

# *The Long-Term Impacts of Residential Schooling on Indigenous Health in Canada, Australia and the United States: A Systematic Review*

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## **Short Abstract (150 words)**

Indigenous peoples in Canada, the USA and Australia share similar colonial histories, where governments used extensive policies of residential schooling as the primary instruments of assimilation. Beyond the effects of displacement, children faced chronic abuse and neglect in these institutions and emerging evidence indicates that these childhood experiences have had ongoing effects on the well-being of Indigenous people and communities. This systematic literature review is the first to summarize the current literature on the relationship between residential schooling and Indigenous health in Canada, the USA and Australia. Six electronic databases were systematically searched, and 37 articles were identified. The majority of studies demonstrate strong, negative associations between both personal and familial history of residential school attendance and a wide-range of physical and mental health outcomes. These findings contribute to the understanding of the continuing consequences of colonial policies and may help guide trauma informed health services and interventions.

## **Extended Abstract**

### **Background**

The achievement of health and well-being among Indigenous populations world-wide has been challenged by a history of colonization, discrimination and the socioeconomic environment. Despite placing near the top of the UN's human development rankings, Canada, the USA, and Australia all have minority Indigenous populations with poor health in comparison to the general population. There is an ever-growing understanding of the importance of the effects that institutional colonialism has had on the health and well-being of Indigenous communities and it has been suggested that colonialism is the lens through which all health outcomes must be viewed (Reading, 2015).

In Canada, the primary instrument of assimilation was the government-mandated colonizing policy of church-run residential schooling. Beginning in 1867 until the last closure in the 1990s, over 150,000 First Nations, Métis and Inuit children were forcibly removed from their homes and communities (Armitage, 1995; Milloy, 1999). Beyond the effects of displacement, children faced chronic sexual, psychological and physical abuse and neglect in these institutions. With few exceptions, these schools were underfunded and understaffed, leading to malnourished, overworked and poorly clothed children living in poor conditions. Similar assimilation agendas and policies were employed in Australia and the USA. Although the Australian and American residential school systems followed slightly different trajectories than the Canadian system, they resulted in many similar outcomes (Buti, 2002; Jacobs, 2006). Residents of these systems reported similar cases of abuse, both physical and sexual, and experienced many of the same problems that plagued the Canadian system such as the lack of proper hygiene, nutrition and clothing (Buti, 2002; Maria Yellow Horse Brave and DeBruyn, 1998).

While the enduring consequences of residential schooling have been documented by testimony of former students, there are a growing number of empirical studies demonstrating the long-term and intergenerational effects of the Canadian residential schooling policy on health, as documented in a recent scoping review (Wilk et al., 2017). It is not clear if a similar trend in the literature is occurring in Australia and the United States. To date no systematic review has been published on the impact of residential schooling on Indigenous health. A synthesis of the current state of the literature related to the

impact of residential schooling on health will allow for a deeper understanding of how Indigenous populations continue to be affected by colonizing policies and may help guide population health interventions.

### **Objective**

The central aim of this systematic literature review was to summarize and synthesize existing knowledge on the relationship between residential schooling and Indigenous health in Canada, Australia and the United States, three countries with similar colonization histories.

### **Methods**

The protocol development and methodology of this review was guided by the PRISMA statement. The protocol for this review was registered with the PROSPERO systematic review protocol registry (ID#CRD42018099099).

#### *Search Strategy*

The search strategy was developed in consultation with a reference librarian. A total of six electronic databases were searched (MEDLINE, PubMed, PsycINFO, Web of Science, CBCA, CINAHL) with no language restrictions through to June 12, 2018. These databases were searched using terms related to Indigenous identity (e.g., Aboriginal, Inuit, Métis, First Nations, Indigenous, Native, and Indian) and terms related to residential schooling (e.g., residential school, boarding school, church school, religious school, mission school, industrial school and stolen generation). In order to capture the broadest range of health outcomes, no keywords relating to health were used in the search strategy.

#### *Inclusion Criteria for Article Selection*

To be included in this review, studies had to focus on Indigenous peoples living in Canada, the United States, or Australia. Included studies were restricted to those that assessed the exposure of residential school attendance for any period of time by either the study participant or the study participant's parent or grandparent. The study must have assessed a health outcome, which was broadly considered to include, but was not limited to, mortality, life expectancy, mental health, physical health, self-rated health, and disability.

Although Indigenous peoples who attended residential schools experienced negative health outcomes throughout the lifespan of the system, public reports on the full extent of neglect and abuse did not surface widely until the 1980's in Canada (Milloy, 1999). Any literature from before this time may be limited in its ability to properly evaluate the relationship between residential school attendance and health, if it did not consider the full experience of residential school attendees. For this reason, the review will be limited to literature published after 1980. Additionally, the residential school systems in Canada, Australia, and the US changed dramatically in the 1950's, leading to significant changes in both school conditions and populations targeted for attendance. For this reason, only studies looking at a time period after the 1950's will be included. This will also ensure that any conclusions drawn from this review will provide insight into the ongoing effects of the residential school system and be applicable to current experiences.

No restrictions were placed on study design type, and both quantitative and qualitative studies were retained. Studies that examined any other type of schooling, such as on-reserve day schools were excluded, as were any study evaluating the health of current residential school students (i.e. modern boarding schools in the USA). Conference abstracts were excluded because they did not contain

adequate data to allow for evaluation and data extraction. Only English and French language studies were considered for inclusion in this review.

### *Study Screening*

The web application Rayyan was used to facilitate the article screening process (Mourad et al., 2016). Two blinded reviewers screened the title and abstract of each article for relevance and for inclusion in the full-text review stage (AL and HC). These reviewers independently evaluated the full-text of those articles to assess if they met the inclusion criteria. A third party settled any disagreements about initial screening and inclusion.

### *Data Extraction and Quality Assessment*

A Google form was created for this study for the purposes of data extraction and quality assessment. Pilot testing was conducted to ensure accuracy and validity. The quality of included quantitative studies was assessed using a modified version of the Newcastle-Ottawa Scale (NOS) by two independent reviewers. The modified version of the NOS assessed major biases in terms of participant selection, comparability and ascertainment of the outcome. Data extraction and quality assessment were conducted independently by the same two reviewers. Disagreements were discussed and resolved by consensus with a third reviewer.

### **Preliminary findings**

A total of 12,484 articles were identified by the searches, resulting in 11,140 unique entries. A total of 417 were retained for full-text review. 37 articles met all inclusion criteria and were included in the review. Of these, 21 focused on Canada, 13 focused on the USA, 3 focused on Australia, and no study was conducted in more than one country. A total of 8 studies used a qualitative methodology, where 2 assessed on a physical health outcome, 4 assessed a mental health outcome and 2 considered both physical and mental health. A total of 29 used a quantitative methodology, where 9 assessed on a physical health outcome, 18 assessed a mental health outcome and 2 considered both physical and mental health. Physical health outcomes assessed included chronic disease, self-reported general health, BMI, obesity, hepatitis C, low birth weight, diabetes and respiratory illness. Mental health outcomes assessed included depression, anxiety, distress, problem gambling, history of suicidal thoughts and attempts, alcohol dependence and dementia. The majority of studies demonstrate strong, negative associations between personal or familial history of residential school attendance and a wide-range of physical and mental health outcomes. The major limitations of the literature base were the cross-sectional nature of the majority of studies, limited information on the exposure of residential schooling (i.e. individual experiences, length of time and age of attendance) and incomplete confounding control.

### **Forthcoming Literature Searches and Findings**

#### *Grey and Additional Literature Searches*

Several additional search strategies will be employed to identify relevant articles not found in electronic database searches. The reference lists of all included articles will be screened for any relevant studies that were not identified during the initial search. Additionally, three potentially high yield journals will be hand searched: Journal of Indigenous Wellbeing/Pimatisiwin; International Journal of Indigenous Health/Journal of Aboriginal Health; and Australian Aboriginal Studies. A search of the grey literature will be conducted using Google and targeted website searches. The webpages of the following organizations will be searched: Aboriginal Healing Foundation, CRDCN Research Network, Statistics

Canada, The Australian Institute of Aboriginal and Torres Strait Islander Studies (AIATSIS), Australian Indigenous HealthInfoNet, Australian Institute of Health and Welfare, Lowitja Institute, Healing Foundation, Australian Bureau of Statistics, Boarding School Healing, US Office of Minority Health, US Interior Indian Affairs, Native Health Database, Indian Health service, CDC and Indigenous Studies Portal.

### *Data Synthesis*

The extracted data will be synthesized qualitatively. The narrative synthesis of included papers will be primarily based on health outcome and an evaluation of the strength of the evidence. In addition to an understanding the long-term impacts of residential school attendance on individual and intergenerational health, this review aims to assess the current state of the literature and to uncover any important gaps in knowledge. The literature will also be summarized in terms of country of focus, year of publication, population studied and sources of data.

### **Conclusions**

This review identified strong, negative and long-term individual and intergenerational impacts of residential schooling across a variety of health outcomes. These findings highlight the continuing consequences of colonizing policies and support the need to incorporate an understanding of historical trauma into Indigenous health care and population health interventions.

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