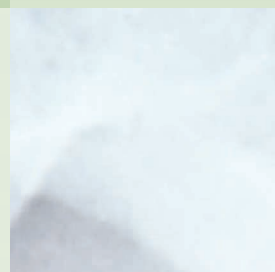
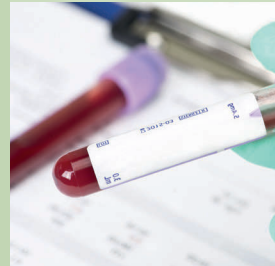


2007  
2017

# RESEARCH SUMMARY

*10 years of community-based research*



ANISHINAABE  
BIMAADIZIWIN  
RESEARCH PROGRAM



A joint initiative of Sioux Lookout Meno Ya Win Health Centre and Sioux Lookout First Nations Health Authority

## **Anishnaabe Bimaadiziwin Research Program 2007 - 2017**

*"10 years of community-based research"*

*James Morris, Executive Director, Sioux Lookout First Nations Health Authority,  
past Board Member, Northern Ontario School of Medicine*

*David Murray, past CEO, Sioux Lookout Meno Ya Win Health Centre*

*Heather Lee, acting CEO, Sioux Lookout Meno Ya Win Health Centre*

*Janet Gordon, Chief Operating Officer, Sioux Lookout First Nations Health Authority*

*Jennifer Lawrance, past VP Quality and Support Services, Sioux Lookout Meno Ya  
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*Dr Terry O'Driscoll, Chief of Staff, Sioux Lookout Meno Ya Win Health Centre, past  
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*Dr Terri Farrell, Medical Director, Sioux Lookout First Nations Health Authority*

*Dr Len Kelly, Research Consultant, Sioux Lookout Meno Ya Win Health Centre*

*Andrew Ross, Anishnaabe Bimaadiziwin Research Program Manager, Sioux Lookout*



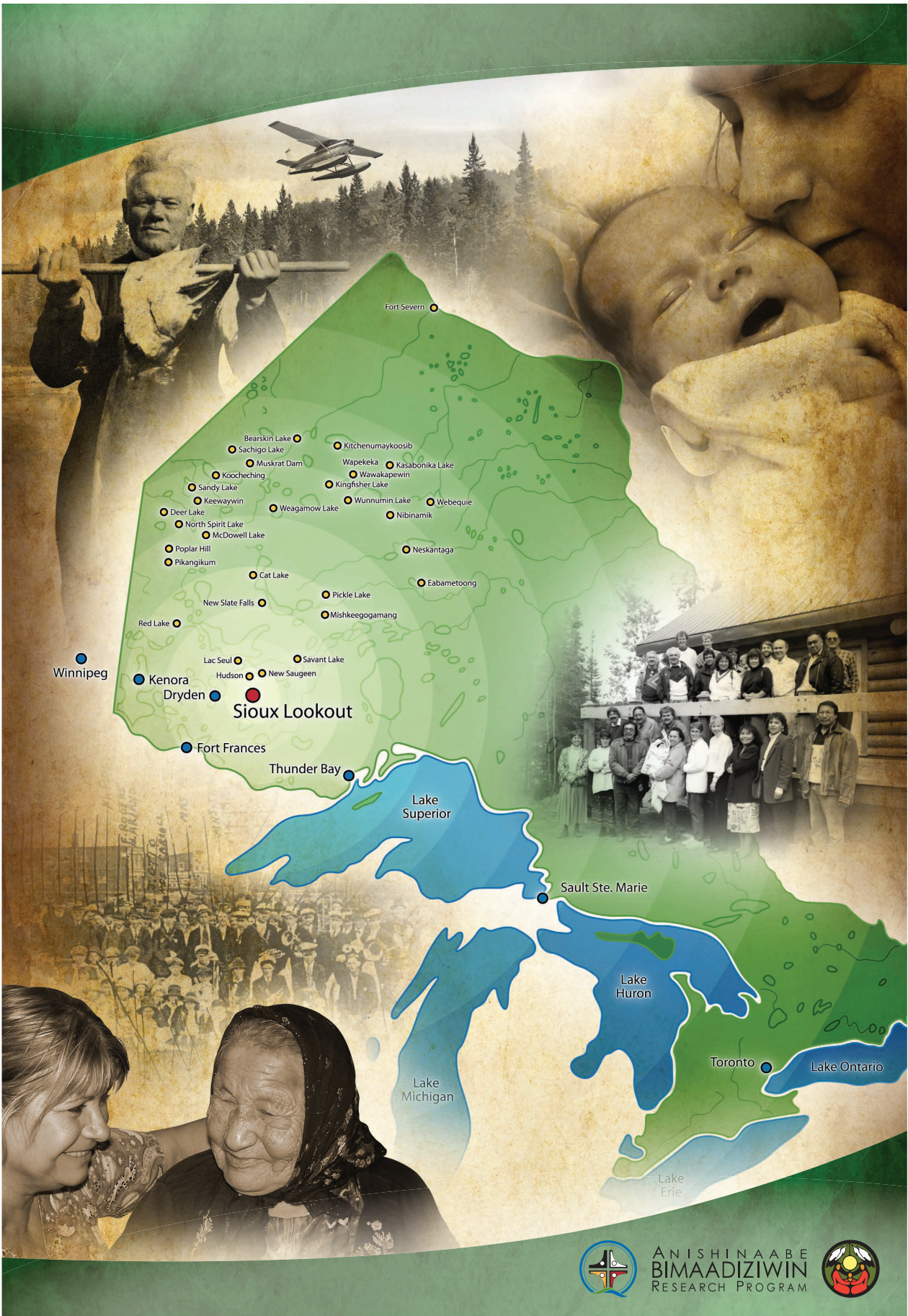
# **Anishnaabe Bimaadiziwin Research Summary 2007 - 2017**

*"10 years of community-based research"*

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## Executive Summary

Ten years of community-based research has taught us many lessons. The first is that community-based research must be built on respectful relationships which develop over time. Working in a cross-cultural environment also provides valuable research opportunities. Community-based research must be a good fit for both hospital program needs and community priorities.

We have learned that hospital or community program evaluation and research share many attributes and with careful planning, both can be accomplished with synergy. Additionally, over a dozen local university students, who had summer employment at the research program, have gone on to subsequent careers in nursing, medicine, pharmacy and law.

Respectful collaborations have developed between Anishnaabe Bimaadiziwin (AB) researchers, First Nations community leaders and other researchers. Multiple factors influence the path of community-based research which can only proceed at a pace that enables all participants to move forward together.



**Andrew Ross, Dr. Len Kelly, Dr. Sharren Madden, Gareth Ryan, Dr. Michael Kirlew**

Specifically, our research projects over the past ten years have taught us:

1. High rates of infectious diseases exist in our region.
2. We encounter high rates of complications and invasiveness of these common infections.
3. Unexplored association of disease frequency and social determinants of health exist.
4. Poor fit of urban-based guidelines and protocols with rural and remote disease management.
5. Need for development of regional and resource-specific clinical protocols.
6. Research program infrastructure would benefit from stable funding versus intermittent, project-specific funding.
7. Research is most useful when embedded in relevant clinical and social realities of communities, hospital and clinicians.
8. Program development has been positively influenced by research findings.
9. Respect must be the hallmark of successful community-based research.

The Anishnaabe Bimaadiziwin Research Program has had tangible hospital and community outcomes including:

- support of the interagency Acute Rheumatic Fever Working Group
- development of the Infectious Disease Telemedicine clinic
- support of community-based addiction treatment programs
- enhanced clinical understanding of MRSA, streptococcus and h. influenza infections
- support the development of the Integrated Pregnancy Program

## Background

Anishnaabe Bimaadiiwin (AB) Research Program was founded in 2013. It grew out of a strong research body of work already underway in Sioux Lookout since 2007. It responded to an increasing interest by both First Nations communities and hospital programs that research could facilitate documentation of disease prevalence, program gaps and evaluation, and health and social inequities.

The AB Research Program was founded as a partnership between Sioux Lookout Meno Ya Win Health Centre (SLMHC) and the Sioux Lookout First Nations Health Authority (SLFNHA). Working in Sioux Lookout and 31 regional First Nations, the Anishinaabe Bimaadiziwin Research Program initiates and collaborates on relevant clinical and community projects, as well as regional and cross-cultural research. Many AB researchers have academic appointments at the Northern Ontario School of Medicine and enjoy a positive working relationship with the Northern Ontario Academic Medicine Association.

### GOALS

- Assist communities and researchers to build strong and equitable partnerships on focused and common research interests
- Foster an environment of curiosity, inquiry and sharing
- Encourage research that is relevant, ethical, community-oriented and builds capacity
- Communicate with and share health research knowledge with communities and organizations

Representatives from SLFNHA and SLMHC formed a Research Advisory Group in 2012 which lead to the creation of the research program. The Advisory Group provides ongoing direction and enhances the research capacity already started by the Sioux Lookout Meno Ya Win Health Centre Research Review and Ethics Committee. This latter hospital committee includes community members and an elder and functions as a Research Ethics Board for research occurring in our hospital and communities. In 2013 the committee added an ethicist, lawyer and an epidemiologist for oversight of research activities and is Tri-Council Policy 2 compliant.



**Dr. Natalie Bocking and Cai-lei Matsumoto**

The Research Review and Ethics Committee is mandated to:

- ensure that health research carried out on the population served by the Sioux Lookout Meno Ya Win Health Centre (SLMHC) and the Sioux Lookout Zone is ethical and of scientific value.
- oversee that the data generated from the research and other forms of inquiry is of benefit to the consumers, their families, communities and health care providers.
- disseminate the resulting information in an ethical and sensitive manner with attention to culture and community.
- conform to the Tri-Council Policy Statement: Ethical Conduct for Research Involving Humans and to the National Aboriginal Health Organization principles of Ownership, Control, Access and Possession (OCAP)
- act at an arm's length of the review board for the SLMHC/SLFNHA AB Research Program.

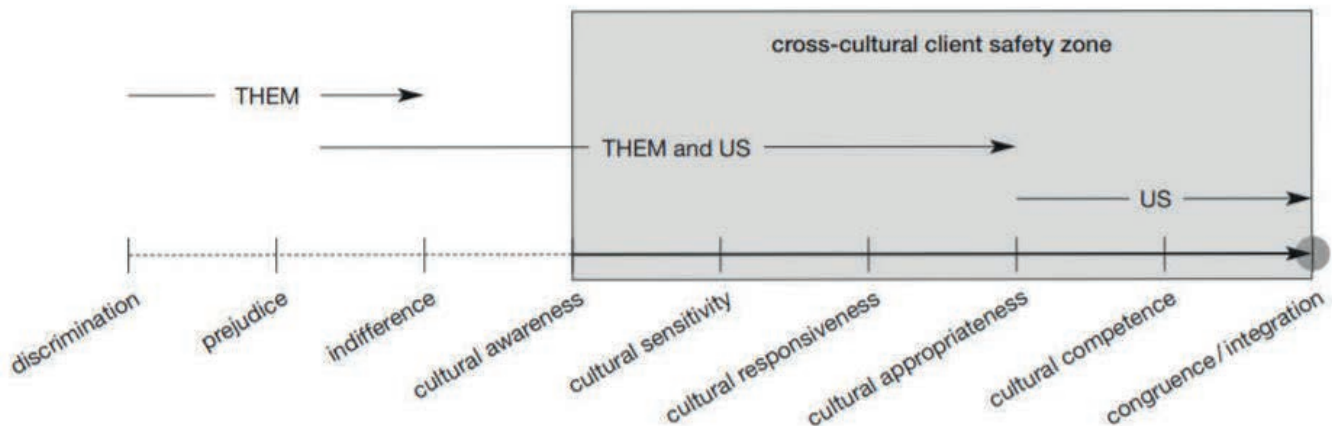
## Introduction

We will outline some important research findings arising from Anishnaabe Bimaadiziwin research studies from 2007 - 2017. Cross-cultural care has been a focus and we summarize the findings of 15 relevant studies. Infectious disease is also a major clinical priority and we present the findings of some of the research from over twenty published studies. Addiction is another hospital and community concern and we outline the results of 16 related peer reviewed research studies. Other studies which impact on rural health care are also outlined.

## Cross Cultural Care

Initially upon reviewing the literature on cross-cultural terminology, we found a variety of definitions and terms, which were confusing and unclear. The development and founding of the Sioux Lookout Meno Ya Win Health Centre (SLMHC) was a stimulus for extensive exploration of cross cultural health care issues and terminology. In a landmark paper by Roger Walker (then CEO) and Helen Cromarty (Special Advisor on First Nations Health), published in the *Journal of Aboriginal Health* in 2006, we organized the various terms in a sensible fashion, documenting the journey from 'them to us' (Figure 1).<sup>1</sup> This diagram has often been reproduced in subsequent scholarly articles and textbooks.<sup>2-4</sup>

Figure1. Cross-Cultural Client Safety Zone



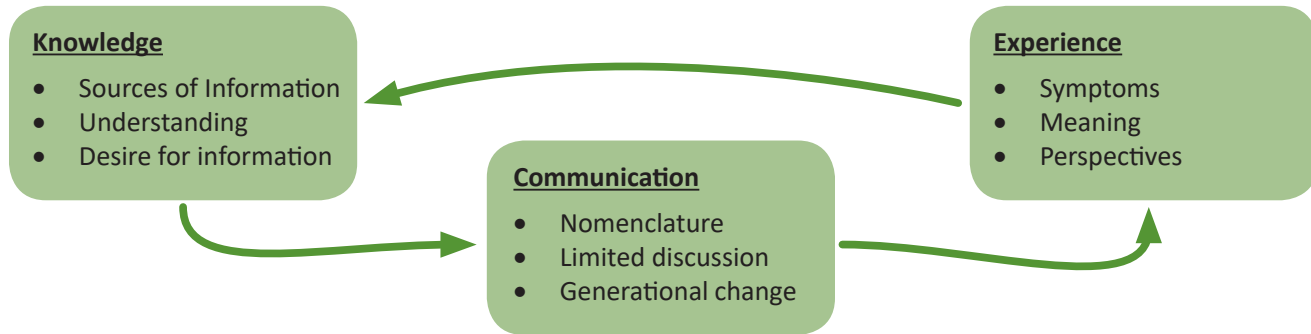
Following this review, we explored perspectives on prejudice in medicine in an editorial in the *Canadian Family Physician*, which documented blatant acts of prejudice or racism are only a small part of prejudice spectrum and more that subtle attitudinal and cognitive processes are more commonly involved in the health disparities in Canada.<sup>5</sup> As the hospital began to develop new services, several research papers subsequently described them and evaluated their efficacy. A 2009 paper on Achieving cultural safety in Aboriginal health services, published in the journal, *Diversity in Health and Care*, described how cross cultural safety encompassed a broader set of constructs than conventional patient safety theory and practice.<sup>3</sup> Cultural safety requires that the perspectives and world views of the people represented must be integrated into all facets of service provision.<sup>3</sup> Other AB cross cultural papers explored barriers and performance indicators for cultural safety, translating research into practice in the institutional role of traditional healing and medical interpreters, the enhancement of understanding of First Nations palliative care and the development of supportive workplace and educational environments for Aboriginal nurses.<sup>1-3,6</sup>

Cross cultural research also explored specific health experiences. A qualitative study by Anishnaabe Bimaadiziwin (AB) researchers examined the experience of First Nations women of menopause.<sup>7</sup> They discovered that there was no name for menopause in traditional languages and that women discussed



the topic with hesitancy and may require health care providers to initiate such discussions (Figure 2). They further documented the 'Circle of Life' described by women, which began with menarche and proceeded through childbearing years to menopause. The AB researchers documented that in the absence of accurate clinical information, inaccurate 'folk' information will fill the void and that there was also a generational change which facilitated easier discussion of menopause.<sup>7</sup> Other qualitative studies included traditional birthing practices, palliative care and the experience of women away from home for delivery of their children.<sup>8-10</sup>

Figure 2. Themes of First Nations Menopause Perspectives and Experiences



Additional cross cultural understanding arose from AB-associated researchers and the community of Sachigo Lake.<sup>11-15</sup> In 2011, Drs VanderBurgh and Orkin, NOSM Family Medicine graduates who did placements in Sioux Lookout during their residency program collaborated with Jackson Beardy, the community Health Director. They responded to a community invitation to lead a needs assessment and subsequent training course for pre-hospital care in this remote community. It resulted in the development of a successful ongoing training program designed to address identified clinical and community needs for emergency care 'where there are no paramedics.'<sup>11-15</sup>



Dr. Dave VanderBurgh with members of Sachigo Lake - pre-hospital care training.



## Infectious Disease

Anishnaabe Bimaadiziwin researchers have published over 20 peer-reviewed articles on infectious disease in the past 10 years. Much of our work has involved describing illnesses rarely seen elsewhere in Canada, or diseases with more virulence than expected.

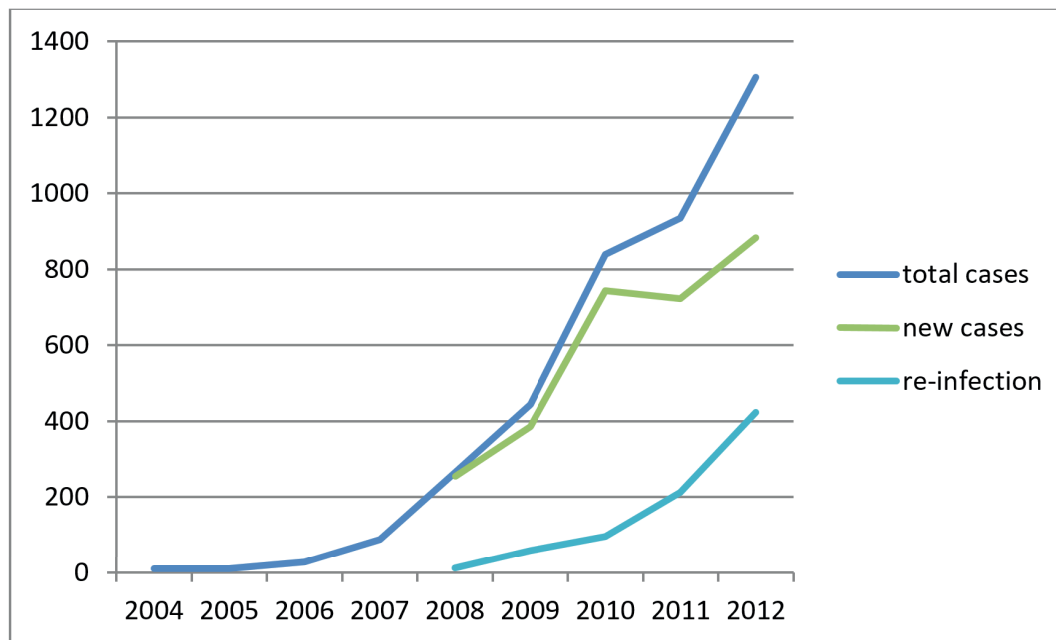
Much of our work has involved describing illnesses related to two common bacteria: *Staphylococcus aureus*<sup>16-19</sup> and Group A Streptococcus (GAS)<sup>20-24</sup>. In the SLMHC catchment population, we are experiencing severe and invasive disease from strains of these bacteria. Other typically rare bacteria, such as Hemophyllis influenza non-type A, have also been described and are the object of ongoing research studies.<sup>25,26</sup>

### Staphylococcus aureus

In 2013 we documented an increasing 10-year incidence of community-associated methicillin-resistant *Staphylococcus aureus* (CA-MRSA) in the *Canadian Journal of Rural Medicine*.<sup>17</sup> At that point it was responsible for 58% of *staphylococcus aureus* burden of infections (Figure 3). This is one of the highest incidence rates of this bacteria in Canada, typically associated with skin and soft tissue infections.

One year later we further enumerated the presence of serious clinical disease from this bacterium: 'invasive' CA-MRSA. In a case series published in the *Journal of Medical Microbiologists and Infectious Disease* we described bacteremias in seven patients, rarely seen, even in large Canadian urban centres.<sup>19</sup> This knowledge can allow regional health care providers to adapt their clinical expectations and treatment include coverage for this bacteria in cases of unknown serious infections. In collaboration with the SLMHC and SLFNHA, co-sponsors of the AB Research Program, and infectious disease consultants from University of Ottawa, we are presently initiating a broad study to document the burden of illness from CA-MRSA and its economic impact on regional health care.

FIGURE 3. Number of new cases, re-infections and total cases of MRSA infections at SLMHC



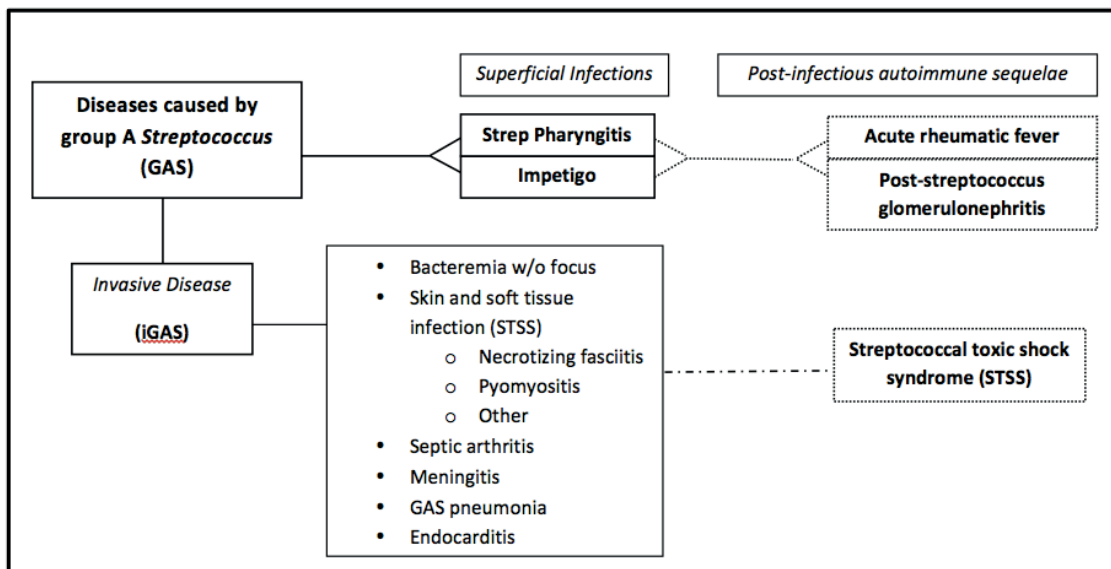
(source: *Can J Infect Dis Med Microbiology*. 2013;24(2):e42-44)

## Group A streptococcus

Several diseases can be caused by GAS. Some are due to active strep infections and others are autoimmune sequelae (Figure 4). GAS can present as a relatively common throat infection or more serious invasive disease. A community and hospital study by Dr Schreiber (U of O) and Dr Bocking (SLFNHA) is underway to document the carrier rates in throat infections in healthy children in the SLMHC catchment population. Swabs from the hospital and nursing station settings are being examined to establish streptococcal prevalence. Hospital based swabs are being done, with parental consent, on naso-pharyngeal and endotracheal tubes used routinely in dental anesthesia in the SLMHC operating room.

This is being done concurrently with another carrier status study on an unrelated bacteria, Hemophyllis Influenza, by Drs Nix and Ulanova from the Northern Ontario School of Medicine (NOSM), Thunder Bay. This study will give valuable information concerning the prevalence of each bacteria in the region and can provide valuable information to work being done on the development of a Hemophyllis Influenza type A vaccine.<sup>25,26</sup>

Figure 4. Diseases arising from Group A streptococcal infections



## Acute Rheumatic Fever

One of the immune-mediated consequences of a strep throat is acute rheumatic fever (ARF). In 2009 AB researchers published a small series of cases and a comprehensive literature review in the *Canadian Family Physician*.<sup>20</sup> In 2015, the incidence of the disease had grown and a larger case series was documented in the same journal.<sup>21</sup> This latter article documented the increasingly high rate of acute rheumatic fever. This disease recognition led to the development of the ARF Working Group, a collaboration between Health Canada, local clinicians, infectious disease specialists and AB researchers. This working group is an example of synergy between clinical program development, inter-agency cooperation and focused research. This study was awarded Best Original Research article of 2015 by the *College of Family Physicians of Canada*. Upon publication, it was accompanied by a thoughtful commentary by Dr Guilfoyle, "Out of Sight, Out of Mind".<sup>22</sup> Findings of this research have been presented at SLMHC Grand Rounds and at regional and international conferences and highlighted on the CBC National News in 2015. The ARF working group continues to monitor affected patients and ensures their long term follow up. These patients are now followed up through the recently developed Telemedicine Infectious Disease Clinic.

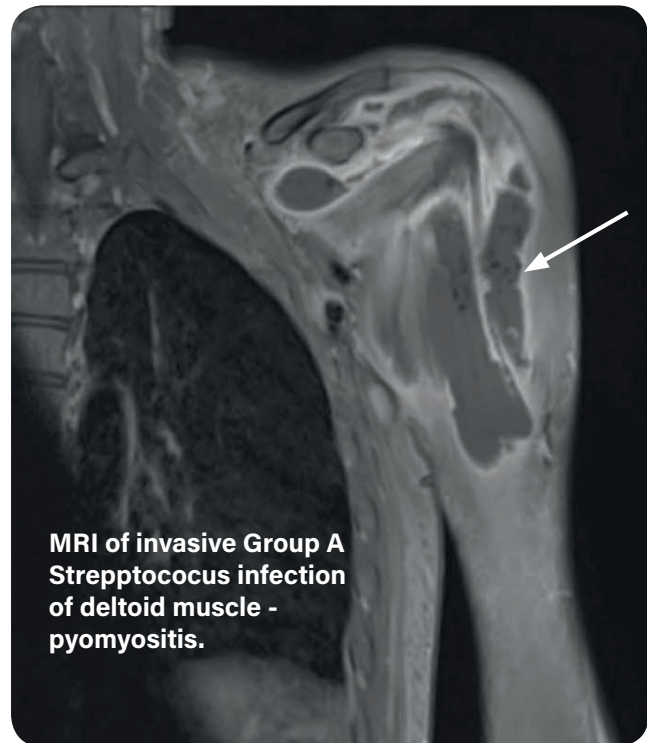
### Post-streptococcal glomerulonephritis

Glomerulonephritis is another post streptococcal autoimmune disease that affects renal function. Until we documented the results of a six-year retrospective study of this disease, the incidence in any region of Canada was unknown.<sup>23</sup> We showed an incidence three times the known rates in Australia in our study, published in the *Journal of Medical Microbiologist and Infectious Disease* in 2016. Documenting such a high incidence will allow clinicians to recognize the prevalence of this disease in our catchment population and may assist in timely diagnosis and treatment.

### Invasive Group A streptococcus

Diseases directly caused by invasive GAS (iGAS) has also been the subject of several studies at AB.<sup>20-24</sup> Invasive GAS infections, such as a strep infection in the blood or 'bacteremia', are the subject of several new studies in 2016/2017. One study by Dr Bocking in collaboration with researchers at Mt. Sinai (U of T) examines the high rates of iGAS in our population and included genetic typing of the relevant strains. They found that skin-related strains of GAS were often responsible for these invasive infections, which can be life-threatening. A second iGAS study by Dr Kelly examined the clinical outcomes of patients and calculated the incidence in the SLMHC catchment population. These studies add important background information to the developing knowledge around streptococcal infections in our region. These studies may help us understand why we see so much strep-related disease. But there are more pieces of the puzzle. Do we experience more virulence because of the social determinants of health?<sup>27,28</sup>

Documenting and treating high rates of infectious disease has produced a fruitful collaboration with the University of Ottawa department of Infectious Disease. Drs Schreiber and Saginur have been instrumental in research design and publication and their participation has led to the development of a clinical service, the Telemedicine Infectious Disease Clinic. This clinic has enabled access to infectious disease consultations in a timely fashion and minimized patient travel. In fact, many of the consultations and follow ups can be undertaken from the patients' home community, eliminating the need for any travel. We published a description of this unique clinic in 2015 in the *Telemedicine and Telehealth Journal*, which documented over 100 infectious disease consultations in the clinic's first year.<sup>29</sup>



## **Social Determinants of Health**

In documenting high rates of infectious disease from both CA-MRSA and GAS, authors often allude to a possible association to social determinants of health: inadequate or overcrowded housing and limited access to clean water in many First Nations communities. Despite the logic of such an association, very little research has been conducted on the possible association between infections and inadequate housing and clean water access. Consequently, AB researchers and SLFNHA have begun a two-year



collaboration with Dr Kovesi, (U of O) and Children's Hospital of Eastern Ontario (CHEO). This study will examine the association of housing, water and indoor air quality on rates of respiratory and skin infections in children under three years of age. This two-year study also partners with Health Canada and was approved by the Chief's Committee on Health in 2015 to commence in early 2017. This study may give us valuable insights on the connection between living conditions and children's health, specifically respiratory and skin disorders.

This project follows two earlier studies at AB, which documented high rates of pediatric and adult admissions for pneumonia.<sup>30-31</sup> In 2013, Drs Kelly and Kirlew collaborated with Dr Kovesi to calculate the rates of admission to hospital for children less than one year of age for viral pneumonias. This project was published in *Pediatric Infectious Disease*.<sup>28</sup> In particular, admission for such viral pneumonias is considered to be associated with crowded housing conditions which contribute to the spread of viruses. We documented rates of viral pneumonia that were two to three times the Canadian average. A year later a study at AB looked at all pneumonias (viral and bacterial) admitted to SLMHC and found high rates for both children and adults and low rates of adult pneumococcal immunization, particularly in the elderly (Figure 5).<sup>29</sup>

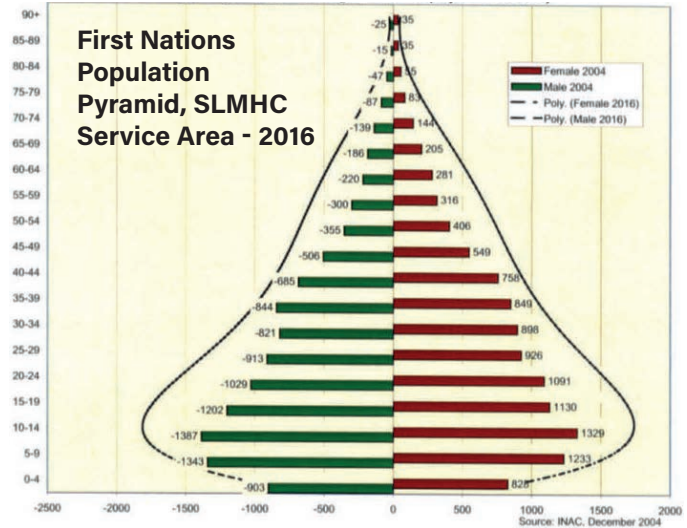
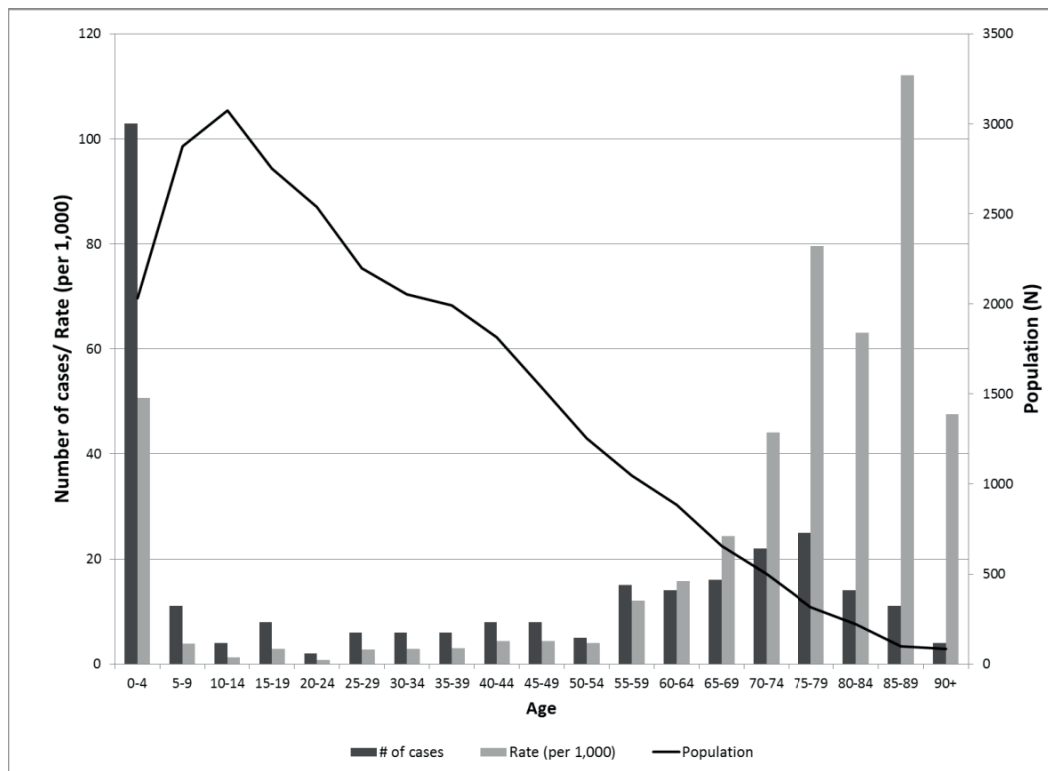


Figure 5. The distribution of cases and incidence rates of community-acquired pneumonia admitted to the Sioux Lookout Meno Ya Win Health Centre between January 2007 and December 2009 by age



(source: Canadian Journal of Rural Medicine. 2014;19(4):135-141)

Another disease incidence which may be affected by inadequate housing, overcrowding and limited access to clean water include high rates of helicobacter pylori, the accepted cause of peptic ulcer disease.<sup>33</sup> Published in 2013 in *the Canadian Family Physician*, we documented high rates of h. pylori in gastric biopsies and concluded that treatment before testing was indicated in our region due to high infection rates and unavailability of h. pylori breath testing in rural and remote communities. This approach differs from typical guidelines developed in urban centres. Another recent study describes high rates of newly reported Hepatitis C infections in SLFNHA communities.<sup>34</sup> We note an incidence many times the provincial rate in our catchment area which appears related to high rates of opioid use disorder.

## Maternal Child Care- the development of the Integrated Pregnancy Program (IPP)

The safe delivery of neonates in this region has always been an important clinical and social initiative of the SLMHC and the communities it serves.

Our rural obstetrics program, with all prenatal and intrapartum care (including C-sections) provided by generalists in an interdisciplinary team and a cross-cultural setting, has always been unique. In 2009 we documented a program description in the *Canadian Journal of Rural Medicine*.<sup>34</sup> At the same time we published a literature review of all Canadian rural and Aboriginal obstetrics programs.<sup>35</sup>

AB researchers later collaborated with the Northern Ontario School of Medicine and the University of Ottawa residency programs in Obstetrics and Gynecology. We published an *Aboriginal Maternity Care Resourcebook* an annotated bibliography for culturally appropriate maternity care which is in use in several Obstetrics and Gynecology residency programs across Canada.<sup>36</sup>



**Dr. Lianne Gerber Finn, Connie Lennox, Iris Wujanz, Dr. Celia Sprague, Dr Meghan Bollinger, Sheila Suprovich, Dr Joseph Dooley.**

Opioid use disorder was first identified as a significant clinical and social issue in 2007, including use in pregnant women. The SLMHC obstetrics program responded with the development of the Integrated Pregnancy Program (IPP), which integrated whole family care, addictions medicine, and pre and post-natal care in one setting. Anisnaabe Bimaadiziwin documented the work of this program with multiple publications on the topic of addiction in pregnancy.<sup>37-43</sup>

Figure 6. Annual incidence of prenatal opioid exposure (illicit and opioid agonist therapy) as a percentage of all live births from 2009-2015. (OAT= Opioid Agonist Therapy).

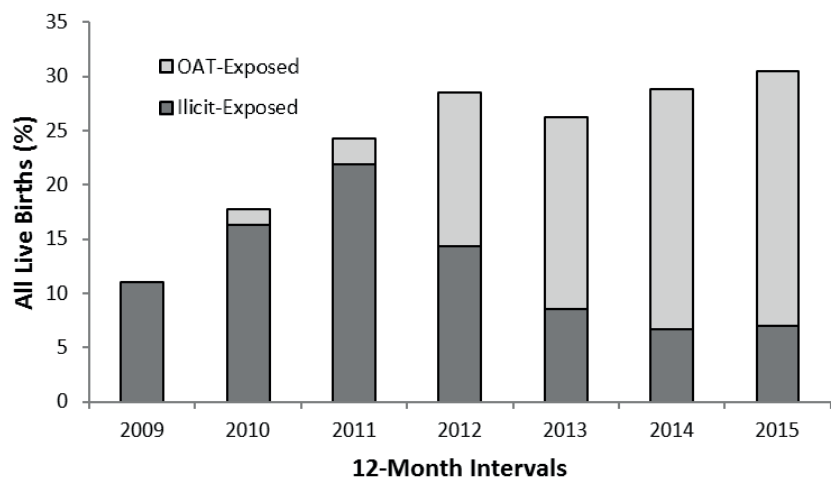
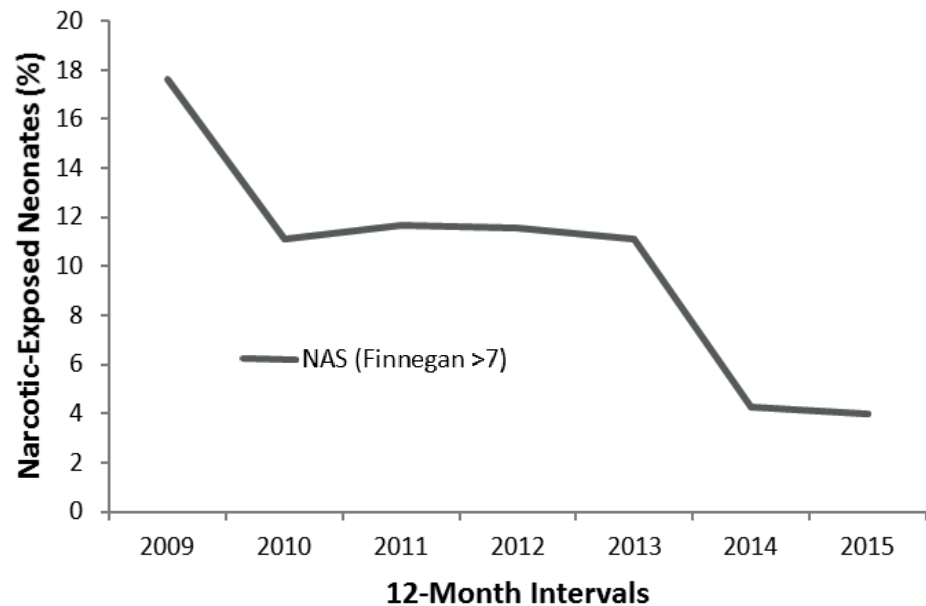


Figure 7. Annual incidence of NAS as a percentage of opioid-exposed neonates from 2009-2015. (NAS= Neonatal Abstinence Syndrome)



Our high rates of narcotic exposure during pregnancy, which reached 30% in 2012-2015 (Figure 6), have been documented and a database established for ongoing surveillance.<sup>37-43</sup> We also documented a decreasing rate of neonatal abstinence syndrome (NAS) requiring treatment (Finnegan score >7). This declining NAS occurrence rate may be due in part to innovative clinical programming, which includes opioid agonist therapy (OAT) and tapering of maternal opioid dosing later in pregnancy (Figure 7).

Several AB papers have shown that the innovations of the IPP are unique in Canada: an integrated pregnancy program with interdisciplinary prenatal care, addiction treatment and post-partum maternal and child care – all delivered in one setting.<sup>37-43</sup> Even male partners are included in the circle of care at the IPP. One of the innovations is the patient-centered tapering of opioid agonist doses in the third trimester.<sup>38</sup> This innovation has been done safely with good outcomes which we believe have led to the lowering of rates of NAS.<sup>39</sup>

The other innovation has been the safe use of combination buprenorphine + naloxone drug (Suboxone®) for opioid agonist therapy during pregnancy.<sup>39,40</sup> In collaboration with Dr. Jumah, a Thunder Bay obstetrician and researcher, we recently published a retrospective cohort of 62 patients exposed to buprenorphine/naloxone during pregnancy in the *BMJ OPEN*.<sup>40</sup> This is the largest cohort reported in the literature and demonstrated the safe and practical use of this medication in pregnancy.<sup>41</sup> These findings built on an earlier Sioux Lookout study by Dr Dooley of 30 patients published in the *Canadian Family Physician* in 2014.<sup>39</sup> In both studies, no difference was found in outcomes for mother and infants exposed to buprenorphine + naloxone compared to women with no opioid exposure. Women who continued buprenorphine + naloxone maintenance therapy had better outcomes than women who continued to use illicit opioids during pregnancy. These studies provide evidence for the safety for buprenorphine + naloxone in pregnancy. This may increase access to treatment for some women with addiction issues in pregnancy. Other constituencies are also now adopting the use of this combination drug during pregnancy for safe and effective opioid agonist therapy.<sup>43</sup>

Several additional studies documenting declining rates of NAS and a novel Sioux Lookout protocol for prenatal screening of opioid exposed pregnancies are underway.<sup>44,45</sup> We believe we are in the forefront of patient-centered innovative addiction, prenatal and post-partum care of the mother and child. Beyond maternity care, addiction treatment has been the special focus of hospital management, community mobilization and innovative programming initiatives.



## Addiction Medicine

In 2009 Nishinaawbe Aski Nation declared a regional 'epidemic' of opioid use disorder. AB research has attempted to follow subsequent program development, clinical experience and outcomes in both hospital and community programs which have been developed in response to this issue.<sup>46-53</sup>

Initially, we documented the development and one year assessment of a five bed inpatient withdrawal hospital program, which showed its short stays were as effective as longer 30-60 day programs.<sup>46,47</sup> Unfortunately relapse rates were high, up to 52% at two weeks and 70% at six months.<sup>46,47</sup> However, remote community-based programs experienced more positive outcomes. In two papers in collaboration with the chiefs and health directors of six First Nations communities we documented 41% of adult (20-50) community members were receiving treatment for opioid use disorder in one First Nation community in 2013.<sup>48</sup> Following the initiation of community-based opioid agonist therapy and aftercare programs, we documented significant positive community-wide changes, including: a 58% drop in child protective cases, a 61% drop in police criminal charges and a 33% increase in school attendance.<sup>48</sup> A second follow up paper was a partnership with Shibogama First Nations Council and several other First Nations communities. It documented that these community-based programs had very high retention rates: 83.5% at six months and 78% at one year.<sup>49</sup> Despite often being under-resourced, these community-based and culturally appropriate aftercare programs are very successful.<sup>49</sup>



The management of opioid use disorder has been the subject of 16 peer-reviewed publications at AB. Beyond the addiction-in-pregnancy papers, AB researchers have assisted clinicians in papers outlining the assessment and treatment of addiction, particularly with the use of buprenorphine/naloxone.<sup>48-50</sup> A recent clinical innovation paper soon to be published in the *Canadian Family Physician* by Dr Tillbrook demonstrates that diabetic patients dealing with addiction achieve better glycemic control once enrolled in opioid agonist therapy with buprenorphine/naloxone. These patients experience better diabetes control, including a beneficial decline in their A1c of over 1%.<sup>50</sup>

We also collaborated with a NOSM Family Medicine resident, Dr Main, in a systematic review of outpatient use of buprenorphine/naloxone, published in the *Canadian Journal of Addiction* in 2016.<sup>51</sup> It reviewed the quality of the literature on the successful outpatient use of buprenorphine/naloxone as a safe and well-tolerated alternative to methadone.<sup>51</sup> Another recent AB study documented the burden of mental health and addiction (MHA) workload presenting to the SLMHC emergency department (ED).<sup>52</sup> MHA diagnoses are becoming the commonest reason for patients to come to the ED, which is unique in Canadian hospitals.

Since Sioux Lookout clinicians now have years of experience prescribing buprenorphine/naloxone, a step by step guideline for its initiation by Dr Robinson is the subject of an upcoming 2017 paper in the *Canadian Journal of Rural Medicine*.<sup>53</sup> It follows the successful SLFNHA-published *Physician Prescribing Guideline for Buprenorphine/naloxone* by Dr Robinson. AB researchers assisted with the editing and publishing of this important how-to guide for this relatively new medication, which gives instructions and an overview for its prescribing.<sup>54</sup> It has been distributed to regional nursing stations and clinicians in the Sioux Lookout region.

## Summary

This report summarizes many of the results of research studies performed at Anishnaabe Bimaadiziwin Research Program in Sioux Lookout, Northwest Ontario. These studies contribute to what we know about social and clinical issues in our region. These community-based research studies can be accessed online at [www.slmhc.on.ca/research](http://www.slmhc.on.ca/research), in Research Compilations #1-3. Each compilation covers 2-3 years of scholarly work. Our fourth Research Compilation is due in Dec 2017.

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