Psychiatry, Psychology and Law, 2024
Vol. 31, No. 4, 748–763, https://dx.doi.org/10.1080/13218719.2023.2206878

Police negotiators and suicide crisis situations: a mixed-methods examination of incident details, characteristics of individuals and precipitating factors

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Police negotiators provide leadership and expertise in the de-escalation and resolution of critical incidents, including responding to individuals exhibiting suicidal behaviour. This study describes the frequency and characteristics of suicide-related negotiation incidents in Queensland, Australia as classified in the Queensland Police Service Negotiator Deployment Database, between 2012 and 2014. Incidents were analysed to understand the individuals involved and precipitating factors including mental health problems and intoxication with alcohol or drugs. Police negotiators were deployed to 156 suicide intervention incidents over a 3-year period, half of which occurred at a residence. The cohort had a median age of 32 years and were predominantly male (82%). Four out of five individuals appeared to have a mental health problem, and at least half were intoxicated due to drugs or alcohol. Findings highlight the importance of strong linkages between police, health and social services and the need for innovative and comprehensive, cross-agency programmes.

Key words: alcohol and other drugs; crisis situation; mental health; mixed-methods research; police–mental health collaboration; police negotiation; suicide prevention.

Article History: Received 25 September 2022; Accepted 21 March 2023

Introduction

Police are often the first to respond to people experiencing mental health and psychosocial crises. These interactions occur in a wide range of contexts with the majority of instances being resolved by frontline police, without the need for specialised negotiation or tactical response, and often involve police acting as a gateway to health care and other support services (Queensland Mental Health Commission, 2017). Police negotiators are highly trained police officers who provide leadership and expertise in the de-escalation and resolution of critical incidents. Frequently these incidents involve people who are threatening violence, individuals threatening suicide, barricaded individuals and hostage-takers (Vecchi et al., 2005). These types of complex situations require more than a routine standard policing approach. Police negotiators resolve these

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situations using advanced police methods and skills such as verbal crisis negotiation techniques.

Research in the United Kingdom (UK) found that the majority of incidents to which 'Hostage and Crisis Negotiators' were deployed involved a person in some form of personal, emotional or psychological crisis, or exhibiting suicidal or self-harm behaviour (Grubb et al., 2019). While several models of negotiation have been developed, the importance of using active listening techniques to try to understand the trigger for the incident is central to many (Grubb et al., 2021). Importantly, negotiation models provide frameworks for eliciting information, building rapport and communication with the goal of resolving incidents safely.

Over the last two decades there has been an increasing recognition of the importance of gathering and analysing data on negotiator deployments to provide insights into individual and situational characteristics, precipitating factors and outcomes of incidents (Lipetsker, 2004). These data have proved extremely useful for evaluating and informing the development of different negotiator techniques and models. Much of the research in this area comes from the United States of America (USA) and utilises the Hostage Barricade Database System (HOBAS), maintained by the Federal Bureau of Investigation's Crisis Negotiation Unit (Grubb et al., 2021; James & Gilliland, 2016; Lord, 2010; Mohandie & Meloy, 2010). While the HOBAS database is considered an important resource containing data on thousands of high-risk incidents, it has also been criticised for providing a biased and non-representative picture of negotiation incidents as negotiators can self-select which incidents they submit data on (Lipetsker, 2004).

In 2018, a negotiator deployment database was established in England, Wales and Northern Ireland, with the aim of using data to increase the understanding of negotiation incidents (Grubb, 2020). The database was originally piloted in two English police forces to generate data on the prevalence and situational characteristics of incidents, leading to a range of recommendations. These included locally relevant recommendations, such as increasing the number of negotiators on call during certain time periods – November–January (Northern Hemisphere winter and Christmas period in England) and July (midsummer) – and at locations (specific city centres) with the most deployments. Recommendations made included improving database quality by making all variables mandatory, and providing targeted training and continuing professional development for negotiators focused on understanding the psychology behind suicide and current, evidence-based, suicide intervention techniques (Grubb, 2020).

A study from Hong Kong that provided evidence on the cross-cultural efficacy of a negotiation model developed in the USA highlighted some important cultural and locality-related differences in the characteristics of negotiation incidents that can influence the way negotiations are carried out. For instance, jumping from a height accounts for around 80% of all suicide interventions that negotiators respond to in Hong Kong due to easy access to high-rise buildings. Most negotiations are conducted face-to-face since firearms are not usually involved. In comparison, suicide interventions in the USA frequently involve barricaded individuals with firearms, and only around 12% involve jumping from a height (Vecchi et al., 2019).

Despite the insights that can be gained from analysing data on police negotiation incidents, and the importance of jurisdictionally relevant data, there have been no Australian studies published on this topic. The current study aimed to describe the frequency and situational characteristics of negotiation incidents recorded as 'suicide interventions' by police negotiators in the state of Queensland, Australia. Our specific objectives were to:

1. Select all negotiation incidents classified as suicide interventions in the Queensland Police Service Negotiator

Deployment Database that occurred between 2012 and 2014.
2. Describe the frequency and context of the selected incidents and personal characteristics of the individuals involved.
3. Conduct a qualitative analysis of the associated incident narrative reports to identify possible precipitating factors including past experiences and evidence or suggestion of mental health problems or intoxication (drug or alcohol).

Method

Governance

This study was approved by the Royal Brisbane and Women's Hospital Health Research Ethics Committee (HREC/15/QRBW/615), the Queensland Police Service (QPS) (QPSRC-062203.10), the University of Queensland Research Ethics Committee (HREC/2017001503) and Public Health Act approval (RD006185).

Study setting

The setting for this study is the state of Queensland, Australia, which had an estimated population of 4.7 million people in 2014. While Queensland spans an area of 1.9 million km^2, approximately three quarters of the population resides in the south-east corner (https://www.qgso.qld.gov.au/).

Data source

The Queensland Police Service Negotiator Deployment Database (QPS-NDD) was utilised for this study. It is estimated that 95% of all incidents that negotiators are deployed to in Queensland are recorded in the QPS-NDD (P. Heck, personal communication, 7 September 2020). The database consists of 120 fields, including the location, context and duration of incidents, demographic and health details of those involved, involvement of weapons, resolution information and whether any injuries or deaths occurred, as well as a narrative report on the incident. For the present study, we were interested in analysing all suicide intervention incidents that occurred in Queensland between 2012 and 2014. Suicide interventions were specifically selected since reports for these incidents generally contained greater details regarding personal and precipitating factors that were communicated by the individual being responded to. Data were provided by QPS in two formats: (a) a spreadsheet containing the collated structured data from all Deployment Summary Forms; and (b) the individual Deployment Summary Forms, from which the free-text narrative report (titled 'Incident Details/Demands') could be extracted and analysed qualitatively. Details about negotiation incidents and demographics of the individuals involved were extracted from structured data fields within the Excel spreadsheet. Information recorded by police that suggested a current or recent mental health problem was extracted from both the spreadsheet and the narrative reports. This included a mixture of diagnoses that were confirmed by health professionals, unconfirmed diagnoses shared by individuals and police officers' interpretations of individuals' behaviours. Information suggesting intoxication due to drugs or alcohol at the time of the incident was also extracted from both the spreadsheet and narrative reports. Possible precipitating factors and/or experiences shared by individuals (or their close contacts) as being motivating factors for them being in their present circumstance were extracted from narrative reports using a qualitative approach and then analysed quantitatively.

Qualitative analysis

Narrative reports summarising suicidal crisis incidents to which negotiators were deployed were analysed using a thematic framework method, which has been well described by Gale et al. (2013). All data were coded and

analysed according to the five stages of this method:

Stages 1–2. Familiarisation and coding

After extensive familiarisation with the reports by two authors (M.L.S., L.W.), a series of codes were proposed. Both inductive and deductive approaches were used to generate codes. For example, some codes like 'mental health problems' and 'intoxication' were predefined because they were specific areas of interest to the study. Other codes, such as 'precipitating factors or experiences' and 'provoking police', were generated inductively while examining reports.

Stage 3. Developing a working analytical framework

Ten reports were double-coded using the initially proposed codes and then cross-checked by two authors (M.L.S., L.W.). These codes were then discussed among five authors (including two psychiatrists, E.H. and J.P.; and M.L.S., L.W., C.M.), and changes were made to the number and content of codes. This process was repeated twice before all codes were finalised.

Stage 4. Applying the analytical framework

The analytical framework was then applied to all reports using a qualitative data management package (NVivo 12 Pro) to index reports using the existing codes. This stage was completed by two authors (M.L.S., L.W.), and 50% of reports were double-coded.

Stage 5. Charting data into the framework matrix

Coded portions of text were then exported to Excel as a framework matrix, with one column per code, and one row per report. For reports that were double-coded, coded portions from each author were compared and distilled into a single row for each report. Coded text within each of the codes (columns) were then summarised into themes and sub-themes by three authors (M.L.S., L.W., C.M.) and reviewed by a psychiatrist (J.P.). Sub-themes within the 'mental health problems' theme were classified into the broad mental disorder categories used by the *Diagnostic and Statistical Manual of Mental Disorders, 5th Edition* (DSM–5) (American Psychiatric Association, 2022). Finalised themes and sub-themes were discussed and agreed upon by all authors involved in this study for use in subsequent quantitative analysis.

Quantitative analysis

Structured data from the negotiator deployment database, along with themes identified across narrative reports using the thematic framework method described above, were summarised using median and interquartile range, or counts and proportions, with the denominator being total incidents or incidents with specific information such as precipitating factors. All quantitative analyses were conducted using *R* Version 3.6.2 (R Core Team, 2019).

Results

Overview of suicide crisis-related negotiator deployments

Police negotiators were deployed to 156 suicide intervention incidents in Queensland between 2012 and 2014 (Table 1). Almost one third of incidents occurred in the Brisbane region (31%), followed by Central Queensland (27%) and South Eastern Queensland (18%). Most incidents occurred after 10am, peaking at 7pm (Figure 1(A)). There appeared to be slightly more incidents on a Monday and fewer incidents on a Friday (Figure 1(B)), and the highest number of incidents were recorded in August (Figure 1(C)). The majority of incidents occurred at a residence (50%), followed by on a bridge (14%) or in a public place (10%), and almost half (47%) of all incidents involved individuals in elevated locations (e.g. balcony of a high-rise

Table 1. Summary of suicide-related police negotiation incidents in Queensland between January 2012 and December 2014.

Incident details		*n* (%)
Region	Brisbane	49 (31.4)
	Central Queensland	42 (26.9)
	South Eastern Queensland	28 (17.9)
	Southern Queensland	21 (13.5)
	Northern Queensland	16 (10.3)
Location type	Residence	78 (50.0)
	Bridge	21 (13.5)
	Public place	16 (10.3)
	Cliff edge	7 (4.5)
	Beach/park	6 (3.8)
	Hospital/medical	≤6 (≤3.8)
	Rural area	≤6 (≤3.8)
	School/workplace	≤6 (≤3.8)
	Vehicle/Carpark	≤6 (≤3.8)
	Government building	≤6 (≤3.8)
	Missing person/not located	≤6 (≤3.8)
	Police station	≤6 (≤3.8)
	Railway	≤6 (≤3.8)
	Other[a]	≤6 (≤3.8)
Elevated location[a]		73 (46.8)
Communication method	Face to face	111 (71.2)
	Mobile	24 (15.4)
	Telephone landline	12 (7.7)
	Other	≤6 (≤3.8)
	Missing	≤6 (≤3.8)
Duration	30 min or less	60 (38.5)
	>30 min to 2 hr	47 (30.1)
	>2–5 hr	29 (18.6)
	>5–10 hr	7 (4.5)
	>10 hr	≤6 (≤3.8)
	Missing	8 (5.1)
Weapon	No weapon	97 (62.2)
	Knife/knives	36 (23.1)
	Rifle/shotgun	9 (5.8)
	Petrol/fuel	6 (3.8)
	Handgun	≤6 (≤3.8)
	Shotgun	≤6 (≤3.8)
	Blades/razor	≤6 (≤3.8)
	Other[b]	11 (7.1)
	Missing	≤6 (≤3.8)
Incident resolved by	Police negotiator	126 (80.8)
	Containment	13 (8.3)
	Tactical	6 (3.8)
	Other	6 (3.8)
	Missing/nil	≤6 (≤3.8)
Injury	No injuries	138 (88.5)

(*Continued*)

Table 1. (*Continued*).

Incident details		*n* (%)
	Yes: person of interest	11 (7.1)
	Yes: police	≤6 (≤3.8)
	Yes: victim	≤6 (≤3.8)
	Missing	≤6 (≤3.8)
Death	No deaths	147 (94.2)
	Person of interest	≤6 (≤3.8)[c]
	Missing/not applicable	≤6 (≤3.8)

Note: $N = 156$ incidents.
[a]Includes roof, ledge, balcony of high rise, cliff, tree, bridge and overpass. [b]Includes acid, axe, glass, replica, stick, sword and not specified. [c]Includes deaths that occurred prior to negotiators arriving, during the incident or within two weeks of the incident if recorded.

building, roof of a house, on a bridge, in a tree; Table 1). Most incidents involved face-to-face communication (71%), were resolved by a police negotiator (81%) and were resolved within 30 minutes (39%) or between 30 minutes and 2 hours (30%). More than half of the incidents did not involve a weapon (62%), but of the 55 (35%) that did, a knife was the most common weapon (23% of all incidents, 61% of incidents involving weapons). Most incidents were resolved without injuries (89%), but a small number (≤4%) of the individuals being responded to by negotiators died by intentional self-harm before negotiators arrived, during the incident or within two weeks of the incident.

Characteristics of individuals involved in suicide crises involving police negotiators

One hundred and forty individuals were involved in one negotiation incident, and eight individuals were involved in two. In most incidents, the individual involved was male (82%) and aged between 18 and 39 years (61%; Table 2). The median age of individuals was 32 years (interquartile range, IQR = 25–44) for all incidents, 33 years (25–45) for males and 29 years (21–37) for females. Most individuals were described as Caucasian (88%), followed by Aboriginal and/or Torres Strait Islander descent (5%). Over half of the individuals reported being single (53%), and 16% reported being separated or divorced.

In 83% of incidents ($n = 129$), the individual involved was described by police as having one or more mental health problems. Depressive disorders were most prevalent (47%), followed by other mental disorders (i.e. data suggest a mental health disorder is present, but the type of disorder is not specified; 25%), schizophrenia spectrum and other psychotic disorders (13%) and substance-related and addictive disorders (13%). Individuals were recorded by police as being intoxicated due to drugs or alcohol in half of the incidents ($n = 80$, 51%). For an additional 57 incidents (37%), police reported that it was unknown whether the individual was intoxicated.

Factors identified as precipitants to suicide crisis

Precipitating factors and experiences were extracted from 83 (53%) narrative reports. No precipitating factors or experiences were identified for 73 (47%) incidents due to a variety of reasons including the individual in crisis not communicating with negotiators or not being able to be understood due to their location or mental state. Qualitative analysis of the factors and experiences expressed by individuals and documented by police led to 10 types of precipitating factors being identified (Table 3).

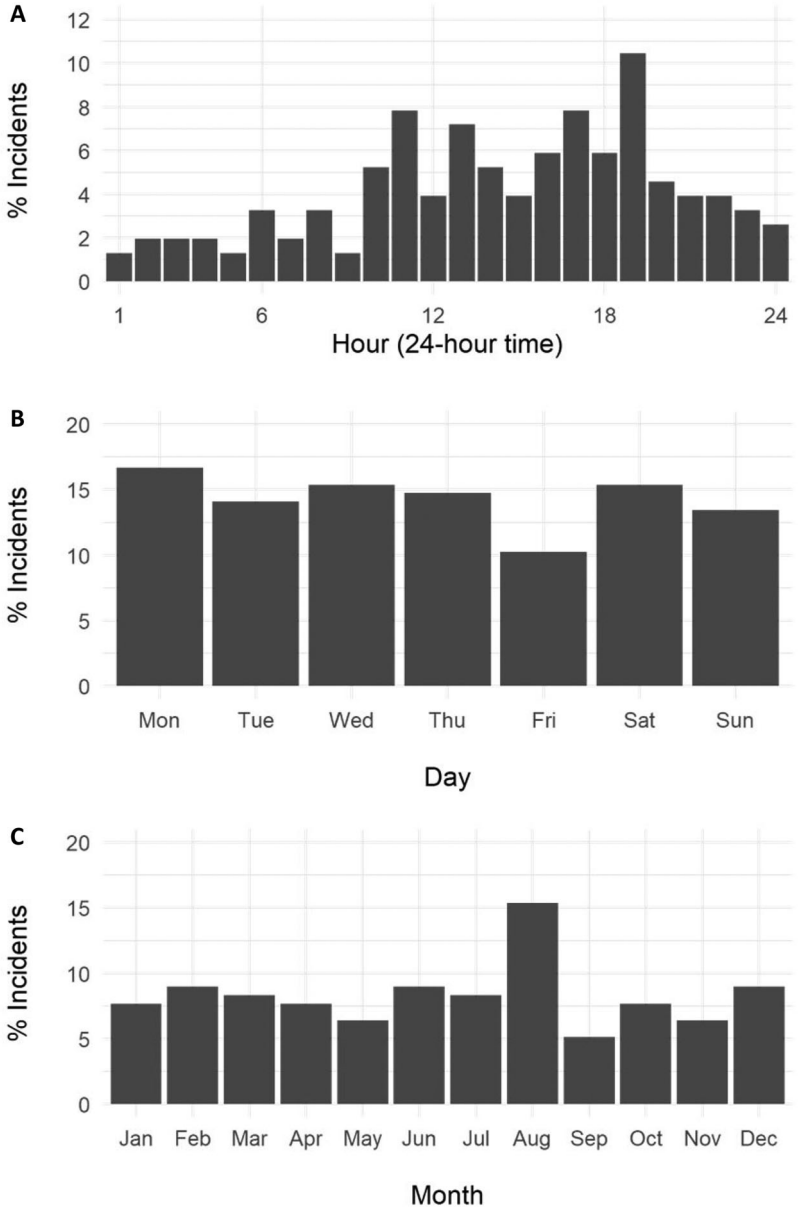

Figure 1. Distribution of suicide-related negotiation incidents responded to by negotiators in Queensland between 2012 and 2014, by (A) hour of the day; (B) day of the week; and (C) month of the year.

The most frequent factor mentioned by individuals was relationship issues ($n = 43$ incidents, 52% of the 83 incidents for which information on precipitating factors could be extracted). Arguments with and/or separation from an intimate partner were the most common relationship issues, followed by issues with other family members, friends and acquaintances. Financial and/or work issues were the second most prevalent issues identified ($n = 21$, 25%), including work or study difficulties, un- and underemployment,

Table 2. Demographics and clinical characteristics of individuals involved in suicide-related police negotiation incidents in Queensland between January 2012 and December 2014.

Demographics and clinical characteristics	*n* (%)
Sex	
Male	128 (82.1)
Female	28 (17.9)
Age (years)	
<18	10 (6.4)
18–29	54 (34.6)
30–39	41 (26.3)
40–49	30 (19.2)
50–59	15 (9.6)
60+	6 (3.8)
Racial appearance	
Caucasian	137 (87.8)
Aboriginal/Torres Strait Islander	7 (4.5)
Other	12 (3.8)
Relationship status	
Single	83 (53.2)
Separated/divorced	25 (16.1)
De facto	24 (15.4)
Married	15 (9.6)
Other	9 (5.8)
Mental health problems	
Depressive disorders	74 (47.4)
Other mental disorders	39 (25.0)
Personal history of self-harm	31 (19.9)
Schizophrenia spectrum and other psychotic disorders	20 (12.8)
Substance-related and addictive disorders	19 (12.2)
Bipolar and related disorders	13 (8.3)
Trauma- and stressor-related disorders	≤6 (≤3.8)
Anxiety disorders	≤6 (≤3.8)
Any mental health problem	129 (82.7)
Intoxicated at time of incident	
Yes	80 (51.3)
Alcohol only	30 (19.2)
Alcohol and drugs	23 (14.7)
Drugs only	21 (13.5)
Other/Unclear	6 (3.8)
Unknown	57 (36.5)
No	19 (12.2)

Note: $N = 156$ incidents.

financial issues, injuries at work and dismissed work-related insurance claims. The third most prevalent factor was difficulty dealing with stress or bereavement ($n = 19$, 23%), followed by involvement with the justice system ($n = 15$, 18%). Almost half of the individuals ($n = 38$, 46%) who shared information about precipitating factors talked about two or more factors. Examination of the most common co-occurring factors revealed that 57% of people with financial issues were also having relationship issues, and 64% of people with children-

Table 3. Precipitating factors or experiences expressed by individuals involved in suicide-related police negotiation incidents in Queensland between January 2012 and December 2014.

Precipitating factors	*n*
Relationship issues	43
Intimate partner	
Other family, friends, church, neighbours	
Financial and/or employment issues	21
Work or study difficulties	
Unemployed or employment uncertainty	
Financial issues	
Injury at work/dismissed Workcover claim	
Difficulty dealing with stress or bereavement	19
Stressful situations	
Unable to get sufficient mental health care	
Bereavement of partner/family/friend	
Suicide by partner/family/friend	
Suicide attempt by partner/family/friend	
Involvement with justice system	15
Past offences	
Wanted for offences or return to prison	
Recently released from prison	
Issues related to children	11
Child custody issues	
Concerns about welfare of children	
Perpetrator of domestic violence	10
Past traumatic experience	9
Victim of childhood neglect or abuse	
Adult victim of rape	
Military combat	
Non-compliance with psychiatric management	7
Health problems other than mental health	≤6
Homelessness or precarious housing	≤6

Note: $N = 83$ incidents. One or more precipitating factors were identified for 83 incidents. For 73 incidents, no precipitating factor was identified, largely due to limited communication with the individual during these incidents. Some categories include examples of the types of issues that were grouped together; however, specific numbers have not been provided due to small numbers in some of the sub-categories.

related issues were also having relationship issues.

Discussion

This paper outlines the first Australian data on the frequency, context and mental health and psychosocial characteristics of suicide crisis situations responded to by police negotiators, based on data gathered over a three-year period in Queensland. This is one of few studies globally to systematically analyse police negotiator narrative reports to further our understanding of factors that precipitate suicidal crises. We found that approximately half of all incidents occurred at a personal residence, and that most incidents occurred between the hours of 10am and 7pm and were resolved in around one hour. Over one third of incidents involved an individual with a weapon, and nearly half occurred at an elevated location off which the individual was usually threatening to jump. Despite these high-risk variables,

there were very few fatalities reported (≤4%), suggesting that intervention from police negotiators is highly effective at resolving such situations.

Interestingly, we observed a much higher proportion of males (82%) in the current study compared to the gender distribution generally seen among Australian adults who report a past suicide attempt (i.e. all reported suicide attempts not just those involving negotiators). For example, data from the 2007 National Survey of Mental Health and Wellbeing, a nationally, representative household survey of 8841 individuals aged 16–85 years, found that the 12-month rate of suicide attempts was higher for females (0.5%) than for males (0.3%; Johnston et al., 2009). More recently, the *Partners in Prevention* study, which describes characteristics of individuals who were the subject of a suicide-related call to police or ambulance services between 2014 and 2017 in Queensland, found that 52% of individuals were female, and 48% were male (Meurk et al., 2022). However, when only calls to police were considered, the proportion of males was higher (58%). Together, these findings suggest that while females may attempt suicide at a slightly higher rate than males in Australia, police and especially police negotiators more regularly encounter males experiencing a suicidal crisis. This finding is consistent with international studies focused on police negotiator cohorts, for example males made up 72% of an English cohort (Grubb, 2020).

Age profiles observed in the present study were similar to those observed more generally among Australian adults who had made a suicide attempt, as well as individuals who had been the subject of a suicide-related call to police (Johnston et al., 2009; Meurk et al., 2022). Specifically, the median age of individuals in both the current study and in the *Partners in Prevention* study was 32 years, with females tending to be younger than males in both cohorts (Meurk et al., 2022). An apparent difference between the current cohort and the *Partners in Prevention* cohort is the lower proportion of Australian Aboriginal and/or Torres Strait Islanders in the current cohort (5% vs. 13%). Aboriginal and/or Torres Strait Islanders made up 4.4–4.6% of the population in Queensland between 2011 and 2016, so a proportion of 5% suggests only a slight overrepresentation within the current cohort (Queensland Government Statistician's Office, 2021). However, Aboriginal and/or Torres Strait Islander status was determined via data linkage in the *Partners in Prevention* study and is likely to be more accurate than the current study. It is therefore unknown whether this is a real difference or is due to inaccurate identification of Aboriginal and Torres Strait Islander people.

Temporal characteristics of the incidents reported herein show some similarities to those reported for negotiation incidents in the UK, such as most incidents occurring during the afternoon or early evening; with Monday being the most frequent day for deployments and Friday the least frequent (Grubb, 2020). There was a spike of incidents recorded in August, which we are unable to explain. In the UK, most incidents occurred during July or between November and January. The authors suggest that the latter could be related to the winter period in the northern hemisphere and seasonal affective disorder (Grubb, 2020). While it is possible that more incidents in August could be related to winter in the southern hemisphere or the Australian tax calendar, this pattern is not seen in the Queensland Suicide Register (Leske et al., 2020) and so may just be an artifact due to differences in police resourcing or due to random fluctuation.

The majority of individuals subject to police negotiator incident were described as having a mental health problem (83%). Of these, depressive disorders were most common, followed by unspecified mental health problems, schizophrenia and substance use disorders. While it was not possible to accurately quantify the percentage of individuals

with diagnosed mental health problems or those receiving treatment, the high prevalence of mental health problems reported is not surprising given the strong relationship between mental disorder and suicide (Bachmann, 2018; Ferrari et al., 2014). This finding highlights the need for effective collaboration between mental health services and police in real time. However, it is important to note that suicidality is not always related to mental illness. For example, suicidality can be a response to unbearable life conditions such as pain, shame or loss; can occur in the context of terminal illness; can be ideological; or can occur as an acute reaction to an event and/or under the influence of alcohol or other substances (Klassen, 2021).

We found that at least half (51%) of the present cohort were intoxicated due to drugs or alcohol at the time of the incident, which is likely an underestimate given that it was unknown whether the individual was intoxicated for 37% of incidents. Chronic substance and alcohol use disorders, as well as the acute use of drugs or alcohol (intoxication), are strong independent risk factors for attempting or dying by suicide (Conner & Bagge, 2019). Recent findings indicate that 26.7% of individuals who died by suicide in Australia had a blood alcohol concentration of $\geq$0.05 g/100 mL, and that suicides involving alcohol are most common in working-age males (Chong et al., 2020). Another recent study, which utilised the Queensland Suicide Register, suggests that people who die by suicide while under the influence of alcohol are more likely to have relationship problems, such as stress caused by separation or divorce, and less likely to have a previous mental health diagnosis (Kolves et al., 2020).

Indeed, in over half of the incidents for which a precipitating factor could be extracted, the individual spoke about relationship problems (52%). Most commonly, these were problems related to separation from or conflict with an intimate partner, but also included disputes with or estrangement from other family members, friends, neighbours or their church. Relationship problems, often grouped as interpersonal conflict, have been consistently cited as the most frequently occurring negative life event proximal to suicide attempts and deaths (Bagge et al., 2013; Beautrais et al., 1997; Kolves et al., 2015; Wu et al., 2009). Accordingly, the most recent Annual Report on Suicide in Queensland found that 42.5% of suicides reportedly occurred during relationship difficulties (Leske et al., 2020). Nationally, the Australian Bureau of Statistics (ABS, 2020) reports that 'problems with spousal relationship circumstances' (International Classification of Diseases–10th Revision, ICD–10, codes Z630 and Z635) (World Health Organization, 2016) were identified as an associated cause of death in 25.9% of coroner-referred deaths between 2017 and 2019, making it the most common psychosocial risk factor associated with suicide deaths. While less prevalent in our data, domestic violence and custody disputes are additional precipitating factors that commonly co-occur alongside relationship problems. A review of Australian coronial inquests into suicide deaths following police contact found that in 30.2% of cases the deceased person had been involved in family violence, all but one of the deceased persons were male, and all of the men were perpetrators of the violence (Chidgey et al., 2022). It is possible that domestic violence and custody issues were under-reported in our study, since it is known that perpetrators of abuse tend to minimise responsibility for their use of violence, blame the victim or other issues, and greatly under-report their use of violence (The Royal Australian College of General Practitioners, 2014).

The second most common group of precipitating factors identified within the current study were financial- and employment-related issues (25% of incidents for which a precipitating factor was identified). Similarly, 29.7% of Queenslanders who died by suicide between 2014 and 2016 were experiencing financial problems including recent or pending

unemployment, making financial-related problems the second most frequent type of life event preceding suicide (Leske et al., 2020). Furthermore, over one quarter ($n = 569$, 26.7%) of all Queenslanders who died were unemployed at the time of their death (Leske et al., 2020).

Another frequently identified precipitating factor was involvement with the justice system, with 18% of negotiator incidents involving an individual who had previous offences, was wanted for current offences or had recently been released from prison. Again, this finding reflects the data on associated causes of suicide deaths, which show that 11.6% of Queenslanders who died by suicide between 2014 and 2016 had pending legal matters (Leske et al., 2020), and 9.9% of Australians who died by suicide in 2019 had problems related to legal circumstances (ABS 2020). Further, a population-level data linkage study including all adults released from prison between 1994 and 2007 has shown that released women were 14.2 times and released men 4.8 times more likely to die from suicide than would be expected in the population (Spittal et al., 2014).

Implications

The apparent high rates of mental health problems in our cohort suggest that police negotiators need to be supported by (a) mental health training, and (b) real-time mental health service support. During training, mental health professionals can provide meaningful advice to negotiators related to recognising and understanding different mental health disorders and alcohol and drug problems, and can suggest strategies for how to proceed in different situations. In Queensland, real-time support during negotiation incidents is now provided by the *Mental Health Support of Police Negotiator Program*, which was established in 2017, and was informed by the data used in this study. The programme provides a centrally managed contact point for police negotiators that links them with mental health services at the local level. This mental health programme supports police negotiators in real time by providing general advice regarding mental illness and drug and alcohol issues, or by obtaining and sharing relevant collateral and historical information and facilitating referrals to the local mental health service for assessment and follow-up treatment and care when indicated. Police negotiation incidents represent an important opportunity to connect people to ongoing mental health care, especially given the large proportion of men with mental health problems who are less likely to seek help for mental health difficulties than women (Sagar-Ouriaghli et al., 2019).

Furthermore, our findings show that individuals being responded to by police negotiators are often experiencing a combination of mental health problems, substance abuse and/or psychosocial crisis. The optimal response will therefore depend on the specific combination of health issues and other precipitating factors. The high levels of distress driven by psychosocial issues within this cohort suggests an urgent need for better linkages with drug and alcohol services and additional, non-clinical support services that can provide an acute, caring response, involving problem-solving support. This should include safe spaces and other peer-led community groups (Roses in the Ocean, 2021), as well as priority access to relationship, employment, housing and legal services, as has been recommended by the Australian National Suicide Prevention Taskforce (National Suicide Prevention Adviser, 2020).

Another implication of this study is the opportunity it offers police negotiators to review their processes. For example, our qualitative analysis identified a range of precipitating factors that could be included as checkboxes in the negotiator deployment form. They could be useful for negotiator training and annual reporting but may also act as reminders during a negotiation of the types

of issues that the individual being responded to might be facing. Furthermore, the consistency and detail of reports could be enhanced by providing subheadings to help structure negotiator reflections. Adding a section focused on any future contact or follow-up with the individual and/or introducing a referencing system that allows for easier linkage of an individual involved in multiple incidents over time may also be beneficial.

Limitations and future research

Limitations of the current study include that findings are based on narrative reports written by police negotiators, which are not necessarily substantiated by other sources – for example, there may be an over- or underestimation of mental health and substance use problems. The reports also varied greatly in the amount of detail they contained due to several reasons. Firstly, there seemed to be a large variation in the motivation or ability of individuals to communicate with negotiators, with circumstances such as the mental state or location of the individual sometimes limiting or preventing communication. Secondly, reports will only include what the negotiator considered noteworthy, with some providing high-level descriptions of incidents in a few sentences and others writing multiple pages including quoting the individual, as well as friends, family and treating health professionals. Further, in some cases negotiators were aiding frontline police officers while on route to an incident but the incident was resolved before negotiators arrived. Another limitation of the study is that we were unable to systematically describe or analyse associations regarding the outcomes of crisis incidents due to inconsistent recording of this information. Also, while there were few injuries or deaths recorded in this cohort, we do not know whether these incidents were followed by additional suicide attempts or deaths. This limitation could be addressed by establishing a longitudinal data-linkage study to examine short- and long-term health, justice and socioeconomic outcomes following suicidal crises. Linked, multi-sector longitudinal data would also improve our understanding of how these factors contribute to suicidal crises and help to identify ways that services and service integration can be enhanced.

Conclusion

This study presents findings from the first systematic, mixed-methods examination of police negotiator suicide interventions in Australia. Our findings suggest that approximately four out of five individuals in these situations are experiencing a mental health problem, at least one in two are intoxicated, and that many of these incidents are driven by psychosocial crises. Taken together, these findings highlight the importance of strong linkages between police, health and social services and the need for additional innovative and comprehensive, cross-agency programmes.

Acknowledgments

The authors wish to acknowledge the support and assistance from the Queensland Police Service in undertaking this research. The views expressed in this publication are not necessarily those of the Queensland Police Service, and any errors of omission or commission are the responsibility of the authors.

Ethical standards

Declaration of conflicts of interest

Megan L. Steele has declared no conflicts of interest

Lisa Wittenhagen has declared no conflicts of interest

Carla Meurk has declared no conflicts of interest

Jane Phillips has declared no conflicts of interest

Bobbie Clugston has declared no conflicts of interest

Peter Heck has declared no conflicts of interest
Elissa Waterson has declared no conflicts of interest
Ed Heffernan has declared no conflicts of interest

Ethical approval

This article does not contain any studies with human participants or animals performed by any of the authors.

This study was approved by the Royal Brisbane and Women's Hospital Health Research Ethics Committee (HREC/15/QRBW/615), the Queensland Police Service (QPS) (QPSRC-062203.10), the University of Queensland Research Ethics Committee (HREC/2017001503) and Public Health Act approval (RD006185).

Funding

Carla Meurk is employed by The Queensland Centre for Mental Health Research, which receives core funding from Queensland Health. Megan Steele completed this manuscript while employed by The Queensland Centre for Mental Health Research. Ed Heffernan is a recipient of a National Health and Medical Research Council (NHMRC) Early Career Fellowship [APP 1162565].

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References

American Psychiatric Association. (2022). *Diagnostic and statistical manual of mental disorders* (5th ed.). https://doi.org/10.1176/appi.books.9780890425787

Australian Bureau of Statistics (ABS). (2020). *Associated causes of death in mortality*. Retrieved from https://www.abs.gov.au/articles/associated-causes-death-mortality

Bachmann, S. (2018). Epidemiology of suicide and the psychiatric perspective. *International Journal of Environmental Research and Public Health*, *15*(7), 1425. https://doi.org/10.3390/ijerph15071425

Bagge, C. L., Glenn, C. R., & Lee, H. J. (2013). Quantifying the impact of recent negative life events on suicide attempts. *Journal of Abnormal Psychology*, *122*(2), 359–368. https://doi.org/10.1037/a0030371

Beautrais, A. L., Joyce, P. R., & Mulder, R. T. (1997). Precipitating factors and life events in serious suicide attempts among youths aged 13 through 24 years. *Journal of the American Academy of Child and Adolescent Psychiatry*, *36*(11), 1543–1551. https://doi.org/10.1016/S0890-8567(09)66563-1

Chidgey, K., Procter, N., Baker, A., & Grech, C. (2022). Suicide deaths following police contact: A review of coronial inquest findings. *Death Studies*, *46*(3), 675–683. https://doi.org/10.1080/07481187.2020.1758243

Chong, D. G., Buckley, N. A., Schumann, J. L., & Chitty, K. M. (2020). Acute alcohol use in Australian coronial suicide cases, 2010–2015. *Drug and Alcohol Dependence*, *212*, 108066. https://doi.org/10.1016/j.drugalcdep.2020.108066

Conner, K. R., & Bagge, C. L. (2019). Suicidal behavior: Links between alcohol use disorder and acute use of alcohol. *Alcohol Research: Current Reviews*, *40*(1), 1–3. https://doi.org/10.35946/arcr.v40.1.02

Ferrari, A. J., Norman, R. E., Freedman, G., Baxter, A. J., Pirkis, J. E., Harris, M. G., Page, A., Carnahan, E., Degenhardt, L., Vos, T., & Whiteford, H. A. (2014). The burden attributable to mental and substance use disorders as risk factors for suicide: Findings from the Global Burden of Disease Study 2010. *PLoS One*, *9*(4), e91936. https://doi.org/10.1371/journal.pone.0091936

Gale, N. K., Heath, G., Cameron, E., Rashid, S., & Redwood, S. (2013). Using the framework method for the analysis of qualitative data in multi-disciplinary health research. *BMC Medical Research Methodology*, *13*, 117. https://doi.org/10.1186/1471-2288-13-117

Grubb, A. R. (2020). Understanding the prevalence and situational characteristics of hostage and crisis negotiation in England: An analysis of pilot data from the national negotiator deployment database. *Journal of Police and Criminal Psychology*, *35*(1), 98–111. https://doi.org/10.1007/s11896-020-09369-z

Grubb, A. R., Brown, S. J., Hall, P., & Bowen, E. (2019). From "sad people on bridges" to "kidnap and extortion": Understanding the

nature and situational characteristics of hostage and crisis negotiator deployments. *Negotiation and Conflict Management Research*, *12*(1), 41–65. https://doi.org/10.1111/ncmr.12126

Grubb, A. R., Brown, S. J., Hall, P., & Bowen, E. (2021). From deployment to debriefing: introducing the D.I.A.M.O.N.D. model of hostage and crisis negotiation. *Police Practice and Research*, *22*(1), 953–976. https://doi.org/10.1080/15614263.2019.1677229

James, R. K., & Gilliland, B. E. (2016). *Crisis intervention strategies*. Cengage Learning.

Johnston, A. K., Pirkis, J. E., & Burgess, P. M. (2009). Suicidal thoughts and behaviours among Australian adults: Findings from the 2007 National Survey of Mental Health and Wellbeing. *The Australian and New Zealand Journal of Psychiatry*, *43*(7), 635–643. https://doi.org/10.1080/00048670902970874

Klassen, E. B. (2021). Distinguishing between suicidality and mental illness. *Journal of Integrative Research & Reflection*, *4*, 15–20. https://doi.org/10.15353/jirr.v4.1709

Kolves, K., Koo, Y. W., & de Leo, D. (2020). A drink before suicide: Analysis of the Queensland Suicide Register in Australia. *Epidemiology and Psychiatric Sciences*, *29*, e94. https://doi.org/10.1017/S2045796020000062

Kolves, K., Potts, B., & De Leo, D. (2015). Ten years of suicide mortality in Australia: Socio-economic and psychiatric factors in Queensland. *Journal of Forensic and Legal Medicine*, *36*, 136–143. https://doi.org/10.1016/j.jflm.2015.09.012

Leske, S., Adam, G., Schrader, I., Catakovic, A., Weir, B., & Crompton, D. (2020). Suicide in Queensland: Annual Report 2020. Retrieved from Brisbane, Queensland, Australia: https://www.griffith.edu.au/__data/assets/pdf_file/0035/1196855/QSR_Annual_Report_2020.pdf

Lipetsker, A. (2004). Evaluating the Hostage Barricade Database System (HOBAS). *Journal of Police Crisis Negotiations*, *4*(2), 3–27. https://doi.org/10.1300/J173v04n02_02

Lord, V. B. (2010). The role of mental health in police-reported suicides. *Journal of Police Crisis Negotiations*, *10*(1–2), 191–204. https://doi.org/10.1080/15332581003799711

Meurk, C., Wittenhagen, L., Bosley, E., Steele, M. L., Bunting, D., Waterson, E., Edwards, B., Martain, B., & Heffernan, E. (2022). Suicide crisis calls to emergency services: Cohort profile and findings from a data linkage study in Queensland, Australia. *The Australian and New Zealand Journal of Psychiatry*, *56*(2), 144–153. https://doi.org/10.1177/00048674211009604

Mohandie, K., & Meloy, J. R. (2010). Hostage and barricade incidents within an officer-involved shooting sample: Suicide by cop, intervention efficacy, and descriptive characteristics. *Journal of Police Crisis Negotiations*, *10*(1–2), 101–115. https://doi.org/10.1080/15332581003799737

National Suicide Prevention Adviser. (2020). *Connected and Compassionate: Implementing a national whole of governments approach to suicide prevention (final advice)*. https://www.mentalhealthcommission.gov.au/getmedia/543d313c-5749-404d-b349-b08db3a7fd96/Connected-and-Compassionate

Queensland Government Statistician's Office. (2021). *Population estimates and projections, Aboriginal and Torres Strait Islander Queenslanders, 2006 to 2031*. https://www.qgso.qld.gov.au/issues/2781/population-estimates-projections-aboriginal-torres-strait-islander-qlders-2006-2031.pdf

Queensland Mental Health Commission. (2017). *Improving outcomes from police interactions: A systemic approach*. https://www.qmhc.qld.gov.au/sites/default/files/downloads/options_paper_improving_outcomes_from_police_interactions_a_systemic_approach_october_2017_0.pdf

R Core Team. (2019). *R: A language and environment for statistical computing*. R Foundation for Statistical Computing. https://www.R-project.org/

Roses in the Ocean. (2021). *A safe spaces narrative - emerging outcomes of safe spaces co-design*. Retrieved from https://rosesintheocean.com.au/wp-content/uploads/2021/12/Report-A-Safe-Spaces-Narrative.pdf

Sagar-Ouriaghli, I., Godfrey, E., Bridge, L., Meade, L., & Brown, J. S. L. (2019). Improving mental health service utilization among men: A systematic review and synthesis of behavior change techniques within interventions targeting help-seeking. *American Journal of Men's Health*, *13*(3), 1557988319857009. https://doi.org/10.1177/1557988319857009

Spittal, M. J., Forsyth, S., Pirkis, J., Alati, R., & Kinner, S. A. (2014). Suicide in adults released from prison in Queensland, Australia: A cohort study. *Journal of Epidemiology and Community Health*, *68*(10), 993–998. https://doi.org/10.1136/jech-2014-204295

The Royal Australian College of General Practitioners. (2014). *Abuse and violence: Working with our patients in general practice* (4th ed.). The Royal Australian College of General Practitioners.

Vecchi, G. M., Van Hasselt, V. B., Romano, S. J. J. A., & Behavior, V. (2005). Crisis (hostage) negotiation: Current strategies and issues in high-risk conflict resolution. *Aggression and Violent Behavior*, *10*(5), 533–551. https://doi.org/10.1016/j.avb.2004.10.001

Vecchi, G. M., Wong, G. K., Wong, P. W., & Markey, M. A. (2019). Negotiating in the skies of Hong Kong: The efficacy of the Behavioral Influence Stairway Model (BISM) in suicidal crisis situations. *Aggression and Violent Behavior*, *48*, 230–239. https://doi.org/10.1016/j.avb.2019.08.002

World Health Organization. (2016). *International statistical classification of diseases and related health problems* (10th ed.). https://icd.who.int/browse10/2016/en

Wu, Y. W., Su, Y. J., & Chen, C. K. (2009). Clinical characteristics, precipitating stressors, and correlates of lethality among suicide attempters. *Chang Gung Med J*, *32*(5), 543–552.