a book: Weinstein L, Swartz MN. Pathogenic Properties of Invading Microorganisms. In: Sodeman WA jun, Sodeman WA, eds. Pathologic Physiology: Mechanisms of Disease. Philadelphia: WB Saunders, 1974:457-472. Internet references: World Health Organization. The World Health Report 2002 - Reducing Risks, Promoting Healthy Life. Geneva: World Health Organization, 2002. http://www.who.int/whr/ 2002 (accessed 16 January 2010). Other references (e.g. reports) should follow the same format: Author(s). Title. Publisher place: publisher name, year; pages. Cited manuscripts that have been accepted but not yet published can be included as references followed by '(in press)'. Unpublished observations and personal communications in the text must not appear in the reference list. The full name of the source person must be provided for personal communications e.g. '...(Prof. Michael Jones, personal communication)'.

PROOFS

A PDF proof of an article may be sent to the corresponding author before publication to resolve remaining queries. At that stage, only typographical changes are permitted; the corresponding author is required, having conferred with his/her co-authors, to reply within 2

working days in order for the article to be published in the issue for which it has been scheduled.

CHANGES OF ADDRESS

Please notify the Editorial Department of any contact detail changes, including email, to facilitate communication.

CPD POINTS

Authors can earn up to 15 CPD CEUs for published articles. Certificates may be requested after publication of the article.

CHARGES

There is no charge for the publication of manuscripts. Please refer to the section on 'Guidelines' regarding the publication of supplements, where a charge may be applicable.

SUBMISSION PREPARATION CHECKLIST

As part of the submission process, authors are required to check off their submission's compliance with all of the following items, and submissions may be returned to authors that do not adhere to these guidelines.

- Named authors consent to publication and meet the requirements of authorship as set out by the journal.
- The submission has not been previously published, nor is it before another journal for consideration.
- The text complies with the stylistic and bibliographic requirements in Author Guidelines.
- The manuscript is in Microsoft Word or RTF document format. The text is single-spaced, in 12-point Times New Roman font, and contains no unnecessary formatting.
- Illustrations/figures are high resolution/quality (not compressed) and in an acceptable format (preferably TIFF or PNG). These must be submitted individually as 'supplementary files' (not solely embedded in the manuscript).
- For illustrations/figures or tables that have been published elsewhere, the author has obtained written consent to republication from the copyright holder.

- Where possible, references are accompanied by a digital object identifier (DOI) and PubMed ID (PMID)/PubMed Central ID (PMCID).
- An abstract has been included where applicable.
- The research was approved by a Research Ethics Committee (if applicable)
- Any conflict of interest (or competing interests) is indicated by the author(s).

Appendix 3 - Data collection tool

Section A - Demographics

1	What is your age?	
2	What is your sex?	☐ Male ☐ Female
3	How many years of experience do you have in the prehospital care environment?	☐ <1 year ☐ 1-5 years ☐ 5-10 years ☐ >10 years
4	Who is your current employer?	☐ Western Cape Provinicial EMS (Metro) ☐ Private Sector
5	Are you a full-time operational staff-member?	☐ Yes ☐ No
6	What is your current qualification registered with the HPCSA?	☐ BAA ☐ AEA ☐ ECT ☐ CCA ☐ N.Dip ☐ B.Tech/B.EMC ☐ Not registered with the HPCSA

Section B - Background

1. Have you received specific training in the emergency management of psychiatric patients?

   - ☐ Yes
   - ☐ No

2. Were you aware, before today, that there is an act in South Africa that applies to the management of the Mental Healthcare User?

   - ☐ Yes
   - ☐ No

3. Have you received specific training in how the Mental Healthcare Act applies to the Prehospital environment in South Africa?

   - ☐ Yes
   - ☐ No

4. According to your knowledge - does the ambulance service that you work for have a specific management protocol on how to manage psychiatric emergencies?

   - ☐ Yes
   - ☐ No
   - ☐ I don’t know the answer

5. According to your knowledge - does the ambulance service that you work for have a specific protocol on the management of patients who are refusing transportation?

   - ☐ Yes
   - ☐ No
   - ☐ I don’t know the answer

6. According to your knowledge - does the ambulance service that you work for have a specific protocol on the management of suicidal patients who are refusing transportation?

- ☐ Yes
- ☐ No
- ☐ I don't know the answer

Now you are going to see a series of statements. If you believe the statement is true, select "True". If you think the statement is false, select "False". If you do not know the answer select "I don't know the answer"

7. The Mental Healthcare Act only applies in the hospital or community health-care centre ("Day Hospital") environment.

- ☐ True
- ☐ False
- ☐ I don't know the answer

8. A general prehospital unwritten rule is that if a suicidal patient is older than 18 and has a Glasgow Coma Scale of 15 and they refuse to go to hospital they are allowed to sign "Refusal of Transport" form or sign the patient report form and can be left on scene.

- ☐ True
- ☐ False
- ☐ I don't know the answer

Section C - Case Vignettes

1. A 16 year old patient took an overdose of an unknown drug at an unknown time, has no physical symptoms & is orientated to time, place, person. She is refusing transport to hospital. In the current system that you work for, please describe how you would manage this patient in relation to her refusing transport.

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2. A 16 year old patient took an overdose of an unknown drug at an unknown time, has abdominal pain, vomiting, fast heart rate and is orientated to time, place, person. The patient is refusing transport to hospital. In the current system that you work for, please describe how you would manage this patient in relation to her refusing transport.

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3. A 35 year old female overdose of an unknown drug at an unknown time and she is refusing transport. In the current system that you work for, please describe how you would manage this patient in relation to her refusing transport.

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4. A 35 year old male overdose patient is confused, drowsy, combative and he is refusing transport. In the current system that you work for, please describe how you would manage this patient in relation to him refusing transport.

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5. A 45 year old male, known schizophrenic patient is aggressive & talking to himself. He is orientated to time, place and person. He has cut his wrists with a blade and is bleeding actively. He is refusing to go to hospital. In the current system that you work for, please describe how you would manage this patient in relation to him refusing transport.

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Section D - Open-ended questions

1. If a suicidal patient is not taken to hospital what instructions do you give to the family?

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2. Have you had a case or cases in the past in which you had a suicidal patient that was difficult to treat/transport? If so, please describe (Do not write down patients name or address)

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3. What do you find to be the most challenging part of looking after a suicidal patient?

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4. Do you think there is a better way to treat suicidal patients that refuse transportation than what you are currently doing in your environment? If so please elaborate.

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5. Have you ever treated a patient that refused transportation, did not go to hospital and subsequently succeeded in either committing suicide or became very ill? Please elaborate.

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6. Have you ever heard about a work colleague treating a patient that refused transportation, did not go to hospital and subsequently succeeded in either committing suicide or became very ill? Please elaborate.

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7. Any additional concerns / comments on this topic:

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Appendix 4 - Consent Form

TITLE OF THE RESEARCH PROJECT: Prehospital care providers' decision to transport the patient with a suicide attempt refusing care in the Cape Town Metropole, Western Cape: A survey based on the Mental Healthcare Act of 2002

PRINCIPAL INVESTIGATOR: Heike Geduld
CO-INVESTIGATORS: Willem Stassen, Katya Evans (MMED student)
CONTACT DETAILS: 0842092856, katyaevans@gmail.com

Dear Prehospital Care Provider
You are being invited to take part in a research project. Please take some time to read the information presented here, which will explain the details of this project. Please ask the study staff or doctor any questions about any part of this project that you do not fully understand. It is very important that you are fully satisfied that you clearly understand what this research entails and how you could be involved. Also, your
participation is entirely voluntary and you are free to decline to participate. If you say no, this will not affect you negatively in any way whatsoever. You are also free to withdraw from the study at any point, even if you do agree to take part. This study has been approved by the Health Research Ethics Committee at University of Cape Town and will be conducted according to the ethical guidelines and principles of the international Declaration of Helsinki, South African Guidelines for Good Clinical Practice and the Medical Research Council (MRC) Ethical Guidelines for Research.

What is this research study all about?
We are investigating prehospital care providers' management choices in the transportation of suicidal patients refusing care.

Why have you been invited to participate?
If you are a Prehospital Care Provider registered with the Health Professionals Council South Africa (HPCSA) as one of the following qualifications: BAA; AEA; ECT; CCA; N.Dip; B.Tech or B.EMC currently in fulltime employ at either the private sector or the Western Cape Emergency Medical Service as operational staff in clinical care then you are eligible to participate.

How will this research project be conducted?
This research project requires you to complete a demographic survey and answer a series of short questions. Information will be collected anonymously – the survey and test are in no way linked to your personal details. If completion of the survey is interrupted due to operational emergency call-out, it can be completed either in person or telephonically.

What is your responsibility if you choose to participate in this research project?
All that is required for participation is your time for completion of the survey as outlined above. Your participation is completely voluntary and you are free to decline to participate. You will not be paid to participate in this research project, and there will be no costs involved for you. You are free to withdraw from the study at any point, even if you do agree to take part, without penalty. Benefits of this research project,

although not directly applicable to you at this stage, will hopefully be seen in an improved teaching and guidelines regarding management of suicidal patients.
Written consent is required as part of this study design: if you consent to participate in the study, please sign your name in the space provided below. If you do not consent to be involved in the study, no further participation is required on your part and you may hand the questionnaire docket back to the supervisors.

➢ You can contact Dr Katya Evans at tel 0842092856 or katyaevans@gmail.com if you have any further queries or encounter any problems.
➢ You can contact the Health Research Ethics Committee at 0214066492 if you have any concerns or complaints that have not been adequately addressed by the researchers.

Declaration by participant:
By signing below, I ……..……. agree to take part in a research study entitled "Prehospital care providers' decision to transport the patient with a suicide attempt refusing care in the Cape Town Metropole, Western Cape: A survey based on the Mental Healthcare Act of 2002"

I declare that:
- I have read or had read to me this information and consent form and it is written in a language with which I am fluent and comfortable.
- I have had a chance to ask questions and all my questions have been adequately answered.
- I understand that taking part in this study is voluntary and I have not been pressurised to take part.
- I may choose to leave the study at any time and will not be penalised or prejudiced in any way.
- I may be asked to leave the study before it has finished, if the researcher feels it is in my best interests, or if I do not follow the study plan, as agreed to.

Signed at (place) .....……. on (date) ……../...……../ 2014.

....
Signature of participant Signature of witness

Declaration by investigator
I Dr Katya Evans declare that:
- I explained the information in this document to ……..
- I encouraged him/her to ask questions and took adequate time to answer them.
- I am satisfied that he/she adequately understands all aspects of the research, as discussed above
- I did not use a interpreter.

Signed at (place) .....….....……. on (date) ……../...…….. /2014

……..
Signature of investigator

Appendix 5 - Frequent themes identified in data interpretation

Shifting decision making responsibility to senior manager / clinician
Sedation / Physical Restraint
Risk assessment steps
Family involvement
Involuntary care provision / omission
Staff safety concerns & reports of injury
Negative attitudes towards patients
Belief that patient signing documentation absolves staff member of legal responsibility
Patient safety - morbidity / mortality after refusal of transportation
Need for clear referral pathways & relationships with hospitals
Involvment of control centre in decision making
Desire for specialised team for prehospital psychiatric emergencies
Allowing family to be surrogate decision makers for patient
Police / law enforcement involvement
Family advised to phone ambulance again if patient collapses
Signing refusal of care document
Uncertainty on age for consent
Company policies unclear
Patient safety - concerns about suicide during ambulance transport
Deescalation techniques
Staff members concerned about inexperience

Appendix 6 - Results of additional survey questions

QUESTION	YES	NO
B 2 - Were you aware, before today, that there is an act in South Africa that applies to the management of the Mental Healthcare User?	37	61

QUESTION	YES	NO	I DON'T KNOW
B 4 - According to your knowledge - does the ambulance service that you work for have a specific management protocol on how to manage psychiatric emergencies?	14	54	30
B 5 - According to your knowledge - does the ambulance service that you work for have a specific protocol on the management of patients who are refusing transportation?	67	18	13
B 6 - According to your knowledge - does the ambulance service that you work for have a specific protocol on the management of suicidal patients who are refusing transportation?	22	41	35

QUESTION	TRUE	FALSE	I DON'T KNOW
B 7 - The Mental Healthcare Act only applies in the hospital or community healthcare centre ("Day Hospital") environment.	13	49	36
B 8 - A general prehospital unwritten rule is that if a suicidal patient is older than 18 and has a Glasgow Coma Scale of 15 and they refuse to go to hospital they are allowed to sign "Refusal of Transport" form or sign the patient report form and can be left on scene.	56	34	8

Appendix 7 - Approval documents from three ambulance services

EMERGENCY MEDICAL CARE
ER24
084 124

Address
Manor 1, Cambridge Manor
Cnr Willoughby & Sonnenhaan rd, Paulshof
Postal
PO Box 242, Paulshof, 2056
Webaddress:
www.er24.co.za

05 September 2014

Katya Evans
Division of Emergency Medicine
University of Cape Town

Dear Dr Evans,

RE: **PROJECT 2014/09**
PROJECT TITLE: Prehospital care providers' decision to transport the patient with a suicide attempt refusing care in the Cape Town Metropole, Western Cape - A survey based on the Mental Healthcare Act of 2002

The above research protocol has been reviewed by the ER24 Research Committee and I am pleased to inform you that your request has been approved. Access is hereby granted to the data required as stipulated in your protocol.

Should your methodology change or any concerns arise during the data collection period, it is your responsibility to inform the ER24 Research Committee in due course.

I look forward to viewing the results of your study. I am positive that the knowledge that you will create will be of benefit to the profession.

Kind Regards,

Dr Robyn Holgate
ER24 Research Committee

ER24 EMS (Pty) Ltd t/a ER24 Registration Number 2000/005657/07
VAT Registration No. 4730193887
Directors: AR Boden (Chief Executive Officer), AJ Joubert, Dr CA van der Merwe, DC Nel
Company Secretary: HK Gerber

DIRECTORATE: EMERGENCY MEDICAL SERVICES
ENQUIRIES: Dr Shaheem de Vries
shaheem.devries@pgwc.gov.za
☏: +27 21 932 1367

Attention: Dr Katya Evans

RE: **REQUEST FOR PERMISSION TO CONDUCT RESEARCH**

Dear Dr Evans,

Your letter on the above matter refers.

Thank you for the request to conduct research within the Western Cape Government Emergency Medical Services. I have been informed that your proposal has been evaluated by the Emergency Medicine Division Research Committee and has been recommended for approval by this office.

I am therefore pleased to inform you that such approval is hereby granted.

I wish you well in your endeavor and trust that you will keep this office and its department informed of your findings when these become available.

Yours sincerely,

Dr Shaheem de Vries
Head: Emergency Medical Services
Western Cape Government Health

Date: 10th September 2014

RESEARCH OPERATIONS COMMITTEE FINAL APPROVAL OF RESEARCH

Approval number: UNIV-2014-0040

Dr Katya Evans

E mail: katyaevans@gmail.com

Dear Dr Evans

RE: PREHOSPITAL CARE PROVIDERS' DECISION TO TRANSPORT THE PATIENT WITH A SUICIDE ATTEMPT REFUSING CARE IN THE CAPE TOWN METROPOLE, WESTERN CAPE - A SURVEY BASED ON THE MENTAL HEALTHCARE ACT OF 2002

The above-mentioned research was reviewed by the Research Operations Committee's delegated members and it is with pleasure that we inform you that your application to conduct this research at Private Hospital, has been approved, subject to the following:

i) Research may now commence with this FINAL APPROVAL from the Committee.

ii) All information regarding the Company will be treated as legally privileged and confidential.

iii) The Company's name will not be mentioned without written consent from the Committee.

iv) All legal requirements with regards to participants' rights and confidentiality will be complied with.

v) The Company must be furnished with a STATUS REPORT on the progress of the study at least annually on 30th September irrespective of the date of approval from the Committee as well as a FINAL REPORT with reference to intention to publish and probable journals for publication, on completion of the study.

vi) A copy of the research report will be provided to the Committee once it is finally approved by the relevant primary party or tertiary institution, or once complete or if discontinued for any reason whatsoever prior to the expected completion date..

vii) The Company has the right to implement any recommendations from the research.

viii) The Company reserves the right to withdraw the approval for research at any time during the process, should the research prove to be detrimental to the subjects/ Company or should the researcher not comply with the conditions of approval.

ix) APPROVAL IS VALID FOR A PERIOD OF 36 MONTHS FROM DATE OF THIS LETTER OR COMPLETION OR DISCONTINUATION OF THE STUDY, WHICHEVER IS THE FIRST.

We wish you success in your research.

Yours faithfully

Prof Dimitri Tassis 21/9/2014
Full member: Netcare Research Operations Committee & Medical Practitioner evaluating research applications as per Management and Governance Policy

Shannon Nell
Chairperson: Netcare Research Operations Committee
Network Healthcare Holdings Limited (Netcare)
Date: 23/9/2014

This letter has been anonymised to ensure confidentiality in the research report. The original letter is available with author of research