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Aboriginal and non-Aboriginal emergency department presentations involving suicide-related thoughts and behaviours: Characteristics and discharge arrangements

--Manuscript Draft--

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Abstract:	Background: Rates of hospital admission for suicide-related thoughts and behaviours (SRTBs) are elevated in the Northern Territory (NT) of Australia, especially by Aboriginal people, but very little is known about emergency department (ED) presentations. Aim: Profile ED presentations in the NT involving SRTBs by Indigenous status and compare discharge arrangements. Method: Logistic regression of data from electronic patient records of consecutive ED presentations involving SRTBs. Results: During the study period, 167 presentations were observed. Aboriginal patients were more likely to present from remote areas, report substance misuse and family conflict or violence compared to non-Aboriginal patients. In both groups, males were more likely than females to be admitted as were persons presenting with self-harm compared with suicidal thoughts only. No differences in discharge arrangements were identified by Indigenous status. Limitations: The small scale of the study and use of administrative records points to the need for further research to improve the quality of the evidence. Conclusions: Whilst presentations by high-risk groups are more likely to be admitted for further care, the assessment of psychosocial risks and needs in ED is vital to informing decisions for after-care that support recovery in the community for Aboriginal patients and patients discharged from ED.
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If the paper has been written by more than one person, can the corresponding author attest that each author has studied the manuscript in the form submitted, agreed to be cited as a coauthor, and has accepted the order of authorship?	Yes
Have you ensured that all references to author names and affiliations have been removed from the manuscript and related documents to ensure an anonymous review process?	Yes
Have the authors disclosed any conflicts of interest in the manuscript?	Not applicable
Has the manuscript been prepared according to the Publication Manual of the American Psychological Association (6th ed.), including the references?	Yes
Have you made sure to use non-stigmatizing language concerning suicidal behavior? See guidelines in the Instructions to Authors.	Yes
Please state the word count of your submission, including abstract, text, references, notes, appendices, as well as figures and tables. Short Report Articles may be up to 2,000 words long. Research Trend Articles may be up to 4,500 words long. Clinical Insights Articles may be up to 4,500 words long. These word counts include abstract, text,	4483

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Have you provided a short biography (maximum 50 words per person) for each of the authors?	Yes

Terminology referring to Aboriginal and Torres Strait Islander people

After consulting with Aboriginal colleagues and Aboriginal members of the Clinical and Community Advisory Group for this study, it was deemed important to change references to Indigenous people/patients. 'Aboriginal and Torres Strait Islander' is increasingly recognised as the preferred term (e.g. https://www.lowitja.org.au/content/Document/TLI_Style_Guide_v14.pdf). 'Aboriginal' is used in this paper with reference to the study population as there were no Torres Strait Islander participants.

1. Reviewer 2: Reference more Indigenous material to strengthen the rationale.

I have added more rationale in the Introduction justifying specific considerations of circumstances affecting Aboriginal and Torres Strait Islander people and re-written sections of the discussion making use of references containing Aboriginal and Torres Strait Islander perspectives.

2. Reviewer 2: Change wording on line 43.

I have changed the wording on line 43 (line 45 in revised manuscript) as suggested and throughout the document I have opted to frame the paper around opportunities for prevention quite broadly to ensure the scope of implications remains open to possibilities that levels of risk will differ and some patients may actually require treatment.

3. Reviewer 2: Further analyses around more sociocultural aspects.

We do not feel the data within this study supports examination of additional socio-cultural influences beyond what is already included. Whilst the audit protocol contained instructions for recording life stress and other triggers that would reflect other socio-cultural influences, this data was deemed unreliable other than responses regarding assessments relating to family violence/conflict and histories of child maltreatment. Therefore, given the data available to the study is either socio-demographic or clinically oriented, drawing inferences about socio-cultural influences was only possible with respect to the results relating to family violence/conflict and alcohol misuse, which we have attempted to better contextualise in the discussion (see Point 4 below).

4. Reviewer 2: Better contextualise issues addressed in lines 193-202 and avoid narrowly deficit-oriented discussion.

I have re-organised and re-written the discussion (lines 177-208 in revised manuscript) to avoid a one-dimensional focus on deficits and better highlight the socio-cultural context requiring attention in ED. The aim of the revision was to better support conclusions that more culturally appropriate assessment is required that can better inform decisions for aftercare that support recovery in the community. As per point 1, I have drawn on references by Aboriginal and Torres Strait Islander authors. It is hoped that this better reflects the socio-cultural contexts of these issues as well (see Point 3 above).

5. Reviewer 3: Clarification of terminology

Given word count constraints, I have revised the terminology used to be consistent with a well-known approach described by Morton Silverman and colleagues (see lines 28-30 in Introduction).

In doing so, I have included a very brief, parenthetical explanation in the introduction that I hope will suffice.

6. Reviewer 3: Address additional limitations

The short study and follow-up period are now explicitly stated in the limitations. Unfortunately, a more detailed view of discharge arrangements was not possible as this information is not reliably recorded as data in the electronic hospital records and reviewing discharge summary letters, not all of which are found in electronic records, was considered too time consuming for the study.

Aboriginal and non-Aboriginal emergency department presentations involving suicide-related thoughts and behaviours: characteristics and discharge arrangements

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Author note

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Aboriginal and non-Aboriginal emergency department presentations involving suicide-related thoughts and behaviours: characteristics and discharge arrangements

Abstract

Background: Rates of hospital admission for suicide-related thoughts and behaviours (SRTBs) are elevated in the Northern Territory (NT) of Australia, especially by Aboriginal people, but very little is known about emergency department (ED) presentations.

Aim: Profile ED presentations in the NT involving SRTBs by Indigenous status and compare discharge arrangements.

Method: Logistic regression of data from electronic patient records of consecutive ED presentations involving SRTBs.

Results: During the study period, 167 presentations were observed. Aboriginal patients were more likely to present from remote areas, report substance misuse and family conflict or violence compared to non-Aboriginal patients. In both groups, males were more likely than females to be admitted as were persons presenting with self-harm compared with suicidal thoughts only. No differences in discharge arrangements were identified by Indigenous status.

Limitations: The small scale of the study and use of administrative records points to the need for further research to improve the quality of the evidence.

Conclusions: Whilst presentations by high-risk groups are more likely to be admitted for further care, the assessment of psychosocial risks and needs in ED is vital to informing decisions for after-care that support recovery in the community for Aboriginal patients and patients discharged from ED.

Keywords: self-harm; suicidal thoughts; Indigenous; emergency; Australia.

Introduction

The population and geographical context of the Northern Territory (NT) present unique challenges for researching suicide-related thoughts and behaviours (SRTBs; comprising suicidal thoughts and non-fatal self-harming behaviours, irrespective of suicidal intent, consistent with Silverman et al (2007: Table 2)) in Australia. The NT population encompasses considerable social, cultural and language diversity spread across a vast geography ranging from very remote, small kin-based communities in traditional homelands to larger remote communities and regional towns, to modern urban centres. Aboriginal and Torres Strait Islander people, the original inhabitants of Australia prior to European settlement, comprise one third of NT residents (30.3% in the NT vs. 3.3% across Australia), the highest proportion of any state or territory (ABS, 2018a). For most of the past decade, the NT has experienced the highest rates of suicide (ABS, 2018b) and hospitalised self-harm of any jurisdiction in Australia, and these rates are highest in Aboriginal and Torres Strait islander residents (Harrison & Henley, 2014). Moreover, recent trends in hospital admissions involving suicidal ideation and self-harm are increasing, especially amongst Aboriginal and Torres Strait Islander residents (Leckning et al., 2016). Preventing SRTBs is a pressing public health issue in the NT, which requires an evidence base sensitive to the needs of different population groups and appropriate to the social, cultural and geographic context of the NT.

Presentations to hospital emergency departments (ED) involving SRTBs are not only an important measure of suicide risk in the community, but an opportunity for intervention. Although only a small proportion of individuals experiencing SRTBs present to the ED (Shand et al., 2018), there is clear evidence that individuals who do present are at a much higher risk of subsequent suicide and other causes of death compared to the rest of the population (Carroll et al., 2014). This risk may be further exacerbated by not receiving timely medical and/or mental health treatment prior to discharge (Hickey et al., 2001). Therefore, the specialist clinical services available to patients presenting to the ED represent an important

opportunity to comprehensively assess risk, needs and strengths to support decisions about treatment options and support for recovery in the community.

However, the evidence to inform hospital-based care and prevention in Australia is largely informed by epidemiological studies of hospital admissions. Of cause for concern is the lack of studies involving Aboriginal and Torres Strait Islander people given the extent to which the causes of SRTBs are considered to differ compared to non-Indigenous populations (Elliott-Farrelly, 2004). As with other health inequities (Anderson et al., 2016), the social determinants of SRTBs are vitally important considerations for developing evidence-based responses. Like other postcolonial contexts, the vulnerability of Aboriginal and Torres Strait Islander people to SRTBs stems from multiple and compounding contemporary issues relating to historical disadvantages (Hunter & Milroy, 2006). The extent to which EDs must be sensitive and respond to the social, historical and cultural contexts of SRTBs by Aboriginal and Torres Strait Islander people has yet to be adequately investigated.

To address these gaps in the evidence, and given outcomes on discharge are known to differ according to the type and quality of hospital management (Steeg et al., 2018), the current study has been designed to compare the characteristics of ED presentations involving SRTBs by discharge arrangements, with a focus on clinically relevant differences between presentations by Indigenous status that could inform improved assessment, management and care following discharge.

Methods

Study design, participants and ethical approval

In line with recommended clinical practice (Carter et al., 2016), all patients with ED presentations at the two tertiary referral hospitals servicing the NT – Alice Springs Hospital (ASH) and Royal Darwin Hospital (RDH) – involving SRTBs or suspected to be at risk of SRTBs are referred to the mental health crisis assessment and triage team (CATT) for further

assessment. Participants were recruited from 261 consecutive ED presentations with referrals to CATT at ASH and RDH over 2 months in 2013. Participants (n=167) were identified via an audit protocol developed to review electronic and paper patient records to identify SRTBs as a presenting problem, in treatment notes, as a diagnosis, and/or in mental health triage and risk assessments undertaken in the ED. Ethical approval was obtained from the Northern Territory Department of Health and Menzies School of Health Research Human Research Ethics Committee (Ref: 13-1992).

Data collection

A structured audit tool was developed to collect and code data from electronic and paper records of ED presentations and mental health referrals, assessment and case notes for all participants. One month after the audit was completed, ED and mental health service records were reviewed for all participants to determine if any subsequent presentations involving SRTBs had occurred.

Measures

Data collected include patient demographic characteristics such as age, gender, Indigenous status and residence, ED presentation details, discharge arrangements from ED, details of referral for and risks identified during routine mental health assessment undertaken in the ED. Data relating to prior contacts with the Northern Territory Mental Health Services (NTMHS), the public mental health services responsible for ambulatory mental health care across the NT, were also collected by reviewing each patient's historical electronic records.

Indigenous status is obtained in hospital settings across Australia by asking the Standard Indigenous Question (SIQ) and is recorded as either 1) Aboriginal, 2) Torres Strait Islander, 3) Aboriginal and Torres Strait Islander, or 4) neither (ABS, 2014). Given no one in this study identifying as Torres Strait Islander, Indigenous status was coded for the study as Aboriginal or non-Aboriginal.

Discharge arrangements refer to the status of patients at the end of the episode of care in the ED. Patients can be discharged if they leave the ED of their own accord, require a transfer to another health care facility, are admitted for further care, or die during the episode of care. No patients in the study were recorded as requiring a transfer or having died, and therefore, for this study, discharge arrangements were coded as either 'admitted' or 'not admitted'.

Data analysis

Univariate logistic regression analyses of all measures on Indigenous status and discharge arrangement, reported as unadjusted odds ratios (OR), were undertaken to identify candidate variables (where $p < 0.2$) for inclusion in multivariate logistic regression. Multivariate logistic regression was used to identify differences in demographic characteristics and risk factors associated with Aboriginal and non-Aboriginal presentations involving SRTBs (reported as adjusted OR). A second multivariate logistic regression model was developed to identify demographic characteristics and risk factors associated with admission to the hospital. Interaction terms were included in the final multivariate model to test for any further differences in discharge arrangements by Indigenous status. Analyses were undertaken using Stata 15 (StataCorp, 2017) with McFadden's pseudo R-squared and Hosmer & Lemeshow's goodness-of-fit statistics used to evaluate the multivariate models.

Results

Data on demographic characteristics, presentation details, mental health risks recorded, and prior mental health service use are summarised by Indigenous status (Table 1) and discharge arrangement (Table 2). Presentations involving SRTBs accounted for a substantial proportion of all mental health-related ED presentations in the Northern Territory (n=167/261; 64.0%) during the study period. Overall, there was a greater proportion of presentations amongst non-Aboriginal residents, males, patients under 45 years of age and

residents of urban centres, which include the greater Darwin region and Alice Springs township. Almost one-in-four presentations (n=40; 24.0%) involved self-harm, with the majority of these also involving suicidal thoughts. Of mental health risks assessed, substance misuse (n=102; 61.1%) and exposure to family violence or conflict (n=78; 46.7%) were most commonly reported. Few patients in the study were currently case managed by the NTMHS for a diagnosed mental illness (n=19; 11.4%), but just under 40% (n=65; 38.9%) had contact with NTMHS in the year prior to presentation. No repeat presentations involving SRTBs were observed in the month following the study.

Profile of Aboriginal and non-Aboriginal presentations involving suicide-related behaviours

Aboriginal patients comprised just over a third (n=55; 33.0%) of the suicide-related presentations during the study period, which reflects the overall distribution of the estimated resident population of the NT (ABS, 2013).

[Table 1 could appear here]

The gender and age distributions of Indigenous and non-Indigenous patients in the study were similar. After adjusting for other socio-demographic and clinical factors included in the model, Aboriginal patients were more than twice as likely as non-Aboriginal patients to reside in remote areas of the NT (aOR: 2.57; 95 % CI: 1.03-6.40) and more than four times more likely than their non-Aboriginal counterparts to present to ASH in central Australia compared to the RDH in the northern tropical region of the NT (aOR: 4.50; 95 % CI: 1.99-10.21).

Presentation details did not differ substantially between Aboriginal and non-Aboriginal patients, with both cohorts having a similar distribution of types of SRTBs and discharge arrangements. Although self-poisoning appeared to have a stronger association with non-Aboriginal compared to Aboriginal patients in univariate analysis, this relationship was no longer evident after adjusting for other factors. Discharge diagnoses also differed

substantially, with a greater proportion of Aboriginal patients with self-harm, suicidal thoughts and psychiatric diagnoses at discharge compared to non-Aboriginal patients. The small number of cases in each of the categories of discharge diagnoses prevented further analysis of these outcomes.

Reported substance misuse and exposure to family violence and conflict differed substantially between Aboriginal and non-Aboriginal patients. After adjusting for other characteristics, Aboriginal patients were more than twice as likely to report these risks in the context of their SRTBs (aOR: 2.40; 95% CI: 1.06-5.42; aOR: 2.14; 95% CI: 1.00-4.57, respectively). No statistically significant differences by Indigenous status were evident with respect to other risk factors reported and mental health service use.

Differences in characteristics of presentations to ED with SRTBs according to discharge arrangements

Forty-three percent (n=71; 43.0%) of ED presentations in this study were admitted. After adjusting for other relevant characteristics, type of SRTB had the strongest overall association with admission, with self-harm being four times more likely to be admitted compared to suicidal thoughts (aOR: 4.06; 95 % CI: 1.83-9.04). Males were also more likely to be admitted than females (aOR: 2.40; 95% CI: 1.06-5.42).

[Table 2 could appear here]

Based on further modelling of interaction terms, no differences in discharge arrangements were evident between Aboriginal and non-Aboriginal patients.

Discussion

The findings from this study, notable for being the first systematic study of SRTBs in ED in the NT and the only of its kind in Australia with a substantial proportion of Aboriginal patients, have implications for hospital assessment and management of these patients.

The profile of Aboriginal patients in this study points to the influence of socio-cultural contexts on the SRTBs eliciting presentation. The higher likelihood of Aboriginal patients presenting with exposure to family violence or conflict and substance misuse is strongly indicative of the effects of intergenerational trauma on community and family functioning that increases the likelihood of exposure to life stress and psychological distress amongst Aboriginal and Torres Strait Islander people in Australia (Dudgeon et al 2017). At the same time, family and community are an important source of identity and social and emotional wellbeing for Aboriginal and Torres Strait Islander people that can mitigate risk and increase protection against SRTBs (Tsey et al., 2010). Thus, an understanding of distinct family relationships of different Aboriginal groups can assist with appropriate assessment of individual and contextual risk and sources of cultural strengths and resilience to ensure that decisions about after-care for Aboriginal patients lead to appropriate and safe support in the community.

The presence of substance misuse in the context of SRTBs by Aboriginal and Torres Strait Islander people has long been understood to reflect unmet psychosocial needs relating to historical and contemporary experiences of adversity and disadvantage (Dudgeon et al., 2017; Hunter & Harvey, 2002). Alcohol misuse, in particular, is quite commonly associated with SRTBs by Aboriginal and Torres Strait Islander people (De Leo et al., 2011; Parker & Ben-Tovim, 2002) and is strongly associated with increasing risk and severity of these behaviours in general (Borges et al., 2017). Alcohol comorbidity observed in this study emphasises the need for clinical responses to acute intoxication in ED presentations to be coupled with assessment more sensitive to the socio-cultural contexts of psychosocial distress underpinning SRTBs by Aboriginal people.

The likely influence of socio-cultural context on the SRTBs of Aboriginal patients in this study suggests there is a need to understand how best to facilitate care and recovery in the community and to consider how culturally-appropriate solutions that meet community

expectations for prevention can be developed and made available (Dudgeon & Holland, 2018). This is especially important given the geographic spread and the diversity of socio-linguistic groups and types of community settings where Aboriginal people in the NT live. The challenges of assessing and treating Aboriginal patients in hospital needs to be acknowledged and urgently addressed to ensure that ED presentations are followed by preventive care and support.

The characteristics of non-Aboriginal patients in this study are generally consistent with the characteristics of hospital treated SRTBs in the wider Australian population – mostly concentrated amongst urban residents, with self-poisoning ranking as the most frequent method of self-harm (Harrison & Henley, 2014). However, the greater proportion of males compared to females in this study is not typical (Canetto & Sakinofsky, 1998). Men are generally at much higher risk of suicide (Nock et al., 2013) and less likely than women to seek help (Han et al., 2018). Therefore, the findings of this study suggest that ED presentations represent an especially important opportunity to engage typically hard to reach at-risk men in preventive care.

The higher likelihood of self-harm presentations being admitted compared to presentations involving suicidal thoughts may be explained by the need for further medical care. Most self-harm presentations observed in this study involved self-poisoning and most of these presentations were admitted. This is recommended for more severe cases of poisoning where further medical care (Vale & Bradberry, 2016) and psychiatric assessment (Hawton, 2016) are required after initial management in ED. All near-hanging presentations, which are more common amongst Aboriginal males in the NT (Davidson, 2003), were also admitted. This is recommended because of the high risk of serious injury, brain damage or death associated with this method (Adams, 1999; Boots et al., 2006). Therefore, the profile of self-harm in this study suggests that medical seriousness is a key criterion for patients to be admitted for further hospital care.

The findings from this study have implications for hospital assessment and management of presentations involving SRTBs, especially for those discharged from ED. Notably, mental health risks assessed in ED during this study were not associated with admission, despite distinguishing between Aboriginal and non-Aboriginal patients. However, very few data were available in the electronic records concerning many modifiable risk factors often assessed in ED (McClatchey et al., 2017) that could better inform short-term management of these patients and support research that can monitor longer-term outcomes to inform improvements to practice (Chunduri et al., 2017). This gap in the data may be even more important for Aboriginal patients for whom the electronic records contain little information on many of the determinants of social and emotional wellbeing believed to be driving elevated rates of suicide (Dudgeon et al., 2017). Thus, these gaps may not only point to the need for improved recording of clinically relevant data for presentations involving SRTBs, but the absence of any Aboriginal-specific predictors of hospital admission may also suggest that more culturally appropriate mental health assessment designed for ED settings is required to better understand the risks, strengths and needs of Aboriginal patients (Gee et al., 2014) that can improve clinical decision-making and quality of care. Therefore, the profile of patients not admitted may point to unmet psychosocial needs not requiring specialist medical care in hospital, which may increase the risk of further SRTBs in the absence of comprehensive assessment (Steeg et al., 2018). Developing more sensitive and appropriate psychosocial assessments for the ED setting aimed at prevention and patient needs and not just risk stratification (Pisani et al., 2016) is vital to engaging patients in further preventive intervention and treatment to support their recovery in the community.

Limitations

Whilst the generalisability of these findings is limited by the short study period and follow-up time, this detailed investigation of a relatively small number of ED presentations represents an important first step in better defining the opportunities for improved care and

prevention of SRTBs in the NT, especially for Aboriginal people. Further research is needed on a larger scale to investigate longer-term outcomes, such as mortality, to better identify those at risk within the ED presenting population. Whilst this study has demonstrated the utility of routinely collected data from these presentations, it also points to the need for improved recording of SRTBs in the ED and the risks, strengths and needs of the patients identified in mental health assessments that could have more clearly informed options for improved hospital management and care in the community following discharge.

Conclusion

This study confirms that there is a high burden of SRTBs amongst mental health presentations to ED in the NT. Substantial differences in the profile of Aboriginal and non-Aboriginal patients highlight the need for culturally sensitive assessment to inform optimal hospital management and aftercare for Aboriginal patients. Furthermore, findings from this study suggest that medically-serious presentations involving SRTBs by high risk groups are more likely to be admitted for further hospital care. However, patients discharged from ED may represent at-risk groups whose SRTBs may be influenced by unmet psychosocial needs not requiring hospital care. This further emphasises the need for high quality comprehensive psychosocial assessment to maximise the opportunity to better meet the needs of these patients and engage them in preventive interventions and treatment to support their recovery in the community.

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Table 1. Summary of demographic characteristics, presentation details, risk factors reported and mental health service use for emergency department presentations in the NT involving SRTBs, by Indigenous status

	Aboriginal (n=55)	Non-Aboriginal (n=112)	Unadj.		Adj.	
	Col. %	Col. %	OR	95% CI	OR	95% CI
Demographic characteristics						
Gender						
Female (n=72)	34.5%	47.3%	1		1	
Male (n=95)	65.5%	52.7%	1.702	(0.873-3.320)	1.016	(0.455-2.267)
Age at presentation			0.984	(0.958-1.011)		
13-24 (n=67)	38.2%	41.1%				
25-44 (n=76)	56.4%	40.2%				
45+ (n=24)	5.5%	18.8%				
Residence						
Remote (n=28)	28.3%	12.0%	2.885*	(1.255-6.632)	2.567*	(1.030-6.400)
Urban (n=133)	71.7%	88.0%	1		1	
Presentation details						
Hospital						
ASH (n=46)	49.1%	17.0%	4.720***	(2.290-9.727)	4.501***	(1.985-10.21)
RDH (n=121)	50.9%	83.0%	1		1	
Type of SRTB						
Suicidal thopughts (n=127)	78.2%	75.0%	1			
Self-harm (n=40)	21.8%	25.0%	0.837	(0.388-1.808)		
Sharp object (n=5)	3.6%	2.7%	1.302	(0.210-8.091)		
Self-poison (n=24)	5.5%	18.8%	0.279*	(0.079-0.988)		
Hanging (n=4)	5.5%	0.9%	5.860	(0.592-58.04)		
Other self-harm (n=7)	7.3%	2.7%	2.605	(0.558-12.17)		
Discharge diagnosis						
Self-harm (n=18)	14.5%	8.9%	9.200*	(1.650-51.28)		
Suicidal thoughts (n=30)	20.0%	17.0%	6.658*	(1.312-33.80)		
Psychiatric (n=70)	50.9%	37.5%	7.667**	(1.673-35.12)		
Injury (n=24)	10.9%	16.1%	3.833	(0.690-21.30)		
Other (n=25)	3.6%	20.5%	1			
Discharge arrangements						
Not admitted (n=96)	56.4%	58.0%	1			
Admitted (n=71)	43.6%	42.0%	1.071	(0.558-2.055)		
Reported risk factors						
Evidence of planning behaviours						
No (n=136)	87.3%	78.6%	1			
Yes (n=31)	12.7%	21.4%	0.535	(0.215-1.332)		
Family history of mental health issues						
No (n=89)	83.3%	70.3%	1			
Yes (n=32)	16.7%	29.7%	0.474	(0.164-1.369)		
Current AOD misuse						
No (n=65)	25.5%	45.5%	1		1	
Yes (n=102)	74.5%	54.5%	2.448*	(1.202-4.988)	2.401*	(1.064-5.417)
Exposure to family violence / conflict						
No (n=89)	40.0%	59.8%	1		1	
Yes (n=78)	60.0%	40.2%	2.233*	(1.156-4.315)	2.139*	(1.000-4.574)
History of child abuse						
No (n=157)	96.4%	92.9%	1			
Yes (n=10)	3.6%	7.1%	0.491	(0.101-2.392)		
Mental health service use						
Currently case managed by NTMHS						
No (n=148)	85.5%	90.2%	1			
Yes (n=19)	14.5%	9.8%	1.563	(0.590-4.140)		
Record of previous contact with NTMHS						
No (n=102)	60.0%	61.6%	1			
Yes (n=65)	40.0%	38.4%	1.070	(0.553-2.070)		

Note. ASH = Alice Springs Hospital. RDH = Royal Darwin Hospital. AOD = Alcohol and Other Drugs. NTMHS = Northern Territory Mental Health Service.

Table 2. Summary of demographic characteristics, presentation details, risk factors reported and mental health service use for emergency department presentations in the NT involving SRTBs and associations with hospital admission

	Admitted (n=71)	Not admitted (n=96)	Unadj.		Adj.	
	Col. %	Col. %	OR	95% CI	OR	95% CI
Demographic characteristics						
Gender						
Female (n=72)	32.4%	51.0%	1		1	
Male (n=95)	67.6%	49.0%	2.176*	(1.149-4.118)	2.654**	(1.271-5.542)
Indigenous status						
Non-Aboriginal (n=112)	66.2%	67.7%	1		1	
Aboriginal (n=55)	33.8%	32.3%	1.071	(0.558-2.055)	0.842	(0.381-1.862)
Age at presentation			0.996	(0.972-1.021)	0.993	(0.966-1.020)
13-24 (n=67)	36.6%	42.7%				
25-44 (n=76)	53.5%	39.6%				
45+ (n=24)	9.9%	17.7%				
Residence						
Remote (n=28)	19.7%	15.8%	1.308	(0.576-2.970)	1.264	(0.509-3.140)
Urban (n=133)	80.3%	84.2%	1		1	
Presentation details						
Hospital						
ASH (n=46)	35.2%	21.9%	1.941	(0.977-3.856)	1.768	(0.773-4.046)
RDH (n=121)	64.8%	78.1%	1		1	
Type of SRTB						
Suicidal thoughts (n=127)	64.8%	84.4%	1		1	
Self-harm (n=40)	35.2%	15.6%	2.935**	(1.407-6.122)	4.061***	(1.825-9.040)
Sharp object (n=5)	5.6%	1.0%	7.043	(0.764-64.92)		
Self-poison (n=24)	21.1%	9.4%	2.935*	(1.191-7.234)		
Hanging (n=4)	5.6%	0.0%	-	-		
Other self-harm (n=7)	2.8%	5.2%	0.704	(0.131-3.776)		
Discharge diagnosis						
Self-harm (n=18)	7.0%	13.5%	0.577	(0.156-2.128)		
Suicidal thoughts (n=30)	14.1%	20.8%	0.750	(0.249-2.260)		
Psychiatric (n=70)	43.7%	40.6%	1.192	(0.471-3.018)		
Injury (n=24)	21.1%	9.4%	2.500	(0.791-7.898)		
Other (n=25)	14.1%	15.6%	1			
Reported risk factors						
Evidence of planning behaviours						
No (n=136)	78.9%	83.3%	1			
Yes (n=31)	21.1%	16.7%	1.339	(0.612-2.930)		
Family history of mental health issues						
No (n=89)	68.1%	77.0%	1			
Yes (n=32)	31.9%	23.0%	1.572	(0.693-3.562)		
Current AOD misuse						
No (n=65)	35.2%	41.7%	1			
Yes (n=102)	64.8%	58.3%	1.314	(0.697-2.477)		
Exposure to family violence/conflict						
No (n=89)	59.2%	49.0%	1			
Yes (n=78)	40.8%	51.0%	0.662	(0.356-1.231)		
History of child abuse or neglect						
No (n=157)	97.2%	91.7%	1			
Yes (n=10)	2.8%	8.3%	0.319	(0.066-1.550)		
Mental health service use						
Ever case managed by NTMHS						
No (n=102)	59.2%	62.5%	1			
Yes (n=65)	40.8%	37.5%	1.151	(0.614-2.157)		
Currently case managed by NTMHS						
No (n=148)	83.1%	92.7%	1			
Yes (n=19)	16.9%	7.3%	2.586	(0.962-6.949)		
Record of previous contact with NTMHS						
No (n=102)	53.5%	66.7%	1			
Yes (n=65)	46.5%	33.3%	1.737	(0.925-3.263)		

Note. ASH = Alice Springs Hospital. RDH = Royal Darwin Hospital. AOD = Alcohol and Other Drugs. NTMHS = Northern Territory Mental Health Service.

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