Indigenous Services Canada | Services aux Autochtones Canada

Investigation of anemia levels in the pre and postnatal population on Southern Saskatchewan First Nation Communities

Objectives

- Who we are
- What we did
- What we found
- Where are we going

Who we are:

- First Nation and Inuit Health Branch Saskatchewan Region
- Catherine Miller RN, BSN,MN

Zone Nursing Officer

South Service Center

Fort Qu Appelle Saskatchewan

- Eighteen FNIHB service providers
- Seven Transferred Service providers

Twenty Five Southern First Nation Communities

20/ 25 communities participated

All 20 communities consented to include their data in this presentation

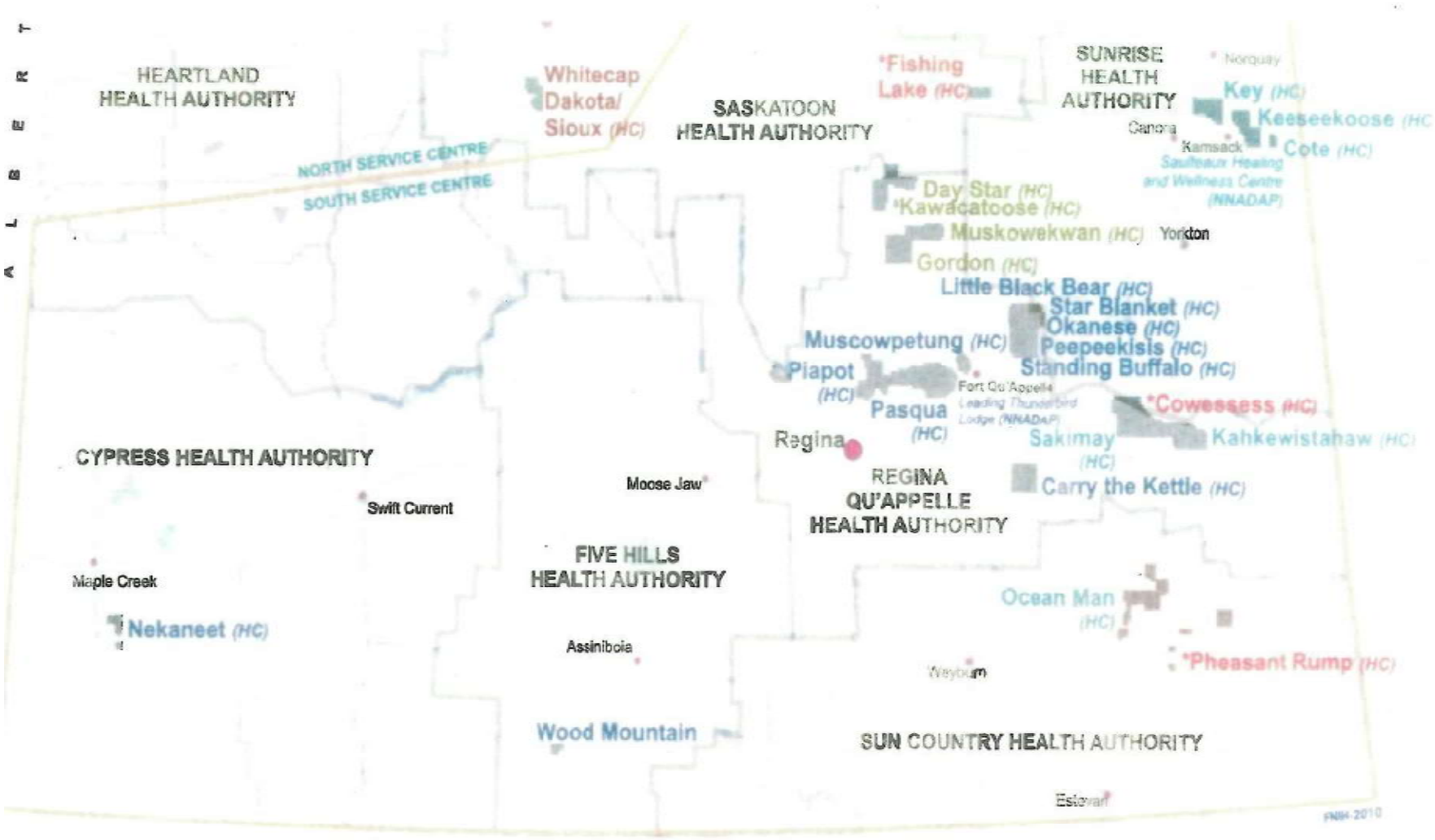
Thanks to Cote, Daystar, Cowessess, Fishing Lake, George Gordon, Kahkewistahaw, Muscowpetung, Muskowekwan, Nekaneet, Ochapowace, Peepeekeesis, Pasqua, Piapot, Whitebear, Carry the Kettle Ocean Man,Pheasant Rump, Sakimay,Key, Standing Buffalo.

OCAP: Principle followed

Assembly of First Nations Definition

The First Nations Principles of OCAP™ (ownership, *control*, access, and possession) means that First Nations *control* data collection processes in their communities. First Nations own, protect and *control* how their information is used.

https://www.afn.ca/uploads/files/nihbforum/info_and_privacy_doc-ocap.pd


ALBERT
HEARTLAND HEALTH AUTHORITY
NORTH SERVICE CENTRE
SOUTH SERVICE CENTRE
Whitecap Dakota/ Sioux (HC)
SASKATOON HEALTH AUTHORITY
*Fishing Lake (HC)
SUNRISE HEALTH AUTHORITY
Norquay
Key (HC)
Keeseekoose (HC
Canora
Kamsack
Cote (HC)
Saulteaux Healing and Wellness Centre (NNADAP)
Day Star (HC)
*Kawacatoose (HC)
Muskowekwan (HC)
Yorkton
Gordon (HC)
Little Black Bear (HC)
Star Blanket (HC)
Okanese (HC)
Muscowpetung (HC)
Peepeekisis (HC)
Standing Buffalo (HC)
Piapot (HC)
Fort Qu'Appelle
Leading Thunderbird Lodge (NNADAP)
Pasqua (HC)
*Cowessess (HC)
Regina
Sakimay (HC)
Kahkewistahaw (HC)
CYPRESS HEALTH AUTHORITY
Moose Jaw
REGINA QU'APPELLE HEALTH AUTHORITY
Carry the Kette (HC)
Swift Current
FIVE HILLS HEALTH AUTHORITY
Maple Creek
Ocean Man (HC)
Nekaneet (HC)
Assiniboia
*Pheasant Rump (HC)
Weyburn
Wood Mountain
SUN COUNTRY HEALTH AUTHORITY
Estevan
FNIH 2010

What We Did

- FNIHB 2012 Maternal Child Health report with incomplete data found approximately 36% of on reserve postpartum population demonstrated low hemoglobin levels

  - Initiated a project to determine the extent of low hemoglobin within the pre and postnatal population and to develop future interventions

- WHO acknowledges low hemoglobin as a global public health problem
  - Estimates 50% of pregnant women suffer from anemia (2001)
- Lots of Studies: -Selective screening, Causes of anemia, Rates 10%, 22%

Low hemoglobin a Problem

- "Anemic mothers are less responsive and less controlling of their infants and infants of anemic mothers are developmentally delayed 9 months after birth."
- "Best way to avoid PP anemia is to implement measures to avoid iron deficiency during pregnancy

• Miliman,N.(2015) Postpartum Anemia-Still a Major Problem on a Global Scale.J preg Child Health 2:e122.doi:10.4172/2376-127X.1000e122.

Our Project

- Descriptive design
- Population, all pre and post natal women who reside on Southern First Nation Communities N= 219 prenatal N=143 postnatal
- Ethical considerations: Provided health education and referrals
- Used WHO definition of anemia

Pregnant Women	110 or higher	100-109	70-99	Lower Than 70

- Developed a Hemoglobin Project Resource Binder
- Developed Data collection sheets: Submitted three times May , Sept, Dec
- Data Analysis: Calculated Simple percentages

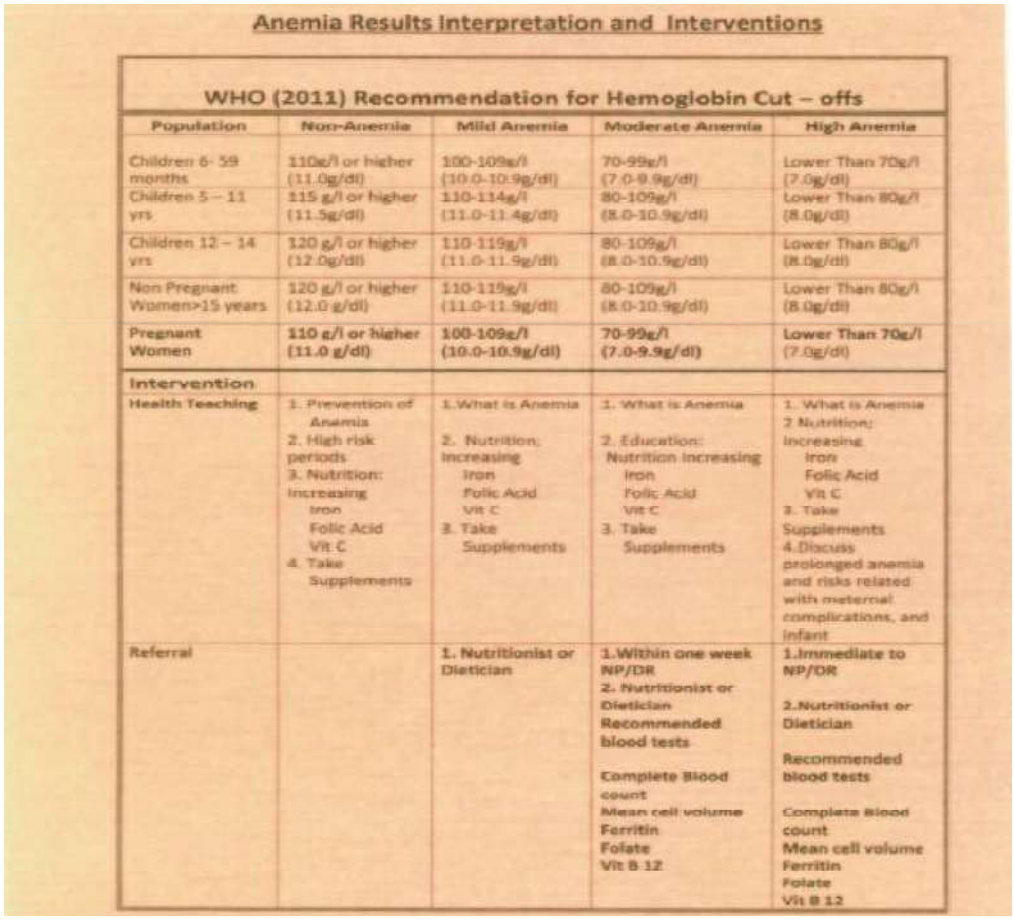
Method and Procedures

- Purchased Hemoglobin meters for all 25 communities
  - Hemocues 23000.00 Ongoing cost 2.80 per test
- Provided training to all CHN's
- Encouraged CHNs to complete the Hemocue on line training
  - 23/25 completed the training and now an ongoing requirement
- Provided Hemoglobin Project Recource Binders to all CHNs
- Binder Includes:
  - Outline of the project
  - Who and when to test
  - Description of testing procedure
  - Interpretation of the results and interventions
  - **Hemoglobin client record**
  - Hemoglobin testing sheet (data collection)

Hemoglobin Project Binder contd

Resources : Iron Intake, Prenatal Nutritional Guidelines for Health care Professionals, Key teaching for low hemoglobin and pregnancy and Anemia Guidelines for Family Medicine

- Clinical Nurse Specialist developed the Anemia Results Interpretation and Intervention sheet and the Key teaching for low hemoglobin and pregnancy

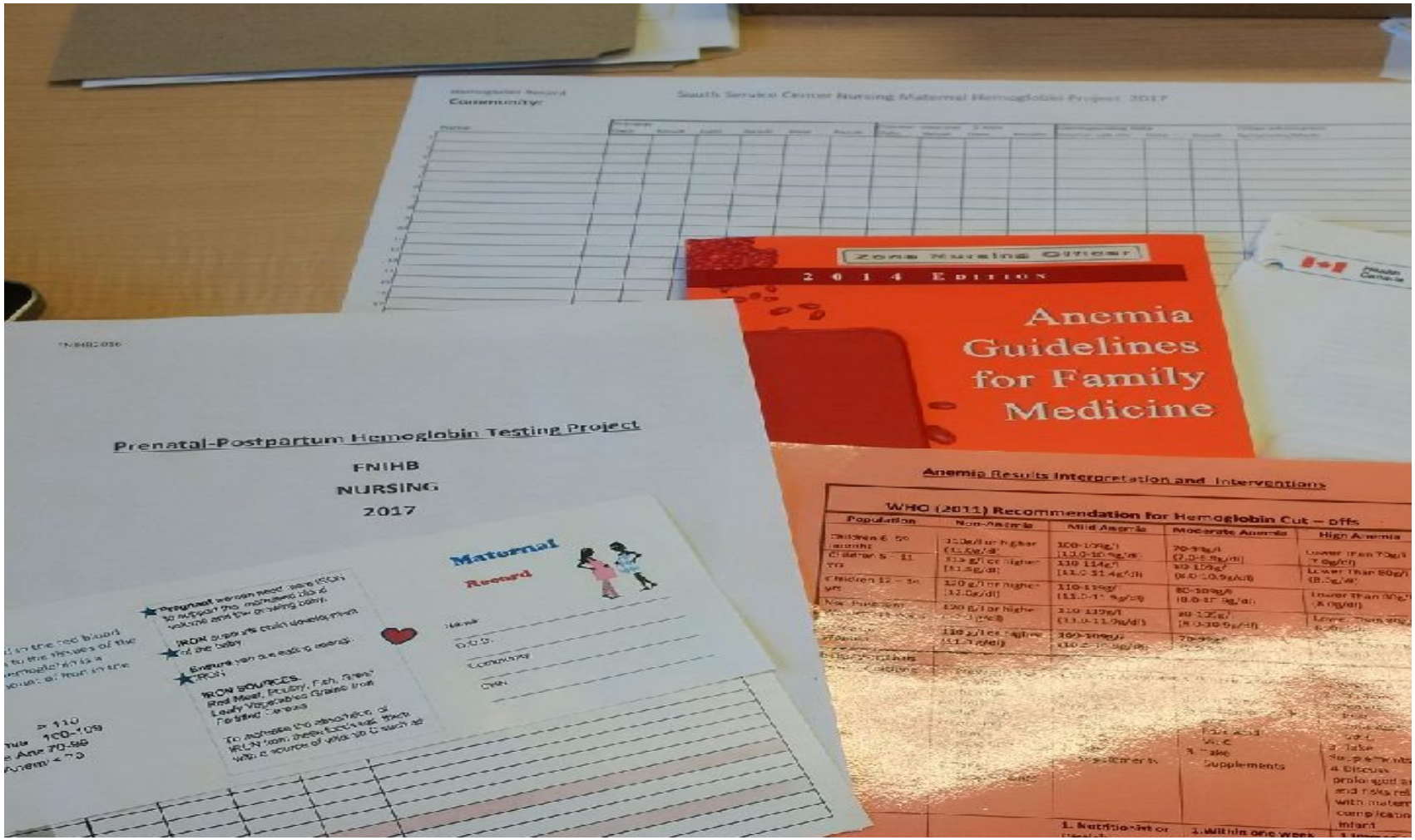


Anemia Results Interpretation and Interventions

WHO (2011) Recommendation for Hemoglobin Cut – offs

Population	Non-Anemia	Mild Anemia	Moderate Anemia	High Anemia
Children 6- 59 months	110g/l or higher (11.0g/dl)	100-109g/l (10.0-10.9g/dl)	70-99g/l (7.0-9.9g/dl)	Lower Than 70g/l (7.0g/dl)
Children 5 – 11 yrs	115 g/l or higher (11.5g/dl)	110-114g/l (11.0-11.4g/dl)	80-109g/l (8.0-10.9g/dl)	Lower Than 80g/l (8.0g/dl)
Children 12 – 14 yrs	120 g/l or higher (12.0g/dl)	110-119g/l (11.0-11.9g/dl)	80-109g/l (8.0-10.9g/dl)	Lower Than 80g/l (8.0g/dl)
Non Pregnant Women>15 years	120 g/l or higher (12.0 g/dl)	110-119g/l (11.0-11.9g/dl)	80-109g/l (8.0-10.9g/dl)	Lower Than 80g/l (8.0g/dl)
Pregnant Women	**110 g/l or higher (11.0 g/dl)**	**100-109g/l (10.0-10.9g/dl)**	**70-99g/l (7.0-9.9g/dl)**	**Lower Than 70g/l** (7.0g/dl)
Intervention				
Health Teaching	1. Prevention of Anemia 2. High risk periods 3. Nutrition: Increasing Iron Folic Acid Vit C 4. Take Supplements	1.What is Anemia 2. Nutrition: Increasing Iron Folic Acid Vit C 3. Take Supplements	1. What is Anemia 2. Education: Nutrition Increasing Iron Folic Acid Vit C 3. Take Supplements	1. What is Anemia 2 Nutrition: Increasing Iron Folic Acid Vit C 3. Take Supplements 4.Discuss prolonged anemia and risks related with maternal complications, and infant
Referral		**1. Nutritionist or Dietician**	**1.Within one week NP/DR 2. Nutritionist or Dietician Recommended blood tests Complete Blood count Mean cell volume Ferritin Folate Vit B 12**	**1.Immediate to NP/DR 2.Nutritionist or Dietician Recommended blood tests Complete Blood count Mean cell volume Ferritin Folate Vit B 12**

Hemoglobin Project Binder



Method and Procedures contd

- Data Collected by community three times
- Entered the date on a Microsoft excel spreadsheet
- calculated sums and percentages of anemia according to WHO definitions of anemia

What We Found

- **Results:**
- **20/25 (80%)communities participated**
- **Prenatal**

  258 clients identified

  - **219 clients tested (80.6%)**
    - **63% non anemic**
    - **25% Mild anemia**
    - **12% Moderate anemia (37%)**

    104 or 41% tested twice

    42 or 16% tested three times

Results contd

- **Postnatal**
  - 149 clients identified
  - 143 clients were tested (96%)
    - 48% non anemic
    - 49% demonstrated anemia
      - 25% mild anemia
      - 24% moderate anemia
      - .02 severe anemia

      41 or 28% tested twice

What else we found

- The Community Health Nurses liked the hemocues
  - they test for blood sugar at the same time.

" found testing was helpful for the pre and postnatal clients. It helped to reinforce the importance of completing their initial lab work, taking their vitamins or iron as prescribed"

"It assists with teaching opportunity for use of medications as well as dietary changes"

"Dieticians have had Iron topics at their Cooking classes after I test the prenatals hemoglobin"

CHN story: Andrea Brown

Hemoglobin Testing on Piapot First Nation

A Community Health Nurse's Story

Clinic Goal

Monthly prenatal assessments with CHN

- Early detection
- Data trends related to maternal and fetal health
- Teaching emphasis on iron

Teen Prenatal

CHN's nursing care

- Liaising with Ob/Gyn
- Streamlining care
- Referrals to other disciplines
- Delivering care from a systems perspective

… Success! Adequate, stable iron levels

Prenatal CHN Care

Promoting health and building capacity

- Teaching on iron's effects on maternal health and fetal development
- Empowering clients to become proactive
- Leveraging expertise from other disciples to create circles of support

Where are we Going

- Standard Hemoglobin Testing has been incorporated into the CHN practice.
  - Looking at best time to test however, client presentation is not always easy to predict.
  - (18 percent of prenatal not seen therefore need to find strategies to increase all clients)

- Community Wide Iron deficiency anemia awareness campaigns
- Development of Posters and Brochures
- Meeting with the communities to see if they have solutions
- Researching the use of Lucky Iron Fish or Iron enriched salt or flour
- International Nutritional Anemia Consultative Group (US) developed recommendations for Food based initiatives , Iron supplements

THANKS To

- FNIHB for agreeing with the need to purchase of the Hemoglobin Monitors

- Sheena Ermel- Clinical Nurse Specialist Maternal and Child Health
  - Initial information search
  - Development of the Anemia Results Interpretation and Intervention Sheet

- CHN's for Participating in the Project

- Thanks to the communities:Cote, Daystar, Cowessess, Fishing Lake, George Gordon, Kahkewistahaw, Muscowpetung, Muskowekwan, Nekaneet, Ochapowace, Peepeekeesis, Pasqua, Piapot, Whitebear, Carry the Kettle, Ocean Man, Pheasant Rump, Sakimay,Key, Standing Buffalo.

- Questions?