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Systematic review of health and social outcomes among Indigenous People exposed to the child welfare system in CANZUS countries and the circumpolar region: A protocol

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Abstract

Introduction: The link between parent-child separation through the child welfare system (CWS) and negative health and social outcomes in the general population is well documented. In contrast, despite the over-representation of Indigenous children and youth in the CWS, the relationship between CWS involvement and health and social outcomes among Indigenous populations has not been systematically reviewed. Our objective is to assess whether Indigenous People who have been exposed to the CWS personally or intergenerationally (i.e., parents and/or grandparents) within Canada, Australia, New Zealand, and the United States (CANZUS countries) and the circumpolar region are at an increased risk for negative health and social outcomes compared to other exposed and non-exposed groups.

Methods and analysis: We will undertake a comprehensive exploration of literature documenting health and social outcomes for Indigenous individuals with personal or intergenerational exposure to the CWS. The search will encompass nine databases including OVID Medline, APA PsycINFO, Bibliography of Native North Americans, CINAHL, EMBASE, Public Affairs Index, Scopus, Social Work Abstracts, and Sociological Abstracts. Additionally, reference lists of included studies will be examined. Findings will adhere to PRISMA guidelines and will be presented in summary tables through narrative synthesis. If feasible, a meta-analysis will be conducted to quantify the impact of CWS exposure on health and social outcomes.

Ethics and Dissemination: Results of this systematic review will synthesise current evidence regarding health and social outcomes related to personal and intergenerational CWS exposure among Indigenous populations in CANZUS countries and circumpolar regions. This information could help support future policy and practice decision-making. Findings will be widely disseminated through peer-review publications and community presentations aimed at various interested parties, including policy makers, professional practitioners and clinicians, and service users (i.e., clients, family members, caregivers).

PROSPERO registration number: CRD42023434543

Keywords: Indigenous, child welfare system, intergenerational trauma, mental health, health

Strengths and limitations of this study

- This will be the first systematic review of whether Indigenous individuals, personally or intergenerationally exposed to the CWS, face an elevated risk of adverse health and social outcomes.
- The protocol includes a broad search strategy with an international focus across nine databases, designed in consultation with experienced librarians. Results will be reported according to PRISMA guidelines.
- Co-authors and scholars from the Indigenous (Mi'kmaw) community have played a pivotal role in guiding and co-developing the protocol.
- This systematic review is limited by a focus on quantitative, peer-reviewed studies.

Introduction

Links between assimilationist colonial policies such as Indian residential schools and intergenerational health and social inequities have been well documented in Canada (Gone et al., 2019; Hackett et. al., 2016; Kaspar, 2014; Moon-Riley et al., 2019; Wilk et al., 2017). Similar colonial policies in international contexts (e.g., Indian boarding schools in the United States, Sámi boarding schools in Norway, Stolen Generations in Australia) have likewise been connected to increased adversity and health inequities experienced by Indigenous Peoples (Australian Institute of Health and Welfare, 2018; Breathett et al., 2020; Friborg et al., 2020; Running Bear et al., 2019). Many scholars have suggested that such colonial policies led to the current over-representation of Indigenous Peoples in the child welfare system (CWS) internationally (Blackstock et al., 2023; Bombay et al., 2020; Di Tomasso & de Finney, 2015; Gatwiri et al., 2021; Lyons et al., 2022; McKenzie et al., 2016; McQuaid et al., 2022; Sinha et al., 2021). A growing body of literature also links parent-child separation through the CWS (e.g., foster care, residential care) to negative health and social outcomes in the general population. These negative outcomes include elevated psychological distress and psychopathology (Egelund & Lausten, 2009; Ford et al., 2007; Räikkönen et al., 2011), chronic hypothalamic–pituitary–adrenocortical axis (HPA) dysregulation (Pesonen et al., 2010), increased rates of substance use and substance use disorders (Gypen et al., 2017), and elevated rates of involvement in the justice system (Gypen et al., 2017; Malvaso et al., 2016; Mendes et al., 2014; Yoon et al., 2018). The breadth of literature linking CWS involvement to negative health and social outcomes calls into question present day CWS practices and policy orientation.

There are several scoping reviews on the involvement of Indigenous families in the CWS in North America (Agnihotri et al., 2022; Bennett et al., 2005; Haight et al., 2018; Sinha et al., 2021), experiences of Indigenous Australian youth transitioning from the CWS after aging out (Mendes et al., 2014), and an international review investigating the needs of Indigenous children in residential care (Gatwiri et al., 2021). One systematic review (Lee et al., 2023) examined racial disparities in physical health outcomes in foster children in the United States. However, the links between CWS involvement with health and social outcomes specific to Indigenous populations have not been systematically reviewed in any country.

The main objective of this systematic review is to assess whether Indigenous People who have been personally or intergenerationally exposed to the CWS in their country of residence are at an increased risk for negative health and social outcomes compared to Indigenous People who were not exposed to the CWS and to non-Indigenous people in categories of exposure and non-exposure. Anglo-settler nations of Canada, Australia, New Zealand, and the United States (CANZUS) share a similar legacy of European colonisation, widespread coercive parent-child separation by the state (e.g., residential schools), and comparable justice systems and CWS structures (Paradies, 2016; Smallwood, 2021). Indigenous People in the circumpolar region (e.g., Sámi) also endured forced assimilation and separation of children from families and communities through state-run boarding schools, with deleterious health and social effects (Friborg et al., 2020). Given differences in experiences of colonisation internationally (Paradies, 2016) and our aim to answer questions related to commonalities in systemic experiences, we are limiting our systematic review to countries with similar patterns of colonisation in CANZUS countries and the circumpolar region. We expect the systematic review will demonstrate a strong association between exposure to the CWS among Indigenous People and both negative health and negative social outcomes. Summarising these issues may inform decolonisation and reconciliation efforts within CWS.

Currently in Canada and many other CANZUS countries there is a dynamic growing public policy debate and ongoing activism related to child welfare systems and Indigenous Peoples. This systematic review may help to inform the work of Indigenous communities, policy makers, advocacy organizations, and academics working in this field, both in Canada and abroad, by filling a gap in research. It is the hope of the research team that this systematic review can be part of a growing evidence base on this topic and serve as a useful tool to help advance equity and Indigenous self-determination over child welfare.

Methods and Analysis

The reporting of this systematic review will be guided by the PRISMA guidelines (Page et al., 2021). See supplemental file 1 for the completed PRISMA checklist. The systematic review is prospectively registered with the international prospective register of systematic reviews (PROSPERO), an open access online database of systematic review protocols, to increase transparency and help prevent unintended duplication. Any important amendments of the protocol will be documented and published in PROSPERO (CRD 42023434543; https://www.crd.york.ac.uk/prospero/display_record.php?RecordID=434543)

Inclusion Criteria

Peer-reviewed studies that report quantified associations between CWS involvement and health/social outcomes in Indigenous People from CANZUS countries or the circumpolar region will be eligible. We will use a population, exposure, comparator, and outcome (PECO) framework (Morgan et al., 2018) to guide the inclusion and exclusion criteria and interpretation of the review. The dates covered by the review will be December 31, 2023 to the earliest date within the literature.

Population

Studies under review will include Indigenous individuals from CANZUS countries or the circumpolar region. Studies investigating multiple ethnic groups will be included if a separate quantitative analysis was provided for the Indigenous sample, or if Indigenous identity was included as a moderator of the association between CWS and health/social outcomes and the magnitude of the association in the Indigenous subsample was provided. If a study did collect data required for inclusion but did not report the effects of interest, we will write to the authors with two reminders and include the data if we obtain information about associations between the health/social outcomes of Indigenous People and CWS involvement in the target regions.

Exposure

Personal exposure to the child welfare system (CWS) will be defined as being formally separated from both biological parents for any length of time by the CWS (e.g., foster care, out of home care, residential care, group home, adoption) before the age of majority in the country of residence. Intergenerational exposure to the CWS will be defined as having at least one parent and/or grandparent who were personally exposed to the CWS (as defined above).

Comparator(s)

The following comparison groups will be included: a) Indigenous People not exposed to the CWS, b) non-Indigenous people exposed to the CWS, and/or c) non-Indigenous people not exposed to the CWS.

Outcome

The review will include peer-reviewed, quantitative research assessing associations between CWS and any mental health outcomes (e.g., depression, anxiety, suicide ideation, substance use, substance use-related problems, wellbeing), physical health outcomes (e.g., chronic disease, emergency department presentations), and/or social outcomes (e.g., housing, educational attainment, employment status, income, social connection).

Exclusion Criteria

Articles that involve participants not personally or intergenerationally exposed to the CWS are beyond the scope of this review and will be excluded. Protocols of forthcoming literature meeting criteria and theses that otherwise meet criteria will be tallied but excluded from review. Articles using peer reviewed qualitative analyses will be excluded but retained for future examination.

Search Strategy

The search was designed in consultation with librarians at Dalhousie University: Melissa Helwig (Associate Dean Research & Scholarly Communications) and Shelley McKibbon (Reference Librarian). Guidance on terminology for the Indigenous search was provided by Samantha Adema (Indigenous Services Librarian, Dalhousie University) and Leah Boulos (Senior Evidence Synthesis Consultant, Maritime SPOR SUPPORT Unit). We aim to use appropriate and accurate Indigenous terminology, including group descriptors preferred by Indigenous Peoples (e.g., Mi'kmaq; Sámi; Haudenosaunee) as well as including other non-preferred terms that appear in the literature to be comprehensive in our search.

The search strategy was developed in Ovid MEDLINE (see PROSPERO registration for search terms), then translated to other databases (APA PsycINFO, Bibliography of Native North Americans, CINAHL, EMBASE, Public Affairs Index, Scopus, Social Work Abstracts, and Sociological Abstracts). Reference lists will also be examined for potentially qualifying studies not identified by the search. Grey literature, including dissertations, conference papers, presentations, or other unpublished or non-peer reviewed research, or case reports, or qualitative studies will not be included. Grey literature will not be included in this review; however, it may offer different insights and should be reviewed in a subsequent study. Specifically, government reports will not be included to avoid introducing bias through reports authored by colonial structures that may be actively involved in paying restitution for colonial policies related to parent-child separation. Searches will be re-run prior to the final analysis and any further studies identified will be retrieved and assessed for eligibility. Citations will be imported into COVIDENCE systematic review management software (Veritas Health Innovation, 2023) for screening and document selection by two reviewers, with co-reviewer votes obscured. Duplicates identified by COVIDENCE will be verified by a team member; duplicates not identified by the software that become apparent during review will be removed. For identical articles published in different years, only the most recent published version of the article will be retained. There will not be a restriction on language of publication to decrease selection bias. The search strategy template can be found at:

https://www.crd.york.ac.uk/PROSPEROFILES/434543_STRATEGY_20230612.pdf

Authors FDS and TP will independently screen all articles. Articles retained in the first stage of screening will be independently reviewed in full by two reviewers to determine if they meet inclusion criteria. Disagreements in both stages of screening will be resolved by consensus, or a third reviewer selected from one of the co-authors as needed. Papers included after full-text review will be extracted into COVIDENCE using a standardised form created by FDS in consultation with the co-authors, then independently pilot-tested with 10 articles. The data extraction form will be modified as required and approved by co-authors. The remaining articles will be extracted and synthesised into the finalised data extraction form. The data extraction process will encompass study characteristics, participant details, and outcomes. This includes, but is not limited to, study design, sampling procedure, year of study, geographic location, type, timing, measurement of CWS involvement, population and comparison group(s) characteristics, outcome measurement, and measures of effect. Study investigators will be contacted for unreported data or additional details needed to complete analyses. See online supplemental file 2 for a flow chart illustrating the full process for the review.

Analysis

Systematic review

We will present key study characteristics and synthesise results in narrative summary tables using Synthesis without Meta-analysis (SWiM) guidelines (Campbell et al., 2020). We will summarise group characteristics and the strength of the association between Indigenous People exposed to the CWS and health and/or social outcomes with the following comparison groups: a) Indigenous People not exposed to the CWS, b) non-Indigenous people exposed to the CWS, and/or c) non-Indigenous people not exposed to the CWS. Health and social outcomes will be grouped according to mental health, physical health, and social outcome categories and subcategories. Categorisation will reflect the health and social outcomes in the studies identified in the literature review.

If meta-analysis is not feasible, we will summarise the type of statistically significant, quantified associations (positive, negative, none/negligible) between CWS exposure and specific mental health outcomes (e.g., depression, anxiety, suicide ideation, substance use, substance use-related problems, wellbeing), physical health outcomes (e.g., chronic disease, emergency department presentations), and social outcomes (e.g., housing, educational attainment, employment status, income, social connection). Feasibility for meta-analysis will be defined as a minimum of three studies for a particular outcome measure. Effect mediators and/or moderators and covariates of the associations will also be qualitatively summarised.

Meta-analysis

Extracted data will be inspected, and if feasible, will be quantified through meta-analysis. We will conduct pairwise comparisons for three contrasts between Indigenous People exposed to the CWS with the following groups: a) Indigenous People not exposed to the CWS, b) non-Indigenous people exposed to the CWS, and/or c) non-Indigenous people not exposed to the CWS. We will calculate standardised mean differences for continuous outcome variables and odds ratios for dichotomous outcome variables, with their 95% confidence intervals. Our plan is to maintain the separation of meta-analyses for continuous and dichotomous variables. However, in the event of a limited number of studies, we will consider combining estimates where appropriate, following the guidelines outlined by Chinn (2000). Estimated effect sizes and confidence intervals will be summarised and presented in forest plots. If there are multiple measures of the same construct, we will select the measure designated as a primary outcome. If no primary outcome is indicated, we will select the first reported. If a study includes multiple outcomes measuring distinct constructs, each relevant analysis will be included separately in the corresponding meta-analysis for that outcome. Therefore, the same study will only be included once within each separate meta-analysis to avoid dependency.

We anticipate using random effects models with the Hartung-Knapp/Sidik-Jonkman approach (IntHout et al., 2014; Lin & Aloe, 2021) to calculate summary effect sizes using metafor: a meta-analysis package for R software (Viechtbauer, 2010). We will construct funnel plots to visualise possible publication bias when there are at least 10 included studies (Page et al., 2022). Heterogeneity will be explored through the I^2 statistic (Higgins & Thompson, 2002).

Assessment of study quality and bias

The quality of studies included in the review will be independently critically evaluated by two authors using The Newcastle-Ottawa Scale (Wells & Tugwell, 2023), a widely used quality assessment tool for non-randomised studies. Two authors will independently assess the risk of bias of included studies using the ROBINS-E tool (ROBINS-E Development Group, 2022). Meta-regression analysis will be used to detect publication bias. Discrepancies between quality and risk of bias ratings will be resolved by consensus. If consensus cannot be reached, a third review author selected from one of the co-authors will make the final determination. Studies rated as low quality and/or as having a high risk of bias on one or more categories will not be excluded from the meta-analysis, but sensitivity analyses will be conducted to determine any effect of their inclusion (Viswanathan et al., 2018).

Patient and public involvement

No patient involvement.

Discussion

The primary goal of this systematic review is to investigate and evaluate the evidence for increased risk of negative health and social outcomes for Indigenous People who have been personally or intergenerationally exposed to the CWS. We are limiting our review to papers in CANZUS countries plus the circumpolar region, as these are countries with relatively similar patterns of colonisation (Hansen et al., 2016; Voaklander et al., 2020). There will be no restriction on language of publication in the interest of decreasing selection bias.

We expect the review to show evidence of a robust relationship between exposure to the CWS among Indigenous People and negative health and social outcomes. Results from this systematic review will provide a summary and assessment of health and social outcomes of CWS exposure in CANZUS countries and circumpolar regions among Indigenous populations in the current literature. Findings may help inform future policy decisions and service delivery. The findings may help support Indigenous communities, policy makers, advocacy organisations, and academics working in this field, both in Canada and abroad. Specifically, the systematic review may be useful for those working on advocacy activities related to Indigenous child welfare systems and also contribute to the growing evidence base. The systematic review may inform future policy and service delivery changes by government as it relates to accountability, equitable resource allocation, self-determination, and self-governance.

Ethics and Dissemination: Ethics approval is not required since this research solely involves reviewing existing empirical data and does not entail primary data collection. Optimally, we would consult a national Indigenous ethics or advisory committee because the work is originating in Canada and the Canadian portion of the data we will analyse is national in scope. In the absence of such a Canadian national review mechanism, the first author consulted with the Indigenous Research Support Team (IRST) at the University of Calgary in the area the work was led from, within the traditional territory of the Blackfoot Confederacy, made up of the Siksika, Piikani, Amskaapipiikani and Kainai First Nations; the Îethka Nakoda Wîcastabi First Nations, comprised of the Chiniki, Bearspaw, and Goodstoney First Nations; and the Tsuut'ina First Nation. The territory is also homeland to the Métis Nation of Alberta, Region III. The IRST ethics advisory provided consultation and guidance on the project and community engagement protocols. Additionally, the protocol has been co-developed and fully reviewed by co-authors and Indigenous (Mi'kmaw) scholars Dr. Margaret Robinson (Lennox Island First Nation) and Dr. Tara Pride, (Sipekne'katik First Nation). The first author is consulting with an Elder at the Calgary Public Library's Elders Guidance Circle. Engagement is ongoing and will inform the project, including interpretation of data, and will progress at the pace that is convenient for the Indigenous advisory partners. The results from this review will be widely disseminated via peer-reviewed publications and community presentations targeting a diverse audience, which includes policymakers, professionals, clinicians, clients, family members, and caregivers residing in Canada, with a focus on reaching First Nations, Inuit, and Métis leadership and experts within these groups.

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Author Statement: FDS conceptualised and designed the review, wrote the original draft, contributed to all aspects of the protocol, and is the guarantor for the work. TMP and SHS contributed to planning the project. FDS and TMP co-developed the search strategy with reference librarians. SPM contributed to the design and verified the analytical methods. MR contributed content expertise and supervised the project. All authors contributed to, revised, and approved the final version of the manuscript.

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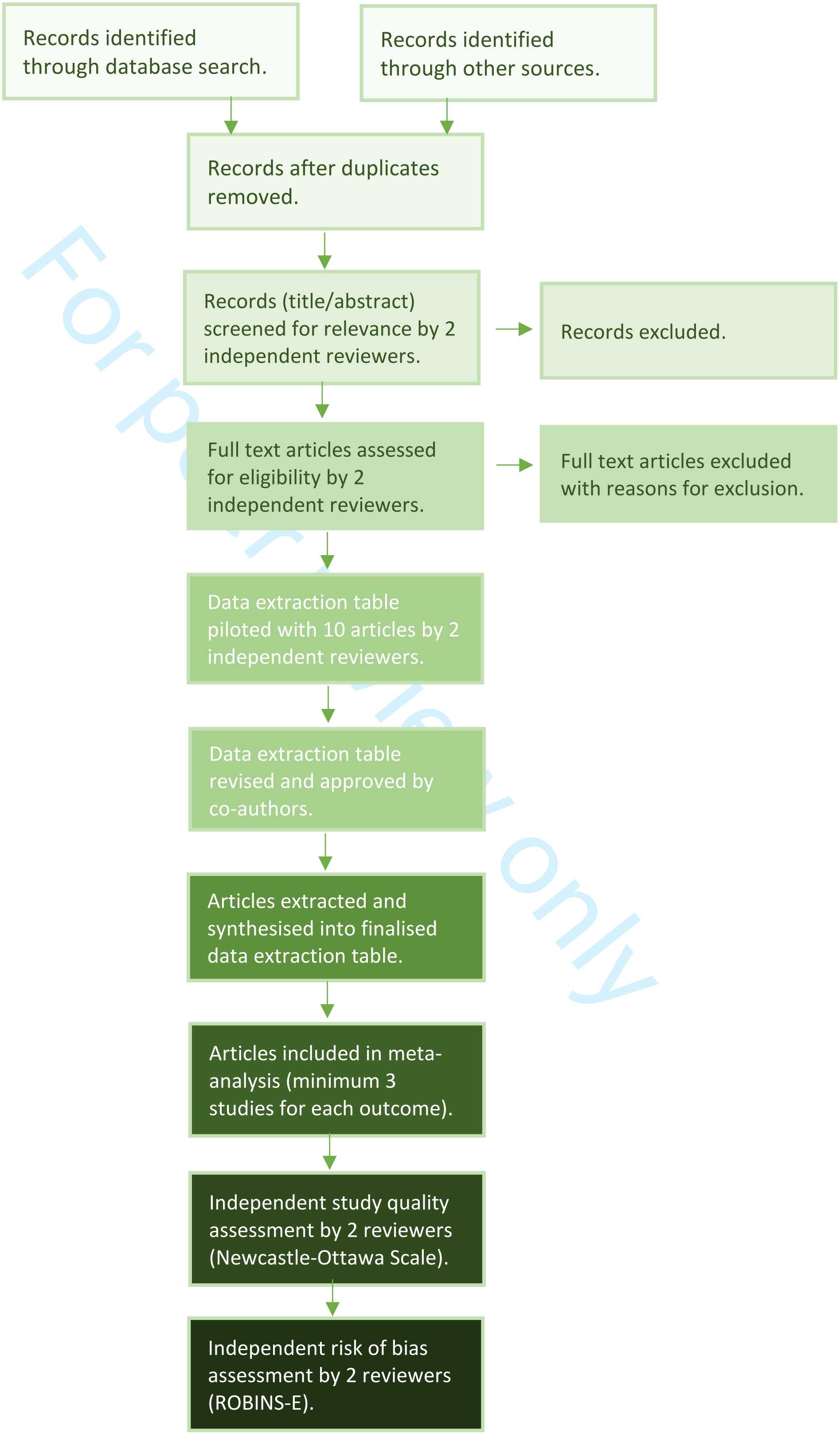
Flow chart: Full process for the review



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Systematic review of health and social outcomes among Indigenous People exposed to the child welfare system: A protocol

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Systematic review of health and social outcomes among Indigenous People exposed to the child welfare system: A protocol

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Abstract

Introduction: The link between parent-child separation through child welfare systems and negative health and social outcomes is well documented. In contrast, despite the over-representation of Indigenous children and youth in child welfare systems, the relationship between child welfare system involvement and health and social outcomes among Indigenous populations has not been systematically reviewed. Our objective is to assess whether Indigenous People who have been exposed to a child welfare system personally or intergenerationally (i.e., parents and/or grandparents) within Canada, Australia, New Zealand, and the United States (CANZUS countries) and the circumpolar region are at an increased risk for negative health and social outcomes compared to other exposed and non-exposed groups.

Methods and analysis: We will undertake a comprehensive exploration of literature documenting health and social outcomes for Indigenous individuals with personal or intergenerational exposure to a child welfare system. The search will encompass nine databases including OVID Medline, APA PsycINFO, Bibliography of Native North Americans, CINAHL, EMBASE, Public Affairs Index, Scopus, Social Work Abstracts, and Sociological Abstracts. Additionally, reference lists of included studies will be examined. The literature search will include studies up to October 4, 2024, and will adhere to PRISMA guidelines. Findings will be presented in summary tables through narrative synthesis, and if feasible, a meta-analysis will quantify the impact of child welfare exposure on health and social outcomes.

Ethics and Dissemination: Results of this systematic review will synthesise current evidence regarding health and social outcomes related to personal and intergenerational child welfare exposure among Indigenous populations in CANZUS countries and circumpolar regions. This information could help support future policy and practice decision-making. Findings will be

widely disseminated through peer-review publications and community presentations aimed at various interested parties, including policy makers, professional practitioners and clinicians, and service users (i.e., clients, family members, caregivers).

PROSPERO registration number: CRD42023434543

Keywords: Indigenous, child welfare system, intergenerational trauma, mental health, health

Strengths and limitations of this study

- This will be the first systematic review of whether Indigenous individuals, personally or intergenerationally exposed to a child welfare system, face an elevated risk of adverse health and social outcomes.
- The protocol includes a broad search strategy with an international focus across nine databases, designed in consultation with experienced librarians.
- Results will be reported according to PRISMA guidelines.
- Co-authors and scholars from Indigenous (Mi'kmaw) communities have played a pivotal role in guiding and co-developing the protocol.
- This systematic review is limited by a focus on quantitative, peer-reviewed studies.

Introduction

Links between assimilationist colonial policies such as Indian residential schools and intergenerational health and social inequities have been well documented in Canada [1–6]. Similar colonial policies in international contexts (e.g., Indian boarding schools in the United

States, Sámi boarding schools in Norway, Stolen Generations in Australia) have likewise been connected to increased adversity and health inequities experienced by Indigenous Peoples [1,7–9]. Many scholars have suggested that such colonial policies led to the current over-representation of Indigenous Peoples in child welfare systems internationally [10–17]. A growing body of literature also links parent-child separation through child welfare (e.g., foster care, residential care) to negative health and social outcomes. These negative outcomes include elevated psychological distress and psychopathology [18–20], chronic hypothalamic–pituitary–adrenocortical axis (HPA) dysregulation [21], increased rates of substance use and substance use disorders [22], and elevated rates of involvement in the justice system [22–24]. The breadth of literature linking child welfare involvement to negative health and social outcomes calls into question present day child welfare practices and policy orientation.

Systematic reviews and meta-analyses across diverse demographic groups and regions indicate that individuals with a history of out-of-home care, regardless of their background, face significantly higher risks of poor mental health [22,25–29], substance use problems [22], substance use disorders [30], poorer educational and employment outcomes, as well as increased risk of justice involvement [22]. Meta-analyses reveal prevalence estimates for lifetime mental disorders range from 30% among adults formerly in out-of-home care in longitudinal studies [28] to 49% among children and adolescents in child welfare systems in epidemiological studies [29]. Young adults in out-of-home care in Nordic countries face higher risks for adversities compared with the general population, even when controlling for their birth parents' socio-economic, demographic, and mental health–related factors [31]. In a systematic review, Carr et al. [32] found significant associations between child abuse in long-term institutional care and poorer mental health, physical health, and social outcomes across the lifespan for both children and adult survivors. Relatively few studies have evaluated racial and ethnic differences in physical health among children in foster care, as highlighted in a systematic review by Lee et al. [33].

Several scoping reviews on the involvement of Indigenous families in child welfare systems have been published, in North America [34,35], and internationally [12,17]. The literature underscores the significant impact of child welfare systems on Indigenous populations, particularly in relation to historical and ongoing assimilative policies. Bennett et al. [34] provide a review detailing how Christian churches, residential schools, and child welfare systems have enforced federal government policies aimed at assimilation, disrupting Indigenous familial structures in Canada. Bennett et al. [34]discuss a movement towards First Nations self-governance over child welfare services, recognising the inherent rights of Indigenous nations. Haight et al. [35], through a scoping review, reveal that Indigenous families involved in North American child welfare systems encounter unique challenges and potential racial biases, calling attention to the need for culturally-based practices and policies. Sinha et al. [17] reviewed Indigenous child welfare involvement internationally, emphasising the necessity for more comprehensive, locally grounded research and Indigenous control in child welfare policy development. Gatwiri et al. [12] stress the importance of culturally safe and trauma-informed interventions for Indigenous children and youth in residential care, advocating for tailored approaches. Collectively, these studies point to the critical need for systemic change, Indigenous jurisdiction over child welfare, and culturally informed practices to address the unique challenges faced by Indigenous communities within child welfare systems. There is a general lack of reviews and meta-analyses focussed on individuals with a history of child welfare system involvement. The relationship between child welfare system involvement with health and social outcomes specific to Indigenous populations has yet to be systematically reviewed in any country.

Understanding how past generations' involvement with child welfare may influence current outcomes is also important, particularly when considering the impact of cumulative trauma and systemic factors, which can perpetuate cycles of disadvantage and poor outcomes across generations. Anglo-settler nations of Canada, Australia, New Zealand, and the United States (CANZUS) share a similar legacy of European colonisation, widespread coercive parent-child separation by the state (e.g., residential schools), and comparable justice systems and child welfare system structures [36–38]. Indigenous People in the circumpolar region (e.g., Sámi) also endured forced assimilation and separation of children from families and communities through state-run boarding schools, with deleterious health and social effects [8,39]. These historical injustices and their lasting effects raise critical questions about how the legacies of colonial child welfare practices continue to impact the health and social well-being of Indigenous populations today.

The main objective of this systematic review is to assess whether Indigenous People who have been personally or intergenerationally exposed to a child welfare system in their country of residence, face a heightened risk of negative health and social outcomes. Articles will be included if they compare these risks to either Indigenous People who were not exposed to child welfare and/or non-Indigenous people across categories of exposure and non-exposure. Given differences in experiences of colonisation internationally [36] and our aim to answer questions related to commonalities in systemic experiences, we are limiting our systematic review to countries with similar patterns of colonisation in CANZUS countries and the circumpolar region. We expect the systematic review will demonstrate a strong association between exposure to child welfare systems among Indigenous People and both negative health and negative social outcomes. Summarising these issues may inform decolonisation and reconciliation efforts within child welfare systems.

Currently in Canada and many other CANZUS countries there is a dynamic growing public policy debate and ongoing activism related to child welfare systems and Indigenous Peoples. This systematic review may help to inform the work of Indigenous communities, policy makers, advocacy organisations, and academics working in this field, both in Canada and abroad, by filling a gap in research. It is the hope of the research team that this systematic review can be part of a growing evidence base on this topic and serve as a useful tool to help advance equity and Indigenous self-determination over child welfare.

Methods

The reporting of this systematic review will be guided by the PRISMA guidelines [40]. See supplemental file 1 for the completed PRISMA checklist. The systematic review is prospectively registered with the international prospective register of systematic reviews (PROSPERO), an open access online database of systematic review protocols, to increase transparency and help prevent unintended duplication. Any important amendments of the protocol will be documented and published in PROSPERO (CRD 42023434543; https://www.crd.york.ac.uk/prospero/display_record.php?RecordID=434543)

Inclusion Criteria

Peer-reviewed studies that report quantified associations between child welfare involvement and health/social outcomes in Indigenous People from CANZUS countries or the circumpolar region will be eligible. We will use a population, exposure, comparator, and outcome (PECO) framework [41] to guide the inclusion and exclusion criteria and interpretation of the review. The dates covered by the review will be October 4, 2024 to the earliest date within the literature.

Population

Studies under review will include Indigenous individuals from CANZUS countries or the circumpolar region. Studies investigating multiple ethnic groups will be included if a separate quantitative analysis was provided for the Indigenous sample, or if Indigenous identity was included as a moderator of the association between child welfare and health/social outcomes and the magnitude of the association in the Indigenous subsample was provided. If a study did collect data required for inclusion but did not report the effects of interest, we will write to the authors with two reminders and include the data if we obtain information about associations between the health/social outcomes of Indigenous People and child welfare involvement in the target regions.

Exposure

Personal exposure to a child welfare system will be defined as being formally separated from both biological parents for any length of time by child welfare (e.g., foster care, out of home care, residential care, group home, adoption) before the age of majority in the country of residence. Intergenerational exposure to child welfare will be defined as having at least one parent and/or grandparent who were personally exposed to child welfare (as defined above).

Comparator(s)

The following comparison groups will be included: a) Indigenous People not exposed to child welfare, b) non-Indigenous people exposed to child welfare, and/or c) non-Indigenous people not exposed to child welfare.

Outcome

The review will include peer-reviewed, quantitative research assessing associations between child welfare and any mental health outcomes (e.g., depression, anxiety, suicide ideation, substance use, substance use-related problems, wellbeing), physical health outcomes (e.g., chronic disease, emergency department presentations), and/or social outcomes (e.g., housing, educational attainment, employment status, income, social connection).

Exclusion Criteria

Articles that involve participants not personally or intergenerationally exposed to a child welfare system are beyond the scope of this review and will be excluded. Protocols of forthcoming literature meeting criteria and theses that otherwise meet criteria will be tallied but excluded from review. Articles using peer reviewed qualitative analyses will be excluded but retained for future examination.

Search Strategy

The search was designed in consultation with librarians MH and SM at Dalhousie University. Guidance on terminology for the Indigenous search was provided by SA (Indigenous Services Librarian, Dalhousie University) and LB (Senior Evidence Synthesis Consultant, Maritime SPOR SUPPORT Unit). We aim to use appropriate and accurate Indigenous terminology, including group descriptors preferred by Indigenous Peoples (e.g., Mi'kmaq; Sámi; Haudenosaunee) as well as including other non-preferred terms that appear in the literature to be comprehensive in our search.

The search strategy, initially conducted on October 11, 2021, was developed in Ovid MEDLINE (see PROSPERO registration for search terms), then translated to other databases (APA PsycINFO, Bibliography of Native North Americans, CINAHL, EMBASE, Public Affairs Index, Scopus, Social Work Abstracts, and Sociological Abstracts). The search will include studies up to October 4, 2024. Reference lists will also be examined for potentially qualifying studies not identified by the search. Intervention studies will be excluded to prevent potential confounding effects caused by the interventions themselves. Grey literature, including dissertations, conference papers, presentations, or other unpublished or non-peer reviewed research, case reports, non-peer-reviewed epidemiological reports, or qualitative studies will not be included. Qualitative research will be excluded from this review due to the challenges of integrating it with quantitative data while maintaining a manageable scope. While the decision to only include quantitative studies provides a systematic and statistically robust analysis of the harms associated with family separation, it is nonetheless a potential limitation as it may overlook important lived experiences and contextual insights that qualitative studies could provide. Grey literature will not be included in this review; however, it may offer different insights and should be reviewed in a subsequent study. Specifically, government reports will not be included to avoid introducing bias through reports authored by colonial structures that may be actively involved in paying restitution for colonial policies related to parent-child separation. Searches will be re-run prior to the final analysis and any further studies identified will be retrieved and assessed for eligibility. Citations will be imported into COVIDENCE systematic review management software [42] for screening and document selection by two reviewers, with co-reviewer votes obscured. Duplicates identified by COVIDENCE will be verified by a team member; duplicates not identified by the software that become apparent during review will be removed. For identical articles published in different years, only the most recent published version of the article will be retained. There will not be a restriction on language of publication to decrease selection bias. The search strategy template can be found at: https://www.crd.york.ac.uk/PROSPEROFILES/434543_STRATEGY_20230612.pdf

Authors FDS and TMP will independently screen all articles. Articles retained in the first stage of screening will be independently reviewed in full by two reviewers to determine if they meet inclusion criteria. Disagreements in both stages of screening will be resolved by consensus, or a third reviewer selected from one of the co-authors as needed. Papers included after full-text review will be extracted into COVIDENCE using a standardised form created by FDS in consultation with the co-authors, then independently pilot-tested with 10 articles. The data extraction form will be modified as required and approved by co-authors. The remaining articles will be extracted and synthesised into the finalised data extraction form.

Data extraction

The data extraction process will encompass study characteristics, participant details, and outcomes. This includes study design, year of study, geographic location, sample size of population and comparator(s), sampling procedure, type, timing, and measurement of child welfare exposure, population and comparison group(s) characteristics (age, sex and/or gender), outcome measurement, and measures of effect. We will also report on the extent of reported Indigenous engagement in the research, including reported involvement of Indigenous communities, leadership by Indigenous scholars, and adherence to Indigenous-specific ethical protocols. Study investigators will be contacted for unreported data or additional details needed to complete analyses. See online supplemental file 2 for a flow chart illustrating the full process for the review.

Analysis

Assessment of study quality and bias

The quality of studies included in the revie will be independently critically evaluated by two authors using The Newcastle-Ottawa Scale [43], a widely used quality assessment tool for non-randomised studies. Two authors will independently assess the risk of bias of included studies using the ROBINS-E tool [44]. ROBINS-E includes a rating for potential confounding factors, measurement, selection bias, missing data, and selection of reported result. Meta-regression analysis will be used to detect publication bias. Discrepancies between quality and risk of bias ratings will be resolved by consensus. If consensus cannot be reached, a third review author selected from one of the co-authors will make the final determination. Studies rated as low quality and/or as having a high risk of bias on one or more categories will not be excluded from the meta-analysis, but sensitivity analyses will be conducted to determine any effect of their inclusion [45].

Systematic review

We will present key study characteristics and synthesise results in narrative summary tables using Synthesis without Meta-analysis (SWiM) guidelines [46]. We will summarise group characteristics and the strength of the association between Indigenous People exposed to the child welfare and health and/or social outcomes with the following comparison groups: a) Indigenous People not exposed to the child welfare, b) non-Indigenous people exposed to child welfare, and/or c) non-Indigenous people not exposed to child welfare. Health and social outcomes will be grouped according to mental health, physical health, and social outcome categories and subcategories. Categorisation will reflect the health and social outcomes in the studies identified in the literature review.

If meta-analysis is not feasible, we will summarise the type of statistically significant, quantified associations (positive, negative, none/negligible) between child welfare exposure and specific mental health outcomes (e.g., depression, anxiety, suicide ideation, substance use, substance use-related problems, wellbeing), physical health outcomes (e.g., chronic disease, emergency department presentations), and social outcomes (e.g., housing, educational attainment, employment status, income, social connection). Feasibility for meta-analysis will be defined as a minimum of three studies for a particular outcome measure, a threshold commonly used in the literature as a practical solution given only a small number of studies with similar outcomes. This approach is frequently applied in health-related meta-analyses [47]. Effect mediators and/or moderators and covariates of the associations will also be qualitatively summarised. We will also qualitatively summarise the role of resilience and protective factors. In addition, we will critically examine potential confounding factors and the temporal sequencing of exposures and outcomes.

Meta-analysis

Extracted data will be inspected, and if feasible, will be quantified through meta-analysis. We will conduct pairwise comparisons for three contrasts between Indigenous People exposed to the child welfare with the following groups: a) Indigenous People not exposed to child welfare, b) non-Indigenous people exposed to child welfare, and/or c) non-Indigenous people not exposed to child welfare. We will calculate standardised mean differences for continuous outcome variables and odds ratios for dichotomous outcome variables, with their 95% confidence intervals. Our plan is to maintain the separation of meta-analyses for continuous and dichotomous variables. However, in the event of a limited number of studies, we will consider combining estimates where appropriate, following the guidelines outlined by Chinn [48]. Estimated effect sizes and confidence intervals will be summarised and presented in forest plots. If there are multiple measures of the same construct, we will select the measure designated as a primary outcome. If no primary outcome is indicated, we will select the first reported. If a study includes multiple outcomes measuring distinct constructs, each relevant analysis will be included separately in the corresponding meta-analysis for that outcome. Therefore, the same study will only be included once within each separate meta-analysis to avoid dependency.

We anticipate using random effects models with the Hartung-Knapp/Sidik-Jonkman approach [49,50] to calculate summary effect sizes using metafor: a meta-analysis package for R software [51]. We will construct funnel plots to visualise possible publication bias when there are at least 10 included studies [52]. Heterogeneity will be explored through the I^2 statistic [53], τ2, and Q statistic.

Patient and public involvement

No patient involvement.

Ethics and Dissemination: Ethics approval is not required since this research solely involves reviewing existing empirical data and does not entail primary data collection. Optimally, we would consult a national Indigenous ethics or advisory committee because the work is originating in Canada and the Canadian portion of the data we will analyse is national in scope. In the absence of such a Canadian national review mechanism, the first author consulted with the Indigenous Research Support Team (IRST) at the University of Calgary in the area the work was led from, within the traditional territory of the Blackfoot Confederacy, made up of the Siksika, Piikani, Amskaapipiikani and Kainai First Nations; the Îethka Nakoda Wîcastabi First Nations, comprised of the Chiniki, Bearspaw, and Goodstoney First Nations; and the Tsuut'ina First

Nation. The territory is also homeland to the Métis Nation of Alberta, Region III. The IRST ethics advisory provided consultation and guidance on the project and community engagement protocols. Additionally, the protocol has been co-developed and fully reviewed by co-authors and Indigenous (Mi'kmaw) scholars Dr. Margaret Robinson (Lennox Island First Nation) and Dr. Tara Pride, (Sipekne'katik First Nation). The first author is consulting with an Elder at the Calgary Public Library's Elders Guidance Circle. Engagement is ongoing and will inform the project, including interpretation of data, and will progress at the pace that is convenient for the Indigenous advisory partners. The results from this review will be widely disseminated via peer-reviewed publications and community presentations targeting a diverse audience, which includes policymakers, professionals, clinicians, clients, family members, and caregivers residing in Canada, with a focus on reaching First Nations, Inuit, and Métis leadership and experts within these groups.

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Flow chart: Full process for the review