

Submission to the Legislative Assembly of the Northern Territory Select Committee on Youth Suicide in the NT

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Researchers at the Menzies School of Health Research have recently completed a confidential study of child and adolescent suicides by persons under the age of 18 years in the Northern Territory for the Committee for Child Death Review and Prevention. This study provided material relevant to the Select Committee's inquiry into suicide among youth aged 17-25. This submission outlines some key themes and provides a brief literature review from the study in an appendix to the submission. It reflects the views of the authors and is not a report of the findings of the study or of the views of the Committee.

The rate of suicide in the NT's Indigenous population has risen steeply over the last four decades. The incidence of child and adolescent deaths has also risen over the last ten years, with every indication that this may continue to rise. These deaths are widely distributed across the NT, with clusters in some contexts. Of 20 cases of self-inflicted death of persons under the age of 18 years from 2006 to 2010, all deaths but one were hanging deaths, and all but one were by Indigenous persons.

Communities under pressure

It is suggested that the inquiry have regard for the following:

- Suicide risk among those committing self harm is 'hundreds of times higher' than the general population (Owens et al, 2002). This is almost certainly the case for Indigenous people. The incidence of self harm needs to be treated seriously.
- Prevalence of suicidal behaviour in the Northern Territory is proving fatal: regardless of intent, hanging is an especially lethal method that children and youth are at risk of adopting as expressions of despair and a means for resolving interpersonal conflict.
- Demographic pressures associated with continuing high fertility among young mothers make children and youth especially vulnerable: this not only places pressure on families, but also leaves vulnerable children and youth with inadequate care and support. These pressures are also compounded by the lack of opportunity for young people, with the competencies they have, as they move from school into adult life.
- Critical determinants of vulnerability to suicide in childhood are the same as those affecting young adults, with some differences in precipitating factors: conflicts with authority, including Police; substance misuse and antisocial behaviour; and love or marital relationship problems figure more highly for young adults.

Adequacy of Prevention

A review of international evidence highlights the importance of familial transmission of suicide risk. Suicidal behaviour and completed suicides of parents and siblings are strongly linked to suicide attempts in children. Moreover, parental suicidal behaviour and early trauma including maltreatment and sexual abuse are associated with early onset of suicide attempts and with repeated attempts among young people. Children subject to early trauma and abuse, and children whose parents have been subject to trauma and sexual abuse are at risk of suicide. Intervention studies in the NT provide convincing evidence of parental suicidal behaviour in families and family networks of young children. Adversities that begin already in childhood with impaired parenting and disrupted early care lay the foundations for high rates of suicide extending into young adulthood, from years 17 and above. Prevention needs to focus on family suicidal behaviour and early childhood antecedents of suicide risk among families at high risk of impaired parenting – these can be identified both at the community level, and through the child protection system.

Prevention for high risk groups

Ongoing family stress, including violence and substance misuse, as well as family suicidal behaviour are common features of the situations of high risk groups of adolescents and young adults. School drop-out is associated with vulnerability. It is clear that in urban areas,

there are few if any services able to address the combination of school drop-out, poor family functioning and substance misuse for high risk adolescents. There needs to be a capacity to engage young people at high risk of school drop-out and social disconnection in school-based and post-school supportive programs. General gatekeeper-style programs without capacity to effectively target and engage young people are likely to be ineffective.

The health and wellbeing of adolescents and young adults should be a focus for expanded preventive activity. In many remote communities, there is evidence of under-response to suicide risk that is partly a product of the severity of ongoing conflict in families and the strain caused by the adolescents' behaviour. In some cases there are tensions associated with traditional mechanisms for regulating marriage, adolescent sexuality and peer relationships that may place vulnerable young people, including young adults at risk of suicide responses. There is a clear need to engage communities and to develop approaches to prevention that combine long and short term approaches. There is a need to strengthen family and community capacity to respond to young peoples' distress and to find alternatives to counterproductive responses to problematic or risky behaviour.

Adequacy of Evidence and Reporting

Because suicides are occurring among populations who are not frequent users of services, and who may live in communities where there are few services, there are currently very low levels of agency information available to support research into aspects of suicide. There are significant gaps in coordination between agencies with responsibilities for child wellbeing and safety; this lack of coordinated support extends into young adulthood.

There is a need for improvement of information and data sources available to support suicide prevention policies and programs. This applies both at the point of forensic investigation and during phases of postvention and prevention. Improvement in capacity to monitor and investigate the causes of suicide needs to be achieved at a number of levels:

- at the epidemiological level through data linkage, with the aim of combining all available agency and survey data to analyse concentrations of risk in populations, regions or communities; these analyses should inform policy, and should inform communities about risk profiles and progress in reducing them
- at the level of cases of suicide, there needs to be research based on audits of suicide records, using quantitative and qualitative methods and combining data from a range of sources into the causes of suicide by young people: the focus should be on investigation of their family and community circumstances
- the capacity of services to contribute to improvements in wellbeing and reductions in suicide risk needs to be informed by evidence; there needs to be investment in culturally competent clinical services and community preventive strategies and evaluation of service outcomes.

A Suicide Register for the NT should be established. This register would effectively complement aspects of the recently established Child Deaths Register and would collaborate with the review of child deaths. It should be located in an independent research institute, overseen by an expert panel and be tasked with developing the capacity to accurately report on suicides; to support forensic investigation through review of evidence-based guidelines for practice; to support research into suicide and the effectiveness of prevention strategies, and to build the evidence to inform policy and practices of government, practitioners and community organizations.

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Appendix A. Suicide in the Northern Territory

There has been a significant increase in completed suicides and attempted suicides in the NT since the beginning of 1980s when suicide rates were similar to – and for the NT Indigenous population, lower than – those for the Australian population as a whole (Davidson, 2003; Measey et al., 2006).

Between 1981 and 2002, NT rates of suicide were increasing annually by 18.4% for Indigenous residents, by 1.8% for non-Indigenous residents and by 0.15% for the Australian population (Measey et al., 2006: 316). The increase has been most pronounced among Aboriginal males, which rose from less than half the Australian male suicide rate, to over three times the rate for all Australian males in 2001-2. At the beginning of the period, NT male Indigenous suicides rose from less than half the Australian male suicide rate, to over three times the rate for all Australian males in 2001-2, while Indigenous females rose from no reported incidence to double the national rate (albeit within the statistical margin for error due to small numbers). The authors of the NT study report that, “the overall rate of suicide increased among both Indigenous males and females, with annual average increases of 17.4% (95% CI, 12.9%-20.8%) for males and 25.8% (95% CI, 12.2%-41.0%) for females” (Measey et al., 2006: 316). Much smaller rates of increase were recorded among non-Indigenous males and females for the same period.

For the period 1981-2002, the Indigenous and (to a lesser extent) non-Indigenous rates of suicide in the 10-24 years age group were also significantly higher than for Australia as a whole. The male to female ratio for Indigenous suicides in that age group was, at 3.95:1, lower than for older age groups, and the female rates generally declined from the youngest age group throughout each subsequent age (Measey et al., 2006: 317). The gap between NT Indigenous and Australian suicide rates for children and youth appears to have been increasing: according to Pridmore and Fujiyama (2009: 1129), for the period 2001 – 2006 the NT Indigenous rate for children under 15 years old was 5 times the Australian rate (with no cases recorded for NT non-Indigenous children), and the rate for young people from 15-24 years was 3.5 times the Australian rate. The most recent data provided by the NT Department of Health (Table 1) clearly shows the increasing rate of child and adolescent deaths over the last decade.

Table 1: Suicides among young people 10-17 years per 100,000*

	2001-05	2006-10
NT Indigenous	18.8	30.1
NT Non-Indigenous	4.1	2.6

*Sources: NCIS; Shu Qin Li, Health Gains Planning Branch, NT DH.

There is evidence of clustering of suicides by community, and in groups within communities, especially in Top End communities (Davidson, 2003; Hanssens, 2008b; Parker and Ben-Tovim, 2002). For example, based on an audit of coronial records, Parker (1999) documented a steep rise in completed suicide among males on the Tiwi Islands in the late 1990s. These included four cases of suicide at Nguiu, Bathurst Island in a single year that were the subject of coronial inquest in 1999 (1999).

Davidson's (2003: 30) study of emergency presentations for near-hanging to Royal Darwin Hospital found that, in the context of an 800% increase of admissions for near-hanging among Indigenous males since the 1980s, Tiwi males from Bathurst and Melville Islands constituted 62% of the total number of near-hangings among 45 cases from rural-remote areas. In fact, the data understate the prevalence of self-harm and suicide attempts on the Tiwi Islands. For example, attempted suicide by electrocution was at least as frequent as

attempted hanging during much of this period (until devices to prevent climbing electricity pylons were installed), although not necessarily leading to hospitalisation with the same frequency.

Overall, the picture has clearly emerged of a widespread increase of suicide and self-harm across the Indigenous population of the NT, with peaks or clusters in specific communities or regions. In the last decade, this has included a significant increase in suicides by persons 17 years and younger. There is concern that the prevalence of suicide in young adulthood has produced tendencies to imitation or contagion affecting children and youth and that clustering may reflect the coincidence of other factors affecting vulnerable children in many communities for example, high levels of alcohol or drug abuse, and abuse or neglect affecting children. These concerns are in the main based on practical knowledge in the field and have not yet been systematically studied. There is a need for more thorough investigation of mechanisms underlying the aggregation of suicide risk in communities and populations, especially in relation to suicides and other deaths by external causes among adolescent and preadolescent children.

Appendix B. Overview of Evidence

This section offers a selective summary of evidence pertinent to an understanding of child and youth suicide. It draws on international research on general patterns and risk relating to child and youth suicide that provides important guidance for understanding Indigenous suicide.

B.1 Child and Youth Suicide

Beautrais' (2000) review of research on risk factors for child and youth suicide showed that the following factors increase the risk of suicidal behaviour in youth: social and educational disadvantage; childhood and family adversity; impaired parenting; psychopathology; individual and personal vulnerabilities; exposure to stressful life events and circumstances; and social, cultural and contextual factors. A suicide rate is the result of combinations or interactions between a number of these risk domains for a population that may show considerable variation across contexts and within subgroups or communities (Beautrais, 2000). In a 10 year retrospective study of 61 child suicide deaths under 15 in New Zealand coronial records, Beautrais noted that "the impression of young adolescent suicide was of a disadvantaged, vulnerable and distressed group of adolescents growing up in extremely difficult circumstances" (2001: 647). She noted that males (72.1%) and Maori (57.4%) predominate in this group, with evidence of clustering (Beautrais, 2001). She concludes that there is a need for "in-depth investigation of the familial and social circumstances of young adolescents who die by suicide" (Beautrais, 2001: 651).

B.2 Families and Suicide

International research is now clear about which family factors amplify the risk of child and youth suicide: suicides, suicide attempts and suicide ideation among family members; family psychopathology and conduct disorder; abuse and neglect; family violence; substance abuse and socio-economic status. According to Brent, "family studies have conclusively shown that suicidal behaviour runs in families" (2010: 260). This has been demonstrated both in large scale population studies and studies of clinical populations. Both suicide completion and suicide attempts by family members contribute to increased risk of suicide among youth. Moreover, the higher the family suicide loading, in terms of frequency of suicide attempts and threats, the higher the risk (Brent, 2010). In a large scale population register study (n=14,440; matched controls, 144,400), Mittendorfer-Rutz (2008: 28) found that among the strongest independent familial risk factors for youth suicide attempts were a suicide attempt by sibling (OR 3.4; 2.8-4.1), mother (OR 1.9; 1.6-2.3) and father (OR 1.9; 1.7-2.1). Other familial factors included substance abuse, conduct disorders and psychopathology of family members, and "strong interactions were observed between psychopathology in index subjects and familial suicidality" (Mittendorfer-Rutz et al., 2008: 28). A study of 365 parents with mood disorders followed up over 6 years found that suicide risk is multifactorial, and that not only parents' history of suicide attempts, but parents' own history of sexual abuse also independently contribute to suicide risk in children (Brent and Melhem, 2008; Melhem et al., 2007).

The contribution of family suicidal behaviour exists independently, even when adjustment is made for the transmission of mental illness (Brent, 2010; Goodwin et al., 2004; Mittendorfer-Rutz et al., 2008). In a study of US National Comorbidity Survey data, Goodwin and colleagues tested a causal chain "in which (a) parental suicidal ideation is associated with increased mental health problems in offspring; and (b) increased mental health problems are associated with increased risk of suicidal ideation and suicide attempt" (Goodwin et al.,

2004: 163). According to this explanation, there should be no correlation between parent suicidality and suicidality in children when adjustment is made for mental health problems. While there is some effect when adjustment is made for mental illness, such that a component of the transmission of suicidality from parent to offspring is likely to be mediated by intervening mental health factors, the evidence suggests that there is “a specific association in which suicidality of the parent leads to suicidality in the offspring” (Goodwin et al., 2004: 163). Suicide ideation and suicide attempt in a parent increases the likelihood of suicide ideation and attempt in offspring; while parental suicide ideation by itself has a weak association with suicide attempts in the young (Goodwin et al., 2004).

There is evidence that certain factors contribute to early onset of suicide attempts, and thus may be relevant for a rise in rates of suicide among the young. According to Melhem, et al. “precursors of early-onset suicidal behavior include mood disorder and impulsive aggression as well as parental history of suicide attempt, sexual abuse, and self-reported depression” (2007: 1364). A higher loading of family suicidal behaviour contributes to early onset of suicidal behaviour in offspring; and sexual abuse in either parent or child are each important causes of early onset of child suicide attempts (Bronisch and Lieb, 2008; Roy and Janal, 2005). Impulsive aggression is highly associated both with early onset and with the experience of sexual abuse and early trauma (Bronisch and Lieb, 2008; Zalsman et al., 2008).

B.3 Family Functioning, Psychopathology and School Drop-out

These findings point to the importance of the quality of parenting and family environments in relation to suicide risk. A case-comparison study of adolescents in a clinical population showed that suicidal and non-suicidal adolescents differentiated in terms of attachment and developmental histories and that certain patterns of early insecure attachment were related to suicidality in adolescence (Violato and Arato, 2004). Links between fearful and preoccupied internalised attachment patterns and suicidality have been identified (Lessard and Moretti, 1998). A number of research studies of clinical populations show that characteristics of family environments affect suicidal behaviour among adolescents and preadolescents. Affectionless control and unempathic maternal parenting were associated with suicide risk in a New Zealand study (Fergusson and Lynskey, 1995). Suicide attempters were found to have families with blurred intergenerational boundaries in which children are exposed to suicidal tendencies in others. Their families were chaotic or disengaged and ineffective in acknowledging much less managing children’s withdrawn or externalising behaviours. For children with externalising tendencies there were often violent escalations that preceded suicidal behaviour (Pfeffer, 1981; Violato and Arato, 2004).

In addition to mental illness, aggressive-impulsive behaviour is an important feature of both parent and adolescent psychopathology and conduct underlying suicidal behaviour. In a study by Pfeffer and others (1989), suicidal-only children were characterised by depression and suicidal-assaultive children were characterised by anger and violence. A recent study of internalising and externalising behaviours showed that impulsivity leads to suicide ideation and attempts indirectly, through a path from aggression to depression, so that the effects of impulsivity and aggression are not limited to impulsive, unplanned suicide without ideation or intent (Greening et al., 2008). A controlled study of the familial aggregation of adolescent suicide attempts concluded that not only did transmission of suicidality occur independently of affective and psychotic disorders in the parent, but that assaultiveness and personality disorder were related to the familial aggregation of suicide attempts (Johnson et al., 1998). The findings of many studies point to strong associations between conduct disorder, violence or assaultiveness and impulsive acting out that interact with mental illness of parents and offspring to produce elevated suicide risk. The evidence is increasingly clear

that suicide is strongly associated with externalising psychopathology: substance abuse disorders and antisocial personality disorders (Hills et al., 2005). This is evident in the profile of family relationships that include adult substance abuse and family violence that can be observed behind a number of youth suicides in this study.

For adolescents, school performance and school failure represent important dimensions of experience. Studies show that children with learning and reading disorders are at higher risk of suicide (Daniel et al., 2006). Studies of young people at high risk of failure or drop-out, based on attendance, achievement and behaviour, have shown parent-child conflict and stressors related to family functioning to be highly predictive of suicide risk for this population: “the higher the level of perceived family conflict, family depression, and family AOD [alcohol and other drug] use, the greater the level of suicide-risk behavior. Correspondingly, the higher the perceived amount of support for school, support availability for feelings of depression and suicidal thoughts, and general support satisfaction, the lower the level of risk for suicide” (Randell et al., 2006: 264). In the NT context, it should not be assumed that lower school retention and achievement levels and lower expectations in some communities about academic success necessarily reduces the significance of school drop-out and related conflict with families, and the lack of support through this transition as a potential source of suicide risk.

B.4 Childhood Trauma and Intervention

Other dimensions of family risk are clearly implicated in both the risk and onset of suicidality in youth and are reflected in studies of the impact of exposure to trauma, neglect and abuse and experience of out-of-home care (Beautrais, 2001). In a national register study of over one million people, Vinnerljung (2006) and others found that former child welfare clients were four to five times more likely than peers in the general population to have been hospitalised for suicide attempts and five to eight times more likely to have been hospitalised with psychiatric disorders in their teens as well as in young adulthood, with those in long term foster care having the worst outcomes. Even adjusting for parent mental illness, substance abuse and birth parent socio-economic status, the excess risks remained about twofold. The authors conclude that irrespective of causality, former welfare clients are a high risk group for suicide attempts and psychiatric morbidity with implications for prevention.

Numerous studies have shown that early onset of suicidality may be influenced by childhood trauma. Based on a study of 280 substance dependent patients, Roy concluded that “the combination of a family history of suicide and childhood trauma may represent a correlate of increased risk of attempting suicide, attempting earlier and making more attempts” (2011: 205). Another study of 1553 prisoners identified 200 with a history of suicide attempts (Mandelli et al., 2011). The latter group had significantly higher scores on an assessment of childhood trauma, and childhood trauma was significantly associated with early onset of suicide behaviour. Early onset of suicide behaviour was in turn associated with repetition of suicide attempts (Mandelli et al., 2011). Strong associations between sexual abuse and later suicide attempts – independent of and mediated by the presence of psychopathology – are well established: in an analysis of US National Comorbidity Survey data, the highest probability of a first attempt during early adolescence was among those with both a history of sexual abuse and lifetime disorder (affective disorder or PTSD), with suicide attempt occurring 8-12 years later for those suffering abuse only (Molnar et al., 2001). In a study of 1889 substance-dependent patients, Roy & Janal (2005) found that female sex, childhood trauma and a family history of suicidal behaviour are each independent and non-interacting risk factors for attempting suicide. The relationship between sexual abuse, homelessness, substance misuse and suicidal behaviour in both female and male adolescents is strongly supported both in general and Indigenous populations (Molnar et al., 2001; Browne and

Finkelhor, 1986; Pearce et al., 2008). There is firm evidence that child abuse in the parents' childhood contributes to the risk of suicide by their children, either through the elevated risk of sexual abuse of the children, or through parental suicidal behaviour and psychopathology, or both (Melhem et al., 2007).

B.5 Developmental Considerations and Precipitants of Suicide

Child or pre-adolescent suicide is uncommon (Cantor and Neulinger, 2000; Gould et al., 2006; Steele and Doey, 2007). Between 1969 and 1978 the annual rate of suicide for children under 14 in Australia was 0.3 per 100,000 (Kosky, 1982). In the US, the rate of suicide for children aged 5 to 14 years in 1996 was 0.8 per 100,000 (Pfeffer, 2000). The pre-adolescent male to female ratio for completed suicides in Australia, the USA and Canada ranged from 4:1 to 2:1 suggesting that gender differences in suicides may be less pronounced for children compared to adolescents (Dervic et al., 2008: 272; Kosky, 1982; Pfeffer, 2000). Steele & Doey (2007: 24S) cite studies suggesting that deliberate self-harm is 4-5 times more common for girls than for boys under the age of 15 years, indicating that there may be different relationships between ideation, threats and attempts for boys and girls. Risks rise with age as suicidal behaviour becomes part of a life pattern: "Children and adolescents who attempt suicide are at risk for completed suicide, violent death, or a poor psychosocial outcome 5 to 10 years after the first attempt, with boys having worse outcomes" (Steele and Doey, 2007: 29S). The peak years for youth suicide attempts are 16-18, after which the frequency of attempts, particularly by females, declines (Steele and Doey, 2007: 24S).

Among children and young adolescents, precipitants are less easily identifiable and childhood suicide is often characterised by a brief stress-suicide interval (Dervic et al., 2008: 277). In an audit of 30 suicides by 12-14 year olds, Shaffer (1974) found that the most common precipitants (11 cases, 36%) were a 'disciplinary crisis'; punishment or trouble with teachers or police with impending disclosure to parents; fights or conflict with peers (4 cases) with close friend of opposite sex (3 cases); or conflict with a parent (3 cases), with 2 further cases of conflict with a psychotic parent. For older children 15 and above, symptoms of depression, anxiety disorders and suicide ideation are increasingly present (Gould et al., 2006), while for older adolescents and young adults, significantly challenging life course developments, such as a stigmatised sexual identity, interpersonal conflict and loss, or conflict in love relationships, along with comorbidity of mood disorder and substance abuse are common precipitants of suicide (Graham et al., 2000: 6). Stressors including lawbreaking, school failure, bullying or humiliation may be among the precipitating circumstances for older youth and young adults (Steele and Doey, 2007: 26S-7S).

Some forms of clustering of suicide are interpreted to reflect the influence of "contagion" as a precipitating influence on suicides and suicide attempts (Steele and Doey, 2007). Gould has reviewed the evidence for impacts of media representations of suicides mainly encountered among teenagers and young adults and concludes that the evidence suggests that suicide contagion has a real, if modest effect (Gould et al., 1989; Gould et al., 1990a; Gould et al., 1990b). However, it is important to consider other dimensions of contagion or clustering. Kreitman (1969) analysed the over-representation of suicides among kin and social networks in Edinburgh and concluded that suicide attempts may constitute a 'language' of distress that resonates through social networks, contributing to higher risk of similar action in others who are vulnerable. These effects may amplify the impacts of suicidal behaviour and deaths in families of adolescents across and within generations of related persons. Studies in the general population suggest that proximal exposure to suicide in family and in peer social networks is the most important mechanism of suicide clusters (de Leo and Heller, 2008; Hazell, 1993: 659; Robbins and Conroy, 1983; Wilde, 2000: 253).

Appendix C. Indigenous Suicide

In countries like Australia, New Zealand, Canada and The United States of America, not only are there similarities in the overall patterns of suicide (Cantor et al., 1996), but their histories as post-colonial nations gives them a common concern for Indigenous suicide (Hunter and Harvey, 2002). In Australia, Canada, the USA and New Zealand, the highest youth suicide rates occur in the Indigenous population and have been increasing as rates flattened or declined for the mainstream youth population (Gould et al., 2006; Beautrais, 2001; Hunter and Milroy, 2006). The clustering or aggregation of suicides in NT communities and families has been confirmed by analysis of records and statistical analysis (Hanssens, 2010; 2008b; 2008a). This is now a pressing public health concern.

C.1 Explaining the Rise in Indigenous Child and Youth Suicides

The Royal Commission into Aboriginal Deaths in Custody (RCIADIC) was the catalyst for concern about suicide among Aboriginal youth. However, the increasing rate of Indigenous suicide can not be explained by policing and the over-representation of Aboriginal youth in jails. Hunter's study of suicide in the Kimberley emphasised the following determinants: rapid social change in the 1970's included rising cash incomes and mobility, and above all rapid increase in access to alcohol (Hunter, 1988; 1991). This produced a serious deterioration in childrearing, the quality of parenting and early object relationships, leading to a higher incidence of psychopathology and elevated risk of suicide in these children as they reached adolescence (Hunter, 1999; Hunter, 1993). In his analysis of NT suicides, Parker (1999) concurred with the centrality of the impact of alcohol use on parenting experienced by the generation of adolescents and young adults committing suicide on the Tiwi islands. At a community level, this trend establishes and reproduces what Hunter et al called a pattern of "widespread heavy drinking and its attendant endangering behaviours among the most vulnerable" (1999: 87).

The pattern of risk established in early childhood is compounded by ongoing stress within families related to alcohol and cannabis misuse by parents and young adults within many households, ongoing family violence and the failure of many youth to sustain social connection through education, work or other productive activity. All of these factors condition the prevalence of suicide across communities. Demographic trends coupled with breakdown of traditional patterns of family authority contribute to the stressors: rising fertility rates at younger ages put additional stress on childrearing and parenting, and eventually contribute to increased destructive competition for diminished social resources among members of larger adolescent cohorts (Hunter and Harvey, 2002; Robinson, 2005b). Young parents command less social resources within families and are less able to support their children within unstable household situations. Substance misuse among teenage parents contributes to the deterioration of childrearing quality for many children. Current demographic trends indicate that although fertility rates are falling, there will continue to be a secular increase in births to young females, producing increasing pressure on the capacities of young parents and families to care for children (Silburn et al., 2011).

The strength of evidence about family transmission of suicide suggests that it may be possible to specify mechanisms for the rapid increases in rates of suicide and the clustering of suicides within Aboriginal communities. These include the following:

1. Exposure of children to suicide threats, attempts and completions by parents and other related kin;

2. Adolescents attempting suicide in reaction to criticism, rejection or attack by kin (including refusal to meet demands for money or other items); reacting to conflict in relationships with boy- or girlfriends;
3. Adolescents and young adults, including young parents, threatening suicide in the course of conflicts relating to demands over access to money, alcohol or marijuana;
4. Young males mainly in 25-35 year age group in crises relating to relationships, trouble with police and other issues in contexts of heavy drinking and substance abuse.

As the burden of suicide grows among young adults, there is increasing exposure of children to suicide threats and attempts in the course of daily conflict, commonly relating to alcohol and marijuana, but extending to love relationships and even seemingly petty domestic quarrels. In the course of an early intervention program on the Tiwi Islands attended by over 100 parents and children from 4 – 10 years, Robinson reported that referrals to the program for behavioural problems included over five children whose fathers had committed suicide in a single community. He also recorded numerous cases in which children as young as four years have threatened to hang themselves (Robinson, 2005b; Robinson, 2008; Robinson and Tyler, 2006; Robinson et al., 2009). In all cases in which children threatened suicide, there was evidence that parents had threatened suicide in the presence of their children. Some parents disclosed that, when under stress, they had used suicide threats as an attempt to control or discipline children. Threats of abandonment by parents under stress were common. These children had also witnessed older siblings, cousins and uncles threaten or attempt suicide. The echoing of suicide threats and attempts between parents and children has also been observed in desert communities (McCoy, 2008: 114-5).

In numerous cases, suicides threats made by children were attempts to control parental behaviour (Robinson, 2005a). Parental drinking and violence, spousal conflict, conflict between a sole parent and a new partner created situations which placed the parent herself and the child's relationship to the parent under threat, constituting a danger which the child's threat to commit suicide sought to avert. A boy climbed the roof of a house and threatened to throw himself off in order to prevent his parents fighting. He would follow them to the club to try to watch them through the fence while they drank. Another young girl threatened suicide to prevent her mother from taking up with a new partner. The new partner was threatening suicide outside the house in order to force the mother to go with him. Other children verbally threatened suicide in a kind of echo of their parents' threats to commit suicide (Robinson and Tyler, 2006). Although suicidal intent, in the sense of the intent to die on the part of the child may not be present, the various actions should be counted as a form of suicidal behaviour. It should not be taken for granted that the consequences of suicide and the absoluteness of death are not unknown to young Aboriginal people so frequently exposed to death, mourning and the permanent absence of people lost to suicide.

While general exposure to suicide in communities creates the conditions for modelling and imitation of suicidal behaviour among young people, it is suggested that the rapid escalation of suicide rates among youth and preadolescent children already exposed to some degree of neglect or trauma may be most powerfully influenced by the frequency of suicide threats and attempts within families and households, and of suicide completions in families and within related social networks. In such circumstances of risk, clustering of suicide and suicide among young people over time may not require imitation of specific "index" suicides. In fact, perhaps seemingly paradoxically, a suicide within a family network may not only increase risk; it may also increase vigilance in the deceased person's family and social network, at least for a time. Prior experience of suicidal behaviour in interpersonal conflict combined with the many antecedent difficulties in individuals, families and their relationships may be the most important general preconditions of serious suicide attempts by young people.

McCoy has pointed out that contemporary suicide for young Aboriginal males reflects a breakdown of protective features of traditional male relationships of authority and control which no longer “hold” contain, direct, channel young men’s conflicted strivings for autonomy. This includes a breakdown of the roles of fathers in social and family life (McCoy, 2008; Robinson, 1990). Self-harm and suicide attempts involve coping mechanisms in which overt and dramatic emotional expression is a form of appeal for response on the part of significant others, senior figures within kin and family groupings; they can be a cry for justice when a person has been publicly wronged (Robinson, 1990; 1995; Sansom, 1980). In early adulthood, the possibility of childbearing and motherhood undoubtedly becomes a protective factor for young females, although there are many reported instances of suicide threats of young Tiwi mothers (Robinson et al., 2009). Moreover, there is evidence that traditional controls over adolescent sexuality are in conflict with emerging patterns of youthful love relationship, and that there needs to be an invigoration of discourse at the family and community level that can constructively engage young people about their choices without simply trying to suppress them. Suicide is often an ultimate act of defiance by young people resisting control, criticism and attack, not only by other young people, but by their elders.

These patterns of expression can not be understood solely as breakdown or discontinuity. Numerous authors have noted that suicide may become an idiom of communication of distress that may include many traditional contributing elements (Reser, 1991: 76). Contemporary self-harm, including suicide attempts, represents some degree of persistence of traditional elements of self-expression and communication that resemble traditional mourning practices. They include both personal expressions of distress and the ritualisation of self-harmful gestures in the course of open public display. The persistence of traditional elements and motivations has been described in many contexts, both in remote communities in NT, QLD and WA and in longer settled areas of NSW (Robinson, 1990; Hunter et al., 1999; McCoy, 2007; 2008; Farrelly and Francis, 2009; Cox, 2010). These styles of communication and interaction within familial, peer and social networks contribute to the mechanisms of transmission of ideas and practices that lie behind the “contagion” described by numerous authors (Hanssens, 2008b; Parker, 1999). However, while contributing to elevated vulnerability of members of communities, social networks and families, these communicative patterns do not by themselves explain the suicide trend, or the causes of suicide in the individual case. Each individual suicide reaches back to experiences within a life history (Robinson, 1990).

C.2 Distribution of Suicide

It has been observed that suicide in Indigenous communities is unevenly distributed across place and time: significant differences in incidence within communities have been noted in British Columbia, Canada (Chandler and Lalonde, 1998; Kirmayer et al., 2000; Chandler et al., 2003), Native American subgroups (Novins et al., 1999), Far North Queensland (Hunter et al., 1999) and the Top End of the Northern Territory (Parker, 1999; Parker and Ben-Tovim, 2002).

In a study of suicide in British Columbia, Canada, Chandler and Lalonde (1998; Chandler et al., 2003) found that the occurrence of suicide in communities negatively correlated with the presence of factors associated with what Kirmayer (2000) called “local control”. The more local control – in community governance, services, education, as well as cultural factors such as language use – the less suicide occurred in a community. In relation to Land Rights and local control, the findings do not appear to fit the Australian experience. However, what the authors refer to as cultural continuity or discontinuity may need to be found in other dimensions of social change, rather than in indices of political self-determination, rights and community governance. More importantly, while the language of cultural continuity is

appealing, the political epidemiology of local control may not identify important causes or mechanisms of aggregation of risk of suicide in families and communities nor clarify priorities for prevention.

Population-wide trends to increasing risk of suicide may mask significant differences in processes of change at the community level that need further investigation. These trends reflect an interaction between demographic pressures within cohorts in periods of high fertility and changing patterns of family organisation and child-rearing, along with impacts of the cash economy on personal mobility and on consumption and their consequences for family life. As Taylor's (2010) work at Wadeye shows, these influences affect opportunity structures available to adolescents and young adults. Suicide risk arises at the population level through interactions at multiple phases of the life cycle.

C.3 Hanging and Indigenous Suicide

Hanging as a method used by males had been rising in Australia from 1974 to 1994 (Cantor and Neulinger, 2000: 379). It is now the most common method among male youth and by far among Indigenous youth and young adults in Australia, New Zealand, Canada and the USA (Cantor and Neulinger, 2000: 380; Hunter and Harvey, 2002: 18; Kosky and Dundas, 2000: 838; Beautrais, 2001; Kirmayer, 1994; Middlebrook et al., 2001).

Both culture and availability play a role in the choice of method of self-inflicted death (Kosky and Dundas, 2000: 839). For example, much higher rates of self-inflicted death by firearms in the USA and Canada reflects both ease of availability and the cultural acceptability of firearms. According to Beautrais (2001), hanging was a prevalent method of suicide amongst children aged 15 or younger, including children of Maori descent. Some authors have ascribed particular cultural significance to hanging for Indigenous people against the background of colonial history (Hunter, 1990; Hunter and Milroy, 2006; Hunter et al., 1999). Against this, must be counted simple ease of availability and lethality of the method of hanging: in part because of its unambiguous lethality a public threat to hang oneself is a dramatically effective demonstration of intent, while completion of suicide requires deliberate withdrawal from public scrutiny. A completed suicide by hanging may occur after numerous public threats and attempts, while others fail to note the withdrawal that preceded the eventual completed suicide. From the 1980s up until around 2004, a prevalent method on the Tiwi islands was to climb electricity poles and attempt suicide by electrocution (Robinson and Tyler, 2006; Robinson, 1990). A campaign to limit access to this method by installing barriers on poles was instituted around 2003 and almost certainly resulting in substitution by hanging.

'Hanging games' reportedly played by children in many settings are almost certainly a reflection of the modelling and social transmission of suicidal behaviour in circumstances of elevated suicide risk. Children are at increased risk when playing such 'hanging games' alone (Andrew and Fallon, 2007: 305; Egge et al., 2010).

The lethality of hanging and the ease of availability of the method may by themselves contribute to the increase in suicide deaths and of "accidental" deaths through any kind of suicide-imitating behaviour. Lethality of hanging and availability of means almost certainly contribute to the close to equal male to female proportions of self-inflicted deaths among Indigenous children and youth. The phenomena of transmission by modelling and imitation present a challenge for prevention strategies and programmes that aim to promote improved recognition and response to suicidal behaviour (Cantor and Baume, 1998: 12).

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