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Paramedic perceptions of their role, education, training and working relationships when attending cases of mental illness

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ORIGINAL RESEARCH

Paramedic perceptions of their role, education, training and working relationships when attending cases of mental illness

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Abstract

Objectives
This study explores the perceptions of paramedics regarding their role, education and training, organisational culture and interaction with allied professionals when attending suspected or known cases of mental illness. The study uses the South Australian Ambulance Service (SAAS) clinical data to establish a quantitative measure of workload in relation to cases that have been classified as psychiatric. It examines how paramedics perceive their use of the resources currently in place to support practice and their role when dealing with patients displaying mental illness.

Methods
Data were sourced from the SAAS clinical database, a survey and three focus groups. One hundred and fifty surveys were distributed to career paramedic staff in both metropolitan and regional centres of South Australia with a response rate of 49.3% (n=74). The survey was analysed using descriptive statistics to compare paramedics' perceptions of workload and time-on-scene with the quantitative data from the SAAS Clinical Database. Thematic analysis was undertaken of the open questions from the survey and focus groups data.

Results
The analysis of workload and time-on-scene showed significant differences between the SAAS database and paramedic perceptions. The survey and focus groups discussed themes in relation to paramedic practice: the role of paramedics in managing mental illness, education and training, organisational culture and interdisciplinary relationships.

Conclusion
Mentally ill patients comprise a growing proportion of the workload of paramedics. This descriptive and exploratory study identifies issues in relation to their perception of workload, education and training, organisational culture and their working relationships with other services. Further research is recommended to understand how these perceptions affect paramedic practice in this area.

Keywords: *allied health personnel*; *disturbed behaviour; emergency care; emergency medical services; mental health; mental illness; paramedic; prehospital care.*

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Introduction

This paper discusses paramedics' perceptions of their practice when attending patients with suspected or known mental illness in relation to their role, education and training, organisational culture and working relationships with other services.

The removal of people with mental illness from an institution based system of care to the community has not been accompanied by an appropriate level of community service development resulting in a growing need for prehospital care.[1,2] As a consequence, the growing need for prehospital care has positioned the ambulance service in the frontline of care delivery, with implications for workload, resources, and policy for paramedic practice. Paramedic perceptions are vital to gaining an understanding of how workload, resources and policy might evolve to provide a targeted response for this group.

The National Mental Health Strategy, South Australian Context and Resources

The South Australian Ambulance Service (SAAS) operates within a health system that has seen major system changes in the provision of mental health services within the last ten years. The National Mental Health Strategy,[1] launched in 1992 has promoted the deinstitutionalisation of the clients within the mental health system and the 'mainstreaming' of mental health services. There have been three National Mental Health Plans.[2,3,4]

The central aims of the plans are the 'mainstreaming' of acute mental health care beds into general hospitals; decreased reliance on stand-alone psychiatric hospitals; the development of sufficient acute inpatient beds and residential services in the community; and mental health promotion and mental illness prevention.[3,4,5,6] Community care and shortages in the specialist mental health workforce has shifted the professional focus of care to the primary care setting, with greater reliance on general practitioners and non-government organisations.

The Third National Mental Health Plan[2] acknowledged that primary and emergency care service providers were critical in complementing the specialist mental health workforce; given that approximately 77% of people who seek help for a mental disorder consult their general practitioner first.[2,4]

Freckelton and Lesser[7] identify challenges in accessing inpatient care in a crisis situation and inadequate resource allocation and staffing of mental health services post deinstitutionalisation. Although Australia has led major innovations in mental health policy and reform people with a mental illness remain isolated, have difficulty in accessing care due to workforce shortages, the care they receive may not be optimal and they may not be treated with respect.[8,9] Hickie *et al.*[8] argue that the community demand for appropriate and accessible mental health services will continue to escalate. Hospital emergency departments have become the primary site for crisis care assessment and intervention.[10,11,12] Accessing inpatient beds and specialist care is one of the major difficulties facing emergency departments resulting in extended waiting periods prior to admission. Increased demand for hospital psychiatric services and insufficient numbers of inpatients beds results in patients waiting in the emergency department for up to 2-3 days.[11]

The South Australian Context

In comparison to other States and Territories, South Australia remains heavily dependent on a stand-alone psychiatric hospital.[13] While the South Australian Mental Health Service (SAMHS) was established in 1992 to co-ordinate care and facilitate the movement to community care as of June 2005, South Australia was the State with the lowest proportion of acute care beds located in general hospitals.[13] Mental health services in South Australia

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experience difficulties in meeting demand because of inadequate coordination within general hospitals' emergency departments; mental health in-patient units and community based mental health services.[14] Kalucy *et al*[10,11] found that during the 10 years from mid 1993, the percentage of mental health patients presenting to the emergency department of one of the tertiary hospitals in Adelaide had risen by a factor of ten (from 0.3% to 3.5%).

A lack of co-ordination of care between the various departments and units, in addition to poor resourcing, access and staffing, contributes to long waiting times for assessment and definitive care, which can result in repeated calls to, and attendances by, paramedics. The Strategic Plan for the SA Ambulance Service[15] forecasts that the demand for ambulance services will grow at approximately 10% per annum over the next five years based on recent age specific utilisation, population demographics and dispatch volumes. The estimated 10% growth in demand includes the attendance to people with mental illness who live in the community.

Methods

This study used both qualitative and quantitative research methods to explore paramedics' perceptions of attending patients with known or suspected mental illness. The data for this study was obtained from three sources:

1. The SAAS clinical database;
2. A self-report 24 question survey; and
3. Three focus groups.

Ethics approval for this study was gained through the Flinders University Social and Behavioural Ethics Committee and the research was undertaken with the support of the Executive Director, Clinical Services of SAAS.

SAAS Clinical Database

The SAAS clinical database contains data sourced from both call taker information within the ambulance centre (Communication Centre Data) and data recorded by paramedics on scene (Case Card Data). The data used in this study uses redesignated data from paramedics once on scene. The SAAS clinical database provides the only currently available quantitative data in relation to paramedic caseload in South Australia. While there are acknowledged issues of reliability with the data resulting from call taker algorithms, caller information, call taker interpretation and factors beyond paramedic control this database gives the best current estimate of paramedic caseload in respect to psychiatric presentations.

The data provides a context and background for paramedics' perceptions of role, workload and practice and a means of contrasting paramedics' perception with organisational statistics.

Data obtained from SAAS Clinical Database comprised:

1. Total number of dispatches for the financial years 2001/02 to May 2007 (this includes all cases that were attended by paramedics, regardless of whether patients were transported to hospital);

2. The total number of denoted psychiatric cases (Patient Medical Code (d) -21 'psychiatric') for 2001/02 to May 2007 from the combined Communication Centre and Case Card data (this includes cases not originally coded psychiatric in the Communication Centre data, but coded as such by paramedics on-scene);

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3. The total numbers of dispatches for the period July 2006 to May 2007 was then more broadly filtered to include the defined psychiatric cases as above plus, additionally, three specific Communication Centre codes, and four codes relating to hospital and debtor categories. The broader filter ensured inclusion of all possible cases and transfers relating to mental illness as the most recent data relevant to the study;

4. Time at scene for the cases described in number (3).

The Survey

One hundred and fifty surveys were distributed to career paramedics, defined as employed and operational staff in both metropolitan and larger regional centres of South Australia. At the time there were approximately 600 metropolitan career paramedics and 919 operational employed staff in South Australia.[16] The sample was limited by the time frame for data collection (June to August 2007) and by industrial negotiations unrelated to this study.

Recruitment and distribution was conducted by the principal author through attending paramedic team meetings and through the support of clinical staff (Clinical Support Officers and Team Leaders). Purposive sampling was used with paramedics recruited on a convenience basis.[17,18] Participants were self selected. The study used non-probability sampling because of the time frame available and dispersed nature of the participants.[17]

The survey was completed by participants during team meetings, group training days, and when the opportunity arose throughout their shift. The surveys were distributed at the beginning of the meeting and handed back at end of the meetings. The author was present but either removed from the group (separate room) or didn't direct or interact during the completions of the survey. When Team Leaders or Clinical Support Officers collected the surveys they placed them in a confidential envelope and gave them to the researcher. The survey required no personal details.

The survey consisted of 24 questions which focused on how paramedics perceived their practice in relation to: attending patients suffering a mental illness; their use of resources such as the South Australian Police (SAPOL), the mental health Assessment Crisis Intervention Service (ACIS); the management systems in place; and how they use their current training and assessment skills. The survey contained 20 closed questions which asked respondents to choose from fixed responses and four open questions which sought further elaboration of themes. The questionnaire was reviewed prior to distribution by paramedic educators at Flinders University and senior staff of SAAS. Data from the survey were analysed using the statistical tool SPSS® Version 12. Frequency distributions were obtained for the responses to each of the closed questions. Cross tabulation was used to measure differences in attitudes and experiences in relation to years of service and exposure to formal education about mental health issues.

Focus Groups

The three focus groups were conducted with paramedic staff from the Western metropolitan area (n=5), University paramedic educators who are current practicing paramedics (n=5) and paramedics participating in the Intensive Care Paramedic course (n=10). Purposive sampling was the basis for the selection of participants for the three focus groups.[18] The Western metropolitan area provided the authors with a cross section of the population that paramedics attend.

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The paramedic educators are currently practising paramedics who, while providing a specific view on the training and education issues involved, have extensive on-road experience. The intensive care paramedic course involved currently practicing paramedics from across the State who were in the initial stages of training. The focus group discussion was conducted by the first author in all cases and involved a guide of ten questions. The questions related to role, training, and workload, the effect of growing community prevalence of mental illness, resources and organisational structures, when managing cases of known or suspected mental illness. The focus groups were audio taped and the transcripts were analysed for common concepts. Each focus group lasted approximately an hour. The open questions from the survey and the focus groups were analysed for recurring themes within the four broad categories (role, education and training, organisational culture, and working relationships with other organisations) imposed by the structure of the study.

The thematic analysis was informed by the descriptive and exploratory nature of the study rather than the full development of an explanatory theory from the issues highlighted by the paramedics.[19]

Results

SAAS Clinical Data Workload
Table 1 shows paramedics' psychiatric case load as a percentage of total dispatches. The psychiatric caseload data did not indicate what proportion of the total were transported or not.

Table 1: Dispatch & percentage data from SAAS clinical database

Year	Total Dispatches	Psychiatric	Percentage of psychiatric cases in relation to total dispatches–attend & carry & non-carry
2001/2	171, 956	3,078	1.78%
2002/3	177,313	3,862	2.17%
2003/4	183,738	4,861	2.64%
2004/5	188,776	4,805	2.54%
2005/6	201,080	4,866	2.41%

The results depict an increase in the psychiatric caseload from 2001/02 (1.78%) to 2005/06 (2.41%). The second set of SAAS data for July 2006 to mid May 2007, which used the extended psychiatric categories, show 6,169 psychiatric cases out of a total of 219,429 dispatches (2.73%).

The Survey
The characteristics of the survey respondents are detailed below in Table 2 by region, position, and years of experience. The participants come from a range of regional and clinical backgrounds and cover the spectrum from inexperienced to experienced paramedics. The uneven stratification of years of experience was intended to represent a spectrum covering from less than 2 years as beginning clinician, 2-4 years as moderate experience, 5-10 years as experienced and over 10 years as very experienced.

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Table 2: Survey respondents

	N=74	%
Region		
Northern	18	32.7%
Southern	11	20.0%
Eastern	3	5.5%
Western	11	20.0%
Rural	12	21.8%
Missing Data	19	
Position		
Paramedic	33	46.5%
Intensive Care Paramedic	15	21.1%
Ambulance Officer	10	14.1%
Clinical Team Leader / Clinical Support	8	11.3%
Other	5	7.0%
Missing Data	3	
Years worked as a Paramedic		
Less than 2 years	16	22.2%
2 – 4 years	13	18.1%
5 - 10 years	17	23.6%
More than 10 years	26	36.1%
Missing data	2	

Perceived Workload relating to mental illness presentations

Paramedics were asked to estimate the percentage of their workload which they believed related directly to mental illness. Table 3 shows the responses by percentages. Fifty percent of the respondents (n=37) surveyed believed that cases related to mental illness comprise between 10 – 20% of their workload, with a further 24.3% (n=18) believing that these cases represented more than 20% of their workload.

Table 3: Paramedics estimates of percentage of workload that involves people with mental illness

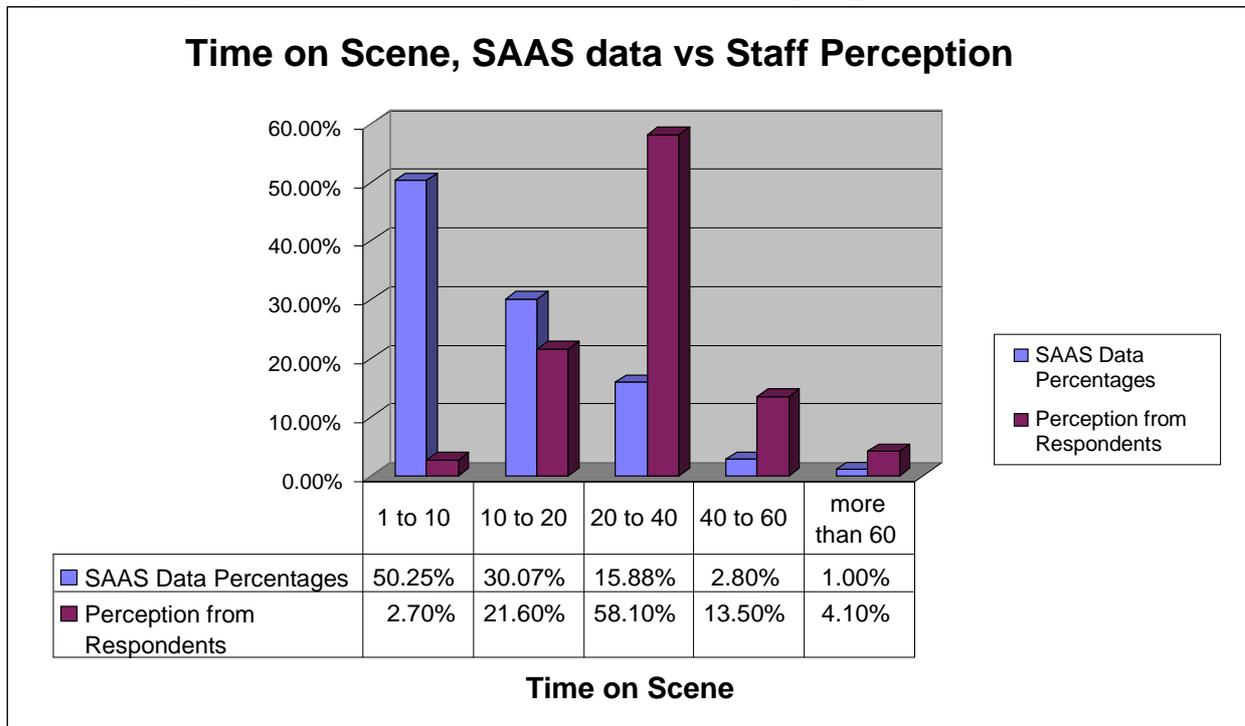|	Frequency	Percent
Less than 10%	10	13.5
10-20%	37	50.0
21-30%	18	24.3
31-40%	6	8.1
More than 40 %	3	4.0

Perceived length of time at scene

The data in Figure 1 contrast paramedics' perceptions of their time at scene with the data from the SAAS clinical database. The figure shows a distinct difference in the distributions of recorded time at scene and paramedic perceptions of time at scene. The SAAS data indicates that most frequently, time on scene for psychiatric cases was 1-10 minutes (mean = 13.38 minutes; SD±10.04 minutes). Total case time (time from arrival to completion of handover and case documentation) averages approximately 61 minutes. Conversely, survey data indicates that paramedics perceive that they most frequently spend 20-40 minutes on the scene for these cases. The *time on scene* data for paramedic perceptions is stratified unevenly because the design was based on the clinical data that suggested the time at scene for

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ambulance attendance was generally less than 20 minutes. It was thought that the measurement periods as shown would be sufficient to describe the perception for the time at scene. Strong differences in the shape of the distributions were not anticipated.

Figure 1: Length of time at scene from SAAS data and survey respondents

Time on Scene, SAAS data vs Staff Perception

	1 to 10	10 to 20	20 to 40	40 to 60	more than 60
■ SAAS Data Percentages	50.25%	30.07%	15.88%	2.80%	1.00%
■ Perception from Respondents	2.70%	21.60%	58.10%	13.50%	4.10%

Time on Scene

Re-attendance

The term "frequent flyer" is a term sometimes used in the industry to describe paramedics attending the same person on a regular basis for known or suspected mental illness. The survey data showed that 89.2% of respondents believed they had attended the same patient, within a 14 day period for disturbed behaviour related to mental illness. Of these, 73.4% (n=47) indicated that they had attended this person three or more times within that 14 day period. Reattendance data had not been obtained from SAAS prior to this study and consequently was not possible to contrast perceptions with SAAS data as in the case of time at scene analysis.

Table 4: Perceived re-attendance to patients with mental illness in a 14 day period

	Frequency	Percent
5 or more call outs	11	17.2
4 call outs	12	18.8
3 call outs	24	37.5
2 call outs	17	26.6

THEMATIC ANALYSIS

Four broad categories provided the initial structure for analysis of the focus group discussions, and survey. The survey and focus groups expanded on the data provided by the closed questions in the survey. The following discussion contains both qualitative data and quantitative data.

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Role of the paramedic

The paramedics viewed their primary role in relation to attending cases of suspected mental illness as transportation.

"We do not treat mental health patients – our only role is to ensure safe transport to hospital for further care" (Survey).

This conclusion is supported by Table 5 which demonstrates that transportation is identified by 73 (98.6%) of the survey respondents as part of the paramedic role. Other responsibilities include mediation (n=53, 70.3%), managing situations (n=47, 63.5%) and initial support (n=43, 58.1%).

Table 5: Paramedic perception of role when attending a patient with mental illness (n=74)

Category	Frequency	Percent
Transportation	73	98.6
Mediator/ communicator	52	70.3
Manager of situations	47	63.5
Initial support for others	43	58.1
Provider of treatment	41	55.4
Referral	35	47.3
Initial contact	33	44.6

Paramedics identified their first priority as attending to any obvious life threatening conditions with the mental illness viewed as a secondary consideration. The general consensus was that the treatment provided to the patient depended on the type and severity of the mental illness displayed by the individual. Treatment mainly involves dealing with the consequences of the behaviour such as managing an overdose or physical trauma, rather than the underlying mental illness, which paramedics felt to be outside their skill level, as illustrated by the following quote from the survey;

Role of paramedic: to deal with any medical aspect of treatment to a patient who may also have a mental illness i.e. sedation if necessary. Presentation of overdose, management of overdose, management of any injury/self harm. Paramedics should not be for detention or psychiatric counselling, SAPOL [South Australian Police] or ACIS [Assessment Crises Intervention Service] roles. (Survey)

Decisions made at the scene were influenced by the nature of the call, what was found at the scene and whether paramedics were the first service to arrive. Safety of the paramedics was seen as a major consideration especially when dealing with unpredictable behaviour.

"I think safety is of paramount concern with mental illness, possibly more so than with other complaints and certainly your preparation and awareness of potential or unpredictable situations is heightened when attending a case with mental health issues. Considering access and egress regardless of the mental health complaint is important for paramedics' safety." (Focus group 2)

This quote reflects a perception that mentally ill patients, including those affected by drug and alcohol, are potentially a risk to the safety of the paramedic. This is an example of the perceptions ('*Official Accounts'*) identified by Shaban[20] which ascribe violent, suicidal, drug induced, or overtly psychotic behaviour to mentally ill patients. Paramedics are aware that not

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all mental illness presents with violent or disturbed behaviour, but are conscious that they need to be prepared for the eventuality.

Paramedic Education & Training

The educators and the majority of paramedics, who participated in the focus groups and survey, strongly favour the development of training and education in relation to mental illness presentations. They see a need to increase knowledge and understanding of different mental illnesses, treatment regimes currently available and to focus training on what can be achieved in the prehospital environment:

"Sessions available on specific mental health diseases and symptoms/management. More information on risk assessment of suicide/aggression. Information on negotiation with patient, while assessing to reduce the need for SAPOL section 23 [legal detention]". (Survey)

"Greater awareness of types of behavioural abnormalities More emphasis on crisis interventions and counselling techniques. Further work on assessments". (Survey)

Only 37.5% (n=27) of respondents to the survey had received what they considered to be professional development within the area. Table 6 shows how they perceived their training to manage mental illness presentations. The categories chosen were less than 5 years experience (to reflect low to moderate experience) and greater than 5 years (to reflect greater on road experience). Over 50% of respondents felt inadequately prepared to manage mental illness. This was more evident for less experienced paramedics. Of paramedics with less than five years experience 75.9% (n=22) indicated that they felt inadequately prepared to manage these presentations.

Table 6: Training to manage mental health cases

		Years of Experience		
		Less than 5 years	**5 years or more**	**Total**
Do you feel adequately trained to deal with mental health emergencies?	**All of the time**	0% (0)	4.7% (2)	2.8% (2)
	Most of the time	24.1% (7)	46.5% (20)	37.5% (27)
	Sometimes	62.1% (18)	41.9% (18)	50.0% (36)
	Rarely	13.8% (4)	7.0% (3)	9.7% (7)
	Total	100% (29)	100% (43)	100% (72)

Paramedics make clinical decisions on initial assessment and provisional diagnosis of conditions or illnesses. The limited time they have at the scene and the complex nature of mental illness cases dictates a focus on initial care and management. Paramedics felt they are generally very good at initial assessment and evaluation of patients and scenes. The ability to adapt existing skills in dealing with mental health patients was seen as essential to their practice. Although the focus group participants viewed an assessment tool as necessary to provide a basis for practice, specific tools were not discussed.

Focus group discussion emphasised the difference in the training that paramedics receive, in relation to conditions such as cardiac or respiratory emergencies and mental illness presentations. They believe that mental illness presentations should be given the same consideration and value.

While crisis intervention was not seen by some paramedics as a major part of their role, it was agreed that their training did not provide adequate preparation to perform this role if required.

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Communication skills, the ability to establish initial rapport and the ability to recognise patients that are mentally ill were seen as key features to managing patients with a mental illness.

Organisational Culture

Ambulance organisational culture is focused on providing emergency care: the rapid response and timely prehospital provision of medical care and service. Paramedic training focuses on initial clinical presentations and the priority assigned to those presentations until the patient can be taken to further definitive care. Sanders[21] describes this process as stabilising the patient in the field, then providing appropriate transportation by ground or air to a proper receiving facility based on the patient's condition. The concept of 'load & go' refers to the clinical decision to deliver essential care on scene and urgent transport to hospital. This concept is generally used when dealing with trauma or time critical patients. In this study, paramedics discussed and viewed this concept as relevant to their management of mental illness presentations because they felt that there is little they can do in terms of treatment in the majority of cases except transport patients to further care. Paramedics identify "time constraints" and "their role is to get the person to further care" as limitations to being able to care for patients with known or suspected mental illness.

Value

Time constraints, limited training, 'frequent flyers' and a perception of limited treatment options, appear to influence the value placed on treatment at the scene of mentally ill patients. The need for extended treatment, as even short term outcomes occur over days, rather than hours means that paramedics may see their initial treatment as being ineffectual and of no value. One focus group participant notes, for example, that:

[I was] criticised for being a "social worker" because I would actually sit down and talk to them. I think it really depends on [how the paramedic and society] stereotypes individuals (focus group 2).

Interdisciplinary Relationships

The last major theme to be addressed by the focus groups and survey data was how different organisations work together and the paramedics' perception of these working relationships. The two organisations that the paramedics work most closely with in South Australia are the police (SAPOL) and the mental health services teams, Assessment Crisis Intervention Service (ACIS).

SAAS & SAPOL

The paramedics previously used SAPOL as a backup support when attending a potentially violent or unpredictable situation. The 2006 Mental Health Memorandum of Understanding[22] formalised an operational cooperation between the police and ambulance service. The Memorandum states that the police will not routinely attend cases of mental illness until the need for detention, a clear threat to the safety of health professionals or public, or self harm, is determined. Therefore, although the police no longer routinely attend in mental illness cases, paramedics still call for their support in difficult cases.

Survey responses showed that when SAPOL was involved, their assistance at the scene was rated as moderate to very effective. Of the respondents, 44.4% (n=32) viewed SAPOL as very effective and 37.5% (n=27) as moderately effective. Of the remaining 18%, approximately 15% rated the cooperation as slightly effective and 3% as not effective.

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SAAS & ACIS

In comparison to the working relationship with SAPOL, the paramedics surveyed felt that the working relationship with ACIS (mental health service) was not effective. Some of the reasons given by paramedics were:

1. that ACIS were often harder to contact;
2. ACIS extended their scene time (due to time to arrive, handover, ACIS assessment, ultimate clinical decision);
3. a lack of understanding regarding the role and clinical decision making processes of ACIS in crisis calls;
4. lack of understanding of the need for an ambulance callout for some ACIS initiated calls; and
5. a perceived lack of ACIS funding and staff to meet emergency demand

The following quotes illustrate these perceptions:

"Having other mental health care services available e.g. ACIS. (hard to contact). The big problem is no one wants to help when SAAS arrives. There is poor communication between mental health agencies and SAAS". (Survey)

"Aside from SAPOL -other services are under-funded and unable to provide an acute care service when we call for emergency assistance e.g. ACIS – usually. SAAS are called by ACIS for patient transfer after routine check-up and subsequent detention". (Survey)

There was a general feeling that paramedics are providing services for the people that the under-funded and under-resourced mental health system struggle to provide for. Paramedics felt that they were 'filling in the gaps' when mental health services were unable to attend these patients. Paramedics are, consequently, reluctant to call the mental health teams and this increases the difficulties in the working relationship between the two organisations. One statement, from the third focus group describes how:

"...the ACIS team would wait for an extended period of time for an ambulance with their patient, to have the patient climb into the ambulance and sit in the chair and walk from the ambulance into the hospital, while ACIS travelled behind the ambulance in their own vehicle".

In this circumstance, the paramedics did not see why the ambulance was called. They considered their attendance as a misuse of the service where the patient appeared compliant and willing to travel by alternative means for further treatment. The question of legal liability for transport was not mentioned by paramedics in this focus group.

Discussion

This study demonstrates that paramedics are dealing with cases of mental illness as a significant component of their working life. The key issues identified by participants relate to: role, education, organisational culture and the working relationship with others. Transportation and limited clinical intervention opportunities were the predominant features of the discussion and the data showed a difficult working relationship with the mental health teams in comparison to the police.

The study, although exploratory in nature, has a number of limitations. The case card data which records the paramedics' provisional diagnosis of the case, treatment, and subsequent

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action, is dependent on what the paramedics find on scene and the priority and code they allocate to the case. The paramedic case card data may alter from the Communication Centre's initial category of callout, which as discussed above has its own limitations.

No data have been obtained to show how co-morbidities influence the assessment and coding by both call-takers and paramedics, such as alcohol and other drug use, neurological symptoms (headaches, nausea), hyperventilation which may actually relate to mental illness but are currently coded under an array of different codes. Currently 'psychiatric' is the coding option available to paramedics to denote a case that clearly relates to mental illness (on initial assessment) as the primary presentation. As a consequence, the SAAS clinical data may not accurately represent the true proportion of mental health related conditions attended by SAAS and not take into account the full range of cases that paramedics regarded as mental illness related. However, the SAAS database provides the only available information to study differences between paramedics' perceptions of workload issues and the clinical database.

Another issue is the perception of 'time at scene' which may be influenced by the overall total case time (time from arrival to completion of handover and case documentation, average 61 mins), which in cases of mental illness may be extended. This may contribute to explaining the observed difference between the SAAS clinical data and Paramedics' perceptions of their time on scene documented in this study.

A further issue is generalisability of findings, given the size and composition of the sample for the survey and focus groups. While every attempt was made by the authors to encourage participation in the survey by a wide variety of personnel it is acknowledge that there may be selection bias present, and that the resulting survey and focus group sample may not be representative of operational staff in SAAS. However, this study was an exploratory study designed to assess paramedics' perceptions of issues relating to attending mentally ill patients. De Vaus[17] views non-probability sampling as appropriate to exploratory studies which aim to gauge the range rather than representiveness of responses. The sampling method used was the most practical within the timeframe of the study.

The study shows some very distinct differences between the SAAS statistics (approximately 3% of all cases in 2006/2007) and paramedic perceptions (between 10% and 30% of their caseload), and these are important to understanding the way paramedics view and carry out their practice when attending mentally ill cases. Estimates of time at scene also show a significant difference between paramedics' perception and the clinical database (Figure 1). These discrepancies identify a real need for further research to better understand the possible causes of the discrepancy and the relationship between on-road experience and organisational data.

Perceptions of Paramedics' Role in attending mental illness cases.
The focus group discussions and survey data suggest paramedics predominantly viewed their role as transportation in cases of mental illness. If the paramedic perceives their main function in relation to mentally ill patients as transportation it may change the manner in which they view measures such as communication and restraint as well as the time they feel is necessary to address these patients' needs at the scene. Although limited resources are available in the community and within the Emergency Department, transporting the patient to further care provides a means of managing these cases and being available for what paramedics consider more appropriate "emergency" calls.

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Perceptions of the adequacy of Paramedics' Education and Training for mental illness cases.

The general consensus by paramedic participants, as discussed in section 5.2, was that greater education would benefit their ability to manage and care for this group of patients. They currently felt their education is limited and does not prepare them, by their own standards, to adequately address this client groups needs. The discussion shows that paramedics are confident of their abilities to assess and manage physical trauma. They viewed that they apply these skills to the management of psychiatric presentations well, but not to their own satisfaction, in the absence of what they perceive as adequate training. Further education and training would build upon an already strong diagnostic and management base and provide a better understanding of the value of their work in attending these cases.

Finally, the paramedics want an assessment tool in order to address their concerns. Shaban[20,21] argues for improved education and assessment tools for those working in the prehospital environment to improve clinical judgements when attending cases of mental illness, a finding which is supported by this research.

Organisational Culture and interaction with SAPOL and ACIS.

The function of SAAS is to provide emergency care, concentrating on rapid response and timely prehospital professional care. This function and underlying policies   shapes the culture and practice of SAAS, and also the relationships with other agencies.

The interaction between paramedics and SAPOL is based upon a Memorandum of Understanding, and operational policy is perceived as being clear and understood. The long established working relationship between SAAS and SAPOL under these types of 'emergency response' policies and framework has lead to a rapport and on-ground understanding when they work together.

While the 2006 Memorandum of Understanding[22] has clearly defined the working relationship between police and paramedics the current *Mental Health Act (1993)* does not legally provide for paramedics to detain patients for further treatment. This leaves paramedics with the responsibility of making the decisions around the care of the mentally ill person, but not the legal power to enforce those decisions. The new South Australian Mental Health Act 2009[23] will provide paramedics with the legal power to detain, increasing their responsibilities for the mentally ill. Data from the current study suggest that further education and training may be required to enable paramedics to adopt this role successfully.

In contrast to the interaction with SAPOL, the working relationship with ACIS was not perceived as effective, contrary to the intent of the *National Mental Health Strategy*[1] and the States' *Emergency Demand Best Practice Policy*.[14]

Focus group discussions in this area suggest that there was an absence of*:*

1. Clear policy relating to the interaction (as, for example, in a Memorandum of Understanding);
2. The established rapport which seems to exist between SAAS and SAPOL;
3. Professional education in mental health, illness and prehospital treatment; and
4. The understanding of clinical decisions made by ACIS staff who attend cases when called by paramedics.

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There was a clear perception by paramedics that they were often providing a service to fill gaps caused by inadequacies in funding and staffing at ACIS, and not being used in their primary SAAS emergency role. This perception may not be accurate, and if not, possibly could be corrected by clearer communication between these two organisations. This is a serious issue that influences practice.

Conclusions

The first issue identified by the focus group discussions and survey is the discrepancy between paramedics' perceptions and the SAAS Clinical Database. There are possible explanations for the discrepancies; however, no conclusion can be made on the cause of the discrepancies without further data analysis and research.

The second issue identified by this study is education and training. Some of the issues identified by paramedics were: better knowledge of the types and presentations of mental illness including drug related causes; better knowledge and training in what can be achieved in the prehospital treatment of the mentally ill client; and an assessment tool that allows something approaching a standard operating procedure similar to that available for physical trauma. Paramedics need to be consulted and involved in the curriculum development in this area to ensure that it is relevant to their practice and is operationally functional. Improved education and better understanding may address confidence, safety, improved assessment skills, and value placed on their work with mentally ill clients.

A third important issue affecting paramedics is the interaction between the operational staff of SAAS, SAPOL and ACIS. As shown above, the SAAS-SAPOL interaction is rated favourably and at an operational level appears to function well. Improvements can be made, but these are most likely to be made at practitioner level within an existing policy framework.

This research identifies a poor perception of the working relationship between ACIS and SAAS presenting a potential barrier to a coordinated effort to provide care for these patients. An absence of a formal policy framework which provides a basis for interaction appears to contribute to the misunderstanding at the operational level. However, much can be done to improve the working relationship within existing organisational structures and policies. The better education of paramedics (in relation to mental illness) and a better understanding of joint operational frameworks will increase their understanding of ACIS case management. Combined targeted operating policies for ACIS staff and paramedics in emergency cases will assist in building up the same confidence as exists in the SAPOL interaction. Here, emergency cases are taken to be any case in which an ambulance is called and ACIS assistance is sought by paramedics.

The SAAS mission to respond rapidly to provide emergency care will remain unchanged and procedures for dealing with mental health callouts will always remain consistent with this mission. Within this framework and within the framework of the SAPOL mission relating to assistance to SAAS a satisfactory interaction has been largely achieved. It is recommended that the same formal rapport should be developed between SAAS and ACIS within its current resources and organisational structure.

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