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FEATURE ARTICLE

Profiling police presentations of mental health consumers to an emergency department

***Soung Lee,*[1] *Scott Brunero,*[2] *Greg Fairbrother*[3] *and Darrin Cowan*[4]**

[1]*Enhanced Hospital Drug Health Consultation Liaison Services, Liverpool Hospital, and* [2]*Liaison Mental Health Nursing, Prince of Wales Hospital, and* [3]*Prince of Wales Hospital, Sydney; and* [4]*New South Wales Police Force, Parramatta, New South Wales, Australia*

ABSTRACT: *Public mental health systems have been called on to better meet the needs of consumers presenting to health services with the police, yet few studies have examined police presentations among mental health consumers in large public mental health systems. This study was designed to determine the frequency profile and characteristics of consumers of mental health services brought in by police to an emergency department (ED) in Sydney, Australia. Using data from the emergency department information system and obtaining the psychiatric assessment from the medical record, we have examined trends and characteristics in mental health presentations brought in by the police to a general ED between 2003 and 2005. The sample consisted of 542 consumers with a mental health problem brought in by the police to the ED of a 350-bed community hospital. The characteristics of this group were compared with those of all mental health related ED presentations for the same period using logistic regression. Results indicated that police presentations are likely to be young males who are unemployed, have past and present alcohol and other drugs use, present after hours, and are admitted to hospital as a result of their presentation. These consumers are likely to have a presenting problem of a psychotic disorder, less likely to have a presenting problem of depression and/or anxiety, and given a triage code of three or higher.*

The study results highlight the importance of the availability of 24-hour access to mental health care to ensure a quick care delivery response. Police presentations to EDs with mental health issues are an indicator of significant impact on health services, especially with the current overcrowding of EDs and the associated long waiting times. Systems need to be developed that facilitate collaboration between EDs, hospital security, police services, mental health, and ambulance services.

KEY WORDS: *emergency department, emergency mental health, mental health act, police presentations.*

INTRODUCTION

Consumers who present to the emergency department (ED) via the police with mental health issues present a major challenge to ED clinicians. The major reason for police involvement with these referrals is the potential for self-harm or harm to others (Citrome & Volaka 1999; Kneebone *et al.* 1995; McNiel *et al.* 1991). The security and the physical layout of general EDs which are not purpose-built for mental health utilization may not be suitable to manage these types of referrals, leading to possible compromised care of consumers (Redondo & Currier 2003; Steadman *et al.* 1986). The use of EDs for primary psychiatric assessment in NSW has led to the need for targeted research into specific populations that present (Fry & Brunero 2005).

Correspondence: Soung Lee, Enhanced Hospital Drug Health Consultation Liaison Services Liverpool Hospital, PO Box 5, Fairfield 2165, NSW, Australia. Email: soung.lee@sswahs.nsw.gov.au
Soung Lee, RN, DipAppSc, BComms, MComms, MNur (NP).
Scott Brunero, RN, Dip.AppSc, BHSc, MNur (NursPrac).
Greg Fairbrother, RN, BA, MPH.
Darrin Cowan, RN, MA(Clin prac).
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LITERATURE REVIEW

There are a number of studies examining police presentations to general hospital EDs and purpose-built psychiatric emergency care units. The majority of the studies are retrospective, use differing diagnostic coding systems, and have been undertaken in a wide variety of countries that employ different legislative procedures. Given the differences in the studies, opportunities to make general comparisons are limited. Fry and Brunero (2005), in a retrospective descriptive study of 1076 mental health referrals to an Australian general hospital ED, found that 194 (18%) were police referrals and that 67% of these referrals were male. The predominant presenting problems for the police referrals were schizophrenia, psychotic episode, and suicide risk. Brunero *et al.* (2007), in a sample of mental health consumers ($n = 868$) in a general hospital ED in Australia, found a trend towards more police referrals among consumers who attended between 2–3 times in a 12-month period. Beech *et al.* (2000), in the UK, in the assessment of an after hour on call psychiatric nurse service to a general hospital ED, found that 9% of referrals came from police services.

Studies of purpose-built psychiatric assessment centres are in general retrospective and have been predominantly completed in North America. The two available Australian studies (Kneebone *et al.* 1995; Meadows *et al.* 1994), are both retrospective and use different diagnostic coding systems. Kneebone *et al.* (1995), in a study of police referrals ($n = 634$) to a 400-bed psychiatric hospital, found the majority were young, single, and unemployed men. Compared with non-psychotic consumers, psychotic consumers had longer admissions and after discharge, relapsed more rapidly. Meadows *et al.* (1994), in a sample of 92 consumer police referrals to an Australian psychiatric hospital, found that the most common reasons for referral were self-harm (28%), situational crisis (29%), and schizophrenia (18%). Redondo and Currier (2003), in a North American study of a psychiatric emergency service found that 26% of all consumers were brought in by police. These were more likely to be male, have psychosocial problems, and be violent, but were not more likely to be admitted compared with non-police referrals. Pasic *et al.* (2005), in a North American study of 761 consumers presenting to a psychiatric emergency service found that police referrals were significantly more likely among low utilizers (mean 1.6 visits in a 4-year period) of the service compared with high utilizers of the service (mean of 11.3 visits in a 4-year period). Strauss *et al.* (2005) describe a sample of 485 North American consumers brought to hospital by a team of police who had received intensive mental health training. In a univariate analysis, the statistically significant characteristics of these consumers compared with consumers not brought in by this team were more likely to be homeless, be known to mental health services, and have schizophrenia. Evans and Boothroyd (2002) analysed 53 police referrals to a North American psychiatric ED who were youths (mean age 14 years). Domestic violence, poor caregiver competence ratings, assaultive behaviour, destructive behaviour, substance abuse, and high ratings of severity of symptoms were all significantly higher among this group than among youths brought to hospital by other means.

The vast majority of studies report male gender as a significant characteristic of police referrals (Dunn & Fahy 1990; Evans & Boothroyd 2002; Fahy *et al.* 1987; Fry & Brunero 2005; Kneebone *et al.* 1995; Matheson *et al.* 2005; Redondo & Currier 2003; Sales 1991; Sims & Symonds 1975; Way *et al.* 1993). It has been argued that the reasons for this gender predominance may be related to the level of violence and symptom severity present among males (Soyka 2000). Younger age has also regularly been shown to be a significant associate of police referral (Fry & Brunero 2005; Kneebone *et al.* 1995; Matheson *et al.* 2005; Steadman *et al.* 1986), though several other studies do not show this (Redondo & Currier 2003; Sales 1991; Sims & Symonds 1975).

STUDY PURPOSE

The purpose of this study was to compare the characteristics of consumers who had been referred by the police to a metropolitan general hospital ED with mental health issues with those of consumers who presented to the ED with mental health problems without police involvement. Clinical characteristics, triage category, alcohol and other drug (AOD) use, length of stay in the ED, clinician involvement, admission to hospital and time of presentation were canvassed and compared. Targeted research into this specific population of consumers may assist in future service planning.

METHODS

The study site was a general metropolitan hospital containing a 19-bed ED, served by two local police command centres and located in south-eastern Sydney. The area has 24-hour access to mental health services, community mental health services and a 28-bed psychiatric unit. Data from a 24-month period were collected and analysed retrospectively. Data was collected from the emergency department information system (EDIS™, Eau Claire,

WI, USA) and medical files. EDIS™ obtains data in relation to consumers as they proceed through the ED, firstly from consumer reports to the triage nurse and subsequently at discharge. With respect to diagnosis, EDIS™ utilizes a range of the International Classification of Diseases (ICD-9) codes. The EDIS system allows individual clinicians to decide on the diagnosis code to be used and this data may be entered by ED nurses, mental health staff, ED physicians, or resident medical officers. The resulting variation in diagnostic descriptors is less than ideal. Australian studies among ED presentations have used varying methods to describe the patient presenting problem (Brunero *et al.* 2007; Kalucy *et al.* 2005; Meadows *et al.* 1994). In this study, a content analysis of the diagnostic codes was conducted and all the codes used at the study site further categorized into larger presenting problem descriptions. Apart from AOD use, comorbid presenting problems were not considered. A total of eight presenting problem categories were developed: psychotic episode (drug psychosis, delusional disorders, affective psychosis, alcoholic psychosis), depression and anxiety disorder (major depressive episodes, reactive depressions, anxiety disorders, panic attacks, adjustment disorder, acute stress reactions), bipolar disorder (relapse of bipolar affective disorders), AOD, deliberate self-harm (suicide attempt or actual self-harm), schizophrenia (relapse of schizophrenia disorders), personality disorders, and other (suicidal ideation with no act of self-harm or attempt, agitation, mental status alteration, situational crisis, confusion, and delirium).

Specific information collected about the presentations included age, gender, presenting problem, employment status, triage code, AOD use, after business hours presentation to ED, whether seen by psychiatric registrar, whether admitted to hospital, and length of stay in ED. A triage code 1 implies definite danger to life (self or others) and requires the consumer to be seen immediately, triage code 2 implies probable risk of danger to self or others (seen within 10 min), triage code 3 implies possible danger to self or others (seen within 30 min), triage code 4 implies moderate distress (seen within 60 min), and a triage code 5 implies no danger to self or others (seen within 120 min) (Centre for Mental Health 2002).

Characteristics were compared between police referrals and non-police referrals of mental health consumers for the same period using univariate analyses. A multivariate logistic regression analysis was then employed, using the variables shown to be statistically related to police presentation from the univariate analyses. Data was entered into SPSS™ (Chicago, IL, USA) version 14.0 for analysis. Ethics approval was gained through the area health service ethics committee.

RESULTS

Over the study period, there were a total of 60 143 presentations to the ED. Of these, 2334 (3.9%) were mental health presentations and 460 (19.7%) of the 2334 were police referrals. Length of stay in the ED for consumers was not significantly different when compared between police referrals (21.4 hours) and non-police referrals (18.2 hours).

Table 1 reports the demographic and clinical characteristics of both police and non-police referrals. It is notable from the demographics that younger mean age, male gender, and current unemployment were significantly associated with police presentation. Clinical characteristics such as presenting after hours, having a comorbid substance abuse problem, and being admitted to the hospital were all significantly associated with police presentation.

Table 2 reports a comparison of presenting problems between police and non-police presentations. The most notable percentage differences were for the presenting

TABLE 1: *Demographic and clinical characteristics: Police versus non-police presentations*

	Police ($n = 460$)	Non-police ($n = 1874$)	F or χ^2, (P value)
Age (mean years)	32.9	36.3	F = 16.5, (<0.0001)
Males (n, %)	303, 65.9	996, 53.1	$\chi^2 = 24.2$, (<0.0001)
Females (n, %)	157, 34.1	878, 46.9	
Employed (n, %)	70, 15.2	124, 6.6	$\chi^2 = 35.8$, (<0.0001)
Unemployed (n, %)	390, 84.8	1750, 93.4	
After hours (n, %)	328, 71.3	1169, 62.4	$\chi^2 = 12.8$, (<0.0001)
AOD previous history (n, %)	423, 92	1457, 77.7	$\chi^2 = 47.6$, (<0.0001)
Admitted to hospital (n, %)	258, 56.1	1351, 72.1	$\chi^2 = 44.2$, (<0.0001)
Seen by psychiatric registrar (n, %)	59, 12.8	135, 7.2	$\chi^2 = 26.5$, (<0.0001)

F, one-way analysis of variance; χ^2, chi square; AOD, alcohol and other drugs.

TABLE 2: *Presenting problem: Police versus non-police presentations*

	Police ($n = 460$) n (%)	Non-police ($n = 1874$) n (%)	χ^2, (P value)
Other*	144 (31)	394 (21)	$\chi^2 = 103.697$*, (<0.0001)
Psychotic episode	79 (17)	153 (8)	
Depression and anxiety*	68 (15)	695 (37.1)	
Deliberate self-harm	64 (14)	255 (13.6)	
Schizophrenia	42 (9)	121 (6.5)	
Alcohol and other drugs	32 (7)	153 (8.2)	
Bipolar disorder	18 (4)	63 (3.5)	
Personality disorder	13 (3)	40 (2.1)	

*Following post-hoc analysis, the asterisked cells have the largest corrected residual. This suggests that theses cells make the largest contribution to the chi square value.

χ^2, chi square.

TABLE 3: *Triage category*

	Police ($n = 460$) n (%)	Non-police ($n = 1874$) n (%)	χ^2 (P value)
Triage 1†	3 (0.7)	2 (0.2)	$\chi^2 = 100.83$ (<0.0001)
Triage 2	62 (13.5)	138 (7.4)	
Triage 3*	298 (64.8)	880 (47)	
Triage 4*	85 (18.5)	681 (36.3)	
Triage 5*	12 (2.6)	173 (9.2)	

*Following post-hoc analysis, the asterisked cells have the largest corrected residual. This suggests that theses cells make the largest contribution to the chi square value.

†Standardized residual not calculated for Triage 1 as it has an expected cell count of less than five.

χ^2, chi square.

problems of psychotic episode and depression and anxiety. Psychotic episode was more common among police presentations and depression and anxiety was less common among police presentations.

Table 3 compares the triage categories of police and non-police presentations. This indicates more acute triaging codes among the police presentations, suggesting that higher priority was given to police presentations.

Table 4 reports the results of a logistic regression which sought to identify key independent associates of police presentation after the effects of covariation among associates of police presentation were accounted for. Variables, which were significantly associated with police presentation following univariate analysis, were entered into a stepwise regression procedure. Variables entered were: gender, employment, after hours presentation, AOD history, being admitted, being seen by a psychiatric registrar, presenting problem, and triage code.

TABLE 4: *Logistic regression model*

Variable	β	P value
Triage code 1 and 2	1.747	<0.0001
Triage code 3	1.607	<0.0001
Alcohol and other drugs history	0.994	<0.0001
Unemployed	0.74	<0.0001
Male	0.412	<0.0001
Admitted to hospital	0.518	<0.0001
Not depression and anxiety	–0.968	<0.0001
Not seen by psychiatric registrar	0.517	<0.005
Seen after normal business hours	–0.321	<0.009
Triage code 4	0.664	<0.042

The multivariate analysis yielded a predictive model inclusive of more acute triage code, male gender, younger age, unemployment, AOD issue, admission to hospital, and not diagnosed with depression or anxiety.

DISCUSSION

The findings of this study suggest that the main factors predictive of police presentation were younger age, male gender, unemployment, AOD issues and not having a presenting problem of depression or anxiety.

Police referrals accounted for nearly 20% of overall mental health referrals to the ED. Comparing this rate with other sites is difficult, as available studies are mainly from outside Australia, but rates reported from these studies range from 4%–30%. (Evans & Boothroyd 2002; Fahy *et al.* 1987; Fry & Brunero 2005; Knott *et al.* 2007; Redondo & Currier 2003; Sales 1991; Steadman *et al.* 1986; Way *et al.* 1993). The rate from this study lies within this wide range and may afford some guide in determining the level of required police resources per Australian health service site. The majority of police referrals with mental health issues occurred after working hours and/or on weekends when mental health services are at their most inaccessible. This has implications for both ED and mental health service delivery and linkages between EDs, police, hospital security, mental health services, ambulance, and community-based services. Services after hours in all of these environments are limited and may be minimally staffed. Similar to the findings of Redondo and Currier (2003), police presentations in our study sample were more likely to be admitted.

The logistic regression identified not having a depression or anxiety related presenting problem as an independent predictor of police referrals. These consumers were more likely to present with a presenting problem such as a psychotic episode, deliberate self-harm, or an AOD problem. Other studies report similar associations with

substance abuse, psychosis, and schizophrenia (Dunn & Fahy 1990; Fahy *et al.* 1987; Sales 1991; Strauss *et al.* 2005), while Redondo and Currier (2003) found more people with mood disorders than consumers with schizophrenia and substance abuse. It is unrealistic to expect ED clinicians, who may not have received any formal training in mental health, to oversee the provision of acute care to this group of consumers. These consumers may be suffering from substantial adverse outcomes including AOD abuse at the time of their presentations, which suggests that mental health services may be falling short of meeting consumer need at the time of the presentation (Aleman *et al.* 2003; Lowe & Abou-Saleh 2004; Pinikahana 2002).

To overcome these problems, systems must be developed that facilitate collaboration within and between services to ensure that these patients receive the best levels of care (Steadman *et al.* 2000). In promoting improvement, Webster and Harrison (2004) propose a mental health liaison team, which provides liaison mental health services to a range of non-mental health services including police services. Lamb *et al.* (1995), in a North American study describe the outcomes from a police mental health team in the assessment and management of psychiatric emergency referrals in a community service. Lamb *et al.* (1995) and Lamb *et al.* (2002) argue that an outreach team containing both police officers and mental health professionals is able to provide care adequately for persons who have acute mental illness, high potential of violence, substance abuse history, and contact histories with both the criminal and mental health systems. These authors suggest that such teams avoid the criminalization of people with mental illness. In a study of a mobile crisis team (composing of four police officers and two mental health nurses) versus police intervention, only patients seen by the mobile crisis team were shown to be more likely to not require psychiatric hospitalization (Scott 2000). Pinfold *et al.* (2003) describe significant benefits from a 4-hour workshop on mental health for police officers in the UK. Improvements in police officers' communication skills and attitudes towards people with mental health problems were demonstrated. Teller *et al.* (2006) report on a training programme for police officers responding to mental health calls. They report that a partnership between police and mental health services has resulted in an increased rate of voluntary presentation to mental health services compared with a period before the training programme.

From the results of the predictive analysis and an appraisal of the literature, a proposed model consisting of liaison mental health nurses embedded with police services, providing education, research and clinical consultancy with strong links to AOD and men's health services, may meet the needs of consumers and stakeholders in improving the health outcomes for these consumers.

STUDY LIMITATIONS

This study has several limitations. It is retrospective and its use of the EDIS™ and reliance on the medical record, limits access to numerous other variables of interest which may have been available to the researchers if the study had been conducted prospectively. The reliability of the categorization for the presenting problem is also a limitation in this study. International Classification of Diseases code selection is done by a wide variety of mental health and non-mental health clinicians in their everyday EDIS™ use. The ability to accurately diagnose in the ED has been challenged (Rufin *et al.* 2005). Time constraints, availability of corroborative history, varied levels of clinician experience, demand to expedite presentation through the ED, quality of interviewing rooms, and the immediacy of the need for treatment for some consumers makes accurate diagnosis in the ED difficult (Brunero *et al.* 2007).

CONCLUSION

Profiling the characteristics of this potentially resource intensive consumer group further enhances our ability to develop and refine services which may deliver better health outcomes for consumers who access police services during their presentation to hospital. Mental health nurses are in a unique position to improve relationships between mental health services and police services and advocate in favour of improved services for this consumer group.

REFERENCES

Aleman, A., Kahn, R. S. & Selten, J. P. (2003). Sex differences in the risk of schizophrenia. *Archives of General Psychiatry*, *60*, 565–571.

Beech, B., Parry, L. & Valiani, D. (2000). A pilot project to determine the demand for and utility of an out-of-hours psychiatric service run by on-call psychiatric nurses in an A&E department. *Journal of Psychiatric and Mental Health Nursing*, *7*, 547–553.

Brunero, S., Fairbrother, G., Lee, S. & Davis, M. (2007). Clinical characteristics of people with mental health problems who frequently attend an Australian emergency department. *Australian Health Review*, *31* (3), 462–470.

Centre for Mental Health (2002). *Mental Health for Emergency Departments – A Reference Guide* (amended May 2002). NSW: Department of Health.

Citrome, L. & Volaka, J. (1999). Violent patients in the emergency setting. *The Psychiatric Clinics of North America*, *22* (4), 789–801.

Dunn, J. & Fahy, T. (1990). Police admissions to a psychiatric hospital. *British Journal of Psychiatry*, *156*, 373–378.

Evans, M. & Boothroyd, R. (2002). A comparison of youth referred to psychiatric emergency services police versus other sources. *The Journal of the American Academy of Psychiatry and the Law*, *30*, 74–80.

Fahy, T., Bermingham, D. & Dunn, J. (1987). Police admissions to psychiatric hospitals: A challenge to community psychiatry? *Medicine Science and the Law*, *27* (4), 263–268.

Fry, M. & Brunero, S. (2005). The characteristics and outcomes of mental health patients presenting to an emergency department over a twelve month period. *Australian Emergency Nursing Journal*, *27* (2), 21–25.

Kalucy, R., Thomas, L. & King, D. (2005). Changing demand for mental health services in the emergency department of a public hospital. *Australian and New Zealand Journal of Psychiatry*, *39*, 74–80.

Kneebone, P., Rogers, J. & Hafner, R. J. (1995). Characteristics of police referrals to a psychiatric emergency unit in Australia. *Psychiatric Services*, *46*, 620–622.

Knott, J., Taylor, A., Pleban, D. & Castle, D. (2007). Management of mental health patients attending Victorian emergency departments. *Australian and New Zealand Journal of Psychiatry*, *41* (9), 759–767.

Lamb, R., Shaner, R., Elliot, D. & Decuir, W. (1995). Outcome for psychiatric emergency patients seen by an outreach police-mental health service. *Psychiatric Services*, *46*, 1267–1271.

Lamb, R., Weinberger, L. & Decuir, W. (2002). The police and mental health. *Psychiatric Services*, *53* (10), 1266–1271.

Lowe, A. L. & Abou-Saleh, M. T. (2004). The British experience of dual diagnosis in the national health service. *Acta Neuropsychiatrica*, *16*, 41–46.

McNiel, D. E., Hatcher, C. & Zeiner, H. (1991). Characteristics of person referred by police to the psychiatric emergency room. *Hospital and Community Psychiatry*, *42*, 425–427.

Matheson, F., Creatore, M. & Gozdyra, P. (2005). Assessment of police calls for suicidal behaviour in a concentrated urban setting. *Psychiatric Services*, *56* (12), 1606–1609.

Meadows, G., Calder, G. & Van Den Bos, H. (1994). Police referrals to a psychiatric hospital: Indicators for referral and psychiatric outcome. *Australian and New Zealand Journal of Psychiatry*, *28*, 259–268.

Pasic, J., Russo, J. & Roy-Byrne, P. (2005). High utilizers of psychiatric emergency services. *Psychiatric Services*, *56* (6), 678–684.

Pinfold, V., Huxley, P. & Thornicroft, G. (2003). Reducing psychiatric stigma and discrimination. *Social Psychiatry and Epidemiology*, *38*, 337–344.

Pinikahana, J. (2002). Mental health professionals' attitudes to drugs and substance abuse. *Nursing and Health Science*, *4*, 57–62.

Redondo, R. M. & Currier, G. W. (2003). Characteristics of patients referred by police to a psychiatric emergency service. *Psychiatric Services*, *54* (6), 804–806.

Rufin, A., Uchida, J. & Vilela, J. (2005). Stability of the diagnosis of first-episode psychosis made in an emergency setting. *General Hospital Psychiatry*, *27*, 189–193.

Sales, G. (1991). A comparison of referrals by police and other sources to a psychiatric emergency service. *Hospital and Community Psychiatry*, *42* (9), 950–952.

Scott, R. (2000). Evaluation of a mobile crisis program: Effectiveness, efficiency, and consumer satisfaction. *Psychiatric Services*, *51* (9), 1153–1156.

Sims, A. & Symonds, R. (1975). Psychiatric referrals from the police. *British Journal of Psychiatry*, *127*, 171–178.

Soyka, M. (2000). Substance misuse, psychiatric disorder and violent and disturbed behaviour. *British Journal of Psychiatry*, *176*, 345–350.

Steadman, H. J., Morrissey, J. P. & Braff, J. (1986). Psychiatric evaluations of police referrals in a general hospital emergency room. *International Journal of Law and Psychiatry*, *8* (5), 39–47.

Steadman, W., Borum, R. & Morissey, J. (2000). Comparing outcomes of major models of police responses to mental health emergencies. *Psychiatric Services*, *51*, 645–649.

Strauss, G., Glen, M. & Reddi, P. (2005). Psychiatric disposition of patients brought in by crisis intervention team police officers. *Community Mental Health Journal*, *41*, 223–228.

Teller, J., Munetz, M., Gil, K. & Ritter, C. (2006). Crisis intervention team training for police officers responding to mental disturbance calls. *Psychiatric Services*, *57*, 232–235.

Way, B., Evans, M. & Banks, M. (1993). An analysis of police referrals to 10 psychiatric emergency rooms. *Bulletin of the American Academy Psychiatry and Law*, *21* (4), 389–397.

Webster, S. & Harrison, L. (2004). The multidisciplinary approach to mental health crisis management: An Australian example. *Journal of Psychiatric and Mental Health Nursing*, *11*, 21–29.