

Suicidality among Aboriginal Youth in the Non-Aboriginal Child Protection Services System¹

Michael Boyle, Eman Leung, Harriet MacMillan, Nico Trocmé, Randall Waechter, and Christine Wekerle

Introduction

Worldwide, suicide is a leading cause of death among youth (WHO 2006), and is an especially insidious problem among individuals with a history of maltreatment (Giardino and Giardino 2002; Zoroglu et al. 2003). Beyond suicide, a history of childhood maltreatment increases the risk of experiencing a number of developmental challenges and negative behavioural health outcomes starting in adolescence and extending through adulthood (e.g., MacMillan et al. 2001; Wekerle, Miller, Wolfe, and Spindel 2006; Wekerle, Leung, Wall, MacMillan, Boyle, Trocmé, and Waechter 2009; Wekerle and Wolfe 2003; Widom 1999). These include associated behaviours such as depression, anxiety, self-harm, aggression and delinquency, sexual risk-taking, and substance misuse. For example, youth involved with child welfare or child protection services (CPS) report two to five times greater past-week proximal distress (i.e., depressive symptoms, low self-esteem, suicidal ideation) than their non-CPS involved peers (Wekerle, MacMillan, Leung, and Jamieson 2008).

Often such distress can be expressed as increased thoughts of suicide and increased serious suicide attempts. While not all suicidal thinking or attempts co-occur with a clinical state of depression (i.e., difficulties feeling rewarded by people or activities, persistent sadness, restlessness/irritability, etc.), depression is a treatable condition. Service utilization shows that in states of high distress, individuals are only twice as likely to see a family/general physician, which may be related to treatment for other chronic health problems (i.e., they were already seeing a doctor regularly), and only slightly more likely to see a specialist/psychiatrist for depressive symptoms specifically (Rhodes, Jaakkimainen, Bondy, and Fung 2006). Among females who were on anti-depressant medications, self-poisonings, mainly with over-the-counter acetaminophen (e.g., Tylenol), were more often identified as deliberate as compared to males.

These results suggest that focusing on symptoms of distress among maltreated youth may reduce the impact of suicide in this population. Symptoms of distress, which may arise as a result of maltreatment-related traumatization, may become so persistent and pervasive that they impair future coping success. This is not only related to the psychological impact of maltreatment, but also on the brainbased changes to how the body responds to stress, having developed in a context of being chronically stressed (e.g., "developmental traumatology"-De Bellis 2001). In adolescence, there are inevitable stressors that come along with the new experiences of dating, experimenting with substances, trying to attach to a peer group, etc. Since these tasks are novel and youth are energized towards engaging in them, adolescence represents a time of positive opportunity where youth can discover ways of self-righting (e.g., confronting directly any mental health issues) some of their historical learning about harm to the self. Thus, from an outcomes and long-term functioning perspective, adolescence also presents as a key window of opportunity for intervention (Wekerle, Waechter, Leung, and Leonard 2007). To be in the position to stay on a positive track, it helps to have a map—a layout of where the common pitfalls are, and what options exist for maximal health. When roadblocks are encountered, the youth needs to know how to best go about changing and coping. In short, the youth needs tools for resilience. We are just beginning to develop tools for coping and resilience, and we are learning that in some cases, these tools will require modification/specialization depending on the demographic and cultural background of the youth.

For example, defining, understanding, and reducing suicide among Aboriginal populations cannot be addressed without a consideration of the "unique social and political contexts" (Tatz 1999, 10) as well as cultural understanding of this population (MacNeil 2008), which is comprised of numerous radically distinct cultural groups (Chandler and Proulx 2006). While governments are starting to respond (e.g., The Royal Commission on Aboriginal People 1995), the need to understand and reduce suicidal behaviour among Aboriginal youth has never been greater. Aboriginal adolescent suicide in Canada is of epidemic proportions (Weir and Wallington 2001). Aboriginals in Canada have a suicide rate three or four (Weir and Wallington 2001) to thirty-six (Penashue 2000) times higher than non-Aboriginals. The Canadian Royal Commission (1995) reported that "an Aboriginal adolescent aged ten to nineteen is about five times more likely to die from suicide than a non-Aboriginal adolescent" (13) and it has been reported that Canadian Aboriginal youth have the highest rate of suicide of any other identified culture in the world (Chandler, Lalonde, Sokol, and Hallett 2003). Furthermore, the rate of suicide among Aboriginal adolescents is increasing at a much greater rate in comparison to the rates among non-Aboriginal adolescents, where the numbers have shown a decline over the past decade (Bertolote and Fleischmann 2002; Health and Welfare Canada 1996). While "substantial research" has been conducted, and a variety and combination of interventions have been implemented, suicide rates continue to rise within this group (Cutcliffe 2003; Health Canada 2003b; Winnipeg Regional Health Authority 2003), resulting in a significant public health crisis.

Of the 4.1 million persons who reported American Indian/Alaska Native (AI/ AN) race on the 2000 U.S. Census, 67% (2.8 million) reside in urban areas (U.S. Census 2000). Youth also make up a large proportion of the total AI/AN population, with one-third of the AI/AN population under age eighteen compared to less than one-quarter of the white population (U.S. Census Native Summary File 2000). Almost one million people self-identify as Aboriginal in Canada, representing 3.3% of the total population. While many live on reserves, 41% reside in non-reserve areas (36% urban, 5% rural) (Kirmayer, Simpson, and Cargo 2003). The population is demographically distinctive in being younger than the general Canadian population (mean age 25.5 vs. 35.4 for general population) with fully one-third of the Aboriginal population younger than fifteen years of age (Kirmayer, Simpson, and Cargo 2003). As such, it is important to consider Aboriginal youth living off-reserve (i.e., in urban areas) as a key sub-population. One recent study that examined risk behaviours among urban AI/AN youth nationwide found that AI/AN youth were significantly more likely than white youth to engage in illegal drug use, risky sexual behaviours, early sexual intercourse, use of tobacco, alcohol, and marijuana, and were more likely to carry weapons on school property (Rutman et al. 2008). In regard to suicidal behaviour, AI/AN youth were significantly more likely to seriously consider suicide, make a plan to commit suicide, and attempt suicide than white youth over a twelve-month period (Rutman et. al. 2008).

Urban Aboriginal youth involved with CPS may present as an even more susceptible/vulnerable population given the nexus of maltreatment risk as well as Aboriginal status for risk of self-harm/suicide behaviour. In order to examine this question, we have been collecting outcomes data from a population of CPS youth in a large Canadian urban centre that also includes a subsample of Aboriginal youth in the non-Aboriginal CPS system. For the past seven years, we have been attempting to provide key outcomes information on maltreated youth by conducting an epidemiological and longitudinal study of youth aged fourteen to seventeen actively involved with child protection services.

The purpose of this project, known as the Maltreatment and Adolescent Pathways (MAP) study, is simple in purpose, yet complex in execution: To describe CPS youth on a number of key outcome variables that are salient in their age range and will set them on a lifelong trajectory of behavioural interaction and health. The MAP is a large undertaking that comprehensively measures demographic information, maltreatment history, psychological symptomatology (including post-traumatic stress disorder), dating relationships, sexual practices, drug and alcohol use, living arrangements, relationship with friends and family, IQ, neuropsychological and cognitive functioning, sleep health, self-harm behaviour, food security, social services utilization, and coping and resilience factors (i.e., sports involvement, interpersonal competence). Only by comprehensively measuring CPS youth outcomes on these measures can we hope to determine the impact of policy changes and program implementation on outcomes and identify factors that contribute to resilience among these youth.

By collecting data from randomly selected active case files in three CPS agencies that together capture more than 90% of the child welfare traffic in a large Canadian urban centre, we are able to not only create a snapshot of outcomes among the youth population in this centre as a whole, but we are also able to compare outcomes across subgroups within the sample. Here, we present an exploratory comparison of Aboriginal youth in the non-Aboriginal CPS system to non-Aboriginal youth in the same system on a suicidal ideation as a key outcome variable.

Method

Participants

Research participants were drawn via a random numbers table from CPS agencyprovided master lists of all active caseloads of youth aged fourteen to seventeen. This age range was selected to maximize involvement in risky behaviours normally engaged in by youth making the transition to adulthood. The three participating CPS agencies account for more than 90% of the child welfare caseloads in this urban centre. Lists of randomly selected youth were forwarded to CPS staff members who were acting as liaisons for the MAP study. CPS liaisons and youth caseworkers screened the randomly generated lists of potential participants using the predetermined eligibility criteria described below. This was a necessary step given (a) some short case openings, and (b) limited data provided to the research team on the CPS agency master lists (i.e., only youth date of birth, caseworker, CPS branch, CPS identification number). This screening process eliminated 58% of those randomly selected initially. By the time the master lists were obtained, youth randomly selected, and youth names checked at the CPS, many cases were closed (61% of ineligibility group). Thus, youth who remained CPS active at the CPS checking state were considered eligible for the MAP, and had their cases open six months or more. The agencies refreshed the master lists every six months for the research team. Other reasons for ineligibility at the CPS agency checking stage include: youth outside of age range, youth developmentally delayed, absent without leave, and deemed to be in a crisis (i.e., 8% of ineligibles: actively suicidal, in extended treatment or detention). Of eligible youth, the initial recruitment rate was 70%. While the MAP longitudinal study involves data collection every six months across three years, we present data from the initial, six-month, and eighteen-month testing points in this report.

Informed Consent

A community-based advisory board provided input on all aspects of the MAP from study inception. Ethical clearance was obtained from CPS agencies and university research ethics boards. CPS lawyers collaborated on the language of consent forms. While there is no research consent age in the MAP jurisdiction, sixteen years old is the age of consent for medical treatment, to determine pregnancy or its termination, and independent living. As such, MAP youth participants were able to provide their own consent from age sixteen onwards. Legal guardians provided consent for youth under age sixteen. When guardian status was in flux, such as with temporary wards, the CPS caseworker and parent provided consent. Youth caseworkers introduced the MAP study as an opportunity to participate in research and sought to obtain youth consent for telephone contact with research staff to fully explain the study and obtain final participant consent (standard script used by CPS caseworkers). If not interested in researcher contact, CPS workers completed a basic non-identifying information form to assess participator versus non-participator differences. Caseworkers completed contact information and category of maltreatment history (substantiated and risk of maltreatment as per legal definitions). Interested youth met in person with MAP research staff to review the project (standard script). Where appropriate, guardians were met with in person or were contacted by phone. The MAP questionnaires were available to guardians upon request. Copies of signed consent were provided to youth and/ or their guardians. Consent forms were stored separately from all other research information.

The MAP explanatory letter highlighted limits to confidentiality and potential action for verbal disclosures of child abuse/neglect, harm to self, and harm to others, as well as the independence of the MAP with CPS services. The consent forms identify the university ethics contact person and contact information of the MAP principal investigator. The MAP is an anonymous study, linking a youth self-generated identification number (i.e., created in response to a series of static questions, such as the number of letters in your eye colour) with a MAP identification number via computer program (e.g., "honest third-party broker" procedure for linking to track longitudinally).

Reportable events that youth endorse in the questionnaires cannot be traced back to a specific youth's identity. As such, verbal disclosures or MAP-testerobserved concerns would be the basis of any reporting. No new reports of maltreatment were filed. The clinical protocol for reporting child abuse/neglect concerns was to contact the caseworker and indicate the maltreatment event. MAP testers would proceed to contact CPS intake if the maltreatment was new or unknown to the caseworker, which operates on a twenty-four-hour basis. (In this jurisdiction, law dictates that the direct recipient of the information must be the reporter). A MAP incident form would be completed within twenty-four hours, indicating action taken, responses, any direct quotes noted in real-time, and signatures. The principal investigator and project manager were to be alerted immediately. If emergency clinical support was needed, the MAP tester would escort the youth to the local emergency room. A clinical consultation group (pager, phone, email notification) was also in place to support MAP staff. All MAP testers had cellphones and tester logs were kept up to date online. Following every testing, youth received a help sheet with a range of web and local resources for all main

variables queried in the MAP, including anonymous help sources, such as twentyfour-hour hotlines.

Remuneration

Pilot testing determined the upper limit of testing time and all youth were paid at minimum wage for this time per MAP testing point. Youth were paid twentyeight dollars, given refreshments, and reimbursed for travel. Testing time ranged from one-and-one-half to four hours, with an average of two-and-one-half hours. Youth were given the option of participating in the study by meeting research staff at a CPS agency, health-care institution, neutral location such as a library, or their place of residence, wherever privacy could be obtained. Most youth (80%) selected testing at their place of residence.

Sample Characteristics

The current report is based on a subsample of 141 of the MAP youth (60% female) with complete data at initial, six-month and eighteen-month testing points. Their mean age at initial, six-month and eighteen-month testing was 16.27 (SD = .94), 16.81 (SD = .93), and 17.88 (SD = .94), respectively. A minority of MAP youth self-reported some degree of Aboriginal heritage (n = 20), noting that most Aboriginal youth are directed to Aboriginal-specific child welfare agencies.

At initial testing, 19% of the sampled youth were living with at least one biological parent or relative, 50% were living with foster parents, 23% were in a group home, 4% were living on their own or with friends, and 4% were in "other" living arrangements. At the MAP six-month testing point, 21% of the sample was living with at least one biological parent or relative, 43% were living in a foster home, 21% were living in a group home, 5% were living on their own or with friends, and 10% of the sample reported "other" living arrangements. Finally, at the MAP eighteen-month testing point, 24% of the sample reported living with at least one biological parent or relative, 30% reported living in foster home, 13% reported living in group home, 10% reported living on their own or with friends, and 23% reported "other" living arrangements. Thus, over time, fewer MAP youth are living with biological or foster parents, and more are making the transition to living on their own, with friends, or in other types of arrangements.

When asked to describe the financial situation in their home, the median response was "About average" across the three testing points, with the same 25% to75% quartile range "Somewhat below average" to "Somewhat above average." In terms of youth CPS status, 66% were Crown wards, 17% were community family, 15% were society wards and 2% were classified as interim/temporary care. The mean number of workers that had ever been assigned to the youth at the initial, six-month, and eighteen-month testing points was 3.34 (SD = 2.30), 3.29 (SD = 1.61), and 3.67 (SD=2.08), respectively. Finally, the mean number of years youth were under the care of CAS was 6.12 (SD = 4.46) (initial testing), 6.65 (SD = 4.44) (six-month testing), and 7.66 (SD = 4.22) (eighteen-month testing). Thus,

in terms of system variables, most of these youth have been involved in the child welfare system across the pre-teen and teen years, and have some sort of more formal relationship with child welfare. In this time, though, they have had relatively frequent switches in whom they primarily deal with, where most youth are reporting between about one and five workers, with an average of three workers in their average six years of involvement with CPS.

Measures

CPS youth completed a comprehensive package of mostly self-report questionnaires that examine maltreatment history, demographic information, dating relationships, relationships with caregivers, sexual practices, drug and alcohol use, mental health, self-harm behaviours, sleep issues, and resilience and coping. Neuropsychological and cognitive measures are also collected, along with an IQ measure and automated psychiatric symptomatology inventory. We report on a select few measures (listed below) in this report.

Maltreatment

Experiences of childhood maltreatment were assessed via the Childhood Trauma Ouestionnaire (short form CTO-SF) (Bernstein et al. 2003). The CTO-SF assesses maltreatment via a standard stem (e.g., "While you were growing up ..."), rating twenty-eight items on a five-point scale (one = "never true" to five = "very often true") across five subscales: emotional neglect, physical neglect, sexual abuse, physical abuse, and emotional abuse. Of these, three are validity items, and there are five items per subscale. The CTQ-SF does not tap exposure to domestic violence. Two-week test-retest reliability of the CTQ-SF for a MAP youth subsample (n = 52) was moderate [physical abuse (r = .64), sexual abuse (r = .52), emotional abuse (r = .70), emotional neglect (r = .63) and physical neglect (r = .56)], while internal validity was high [physical abuse ($\alpha = .92$), sexual abuse $(\alpha = .88)$, emotional abuse $(\alpha = .85)$, emotional neglect $(\alpha = .87)$, and physical neglect ($\alpha = .68$)]. Youth report and worker's rating of childhood maltreatment are significantly correlated in terms of physical abuse (r=.48), sexual abuse (r=.58), and physical neglect (r = .26), but not for the emotional abuse or the emotional neglect subscales.

As the CTQ-SF factor structure was not based on CPS youth, a principal components extraction with varimax rotation was performed. Presence of outliers, multicollinearity, and factorability of the correlation matrices were examined prior to extraction of principal factors. Preliminary analyses indicated that multicollinearity and singularity were not an issue in this sample. Even with an $\alpha = .001$ cut-off level, no outlier was identified among males or females. The Kaiser's measure of sampling adequacy was .93 for females and .86 for males, higher than the conventional cut-off of .60 (Tabachnick and Fidell 2001), indicating high factorability. While the factor structure for CPS males matched the reported five-factor structure, a four-factor structure emerged for females, whereby emotional abuse and physical abuse items co-loaded (Wekerle, Leung, Goldstein, Thornton, and Tonmyr 2008).

Self-report maltreatment was assessed also with the Childhood Experiences of Victimization Questionnaire (CEVQ) (Walsh, MacMillan, Trocmé, Jamieson, and Boyle, in press; Wekerle, Miller, Wolfe, and Spindel 2006). The CEVQ assesses physical abuse, sexual abuse, emotional abuse, witnessing domestic violence, peer-to-peer violence, and exposure to corporal punishment. It does not tap neglect. This self-report measure queries age of maltreatment, frequency, outcome, and perpetrator characteristics. The CEVQ demonstrates good testretest reliability (kappas ranging from .61 to .91), and validity, as determined by clinician assessment, with estimates falling in a similar range (kappas for physical and sexual abuse were .68 and .74, respectively). Two-week test-retest reliability of the CEVQ among the MAP youth sample ranged from moderate to high [physical abuse (r = .88), sexual abuse (r = .71), emotional abuse (r = .51)], while internal validity also ranged from moderate to high [physical abuse (α = .82), sexual abuse ($\alpha = .70$), emotional abuse ($\alpha = .68$)]. The CEVQ is used to provide more detailed descriptive information of maltreatment and can, therefore, reflect maltreatment where caregivers are the perpetrators (or failure to protect), as would be the chief concern in child welfare cases.

Data Collection Procedure

At each testing, youth were reminded verbally of the right to skip questions, withdraw from the study at any time without consequences and without explanation, and that CPS services were unrelated to their research involvement. Data collectors were undergraduate psychology or science students or graduate psychology students. MAP staff provided training in testing procedures, mandatory reporting, and clinical protocols. Post-training, testers first shadowed an experienced tester prior to independent testing. Testers communicated with supervisors on a weekly basis and kept filed testing notes per occasion indicating if testing was uneventful or noting any issues (e.g., youth has asthma, all adults in home smoke heavily). All MAP research team members signed confidentiality agreements with the CPS agencies. The majority of the data was collected electronically on a laptop computer. Dataset access is restricted by residing in a password protected, restricted online site; any hard copy data is maintained in locked offices within locked cabinets.

Monitoring Youth Responses to Study Involvement

Given the sensitive nature of the questions, in conjunction with the nature of the population of participants, several questions were incorporated into the questionnaire package to measure reactivity to the research. Specifically, participants were asked to respond to a set of identical questions at the beginning and end of the questionnaire package on a zero (not at all) to six (a lot) scale. An analysis of differences in responses to pre- and post-questionnaire items indicated that

participants were slightly less relaxed (mean 4.4 drop to 4.0; repeated-measures t (1,157) = 3.281, p<.01) and happy (mean 4.2 drop to 3.7; repeated-measures t (1,158) = 4.29, p<.01), after completing the MAP intake package. Despite the slight negative impact of the questionnaire package on participant mood, the youth positively regarded the study on six other evaluation questions. Youth indicated that the study was interesting (mean = 4.1, SD = 1.2), the questions were clear (mean = 4.7, SD = 1.3), the questions were not distressing (mean = 2.4, SD = 1.2), and completing the questionnaire was not upsetting (mean = 1.1, SD = 1.0). Youth responded favourably (mean = 4.7, SD = 1.3) when asked if they still would have agreed to get involved in the study if they had known in advance what completing the questionnaire package would be like. More information on the MAP project is available in Wekerle et al. (2009).

Results

Descriptive Analyses—Maltreatment

Based on caseworker category, 90% of MAP youth had multiple forms of substantiated maltreatment or substantial risk (i.e., this jurisdiction has a lower threshold for CPS involvement in serious risk for abuse/neglect). To describe the sample, each maltreatment type will be discussed separately, using both CEVQ and CTQ information:

Emotional Abuse. On the CEVQ, most youth reported that parents had said hurtful things (68% females, 55% males), with most incidents occurring between grades 6 and 8. This is consistent with the CTQ similar item: people in their family called them names (65% females, 56% males).

Physical Abuse. On the CEVQ, about a third of youth reported physical abuse (32% of females, 28% of males) in terms of having been kicked, bitten, or punched by an adult with an intention to hurt. In terms of severe physical abuse, about a quarter of youth reported having been choked, burned or physically attacked with an intention to hurt (28% females, 27% males). Mothers were the majority perpetrator for females, and fathers were the majority perpetrator for males; these events mostly took place between grades 6 and 8. These figures are in line with the CTQ item on being hit by someone in the family so hard that it left bruises or marks (53% females, 46% males).

Sexual Abuse. As expected from epidemiological studies, more females (30%) than males (8%) reported sexual coercion, mostly between grades 1 and 5 and perpetrated by adults other than parents or relatives (61% females, 80% males). This is consistent with the CTQ item on touching or being made to touch in a sexual way (29% female, 14% male), and 20% of females and 4% of males reported having someone sexually force himself or herself on the child.

Neglect. While neglect is more difficult to capture on self-report given the pattern of acts of omission and potential context of poverty, many youth reported

non-optimal circumstance (e.g., CTQ: ever not having enough to eat [42% females, 41% males]; ever having to wear dirty clothing [30% females, 31% males]).

There were no significant differences in rates of maltreatment experiences (across all types) between Aboriginal and non-Aboriginal youth in the MAP.

Comparison Analysis: Suicidal Ideation between Aboriginal and Non-Aboriginal Youth

An item included in the MAP questionnaire package queries youth about suicidal ideation: "In the LAST twelve months, did you ever seriously consider attempting suicide?" Compared to non-child welfare-involved high school youth in the general population, youth in the child welfare system are significantly more likely to endorse a "yes" response to this item (11% vs. 17%; OR = 1.69, 95% CI = 1.09-2.63). There is no significant difference in "ves" endorsements to this question between Aboriginal and non-Aboriginal youth in the non-Aboriginal CPS system as examined in the MAP study (17% vs. 17%). However, MAP youth who reported at least some Native/Aboriginal heritage (n = 20) were more likely to report suicidal ideation across the initial, six-month, and eighteen-month testing points when compared to MAP youth who reported no Native/Aboriginal heritage (OR = 3.70, CI = 1.00-14.29, p = .05). That is, Aboriginal youth in the non-Aboriginal CPS system appear more likely to continuously and consistently report suicidal ideation over a year and half period of early- to mid-adolescence when compared to non-Aboriginal youth in the same system. This difference remained significant even after controlling for the nature of the living arrangements and number of moves between homes in the past five years for Native/Aboriginal versus non-Aboriginal youth. Specifically, there were no significant differences between Aboriginal and non-Aboriginal youth in regard to living arrangement (i.e., with two biological married or common-law parents, with one biological parent and one other parent, with adoptive parents, with foster parents, with one parent only, living on own or with a friend, living in a group home) (chi-square = 5.76, df = 8, p = ns.) or number of times the Aboriginal youth moved or changed homes in the past five years compared to the non-Aboriginal youth in the MAP (non parametric Mann-Whitney U: z = -.97, p = ns.).

Discussion

These preliminary results suggest that Aboriginal youth in the non-Aboriginal CPS system consistently report significantly higher rates of suicidal ideation over an extended period of time compared to non-Aboriginal youth in the same system. It is important to note that the results we report here are based on a limited number of Aboriginal youth (n = 20) in the CPS system, necessarily limiting generalization and requiring a cautious approach. However, given the ongoing status of the MAP study, we should be able to re-examine these results in the future once more data has been collected.

If confirmed, these results paint a dire picture of suicidality among Aboriginal youth in which the nexus of risk between their maltreatment history and the historical treatment of their culture by Euro-Canadians combine, with toxic results. The increased risk for self-harm/suicidality among those with a history of maltreatment (Giardino and Giardino 2002; Zoroglu et al. 2003) and Aboriginal youth is well documented (e.g., Canadian Institute of Child Health 2000; Chandler, Lalonde, Sokol, and Hallett 2003; Royal Commission on Aboriginal People 1995). Our results suggest that a history of maltreatment may place Aboriginal youth within the non-Aboriginal CPS system at even greater risk for suicidal ideation than non-Aboriginal, maltreated youth in the same system.

This increased risk may result from the separation of these Aboriginal youth from their cultural heritage. Compelling arguments have been made regarding the impact of a historical context in which Aboriginal peoples in Canada have faced cultural oppression through policies of forced assimilation on the part of Euro-Canadian institutions since the earliest periods of contact (Kirmayer, Simpson, and Cargo 2003). This cultural oppression can have a significant impact on the perception of self-continuity among Aboriginal youth with dire consequences for suicide rates (Chandler and Lalonde 1998; Chandler and Proulx 2006).

In addition to cultural continuity and history, socio-economic and environmental conditions have also been identified in the literature as probable causal factors in the high rates of Aboriginal suicide (Chandler et al. 2003; Coulthard 1999). Our data suggests that socio-economic and environmental conditions may be less significant given the similarity in these factors among the non-Aboriginal and Aboriginal CPS youth in our dataset. That is, both the non-Aboriginal and Aboriginal youth in our study are involved with the same non-Aboriginal CPS system and are subject to a similar mix of living arrangements (i.e., with one biological parent, in a group home, in a foster home, independently, or with a friend) and "turbulence" or changes in the number of homes over time.

While these preliminary analyses certainly do not eliminate socio-economic and environmental variables as significant contributing factors to the problem of suicidality among Aboriginal youth in the non-Aboriginal CPS system, they do point to the importance of culture and history as an important factor in this connection. The cumulative effects of internal colonialism on cultural identity and continuing tensions between the values of Aboriginal peoples and mainstream society complicate the efforts of Aboriginal youth to forge their identity and find their way in the world (Kirmayer, Simpson, and Cargo 2003).

Chandler and Proulx (2006) point out that approximately 90% of British Columbia's Aboriginal youth suicides occur in only 15% of its bands, making it not an Indigenous problem, but a dramatic problem in *some* Aboriginal communities. What distinguishes bands that experience no youth suicides from those that have youth suicides far above the Canadian national average is the degree to which First Nations communities are successful in preserving ties to their cultural past and in achieving a measure of local control over their own present and future civic lives (Chandler and Proulx 2006; Goldston, Molock, Whitbeck, Murakami, Zayas, and Hall 2008; Wexler, Hill, Bertone-Johnson, and Fenaughty 2008; Whitbeck, Yu, Johnson, Hoyt, and Walls 2008). Following this line of evidence, we should be striving to connect Aboriginal youth in the non-Aboriginal CPS system to their cultural roots in order to address the higher rates of suicide ideation among these youth when compared to non-Aboriginal CPS youth. Policy-makers and frontline workers in the CPS system need to consider the elevated risk factors among Aboriginal youth in the system and plan prevention/intervention strategies that meet the specialized cultural needs and build on the strengths of Aboriginal youth in the system. The importance of cultural continuity as a safety net and a comfort in times of despair and the collection of information from Aboriginal adolescents from their perspective is crucial to setting up a healthy trajectory through adulthood.

Policy Implications

The present study directs practice implications in regard to: (1) the problem of teen suicidality (including suicidal ideation and attempts); (2) the differential impact of involvement in the non-Aboriginal CPS system on suicidality for Aboriginal versus non-Aboriginal youth: and (3) the importance of cultural and historical factors in considering the connection between a history of maltreatment and suicidality among Aboriginal youth in the non-Aboriginal CPS system. A substantial number of CPS youth report thoughts of suicide and, in fact, the number of CPS youth reporting suicidal ideation is significantly higher than agematched, non-CPS-involved youth. The topic of suicide and suicidal ideation may need to be part of regular casework, with a view towards supporting youths' conceptualization of and skill set for coping without resorting to suicidal thoughts and attempts. Further, this knowledge needs to be translated to foster parents and group home staff. Youth who report some amount of Aboriginal heritage and are involved in the non-Aboriginal CPS system report significantly higher levels of suicidal ideation than non-Aboriginal youth in the non-Aboriginal CPS system. As such, foster parents, group home staff, and front-line CPS workers need to be mindful of the impact of system involvement on Aboriginal youth when it comes to this serious health outcome. Policy-makers and front-line workers in the CPS system need to consider the elevated risk factors among Aboriginal youth in the system and plan prevention/intervention strategies that meet the specialized cultural needs and build on the strengths of Aboriginal youth in the system.

Endnotes

- 1 The authors thank the MAP research staff, the MAP advisory board, the participating child welfare agencies, and the youth participants.
- 2 The MAP Project is funded by the Canadian Institutes of Health Research (CIHR)—Institute of Gender and Health (IGH), the Provincial Centre of Excellence in Child and Youth Mental Health at the Children's Hospital of Eastern Ontario, the Public Health Agency of Canada, the Centre of Excellence in Child Welfare, the Ontario Mental Health Foundation, and the Ontario Ministry of Child and Youth Services. Dr. Wekerle is supported by a mid-career award from CIHR IGH and the Ontario Women's Health Council. We greatly appreciate the involvement of Bruce Leslie, Deborah Goodman, and Brenda Moody.
- 3 Correspondence concerning this article should be addressed to Christine Wekerle, Faculty of Education, Althouse Building, The University of Western Ontario, 1137 Western Road, London, Ontario, Canada, N6G 1G7. Phone: 519-661-3182 ext. 87486. Fax: 519-661-3833. Email: cwekerle@uwo.ca.

References

Bernstein, D.P., J.A. Stein, M.D. Newcomb, E. Walker, D. Pogge, T. Ahluvalia, J. Stokes, L. Handelsman, M. Medrano, D. Desmond, and W. Zule. 2003. "Development and validation of a brief screening version of the Childhood Trauma Questionnaire." In *Child Abuse and Neglect*, 27(2), 169–190.

Bertolote, J.M., and A. Fleischmann. 2002. "A global perspective in the epidemiology of suicide." In *Suicidologi*, 7 (2), 6.

Canadian Institute of Child Health. 2000. *The health of Canada's children: A CICH profile* (3rd ed.).Ottawa: Canadian Institute of Child Health.

Chandler, M.J., and C. Lalonde. 1998. "Cultural continuity as a hedge against suicide in Canada's First Nations." In *Transcultural Psychiatry*, 35, 191–219.

Chandler, M. J., C.E. Lalond, B.W. Sokol, and D. Hallett. 2003. "Personal persistence, identity development, and suicide: A study of Native and non-Native North American adolescents." In *Monographs of the Society for Research in Child Development*, 68(2, Serial No. 273).

Chandler, M., and T. Proulx. 2006. "Changing selves in changing worlds: Youth suicide on the faultlines of colliding cultures." In *Archives of Suicide Research*, 10, 125–140.

Coulthard, G. 1999. *Colonization, Indian policy, suicide, and Aboriginal peoples.* <www.ualberta. ca/~pimohte/suicide.html >

Cutcliffe, J.R. 2003. "Research endeavors into suicide: A need to shift the emphasis." In *British Journal of Nursing*, 12 (2), 92–99.

DeBellis, M. 2001. "Developmental traumatology: The psychobiological development of maltreated children and its implications for research, treatment, and policy." In *Development and Psychopathology*, 13, 539–564.

Giardino, A.P., and E.R. Giardino. 2002. *Recognition of child abuse for the mandated reporter*. St Louis: G.W. Medical Publishing, Inc.

Goldston, D.B., S.D. Molock, L.B. Whitbeck, J.L. Murakami, L.H. Zayas, and G.C.N. Hall. 2008. "Cultural considerations in adolescent suicide prevention and psychosocial treatment." In *American Psychologist*, 63, 14–31.

Health and Welfare Canada. 1996. Suicide in Canada: Update of the report of the task force on suicide in Canada. Ottawa: Minister of National Health and Welfare.

Health Canada 2003a. *Acting on what we know: Preventing youth suicide in First Nations. The Report of the Advisory Group on Suicide Prevention.* <www.hc-sc.gc.ca/fnihspni/alt_formats/fnihb-dgspni/pdf/pubs/suicide/prev_youth-jeunes_e.pdf .

Kirmayer, L., S. Simpson, and M. Cargo. 2003. "Healing traditions: Culture, community and mental health promotion with Canadian Aboriginal peoples." In *Australasian Psychiatry*, 11, S15–S23.

MacMillan, H., et al. 2001. "Childhood abuse and lifetime psychopathology in a community sample." In *American Journal of Psychiatry*, 158, 1878–1883.

MacNeil, M.S. 2008. "An epidemiologic study of Aboriginal adolescent risk in Canada: The

meaning of suicide." In Journal of Child and Adolescent Psychiatric Nursing, 21, 3-12.

Penashue, P. 2000. "Gas sniffing children need help." In Globe and Mail, November 16, 2000, 11.

Rhodes, A., R.L. Jaakkimainen, S. Bondy, and K. Fung. 2006. "Depression and mental health visits to physicians—a prospective records-based study." In *Social Science and Medicine*, 62, 828–834.

Royal Commission on Aboriginal Peoples. 1995. Choosing life: Special report on suicide among Aboriginal people. Ottawa: Author.

Rutman, S., A. Park, M. Castor, M. Taualii, and R. Forquera. 2008. "Urban American Indian and Alaska Native youth: Youth Risk Behavior Survey 1997–2003." In *Maternal and Child Health Journal*, 12, S76–S81.

Tabachnick, B.G., and L.S. Fidell. 2001. Using multivariate statistics. Boston: Allyn and Bacon/ Pearson Education.

Tatz, C. 1999. *Aboriginal suicide is different. A report to the criminology research council.* Criminal Research Council, 25 (7), 25–96.

U.S. Census Bureau. Census 2000 summary file 2 (SF2), Matrix PCT2.

U.S. Census Bureau. Census 2000 American Indian and Alaska Native summary file, Matrices PCT3, PCT4.

Walsh, C. A., H.L. MacMillan, N. Trocmé, E. Jamieson, and M.H. Boyle. (in press). "Measurement of victimization in adolescence: Development and validation of the Childhood Experiences of Violence Questionnaire." *Child Abuse and Neglect*.

Weir, E., and T. Wallington. 2001. "Suicide: The hidden epidemic." In *Canadian Medical Association*, 165 (5), 634–636.

Wekerle, C., E. Leung, A. Goldstein, T. Thornton, and L. Tonm. 2008. Substance use among adolescents in child welfare versus adolescents in the general population. Ottawa: Health Canada Report.

Wekerle, C., E. Leung, A-M. Wall, H.L. MacMillan, M. Boyle, N. Trocmé, and R. Waechter. 2009. "The impact of childhood emotional maltreatment on teen dating violence." In *Journal of Child Abuse and Neglect*, 33, 45–58.

Wekerle, C., H.L. MacMillan, E. Leung, and E. Jamieson. 2008. "Childhood maltreatment." In M. Hersen and A.M. Gross (eds.), *Handbook of clinical psychology, Vol. 2, Children and adolescents*. 856–903. Hoboken: John Wiley and Sons.

Wekerle, C., A.L. Miller, D.A. Wolfe, and C.B. Spindel. 2006. *Childhood Maltreatment*. Ashland: Hogrefe and Huber.

Wekerle, C., R.L. Waechter, E. Leung, and M. Leonard. 2007. "Adolescence: A Window of Opportunity for Positive Change in Mental Health." In *First Peoples Child and Family Review*, 3, 2, 8–16.

Wekerle, C., and D.A. Wolfe. 2003. "Child maltreatment." In E. J. Mash and R. A. Barkley (eds.),

Child Psychopathology (2nd Edition), pp. 632-686). New York, NY: Guilford Press.

Wexler, L., R. Hill, E. Bertone-Johnson, and A. Fenaughty. 2008. "Correlates of Alaska Native fatal and nonfatal suicidal behaviors 1990–2001." In *Suicide and Life-Threatening Behavior*, 38, 311–320.

Whitbeck, L.B., M. Yu, K.D. Johnson, D.R. Hoyt, and M.L. Walls. 2008. "Diagnostic prevalence rates from early to mid-adolescence among indigenous adolescents: First results from a longitudinal study." In *Journal of the American Academy of Child and Adolescent Psychiatry*, 47, 890–900.

Widom, C.S. 1999. "Posttraumatic stress disorder in abused and neglected children grown up." In *American Journal of Psychiatry*, 156, 1223–1229.

Winnipeg Regional Health Authority. 2003. *Discussion paper for the development of a suicide prevention strategy for the Winnipeg Health Region.* <www.wrha.mb.ca/community/mentalhealth/files/ Suicide Prevent Feb04.pdf >.

World Health Organization 2006. *Preventing child maltreatment: a guide to taking action and generating evidence.* <whqlibdoc.who.int/publications/2006/9241594365 eng.pdf>.

Zoroglu, S.S., U. Tuzun, V. Sar, H. Tutkun, H.A. Savas, M. Ozturk, B. Alyanak, and M.E. Kora. 2003. "Suicide attempt and self-mutilation among Turkish high school students in relation with abuse, neglect and dissociation." In *Psychiatry and Clinical Neurosciences*, 57(1), 119–126.